

# HOUSING AND COMMUNITIES FOR A CHANGING WORKFORCE

**DENYS CHAMBERLAND**

Centre for Future Studies in  
Housing and Living Environments  
Canada Mortgage and Housing Corporation (CMHC)

## **Introduction**

Good afternoon, it is an honor to be with you today. I would like to thank the conference organizers for providing me with the opportunity to share with you some of the results of Canada Mortgage and Housing Corporation's research on telework and home-based employment and explore with you how changes in the nature of the Canadian work force are impacting the use, design and regulation of our housing stock and communities. I will take you to Montgomery Village, Canada's first telecommunity, and introduce you to a couple who have set up their home-based business there. I will then discuss how home-based employment is challenging past concepts of how Canadians use their homes and communities. I will conclude by highlighting how home-based employment creates opportunities to design housing and regulate land use and home occupations differently.

## **Montgomery Village**

I would first like to transport you to Orangeville, Ontario, a small town about 30 kilometers outside the urbanized areas of Metropolitan Toronto. Just outside of Orangeville is Montgomery Village, Canada's first telecommunity. Montgomery Village is an innovative community that is modelled after the traditional architecture of Toronto and integrates new urbanism principles.

The community integrates a variety of housing types, and efforts were made to preserve key natural features of the site by reducing road widths and increasing the density within the built area of the site. Set backs were reduced and the grid patterns were reintroduced with parks located at key intersections instead of being tucked away behind houses. Lanes were also re-introduced and garages placed in the back in an attempt to reinforce the public nature and pedestrian orientation of the street. Placing the garage on the lane also created the opportunity to locate an office on the second floor. Finally, state-of-the-art Integrated Services Data Network (ISDN) or mid-band telecommunications service and zoning bylaws that permit most home occupations throughout the neighborhood help justify its title as Canada's first telecommunity.

I would now like to introduce Mary Devries, a resident of Montgomery Village, who is out with her husband Robert for their mid-morning walk. Mary and Robert are both home-based workers and run their counseling practice for couples in their new home in Montgomery Village. Mary and Robert moved to Orangeville from High Park, an affluent Toronto inner-city neighborhood. They were attracted by a number of factors, including the affordable price of their current home—t hey mentioned

that they could never have afforded a house that would meet their live-work requirements in their old neighborhood. Meanwhile, they did not want to move to a typical suburban subdivision with a two car garage sticking out in front and were attracted by the new urbanism features of the community. In fact, they actively sought to develop a co-housing community, but were unsuccessful and turned their attention to Montgomery Village.

In Montgomery Village, they were able to work with the builder to customize their house to meet the needs of their practice. The original house plans, which called for an open floor concept, were modified so that the business areas of their home could be independent and physically separated from personal household spaces. The front door opens to an enclosed lobby which is directly connected to Mary's ground level office where she meets her clients for counseling. There is a staircase directly off the lobby leading to Robert's basement office which is right below Mary's. Restrooms accessible to clients are found on the staircase landing. All of the office functions of their practice are in the front of the house. A full wall was added to separate the workspaces from the back of the house where they have a great or family room and a kitchen overlooking their back garden. Special efforts were also made to provide adequate visual and acoustic privacy to their clients. They also planned to use their family room for group workshops for couples.

From Mary and Robert's perspective, moving to Montgomery Village has been a great success. From a broader planning and environmental perspective, we can use their situation to illustrate a number of issues. On one hand, their new home incorporates some of the latest technologies for energy efficiency and is located in a more compact and pedestrian-friendly community. On the other hand, with 2,600 square feet this is the largest home that they have ever owned, even when they had children. They are more dependent on their car. They no longer have access to good, quality public transportation as a result of moving to Montgomery Village. They must drive to shops and services which were within walking distance in their old neighborhood. Montgomery Village, like many other "neo-traditional" or "new urbanism" communities, does not have a commercial area despite ambitious original plans. The planned main street anchored by a regional high school and including a telework center is unlikely to be realized as originally intended. Another aspect of Mary and Robert's new lifestyle is that they must complete the hour drive to go into Toronto at least once a week. Finally, while their clients in Toronto could easily travel to their office via buses or subway, their new clients in Orangeville must now drive to their office.

### **Home-based Employment and a Changing Workforce**

Whether Mary and Robert's situation is representative of the broader population of home-based workers remains unclear. What is clear is that they are not alone.

Millions of other Canadians are making, freely or by obligation, professional and lifestyle choices that are changing the nature of the Canadian workforce. Telework, telecommuting and home-based employment have become important facets of this trend. As in the United States, estimating the magnitude of these new work arrangements is fraught with definitional and methodological

problems and challenges. The available evidence, however, supports the notion that home-based employment is an important and growing phenomenon within a changing Canadian labor market.

Restructuring of the economy, government and corporate downsizing, increased outsourcing, improvements in telecommunications and computer technology, and the desire to balance work and home life are all changing the way labor markets function. Statistics Canada estimates that the percentage of non-agricultural workers' at home doubled, from 3 percent to 6 percent, between 1981 and 1991. Statistics Canada also forecasts that the absolute number of workers for whom the home is the main location of work will increase to 1.5 million in the year 2001 from 1.1 million in 1991.

Considerable attention has been given to the impact of telecommuting on urban form and transportation. I believe that other forms of home-based employment deserve at least equal attention. It has been estimated that home-based businesses outnumber telecommuters by a ratio of roughly 3 to 1 in Canada (Market Facts of Canada). Discussion of the opportunities of telecommuting for housing and community planning therefore cannot be easily separated from the broader implications of other forms of home-based employment. This is particularly true if one considers that the self-employed and home-based business owners are not only likely to work longer hours than telecommuters, but are also far more likely to work from home on a full-time basis.

Another important reason to think in broader terms than telecommuting is where new jobs are being created in the economy. Telecommuting is associated with traditional employee-employer relationships, often in a medium to large corporate environment. However, net job creation in Canada is increasingly occurring in the service sector, small businesses and among self-employed workers and less in Corporate Canada. Government cutbacks have in fact led to absolute job losses in the public sector in recent years.

Another reason to pay serious attention to self-employment is demographics. Aging baby boomers should reinforce the trend toward home-based employment over the next decade. According to the 1991 Census, Mary and Robert are not alone. Workers over the age of 55 were more likely to work from home (whether they were paid workers or self-employed) than younger Canadians. Juxtaposed against this trend is the fact that Canada is one of three countries, along with the United States and Australia, to have experienced a strong post-war baby boom. Not only are baby boomers more numerous, they are also better educated than the age that preceded them. If past trends are a good indication of the future, aging baby boomers could then swell the ranks of the self-employed working from home over the next decade.

If you will bear with me for a few moments, I would like to venture outside my area of expertise to suggest why transportation planners should pay close attention to contract workers, the self-employed and home-based business owners. Randall Crane in a recent issue of the *Journal of Urban Economics* suggested that more attention be paid to the stability of employment when studying commuting patterns. The few questions on transportation in our 1994 survey of home-based workers in Canada unveiled the most profound differences between telecommuters and other home-based workers. It was clear that telecommuters used their cars less and traveled much shorter distances when

working from home. For other home-based workers the situation was quite different as they needed to attend meetings with clients and associates as well as purchase and deliver products. Forty percent reported using their cars more often and more than half reported using other modes of transportation such as taxis or courier services more often. I will close this short tangent into transportation by saying that I remain intrigued by these results and would be glad to hear from any of you who may be able to shed more light on this information.

### **Challenges for Housing and Community Planning**

Increasing home-based employment challenges some of the foundations of Canadian post-war housing and planning. That is the exclusion of work activities from the home; the separation of commercial, institutional and residential uses within communities; and traditional patterns of peak hour traffic between the home and the workplace.

Results from CMHC's national survey of home workers confirmed that the division between home life and work activities is becoming increasingly blurred.

Most home workers were satisfied overall with their current arrangements. However, many commented on the difficulty in separating their professional and personal lives and on the lack of social interaction when working from home. When asked how appropriate their current home was for work, common problems for respondents included work spaces that are too small, the lack of storage space, intrusions from family, neighbours or friends, inadequate phone lines and noise from outside their workspace.

It is worth noting that the incidence of problems was higher among those who live in smaller dwellings and in multi-family housing. In this sense, it is important to remember that working from home is not always done by choice. Recent in-depth interviews with home-based workers conducted by a Montreal researcher have unveiled examples of a darker reality to working from home. In one case, a single woman has seen her book-recording business invade most of the personal living space in her 2 bedroom apartment. Not only does her office and recording equipment occupy 3 out of the 5 rooms available, but her associate and the actors that they employ to record the books must come in and out all the time. Meanwhile, she must hide her business activities in fear that her landlord would evict her if he ever found out. While this is undoubtedly an extreme example, it illustrates that for some working from home is a necessity and not a free choice. When the home environment is unsuitable for the occupation, working from home may seriously impede upon the living conditions and quality of life of the residents.

The ideal workspace for the overwhelming majority of respondents to our 1994 survey includes a separate room for work with natural lighting and ventilation, visual and acoustical privacy, adequate storage and sufficient electrical amperage and outlets. Other options such as a separate entry from the street or a workspace in a separate building were important for only a minority of respondents.

While Canada's residential stock is relatively new and in good condition—close to 2/3 has been built since 1960—it was not specifically designed to accommodate work within the home. As a result, home-based employment is generating renovation activity. A substantial percentage of our respondents had already completed or were planning renovations to make their home more suitable for work. Desired or completed modifications include new lighting and electrical circuitry, the renovation and finishing of rooms, the addition of walls and new rooms.

For others, moving is a more attractive option to address their live work requirements. Most respondents had been working at home for less than five years and only a small percentage of respondents—7 percent—had actually moved as a result of working from home. However, about one quarter had contemplated a move. Most of these workers are looking for larger homes with a better layout. In terms of location, most are looking to stay in the same city or neighborhood. While many respondents recognized that working from home gave them more freedom in choosing a place to live, less than 20 percent indicated a preference for moving outside the city altogether and joining the ranks of exurban dwellers. For some, access to high quality phone lines and long distance charges were a factor in their reluctance to leave the city. It is also interesting to note that some 10 percent wanted to move closer to the city center, often wanting to move closer to clients and services.

### **Opportunities for Housing and Community Planning**

While telework and home-based employment challenge post-war concepts of housing and community planning, opportunities are also being created to meet the needs of this changing workforce. Flexible, adaptable and innovative housing designs and options will be needed to respond to these opportunities. As mentioned above, Canadians are already making renovations to accommodate work within their homes. The design and stick-built technology of many North American homes is inherently flexible. It is perhaps a sign of the times that a conversion of a garage to a home office recently won a prestigious architectural award in British Columbia.

### **CMHC's "Open" House**

Housing designs will need to meet the needs of persons with disabilities working from home. CMHC's "Open" House Exhibit toured across Canada in 1992 as part of Canada's celebration of the International Year of Persons with Disabilities. This barrier-free house was designed to help people with different types of disabilities—mobility, sight, hearing impairments and environment sensitivities—live independently in their own homes. The purpose of the demonstration was to raise the level of awareness and availability of accessible housing ideas and products which will become increasingly important in an aging society. The "Open" House included a home office with special features such as a wheelchair accessible desk, a file cart on wheels, a full length window to view the front door, and a closed circuit television system.

### **The Next Home**

Housing designs for home-based employment will also need to take into account a greater diversity of lifestyles and household types. Recently featured in the *New York Times*, the 1996 “Next Home” prototype at the School of Architecture at McGill University demonstrated how affordable, flexible and adaptable housing could be built to accommodate the lifestyles and pocket book of increasingly diverse Canadian households, including smaller and more numerous non-family households.

A key feature of the house was the possibility of building it as a single-family house, a duplex or a triplex. Flexibility would also be available to select different layouts—e.g. the location of the kitchen or bathroom—within each unit. The first floor of the house featured a one bedroom unit which would be suitable for a single person working from home. A particularly interesting feature of the Next Home was its borrowing of wiring technology found in office buildings. Incorporating the phone, electrical and cable wiring behind the baseboards would allow the occupants maximum flexibility in determining the location and layout of their workspace.

### **CMHC’s Toronto Healthy House**

With home-based workers spending more of their time at home, it will also be important to design housing that is healthy for the environment as well as the occupants. CMHC’s Toronto Healthy House is currently under construction and will open next month. Based on a winning design in a national housing design competition, this house will incorporate many features that will make it more healthy for its occupants and for the environment.

Using technology that is commercially available and affordable, this three bedroom house will be off the grid and self-sufficient. In other words, it will not require electricity, water or sewer connections.

Care was also taken to select building materials that minimize off-gassing in order to maximize the indoor air quality. Finally, a work and meeting space was incorporated on the ground level of the house to reduce travel needs and maximize the environmental friendliness of the house.

### **Multi-Family Housing**

Designing housing for home-based employment also means taking into account the needs of residents of smaller dwellings and multi-family housing which are often less suitable to home work. About one quarter of the respondents to our survey expressed an interest in working in a neighborhood work center or a satellite office. Studies are underway to investigate how work centers and business services could be integrated within multiple residential environment and address the particular problems of working or running a home-based business in multi-family housing. This work is inspired by the experience of companies such as Bell Canada or BC Tel which have set up telework centers or satellite office.

Lessons are also being drawn from alternative forms of tenures such as co-operative and co-housing which incorporate shared communal spaces in a multi-family housing setting. These communal spaces can include a kitchen, dining room or a workshop as illustrated here in this Danish co-housing project, but could just as easily include a common toolshop as shown here in this housing co-operative for artists in Toronto.

However, many issues will need to be addressed before residentially-based telework centers become a reality. These include issues related to the management of the centers; the services and facilities to be provided; the financial viability and self-sufficiency; and design issues related to privacy, secure storage and access. Work is underway to explore these issues further and to assess the market potential for this type of option.

### **Houses on the Information Highway**

Houses of the future will also need to provide for the computer and telecommunications needs of home-based workers. An emerging area of opportunity lies in the wiring of homes and communities for the information highway. In the future, midband or broadband connections could allow home workers to have access to a broader range of services such as: video conferencing and video mail; training videos on demand; multi-media and interactive collaboration; interactive education; and visual demonstration in real time.

Unfortunately, much uncertainty remains and many questions are still unanswered for developers and building owners interested in wiring their buildings for the midband or broadband connections:

- How big is the market for higher speed services?
- What are the services of interest to tenants or buyers and how much are they willing to pay?
- What will be the killer applications for the future?
- Who will be the service and content providers of the future on the information highway?
- Is wireless the wave of the future?
- Should they own the communications infrastructure themselves?
- Should they let an external provider—in Canada usually a phone or cable company—provide the infrastructure and hold the exclusive right on the contents and services to be provided? (at Montgomery Village, Bell Canada provided the necessary infrastructure for ISDN service)

Despite these uncertainties, at least two new wired residential buildings have been recently opened in Toronto and Vancouver. In both cases, these are luxury high-rise condominium buildings catering to an affluent clientele. It can be argued that the provision of high-speed access to the information highway is more about marketing a high-end product than about revenue generation for the service.

The Centre for Future Studies recently commissioned a study on wiring multi-family residential buildings for the information highway. The emerging recommendation is that builders and developers should attempt to “future proof” their building with flexible wiring designs. At a minimum, a conduit system to accommodate future wiring as well as space for future telecommunications closets should be considered.

A new field trial north of Toronto may provide us with more insights and help remove some of the uncertainty about the true costs and potential revenues of wired buildings and communities.. New home owners will move next month into Stonehaven, an exciting new wired subdivision in Newmarket. Thanks to Intercom Ontario, a consortium of over 70 companies including Bell Canada and IBM, the residents will have access to full-fledged broadband services such as video-conferencing, video-mail, high speed access to the Internet, video on demand, home automation systems and connection to a community information bulletin board.

For the companies involved, this trial will offer the opportunity to monitor the use of the information services by the various members of households who purchased a home in Stonehaven. Millions of dollars are being invested to answer some elusive questions: What does the average person want from the information highway and what piece of equipment—television, computer, phone or personal digital assistant—will be the gateway(s) of choice?

The Centre for Future Studies has recently contributed questions to the baseline survey of new home owners and we hope to officially join the consortium in the coming weeks and be able to study how having access to all these services may affect the residents' uses and perceptions of their homes and neighborhoods.

## **Regulatory Reform**

These innovations cannot be implemented and society will not be able to benefit from telework and home-based employment without an appropriate regulatory environment at the local level. Without regulations that are sensitive to the local context—i.e. the inner city, older suburbs or new suburbs, it will be difficult to harness the potential for telecommuting and home-based employment to contribute to broader land use planning, economic development and urban sustainability objectives.

The opportunities lie in creating the appropriate regulatory environment for innovations integrating work within residential environments or, in the opposite situation, integrating residential spaces within what have been in the past primarily work or commercial environments.

Canadian cities have recognized these opportunities and different land use regulations to accommodate live-work occupations are emerging for inner cities, older or new suburbs.

## **City of Toronto**

The City of Toronto has recently launched into a bold zoning experiment to help revitalize two mixed use areas on either side of its downtown core: King-Parliament east of the downtown core and King Spadina west of core. These areas are diverse and lively and include a number of heritage and industrial buildings as well as large tracts of vacant industrial lands. While these areas are stable and have solid employment base, the city wants to encourage increased economic activity in these areas, create new jobs and enrich the mix of uses. Part of its strategy is to attract investment to renovate many

of the sound and attractive buildings in these areas into live-work units which would be attractive to artists, computer programmers or other self-employed people.

To achieve its goal, the city is using a combination of investment in community amenities such as public spaces and parks with a more performance-based zoning framework which is less prescriptive and provides for more flexibility of use. Out are density regulations, in are regulations focusing on built form: the height of buildings, their massing, as well as light, view and privacy standards.

### **Waterloo, Ontario**

Home-based workers are also seen as a target market to revitalize older suburban neighborhoods further away from the downtown core or in smaller cities. A study is currently underway in Waterloo, Ontario, to examine how the city's zoning regulations could be modified to encourage home-based businesses. One aspect of the study will examine how outbuildings could be added to existing ground-oriented residential properties.

These separate structures could be similar to garden suites, also known as granny flats. The concept of garden suites is not new. It has been marketed for some time as a means of providing independent living for elderly parents or relatives by installing on a semi-temporary basis a manufactured suite. The unit would normally include a bedroom, living room, bathroom and a small kitchen.

What is new is the intended use of garden suites as a workshop or office for a home-based business. For the home-based worker, the arrangement would offer the benefit of having the office or workshop located on the same lot, but in a separate building from the residence. While the intent is to keep the character of residential areas, the project proponents hope that attracting a critical mass of home-based businesses within a neighborhood adjacent to the city center would create opportunities for networking, to share services and to walk to appointments.

### **Markham, Ontario**

Regulatory reform is also underway to encourage home-based employment in many suburban communities across Canada.

In one example, the town of Markham has adopted a new “blanket” home occupation bylaw. Instead of focusing on which home occupations were permitted or forbidden, this so-called blanket bylaw permits home occupations, with a few exceptions, as a secondary use within *all residential zones* of the town, provided that the business activity meets a number of performance standards related to: the size and type of home business; the number of employees; retail sales; the noise level; signs and parking.

### **Conclusion**

In conclusion, telework and home-based employment are part of larger changes in the nature of work in Canada and can be expected to grow in the future. Telework and home-based employment will continue to change the way we will use, perceive, design and regulate our communities. It will require renovations and adaptations to the existing housing stock to meet the needs of home workers. Moreover, new flexible, adaptable and innovative designs will be needed to meet the diverse needs of this changing workforce. Finally, the challenge for cities will be to make the necessary adjustments in land use plans and regulations to unleash the potential for telework and home-based employment to generate economic growth, revitalize neighborhoods and improve the quality of life of citizens.