

FROM THE GROW HOME TO THE NEXT HOME

MANIFESTATIONS AT THE HEART OF ACADEMIA

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Introduction

Numerous recent socio-demographic changes have contributed to a shift in housing accommodation away from the traditional North American single-detached home towards a variety of dwelling types which have in common two highly significant features: a reduced dwelling size and increased unit density. Smaller families, the proliferation of the non-traditional family type and of the two-income family, a decrease in household size, and an increase in the population of elderly citizens have created the demand for a housing unit that is both smaller and more efficient than the large, detached house that many middle-class Canadians took for granted in their youths. Builders and designers can no longer ignore the new contemporary household with its diversity of interior design needs in their consideration of future housing prototypes.

The Grow Home

The Grow Home was unveiled in June 1990 on the McGill University campus and opened to the public for a period of four weeks. The Grow Home was a 93-square-metre townhouse, 4.3 metres wide. The narrow-front rowhouse configuration was adopted to maximize land-use efficiency and minimize infrastructure and heating costs, while the absence of interior load-bearing partitions made the space easily adaptable. The unit's small size and simple layout was aimed at reducing construction costs, and the use of conventional materials and traditional elevation design was intended to facilitate acceptance by both builders and buyers. The ground floor in the prototype consisted of a kitchen/dining area and a living room separated by a central bathroom/plumbing core. To further decrease costs, an unpartitioned second floor was suggested which could later be divided to include two bedrooms and a second bathroom. Consultation on the design of the units between the developer of the pilot project and the university led to the development of a second option for the ground floor plan, where floor space was opened to accentuate the full depth of the house.

Six months after the demonstration unit was dismantled, an east-end developer started a pilot project based on the Grow Home concept. During that same period, both provincial and municipal governments implemented programs aimed at promoting housing starts for first-time buyers through interest and tax reduction

incentives. With the aid of these incentives, all of the project's 87 units were sold within the first four weeks — before any ground was broken. Twelve other builders soon followed suit. Within the first 10 months, 19 projects with a total of over 660 units were built in and around the Montreal area, ranging in price from \$69,000 to \$95,000. Several new projects have since been started, bringing the total up to approximately 6,000 units.

The Next Home

The Next Home — a second research project of the McGill School of Architecture Affordable Homes Program, was presented as a demonstration unit on the McGill campus in the summer of 1996. The Next Home extends the research undertaken on the Grow Home project. Key features of the Next Home include buying only the quantity of space that the user needs and can afford, housing affordability, designing the interior layout by selecting from a catalogue of components, flexibility to change and grow, choice of facade design, environmental responsibility and comfort, export potential, and a new urban perspective.

Today's adult Canadians conduct their lives in many ways unlike their parents and grandparents. In order to accommodate the fluctuations in today's households as they move from stage to stage in their evolving life cycles, an adaptable and responsive housing form is urgently required. The new flexible unit must be able to change in accordance with the household changes of its occupants. The centrality of the television in the living and family spaces of the house, the need for communications outlets (telephone, computer) in most rooms, the growth of home offices, the accommodation of freezer and microwave in the kitchen to facilitate the increasingly rushed schedules of residents: all of these functions and activities will need to be addressed adequately in homes where more women than ever participate in the paid work force and where everyone — male and female — simply works harder and longer. In both the design and technical spheres of the Next Home, a lifestyle of increased technological complexity and reduced leisure time will be acknowledged in all aspects from the design of living rooms and bathrooms to the provision of vital electronic lifelines.

The restructuring of the North American economy away from resource-based activities and heavy manufacturing industries resulting in a greater population

concentration around urban centres whose economies are primarily service- and information-based will influence housing production and consumption in Canada. Also significant is the movement of manufacturing business to lower-wage-paying countries, exacerbating the financial plight of Canadian workers. These trends demonstrate the need for a new type of home: one that can be built affordably on a smaller than conventional lot in denser communities and that can be modified to suit the particular lifestyle of its user. Affordability continues to be a major impediment to home ownership for many. Land and infrastructure costs have doubled in the past twenty years and have assumed a much higher proportion of the total price of a new house, presenting a major problem for most people considering their first purchase of a house, especially in times of economic uncertainty when lack of job security forces earners to regard their personal financial situations as precarious at best. The Next Home — which offers prospective buyers close to 700 square feet of living space for \$50,000 (including land!) in a city such as Montreal — is a long-awaited solution to this crisis in the housing market.

The last few years have witnessed the downturn of the North American real estate market: a period characterized by companies who are no longer willing or able to take bold risks in housing development. Moreover, the majority of house construction in Canada is still undertaken by small companies who build between 25 and 100 units per year and who are more cautious than ever in their investment and building activities. Both phenomena have initiated a downsizing of house design, resulting in the emergence of higher-density planned communities. In addition, the “moveup” market of homeowners is smaller now than ever before, creating new activity in the renovation sector which is rapidly becoming more vibrant than the new-house market. An increasingly popular trend of late has been the opening of home renovation “supermarkets” where homeowners are encouraged to participate actively in the improvement and/or expansion of their homes — a trend which complements the idea of user involvement at the design stage of the Next Home.

With decreased domestic economic activity in Canada, it is becoming apparent that in order to maintain the vital and active levels experienced by the homebuilding industry in the past few decades, the export of housing and housing technologies and products should be actively pursued. The Next Home is especially designed to be prefabricated and marketed in order to accommodate a foreign client who might wish to purchase a complete house, a single one of its components, or a variety of building products.

A sustainable society is able to satisfy its economic and social needs without jeopardizing the prospects of future generations. The notion of sustainable development is essentially based on the conservation of natural resources which requires that: the consumption of renewable resources be reduced to allow the earth's natural cycles to make them available at a sustainable rate, nonrenewable resources be recycled to make them available for processing into new products, and the efficiency of use

of non-renewable non-recyclable resources be improved. The selection of building products and systems for the Next Home is based upon these essential principles.

One of the fundamental distinguishing features of the Next Home is the option extended to buyers of purchasing the type and “amount” of house that they need and can afford. This option is achieved by offering a single structure which can be built and sold as a single-family unit, a duplex, or a triplex. The four levels of the Next Home structure can not only be arranged in a manner that suits the present requirements of its residents but can also be rearranged at a future date to accommodate household and family changes. The adaptability of Next Home configuration includes the flexibility for builders of placing the house in a community context as a detached or semi-detached structure or in a row of like houses.

The users of the Next Home will be able to choose from a catalogue of interior components to suit their individual lifestyles and budgets. These components (kitchen, bathroom, etc.) are selected at the pre-construction stage and allow future residents to “consume” only those elements they require. With the added facility of computer imaging, users will be able to preview the consequences of their selections.

As part of the design of the Next Home facade, the user in a multi-unit structure can choose from a range of fenestration and door accessories, provided by the builder and designed by an architect, which will determine the final visual appearance of the openings. Once the openings have been selected, the user chooses from a variety of window and door options to complete the design of the opening and to create a personal facade for the unit. Such an element of choice not only provides personalization but creates visual diversification in a row of Next Home structures.

The need to house a diversity of users within the same structure and in the same community demands a revision of not only the manner in which subdivisions are zoned but of the way houses are designed and marketed. The Next Home has been designed in terms of volumes to be subdivided: the units can be transformed from one type to another at the pre- and post-occupancy stages, while combining subdivided structures and grouping them in various ways increases density and reduces costs. Integrating a variety of households in a single structure is a strategy which answers the urgent need to accommodate a wide diversity of users and household types.

The Impact of Academia

The experience of designing and erecting two housing prototypes on the McGill University campus has demonstrated the vital role of academia in promoting change in the realms of government, the housing industry and the public at large. Both the Grow Home and the Next Home were sponsored by a variety of sources including private industry (Dow Canada, Matériaux Cascades Inc.) and various levels of government (Canada Mortgage and Housing Corporation, Société d'habitation du Québec). Media attention for both projects — as prototypes and as built housing developments — has been wide-ranging, with coverage in print and on radio and

television in Canada and the United States. The fact that university research into housing affordability could reach an audience which includes legislators and policy-makers, designers and planners, builders and developers, students and teachers, and large numbers of the home-buying public is a valuable message for university educators and researchers. Projects such as the Grow Home and Next Home have a place not only within the classroom and

housing laboratory but in the "real world" beyond. The university as an institution lends a great deal of credibility to research projects with practical applications such as the provision of affordable housing. Ambitious academic ventures which succeed beyond the campus not only provide benefits for industry and the public but serve as needed agents for social and economic change.