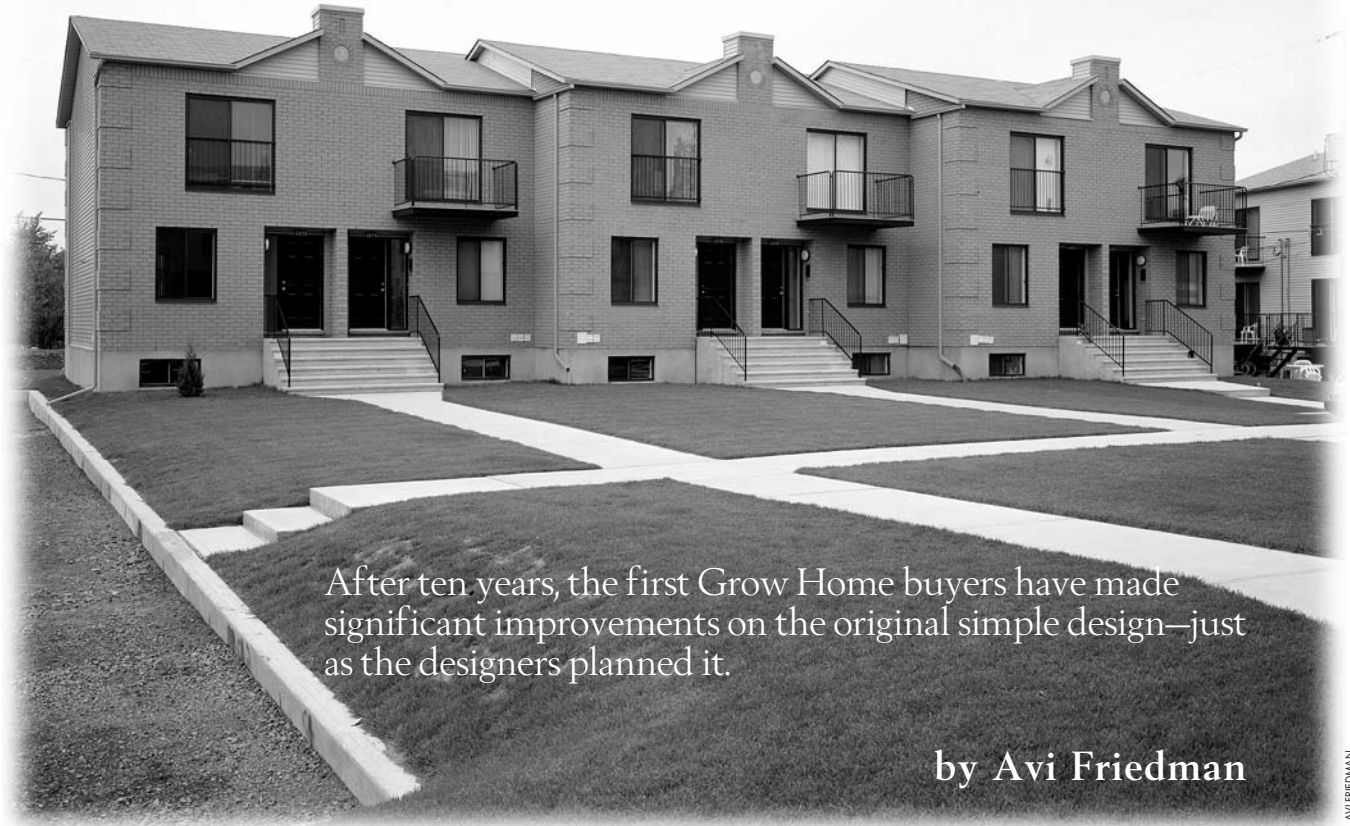


A SMALL HOME WITH BIG IDEAS



After ten years, the first Grow Home buyers have made significant improvements on the original simple design—just as the designers planned it.

by Avi Friedman

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In June 1990, on the campus of McGill University in Montreal, the Grow Home was born. This slender, two-story, 14-ft-wide and 36-ft-long row house was aimed at an untapped market segment that is largely ignored by builders: low-income renters who would like to be homeowners. The Grow Home prototype included a combined kitchen-dining area, a full bathroom, and a living room on the main floor and an unpartitioned second floor that could later be converted to two bedrooms with a bathroom. (For complete coverage of the Grow Home design elements, see “Design Secrets for Affordable Efficiency,” *HE* Jan/Feb '00, p. 24.)

As the developers of this building design, Witold Rybczynski and I felt that such a home could be useful to

this market segment because low-income renters may be willing to live in a smaller space and may be interested in having finished yet unpartitioned space that they could later develop. The house was meant to demonstrate that well-designed and well-built smaller homes can be significantly cheaper to build and operate, and we felt that they could also be easy to sell. These were unorthodox thoughts at the dawn of the go-go '80s, during the reign of the McMansion. We did not know what the market reaction would be.

Six months later, in the grip of a local recession, Leo Marcotte, a small local builder, offered the Grow Home for \$50,000 (all dollar figures are U.S. dollars) to first-time home buyers. An advertisement in the

weekend newspaper drew a lineup of buyers to a trailer that stood alone on a large plot of land on the outskirts of Montreal. Twenty-four units were sold that weekend. The entire development of 87 units was sold within two weeks. Marcotte's success triggered a mini building boom, with 1,000 units constructed by the end of the first year. An estimated 10,000 Grow Homes at prices ranging from \$47,000 to \$60,000 have been sold, primarily in Canada, since the campus demonstration.

Basic Development

Most of the projects were constructed in small towns on the outskirts of Montreal, with an

average driving time to the city center of about 20 minutes. The houses were built as infill projects in existing communities and the residents therefore had access to public transportation. Developers used land that was originally subdivided for large detached homes; after the Grow Homes were slated to be built there, the 100-foot-deep lots were redivided for row housing. The number of built units ranged from 12 to 87 per project, and the homes were sited in groups of three to eight units per row. The parking in 85% of the projects was above ground, either at the back or in front of the row. In some of the projects, a common parking lot was designed for a group of homes.

The front setback was 20 ft, which created a yard of about 280 ft². Some 616 ft² were left for the backyard. The homes were 2 x 4 or 2 x 6 wood frame structures with a minimum R-20 insulation on the exterior wall and R-32 in the ceiling as required by Canada's National Building Code. The common wall was also constructed of 2 x 4 studs on each side, sound insulation, and two layers of drywall as required by the fire code and acoustic standards.

The facades of the units were clad with brick or stucco. Many back or side elevations were covered with vinyl or aluminum siding. Windows were double pane with aluminum or PVC frames. Developers commonly provided grassed front and back landscaping, but no fences between units; fences were added by the buyers themselves.

Reasons for Success

Why did Montreal builders and buyers rush to build and buy Grow Homes, and can the success be replicated in the United States? The Grow Home's success is in its design (see Figure 1). Simplicity makes it easy to construct. A lack of bearing partitions contributes to its flexibility and adaptability to local markets. Both aspects fit the design to the modus operandi of the small building firms that make up 80% of

all builders in Canada. But perhaps the home's greatest value resides in its small size.

Construction costs, which were kept below \$27,000, were minimized by a simple layout and by efficient use of conventional construction materials. Assuming a construction cost of \$33/ft², savings of \$10,000 were achieved simply by reducing the size of a dwelling from 1,300 ft² (the average-sized unit) to 1,000 ft². A rectangular configuration, for instance, has about 20% less perimeter than an L-shaped unit with the same floor area. As a result, builders reduced labor and material costs by simplifying construction tasks and standardizing the dimensions of the structural and cladding elements.

Complex joints and details were also kept to a bare minimum. The 14-ft-wide dimension represented the cutoff point for a floor structure. To add even a single foot to the width, for example, would have increased the cost of the structure by 25%. The narrow-front configuration further resulted in a significant reduction in infrastructure and operating costs, since heat losses were limited to two exposed walls (front and rear) and a small roof area.

The Grow Home concept yielded greater savings on the macro scale. Using a land cost of \$7/ft², a typical 50 ft x 100 ft lot in Montreal costs \$35,000. A Grow Home lot measuring 14 ft x 100 ft, on the other hand, costs \$9,800—a remarkable savings. A municipal

infrastructure cost (sewer, sidewalk, roads) of \$270/lin ft will cost \$13,500 for a typical 50-ft lot. This cost is lowered to \$3,780 for a 14-ft row house.

The majority of units were sold in suburban locations, not a common site for a row house. In the last half-century, zoning bylaws across North America have clearly favored the large detached house. It was therefore a challenge to introduce a different breed. The common strategy to bypass the required minimum

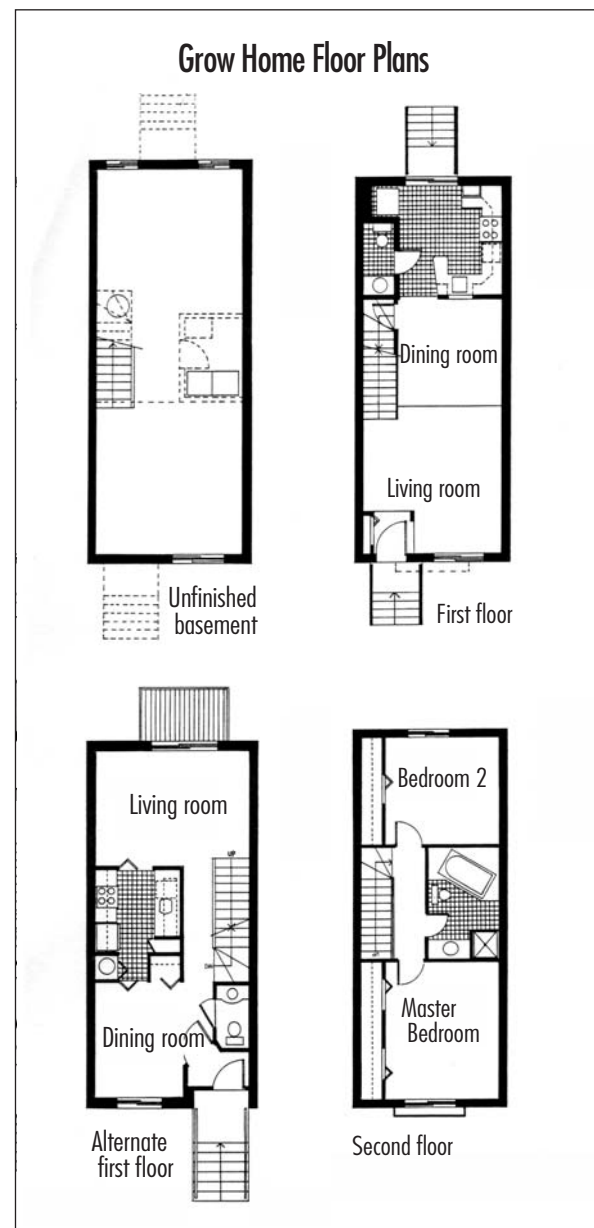


Figure 1. The simple, compact design of the Grow Home allows for flexibility and comfort.

width of 18 ft for freehold units (which are noncondo, nonshared, outright ownership of unit and land) was to build the units in groups of three, four, or six and sell them under a co-op or condominium arrangement. Most builders felt that their sales would be better if they had been permitted to sell the homes under freehold ownership. Selling the units as condominiums, however, actually helped reduce construction costs by doing away with some of the building and code requirements. Under freehold ownership, for instance, some municipalities require that the units be separated by a four-hour masonry fire wall. For condominiums, on the other hand, a continuous two-hour fire separation of wood and drywall is sufficient. The result: savings of about \$2,300 per unit. Municipalities also require separate connections to water mains when the units are placed on separate lots. Approximately \$2,000 per unit was saved when builders were allowed to make a single cut for a group of four to eight units.

Who's Buying Grow Homes?

On the buyers' front, the Grow Home drew to the market a population that would otherwise have remained renters. The vast majority of the buyers (86.6%) were in fact renters, and 80.6% lived in apartments. First-time buyers made up 89.4% of all purchasers. By adding a maximum of \$135 to their monthly rental payments, they were able to make the leap to single-family ownership. Examination of the household types that were attracted to the Grow Home revealed another interesting fact. Single-person households accounted for 16.5% of all buyers and single-parent families for another

9.8%. Buying patterns clearly demonstrated that these populations—traditionally part of the rental



The Grow Home offers an affordable housing option, and a warm welcome, to first-time home buyers.


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grow area. A visit to 140 units in the Montreal area three years after occupancy revealed that 93.6% of the residents had worked to some degree on the space. Most had constructed family rooms, bedrooms, and spaces for storage and laundry. Even more intriguing was that 65% of residents undertook work that was considerably complex. Drywall, tiling, electrical, and plumbing top the list. It seems that, once again, the industry missed out on something. Perhaps the effect of mega-stores on average-cost housing and the potential of offering unfinished space appeal to a wider segment of

those looking for a new home than in the past.

Solving Social Ills

Some estimates place the number of households in the United States currently looking for affordable housing at 30 million. The Grow Home holds great potential to fill this affordability gap.

The Grow Home is an exception in an industry that pushes "bigger is better." Draconian zoning bylaws, conservatism, ignorance, or the simple inability to innovate currently prevent the industry from turning many renters into owners and solving one of America's greatest social ills. The Grow Home's success should make the industry give these products a second look sooner rather than later. 

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market—switched to ownership when the right product came along.

The majority of buyers (59.9%) were not actively looking for a house at the time of purchase. They learned about the projects from advertisements in newspapers. Almost one-third visited only one project and 61.3% visited no other project after seeing the one in which they bought a unit. Furthermore, 39.3% of buyers decided to purchase the unit immediately and another 44.9% made their decisions within two weeks. The vast majority of respondents bought the house without even seeing a model unit.

The campus demonstration featured a finished but unpartitioned second floor. In the market adaptation, this idea was translated as well to the basement, which is common in Canadian homes (see Figure 1). It became a welcome feature, and 95% of the buyers opted for it. The space remained unfinished at first, due mainly to a lack of need and an interest in saving an additional \$4,700. This space did, however, become a true