NeighborWorks® PROGRAM

An Examination of

# Manufactured Housing as a Community-and Asset-Building Strategy

Report to the Ford Foundation

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Report to the **Ford Foundation**
by Neighborhood Reinvestment Corporation
In collaboration with the
Joint Center for Housing Studies of Harvard University

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# ABSTRACT OF FINDINGS

An increasing share of lower-income families, the same population targeted by community-development organizations, are opting to live in housing that was built off-site in a factory to meet the performance standards of the national HUD manufactured-housing code. However, most community-development practitioners are just beginning to come to terms with the implications of manufactured housing for their work.

This paper explores advantages and disadvantages of manufactured housing for those entities whose mission is community development and asset building. Several challenges are presented for practitioners: First, working to educate consumers while also creating financing processes that ensure manufactured-home buyers obtain credit on the best terms for which they can qualify. Second, using the increased scrutiny under the Manufactured Housing Improvement Act of 2000 to advocate for states to enforce more rigorous installation standards and increased accountability. Third, working to overcome land-use controls which prevent manufactured homes from being placed in communities in need of affordable housing, as well as areas with more potential for appreciation. Fourth, working with designers and planners to develop innovative designs and housing developments, while maintaining manufactured housing's affordability advantages. Finally, equal effort must be devoted to address the difficult conditions of many lower-income people—owners and renters alike—living in older, and often deteriorating, mobile homes. While a few of these families and individuals could be relocated to new and better quality homes with the help of subsidies, resource limitations suggest the need to create cost-effective methods to eliminate health and safety problems by upgrading or rehabilitating this extremely affordable element of the nation's housing inventory.

As a companion to this paper, an exhaustive literature review has been compiled.



*Michael Kadish, Madeleine Pill and Ellen Stiefvater provided additional research assistance for this report. Paul Bradley, Anne Gass, Richard Genz, Kevin Jewell and Michael O'Brien also provided invaluable comments and suggestions. Editing by Amy Christian, Ampersand Editing and Production Services. Design by Marilyn McEvoy, MDesign Studio.*

# INTRODUCTION

There are over eight million manufactured, HUD-code homes in the United States today, representing two-thirds of affordable units added to the stock in recent years and a growing portion of all new housing. In fact, buyers of manufactured homes contributed to a substantial share of the growth in low-income home ownership evidenced in the 1990s. These statistics send a message to all who seek to promote home ownership for low-income families, as well as promote safe, affordable housing opportunities in disenfranchised communities. An increasing share of the people whom community-development organizations serve are opting to live in housing that was built off-site in a factory to meet the performance standards of the national HUD manufactured-housing code. Many community-development practitioners are just beginning to come to terms with the implications of this for their work.

This report and the "Developing Community Assets with Manufactured Housing: Barriers and Opportunities" symposium held in Atlanta in February 2002 by the Neighborhood Reinvestment Corporation are part of an effort to better understand the implications and opportunities of manufactured housing for the community-development field. The goal of this project is to increase education and awareness about manufactured housing among practitioners. Similar to other markets, community-based organizations have the potential to help ensure that consumers make informed choices regarding manufactured housing, and to use programmatic and policy tools to make a positive impact on communities.

To supplement the quantitative findings of research conducted by staff of the Joint Center for Housing Studies of Harvard University, anecdotal information was collected from the national NeighborWorks® network of nonprofit community-development organizations, and model program profiles were developed to provide a more complete picture of the opportunities and challenges of manufactured housing. In addition, focus groups with community-development practitioners, lenders, manufactured-housing retailers, homebuyer-education specialists and actual clients and consumers were convened to assess perceptions, knowledge and experience with manufactured housing. Guiding this research were questions related to the community-development field, namely, what—if anything—should community-development entities be doing about manufactured housing? How can this field begin to discern what improvements in public policy are needed and what programs might be successful?

This report provides a unique overview of manufactured housing, including a thorough analysis of historic trends, household demographics and the characteristics of manufactured stock, as well case studies that highlight innovative programs and developments. As a companion to this report, an exhaustive review of existing literature has also been summarized (beginning on page 49).

# I. MANUFACTURED HOUSING CONTINUES TO EVOLVE

## What is Manufactured Housing?

Manufactured housing began as an offshoot of the recreational-vehicle industry in the 1930s, providing shelter for households with mobile lifestyles as well as temporary housing needs. Following World War II, housing shortages induced many households to turn to mobile homes for permanent shelter. Recognizing an opportunity, during the 1950s the industry began designing and constructing units intended to be permanent shelters. This development engendered some quality improvements, but industrywide standards remained uneven.

Within a few decades, concerns over the quality, durability, health and safety of manufactured homes led to federal action. In 1974 Congress passed the Federal Manufactured Housing Construction and Safety Standards Act, which led to the creation of a national manufactured-housing code (the "HUD code"). Unlike site-built homes, modular housing and other types of factory-produced homes, which are built to a variety of state and local building codes, HUD-code manufactured homes are built to a single, national quality and safety standard. This standard is generally based on the performance of the design and materials, rather than prescribing a specific material type or dimension must be used. Therefore, HUD-code units may use engineered lumber or alternative materials not commonly permitted under local building codes.

Homes built to the HUD code are still built on a permanent chassis like mobile homes built prior to 1976, but HUD-code units are of a higher quality, safer, and more durable than earlier models. Importantly, the HUD code pre-empts state and local building regulations, allowing manufacturers to use standardized building materials and components and avoiding the delays associated with local building inspection procedures.

Because of these streamlined codes, reduced delays and other efficiencies, one of manufactured housing's most distinctive features is its affordability. These cost advantages do not stem from inherently inferior quality standards in the HUD code as compared to site-built homes. Detailed studies by the University of Michigan and others suggest that quality differences of the local site-built codes compared to the HUD code is minimal (Warner and Johnson 1993, Gordon and Rose 1998). In fact, manufactured housing's affordability stems largely from cost savings from production processes.

Five factors primarily drive these efficiencies:

1. economies of scale in high-volume materials purchase,
2. ability to better coordinate production using assembly-line techniques,
3. a controlled environment devoid of weather or other delays,
4. standardized design and materials, and
5. reduced costs (primarily time) of securing approval from local code officials.

Overall these advantages can generate significant cost savings, as indicated by a recent HUD study showing that building a 2,000-square-foot manufactured unit costs just 61 percent as much as a comparable site-built home (HUD 1998). Of course transportation and installation costs reduce HUD-code homes' construction cost advantages, but anecdotal reports from

**Manufactured Home:** Factory built to meet the performance standards or the HUD code, MUST have a chassis, rarely moves once placed.

**Mobile Home:** Typically refers to units built before 1976 and most similar to a trailer; occasionally used to refer to units built after 1976, despite the fact these units are technically (and legislatively) defines as manufactured homes.

**Modular Home:** Factory-built with some on-site assembly and some on-site construction, built to meet prescriptive standards of state and local codes. Chassis is optional.

**Panelized Home:** Factory-built panels are assembled on site and supplemented with on-site construction to meet prescriptive standards of state and local codes.

**Trailer Home:** Can be hitched to an automobile and moved, NOT built to a federal code. Also referred to as campers.

***Source:*** Bradley, Donald S. 1997. "Will Manufactured Housing Become Home of First Choice?," *Freddie Mac 1997 Mortgage Market Trends,* pp. 29-33.

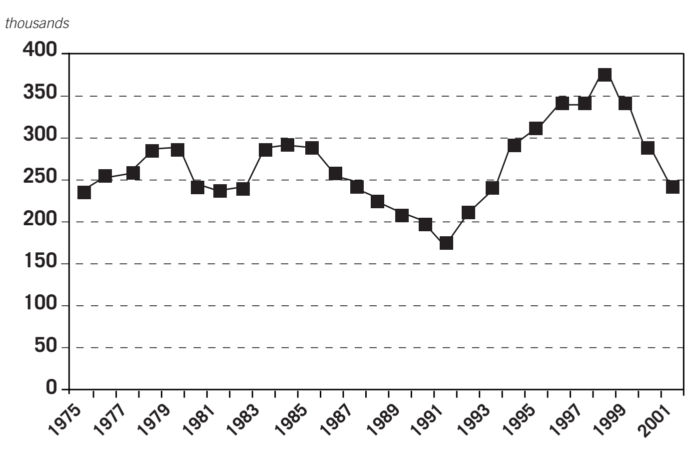
developers suggest manufactured units can deliver affordable housing for 20 to 30 percent less than comparable site-built units.

There are other forms of factory-built housing, such as modular and panelized construction, but these designs are not built to the national HUD code but rather to local codes, such as Uniform Statewide Building Code (USBC) or Building Officials Code Administrators (BOCA). These forms of factory-built housing also provide costs savings, but not at the scale of HUD-code units, because each must be tailored its site. Annually, fewer than 40,000 modular units are placed, compared to 250,000 or more manufactured units. Panelized, or precut construction is of a similar scale, but its use may be growing among larger builders (Ahluwalia 2001).

## Manufactured Housing's Role in Housing Markets

Manufactured housing has had a role in boosting affordable home ownership opportunities. Between 1993 and 1999, manufactured housing accounted for more than one-sixth of the growth in owner-occupied housing stock. For particular submarkets the share is considerably higher. For example, among households with very-low incomes (that is, less than 50 percent of area median), 23 percent of home-ownership growth between 1993 and 1999 came through manufactured housing. For southern households the figure was 30 percent, and for rural households 35 percent. Indeed, in the rural South manufactured-home purchases accounted for a stunning 63 percent of the increase in very-low-income home ownership. Nationwide, manufactured homes are a major source of unsubsidized, low-cost housing for many owners and renters with few housing alternatives.

**Figure 1: Annual Placements of Manufactured Homes**




Source: U.S. Housing Markets, HUD 2002

Over the past decade and a half, manufactured housing has emerged as an important affordable-housing option. Even amid rapid expansion of site-built housing, the number of owner-occupied manufactured units rose from 3.9 million in 1985 to 6.7 million in 1999, increasing its share more than a percentage point to 8 percent of the total owner-occupied inventory. Production has been highly cyclical, peaking in the late 1970s, mid-1980s, and again in the 1990s, with placements reaching an all-time high of 373,000 units in 1998. According to the Census Bureau's Construction Reports, during the 1990s manufactured housing accounted for between one-quarter and one-third of all production of single-family, detached homes.

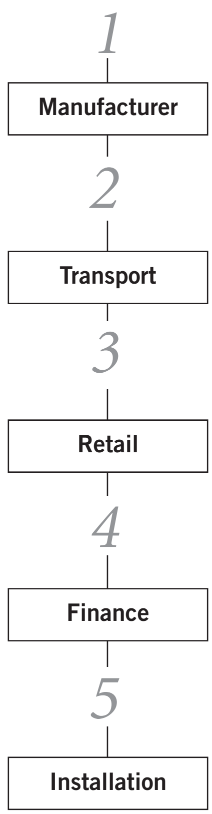
By 2001, however, placements plummeted to 185,000 as demand for new units crashed (Figure 1). This falloff is related to the sharp industry correction that followed soaring placement levels in 1996 to 1998, which had been made possible by what now appears to be overly aggressive credit terms offered to marginally qualified buyers.

## The Organization of the Manufactured-Housing Industry

The unique production and distribution channels for manufactured housing are responsible both for much of the cost savings that make the product a desirable option for lower-income borrowers, and for many of the quality problems that continue to plague the industry. Getting a manufactured unit from the factory floor to its final site involves firms that produce, sell, finance, deliver and install manufactured homes. During the 1990s, the manufactured-housing industry underwent significant change, as many smaller manufacturers were acquired or put out of business, and larger firms gained market share. Similarly, larger financial-services firms gained increasing shares of the market to provide mortgage capital to purchasers of manufactured housing. The industry is integrating vertically as well, with many manufacturers acquiring retailers and, more recently, finance companies. Retailing remains a highly fragmented side of the industry, however, and as local financial institutions enter the manufactured-housing market, lending may counter overall concentration trends.

**Manufacturing and Transport**

Historically, producers of manufactured homes were small firms that specialized in producing recreation vehicles. They were followed by large recreation-vehicle and trailer manufacturers, again with limited homebuilding experience. Many firms eventually expanded their capacity to produce better quality manufactured homes, while other firms were acquired or driven out of business by competitors. Even so, the industry remained fragmented, with many relatively small producers, owing at least in part to the location of many smaller plants close to specific regional markets due to the difficulty and expense of transporting the final product. In the last decade, however, the industry consolidated. Of the 100 manufactured-home producers in 1990, only 70 remained by 2001. In 1998 the 25 largest producers shipped 92 percent of all units, while the 10 largest accounted for 78 percent (Nkonge 2000). This compares to the site-built industry, where the 50 largest builders controlled just 16 percent of the market in 1997 (Ahluwalia 1998).




Before leaving the factory, each unit is inspected by a HUD-certified independent inspector. If the unit passes inspection it receives a red and silver shield which is riveted to the exterior and certifies that the unit meets the standards of the HUD code. Of course, the distinguishing feature of manufactured housing is that it is required to have a chassis. A holdover from its mobile beginnings, the chassis—a supporting frame with removable axle and wheels—is mandated by the HUD code and used to transport the home from the factory to the site, and remains integral to the home throughout its useful life.

Many of the largest producers have manufacturing facilities in or near every state, in order to minimize distribution costs. Transportation is typically contracted to outside firms and is tightly restricted by state highway regulations for the maximum size, weight and even times and days units are allowed to be transported. State highway regulations and the need to transport a finished home under bridges, underpasses and power lines have, to a certain extent, determined the maximum allowable dimensions and design potential of manufactured homes.

**Retail Sales and Finance**

Once built, most units are shipped to dealers at retail sales centers, where they are displayed and sold to consumers. Consumers who plan to place their unit on owned land can buy them through retail centers, but often have their homes “built to order” based on a variety of customization options offered by the manufacturer. The ability to choose from a wide array of wall finishes, cabinet designs, appliances, and carpet and drapery colors is a significant selling point for many consumers. In some cases, developers and owners of manufactured-housing communities act as dealer representatives and handle sales in the communities directly.

Manufactured-home loans sometimes are more similar to auto financing than real estate financing. So-called chattel loans are secured only by the manufactured home, not by the land on which it is placed. Compared with conventional home-purchase mortgages, manufactured-home loans tend to carry higher interest rates and less favorable terms. Further, because there is limited standardization on manufactured-home loans, borrowers often have difficulties determining the best loan terms on offer.

Retailers often also serve as loan brokers, similar to mortgage brokers in the conventional market. The same concerns over predatory-lending techniques plaguing the mortgage lending industry also manifest themselves in the manufactured-housing finance arena. Retailers serving as loan brokers may earn more on the transaction for charging borrowers higher interest rates, leading retailers to push buyers into higher-cost loans. With the higher interest rates and shorter terms of many manufactured-home loans, customers may not realize the production-side cost savings of manufactured housing. Despite the move to rationalize manufactured-housing finance, abuses persist, even as the quality of the product steadily improves.

Some manufacturers are encouraging new models of distribution. It is not unusual for a manufacturer to own retail sites, but others are emphasizing sales directly to consumers and developers. Champion Enterprises Genesis Division is one such model; all units are sold directly to developers, with an emphasis on designs which match existing styles and environments. It is yet unclear if this signifies change in the structure of the industry. Retailers can provide a useful locally based intermediary and problem solver, but as manufacturers develop the capacity to work directly with developers, their role may diminish.

### Installation

The installation, or placement of a unit on a site, represents the final stage in the manufactured home distribution chain, and some say is the industry's Achilles heel. The most common installation method uses concrete block piers to support the unit, although some homes are set on complete foundations, including concrete slabs and foundations with crawl spaces of basements. In the case of multisection units, the sections must be married (joined together) and sealed. Once placed, the wheels, axles and hitch are removed, the unit is connected to site utilities, and an installer adds skirting, entry stairs and porches, and often a carport.

The Manufactured Housing Improvement Act was passed in 2000 to begin to better address problems related to installation, such as the frequent shifting of blame that occurs when it is unclear whether the problem resulted from manufacturer or installer error. This new legislation requires all states to adopt a dispute resolution program by December 2005 that will assign responsibility, where appropriate, to the party at fault. Many manufacturers, seeking to reduce exposure to liability, have required their own installers to perform certain tasks or even inspect the units before occupancy.

### Placement

Two placement models exist for manufactured housing: placement on owned land and placement in rental parks, or leasehold communities. Homes placed on owned land are increasingly treated like conventional single-family housing units with respect to financing and unit resale. Tenants of rental parks, however, do not generally use conventional loans. Moreover, tenants in rental parks face many of the same risks as other renters, including potential rent increases, poor maintenance of common areas and eviction. Yet, because these renters own their structure, the costs of moving are significant. Moving a manufactured home to a new lot typically costs $3,000 or more, even for a short distance. As a result, tenants may have limited recourse to affordability problems resulting from escalating rental payments for the land on which their unit is installed.

It is not uncommon for residents of manufactured-home communities, particularly those on leased lots, to refer to the community or park as their neighborhood. In fact, with relatively high densities compared to other housing in rural or suburban areas, manufactured-home communities often represent tightly woven social networks more commonly thought of in urban areas. Some social scientists have begun to study the value and significance of these communities, especially among lower-income households. Community development efforts to organize neighborhoods and residents have also begun to emerge in manufactured-home communities (MacTavish and Salamon 2001).

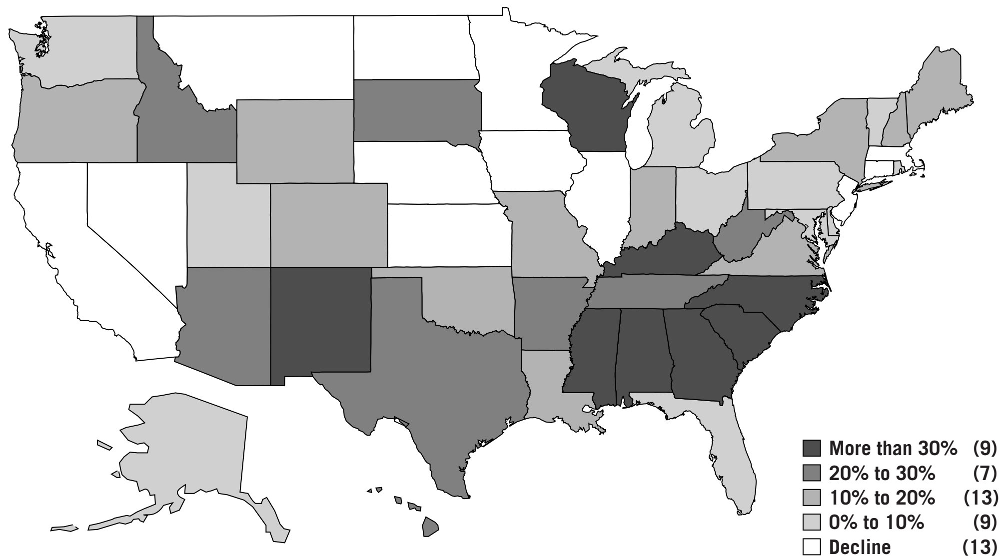
## Characteristics of the Manufactured-Housing Stock

The nation's manufactured-housing inventory ranges from smaller, pre-HUD code, poorly maintained, single-section units sited in densely settled "trailer parks" to larger homes with characteristics and amenities that rival comparable site-built housing. While some view this inconsistency as cause for concern, it is also an important reason why manufactured housing remains a flexible source of affordable housing. Housing advocates need to be careful not to paint this housing stock with a broad brush. The issues and strategies related to cost-effective, new manufactured-home development are very different from the significant health and safety issues associated with the oldest stock. However, both sets need to be considered within the context of unhealthy financing markets.

### Geographic Distribution

Manufactured housing is growing most rapidly in the South (Figure 2), in large measure reflecting the

**Figure 2: Most Rapid Net Increases in Manufactured-Home Ownership Spread Across the South**




Source: U.S. Census Supplemental Survey

region's relatively large lower-income, immigrant and retiree populations. Overall the South contains 55 percent of the nation's owner-occupied manufactured-housing units, while the rest of the national manufactured-housing inventory is spread throughout the West (19 percent), Midwest (18 percent) and Northeast (9 percent).

Manufactured housing is an especially important home-ownership option in rural areas. Fully half of all owner-occupied manufactured homes are located outside metropolitan statistical areas, where they comprise 16 percent of the stock of owner-occupied homes. By comparison, just six percent of the stock within MSAs is manufactured. The prevalence of manufactured housing in rural areas is in part a reflection of the costs and logistical challenges of site-built construction on relatively remote and scattered sites. It is also due to rural residents' generally lower incomes, and to the challenge of arranging standard mortgage financing for lots and land uses that do not conform to customary mortgage-underwriting criteria. Part of manufactured housing's appeal, in fact, lies in the ease with which units can be sited, a characteristic that is particularly important in areas lacking well-developed construction and trade sectors. Manufactured housing's popularity in rural areas also results from a lack of affordable-housing options, such as multifamily rental units, which are rarely developed at a cost-effective scale in low-density settings.

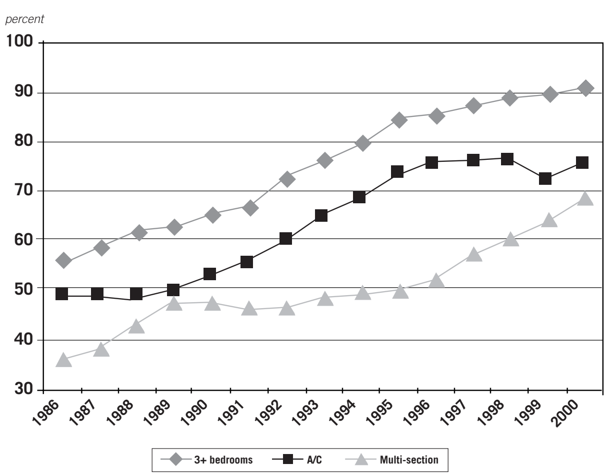
### Land-Use Restrictions

In addition to economic factors that favor location of manufactured homes in rural areas, land-use policies also tend to limit the ability of both individuals and developers to place manufactured homes in many urban and suburban locations. Indeed, manufactured housing often meets strong resistance from neighborhoods and towns. This is due to a combination of aesthetic concerns, apprehension over increased demand for municipal services, negative attitudes due to the presence of older trailer parks, and fears that manufactured housing will negatively affect the value of neighboring site-built homes. Existing empirical studies suggest that concerns about the adverse implications of manufactured housing are often exaggerated. In particular, several studies of local housing price data uncovered no noticeable effect of manufactured homes on the sales prices of neighboring properties (Warner and Scheuer 1993; Stephenson and Shen 1997; Hegji and Mitchell 2000). Like all affordable housing developments, the Not In My Back Yard (NIMBY) mentality may not be explained by any economic rationale, but is rather grounded in stubborn social perceptions of low-income families and communities.

## Improving Quality and Design

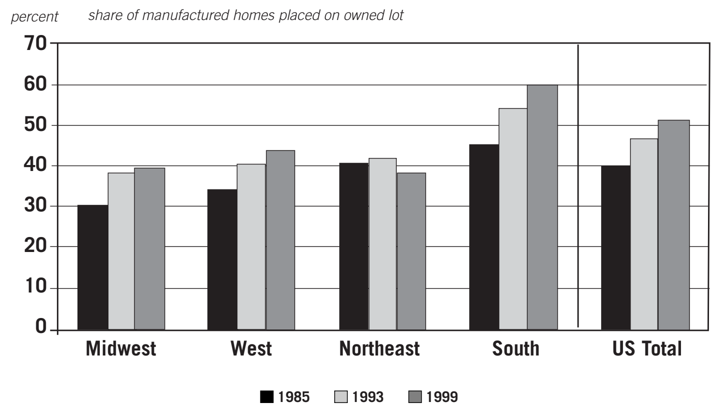
The quality of manufactured housing continues to improve as units get larger and include more amenities. The HUD code was revised in the 1990s to improve energy efficiency, ventilation standards and wind resistance. Since 1986, the share of new manufactured homes with central air conditioning has risen from 49 percent to 75 percent. Over the same period, the share with three or more bedrooms climbed from 55 percent to 91 percent (Figure 3). The dramatic growth in unit size is linked to the increased prevalence of multisection manufactured homes. Manufactured homes' larger scale and innovations like hinged roofing systems and two-story units have added room for amenities and design features similar to those available in site-built homes. Today, manufactured homes are available with vaulted ceilings, state-of-the-art appliances and complete drywall interiors. On-site customizing of garages and porches further enhances the curb appeal of the manufactured product (Stinebert 1998). Increasing numbers of manufacturers are now able to cost-efficiently produce attached porches to units, thereby reducing on-site costs and speeding up on-site completion. Long a hidden consumer burden, operating costs are beginning to be addressed by some manufacturers of Energy Star[1] homes and cost-conscious consumers and developers.

**Figure 3: Size and Quality of Manufactured Housing Improving Steadily**




Source: U.S. Bureau of the Census, Construction Report

**Figure 4: Share of Manufactured-Housing Owners Owning Land Continues to Climb**




Source: 1985, 1993, and 1999 American Housing Surveys

Manufactured housing and the standards of the HUD code bring into focus the tension between providing affordable shelter for low-income families and high-quality housing for communities. Clearly any building code must trade off the costs and benefits of quality and cost. The HUD code, like other codes, provides standards for safety and health. But as the industry, and consumer advocates, pressure for increasing the required quality standards beyond basic safety, the costs of a minimum HUD-code unit will also escalate. Certainly from a design aesthetic, newer units are more easily assimilated into the conventional housing stock. But these features have a cost, and that affects the affordability of entry-level housing.

## Land Tenure and Appreciation

One of the most confounding issues associated with manufactured housing concerns land tenure. As of 1999, just over 50 percent of the total manufactured-housing stock was sited on owned land, up from 40 percent in 1985 (Figure 4). Since 1993, the majority (58 percent) of newly placed units, even among lower-income buyers, have been sited on owned land. Meanwhile, the share of units placed in manufactured-home communities has been falling, from 41 percent in 1993 to 31 percent in 1999.

[1] ENERGY STAR is as voluntary labeling program designed to identify and promote energy-efficient products, in order to reduce carbon dioxide emissions administered by US Environmental Protection Agency with the US Department of Energy. ENERGY STAR has expanded to cover most buildings, heating and cooling equipment, appliances, equipment, lighting, and consumer electronics.

Land tenure is a key and often misunderstood ingredient in assessing the attractiveness of manufactured housing as a dwelling choice and as an investment. The key to such comparisons is carefully establishing the alternative tenure/investment arrangement. Studies considering this issue typically do not carefully control for factors that might incorrectly produce such a result, the most important being the extent to which the land under the structure contributes to the home's value. In virtually all cases it is, in fact, land ownership that drives what is commonly thought of as "house price appreciation."

Figure 5 presents a comparison of the price appreciation of representative manufactured and site-built homes over the past decade. Based on Freddie Mac estimates of price appreciation of a site-built home of constant characteristics, a representative home valued at $100,000 in 1990 would have appreciated in value to $142,499 by 2000, an overall increase of 42.5 percent or an inflation-adjusted increase of 8.2 percent. At the same time, the best available information suggests that over the same period, the cost of constructing this home only increased by 35.6 percent, or 2.9 percent in inflation-adjusted terms. This need not be the case, as real increases in the underlying costs of key factors of production could have increased the cost of constructing a home of constant characteristics much faster than overall inflation. The fact that the inflation-adjusted change in home-construction cost is close to zero reflects the fact that over the decade, improved efficiency in construction techniques almost exactly offset any upward pressure that increased labor or other costs might have had on the total costs of homebuilding.

Figure 5 repeats this analysis for a modest manufactured home valued in 1990 at $27,800. Over the decade, the cost of replacing this unit rose by 33.9 percent, but this represented only a 1.6 percent inflation-adjusted gain. Shown this way, there is little wonder that manufactured homes—by themselves—do not appreciate. Even if a manufactured home is well maintained and in brand new condition, it would not sell on the market for more than the cost of a newly produced unit of similar characteristics. Yet by the same token, as long as homebuilding efficiency continues, then the same will be true for site-built homes: that is, there will be limited opportunity for real increase in home prices (excluding appreciation in land price) as long as the cost of new construction grows slowly in inflation-adjusted terms.

The data in Figure 5 help explain the meaning of a recently completed assessment that compared potential for home-price appreciation (and equity or wealth building) for site-built homes and manufactured homes on owned and rented land. In a study using time-series data from the American Housing Survey, Jewell found that while site-built homes consistently appreciated faster than manufactured homes sited on rented land, there was not a statistically significant difference between appreciation of site-built homes and manufactured homes on owned land (2002). Since land is the key ingredient pushing up the value of site-built homes, it follows that unless sited on owned land, manufactured housing will have little or no potential to increase in value faster than the rate of inflation.

With land appreciation representing the major factor behind increasing home value, these studies point out the importance of expanding the potential for lower-income households to purchase manufactured homes and place them on land that they own. Indeed, for manufactured housing to realize its full potential as an affordable-housing option, expanded efforts must be made to increase the share of manufactured homes placed on owned land. This combination both lowers the cost of financing a home, while still enabling owners of manufactured homes to build wealth at rates similar to owners of site-built housing.

**Figure 5: Illustration of Equity Built Through Ownership of Land, Not Structure**

| Site-Built Home | Value | | Percent Change | |
|---|---|---|---|---|
| | 1990 | 2000 | Current $ | 2000 $ |
| Unit | $75,000 | $101,704 | 35.6% | 2.9% |
| Land | $25,000 | $40,795 | 63.2 | 23.9 |
| Total | $100,000 | $142,499 | 42.5 | 8.2 |

| Manufactured Home | Value | | Percent Change | |
|---|---|---|---|---|
| | 1990 | 2000 | Current $ | 2000 $ |
| Unit | $27,800 | $37,231 | 33.9% | 1.6% |
| Land | $10,000 | $16,318 | 63.2 | 23.9 |
| Total | $37,800 | $53,549 | 41.7 | 7.5 |

Source: Authors' calculations of Freddie Mac and NAHB reported data

At the same time, it is important to recognize that it is the absence of the land acquisition price that makes manufactured housing affordable to many low-income people. As a result, while land purchase is necessary to improve appreciation, it may prove to be a "deal breaker" for some. For these families, long-term site control, reduced financing costs and relief from eviction will reduce their costs and risks, but still offer only the value of their structure as a vehicle to accumulate and store wealth. Owning a manufactured unit sited on leased land may be a reasonable alternative to renting for lower-income households, granting them additional control over their living environment, but for those looking to build wealth at rates similar to site-built housing, land ownership is crucial.

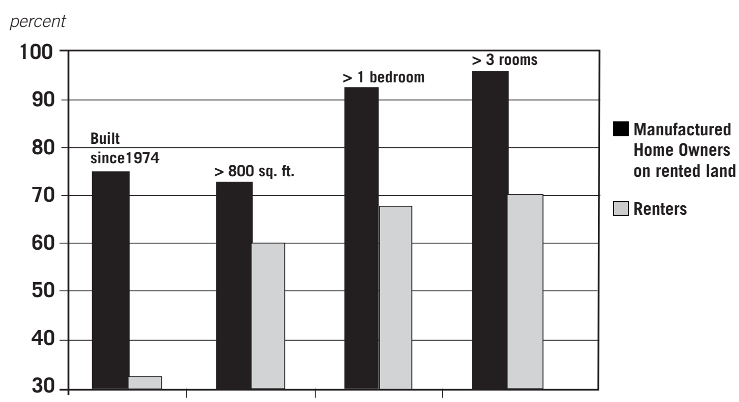
**Affordable Rental Housing**

Even for those who cannot afford to purchase land, manufactured-home ownership can be an attractive alternative to renting an apartment. Home-ownership tax breaks (deductions for interest and taxes) still apply to manufactured homes, including those on leased land. As Figure 6 shows, manufactured units that very-low-income rural renters occupy are newer, of a higher quality, and have more rooms than the site-built units rented by this sector.

During focus groups with existing manufactured-home owners, as well as prospective buyers, it was common for residents to suggest they preferred manufactured units, even in dense parks, to multifamily housing, due to the increased privacy and greater access to land. They suggested that these units offer them at least the ability to gain from their pay-down of principal—and at the end of the ownership they would have more than the security deposit they would receive in an apartment, even if their unit depreciated dramatically. Others suggested that because they fail to qualify for rental-assistance programs, manufactured housing is the only affordable choice. Most importantly, none of these customers felt that newer, site-built housing was a viable alternative to manufactured housing. They commented that affordable, site-built homes are in poor condition and in undesirable areas. Focus group participants felt they had two choices: rent a low-cost apartment, or buy a manufactured home and lease a lot in a park. Despite strong and honest reactions, it was clear that the buyers of manufactured homes on leased land felt they made the best choice available to them.

Due to basic principal paydown alone, even a depreciating manufactured home on rented land may produce net residual value for a family. For example, a $30,000 home which depreciates at 5 percent annually will be worth approximately $19,000 after ten years. A 15-year loan at 10 percent interest will have a balance of $13,500 at that point in time. Even excluding $3,000 in initial down payment and $1,100 in transaction costs, the family is ahead $1,400 over renting an apartment of similar quality and cost. This is certainly not wealth creation at the level typically hoped for from most home-ownership programs, but this analysis shows that low-income families may be making rational choices given their limited options.

**Figure 6: Ownership of Manufactured Housing is an Attractive Alternative to Renting for Very-Low-Income Household in Rural Areas**




Note: Chart includes only very low income households (<50% of area median) outside MSAs.

Source: 1999 American Housing Survey

## Changing Demographic Characteristics of Manufactured-Home Owners

Traditionally manufactured housing has appealed to first-time homebuyers, retired families and lower-income families. However, as the quality of the product has improved, the demographic characteristics of households living in manufactured homes have begun to mirror those of homeowners overall.

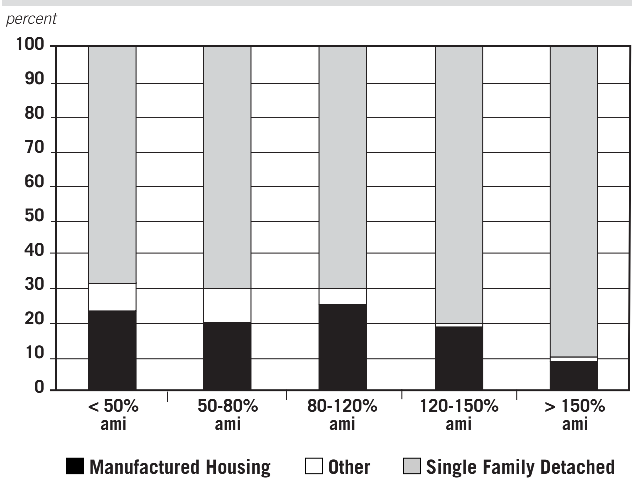
**Household Income**

During the 1990s manufactured housing continued its move up-market. In fact, between 1993 and 1999, 18 percent of the growth in home ownership among households earning 120 to 150 percent of their area's median income came through manufactured housing. Even for those earning 150 percent or more of area median, eight percent of home-ownership growth came from manufactured housing. Further, these levels are not far below manufactured housing's 23 percent share of growth in ownership among those with incomes below 50 percent of area median. As high-end manufactured units become increasingly difficult to distinguish from comparable site-built units, manufactured housing's presence in the upscale market is likely to continue to expand.

## Age Structure

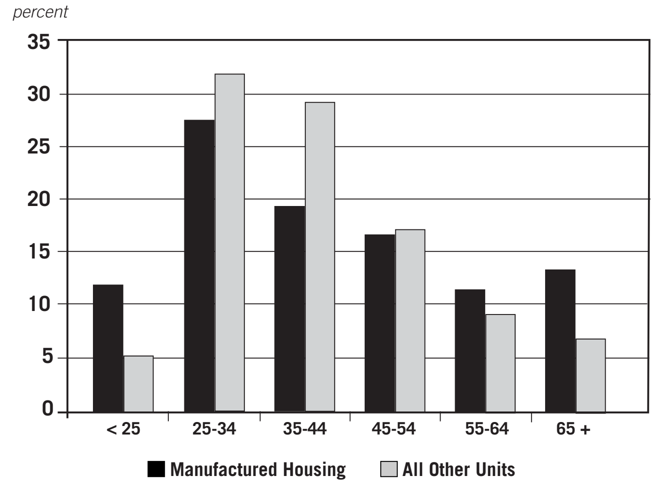
Manufactured-home purchasers are typically younger or older than owners of site-built homes. In 1998 and 1999, 12 percent of manufactured-home buyers were younger than 25, compared with just 5 percent of site-built buyers (Figure 8). Similarly, while more than 13 percent of recent manufactured-home buyers were older than 64, less than 7 percent of recent site-built buyers were. Owning or renting manufactured housing appeals to elderly households in part because these households are less concerned about equity build-up linked to land ownership, and because many prefer to have more wealth available to meet medical and other expenses. Manufactured units also have many characteristics favored by empty-nest households, particularly smaller yards and living space contained on one level. Some manufactured-home communities focus on the needs of older homeowners, even restricting residents to age 55 and older.

**Figure 7: Income Characteristics of Owners of Manufactured, Single-Family and Other Housing Types**




Note: AMI=Area Median Income. Source: 1999 AHS

**Figure 8: Manufactured Housing Serves Young and Old Disproportionately: Recent Buyers of Manufactured Housing By Age Group**




Note: Recent buyers are those purchasing homes in 1998 and 1999. Source: 1999 American Housing Survey

The low costs and easy entry favor first-time homebuyers, especially those with limited incomes or savings, such as single-parent households and single females. As manufactured housing gains market share among those in their prime years for housing consumption through improved quality, marketing and design, the age distribution of owners of manufactured homes should converge to that of the overall owner distribution.

## Race and Ethnicity

Once largely made up of whites, owners of manufactured housing increasingly reflect the racial diversity of the nation. In fact, the current racial and ethnic distribution of manufactured homeowners for African-Americans, whites and Latinos differs little from that of homeowners overall. This conversion has been driven by the growth in manufactured home ownership by African-American and Latinos that far exceeds that of whites over the last few decades. In fact, Latino and African-American manufactured-home ownership grew at compound annual growth rates of 6.1 and 4.6 percent, respectively, for the 1985 to 1999 period, well above whites' 2.3 percent. If these trends persist, African-Americans' share of all manufactured homeowners (currently 7 percent) will soon exceed their 8 percent share of all homeowners. Latinos, who are currently 5 percent of manufactured homeowners, likewise seem set to surpass their 6 percent share of all homeowners.

# II. CHALLENGES OF MANUFACTURED-HOUSING FINANCE

The financing system for manufactured housing consists of two very different markets:

(1) real estate lending, which historically is restricted to units on owned land, and (2) chattel lending, typically units on leased land or not titled as real estate, but instead as personal property. Many low-income buyers, especially those living in leased-land communities, finance their purchase with an chattel loan, more similar to a car loan than conventional mortgage. The potential mobility of leased units (although rarely exercised), and the fact that tenants on leased land have little protection from eviction, have hampered the development of more affordable chattel-loan products. Moreover, it is often difficult to obtain financing for the purchase of an existing manufactured home, especially if it has been moved from its original location. The collateral risks, as well as borrower characteristics, discourage many lenders—including those with public subsidy—from financing manufactured-housing loans. Class stereotypes are pervasive as "trailers" continue to be viewed negatively by real estate professionals and lenders. Nevertheless, owners of manufactured units will have limited potential to build equity if they cannot find an affordable means to finance the purchase, repair, replacement and resale of their homes.

Relaxed credit standards among manufactured-home lending specialists in the mid-1990s led to an enormous rise in loan defaults beginning in the late 1990s and continuing to 2002. A recent estimate suggests 75,000 manufactured homes were repossessed in 2000 alone (Stringer 2001). The industry suffered heavy losses and has instituted tougher lending standards as a result. Nevertheless, manufactured-home financing lags behind the rapidly evolving world of mainstream mortgage lending. From a lender's perspective, manufactured homes placed on leased land, not titled as real property, lack the security of mortgages for site-built homes built on owned lots. Even when the borrower owns the land on which a unit is sited, faulty initial construction or improper installation can shorten the useful life of the home, making long-term financing contracts problematic. While loan products addressing the unique characteristics of manufactured housing exist, the secondary market for these loans is small, thus reducing the volume of loans available and increasing the costs of these loans. Lenders respond to this reduced liquidity, and the added risks, by offering credit at higher interest rates and shorter, more restrictive terms than for conventional mortgages. Higher financing costs offset much of the cost advantages associated with manufacturing efficiencies, and hence undermine the ability of manufactured housing to fully realize its potential as an affordable housing option.

### Alternative Mortgage Arrangements

Structure-only, chattel financing is dominated by national consumer-finance companies and manufactured-home lending specialists who work directly with retailers. In these loan contracts, manufactured homes are treated as personal property and financed with a consumer loan in which the lender takes a lien on the home. While the lender does have a secured interest in the dwelling, the process of repossession and resale of a manufactured home can be costly, especially in a market where prices of existing homes are depreciating rapidly.

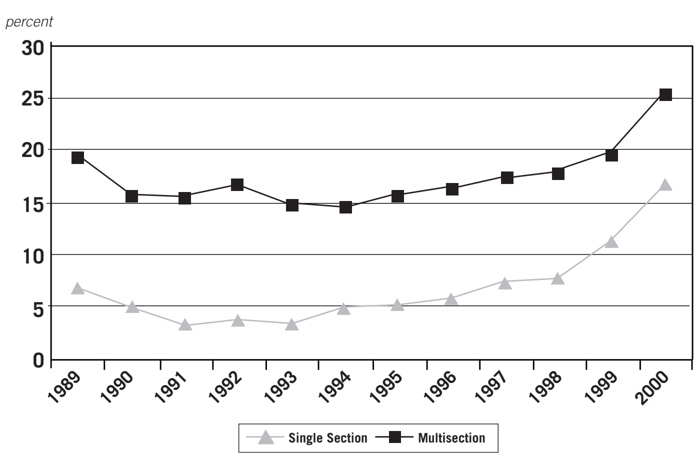
Land-home or "real estate" financing for manufactured homes is more akin to conventional mortgage lending for site-built housing, but there can be differences here as well. For new units placed on owned lots, acquisition financing may take the form of a "one-write" construction/permanent loan, where several separate draws are taken to cover land acquisition, site preparation, unit acquisition and installation, and permanent financing (Sichelman 2001). In some cases where a new or existing unit on owned land is being sold, the structure/parcel combination may qualify for financing identical to that available to purchasers of site-built housing. The likelihood of this happening often depends on whether the home and lot characteristics conform to secondary-market standards, including mortgage insurer acceptance.

Overall, a majority of manufactured homes are still financed with chattel mortgage loans rather than traditional real estate mortgages, though the share financed with real estate mortgages is climbing as more homes are sited on owned land and titled as real property. In 1989 just 13 percent of new manufactured-home placements were titled as real estate, but by 2000 this share had increased to 22 percent. Depending on the state, multisection manufactured homes are more likely to be titled as real estate and the share rose from 19 to 25 percent from 1989 to 2000. However, the share of single-section homes financed as real estate also increased from 7 to 16 percent over the same period. This trend appears durable, since even during the 1999 to 2000 period, when the industry was in retreat, the share of units titled as real estate increased steadily. Further, the trend extends to all regions and is growing most rapidly in the South, where the share of newly placed single-section units titled as real estate rose from 6 to 16 percent between 1989 and 2000, and the share of multisection placements increased from 13 to 20 percent.

Manufactured-home borrowers unable to access the highly competitive conventional home mortgage market frequently have few financing options. Most borrowers simply take the loan package offered by the retailer—often without knowing the retailer receives fees and yield-sharing with the lender involved. This practice has raised concerns that purchasers are unaware of, or are even being actively steered away from, better financing alternatives. Focus group participants reported that lower-income families living in or considering manufactured homes, especially those with spotty credit backgrounds, are attracted by the convenient, quick-approval personal loans, despite the costs involved. In fact, many could have qualified for better loan terms by shopping around. The higher costs they pay can needlessly offset the potential savings that these borrowers might have achieved by purchasing lower-cost manufactured homes.

The typical manufactured-home buyer secures mortgage credit on less favorable terms than similarly situated buyers of comparable site-built housing. According to the American Housing Survey, in 1999 owners of manufactured housing on rented land paid median interest rates of 9 percent. The median interest rate for those who owned their land was 8.7 percent. Both are well above the 7.5 percent median rate for owners with mortgages on single-family, detached homes. Similarly, the typical mortgage term for owners of manufactured homes placed on rented land was just over 15 years, compared with 18 years for manufactured homes on owned lots and over 25 years for owners of single-family detached homes.

**Figure 9: Share of New Placements of Single-Section and Multisection Manufactured Housing Titled as Real Estate Rises**




Source: U.S. Bureau of the Census, Construction Report

Figure 10 illustrates the toll that more costly mortgage financing can take on the affordability of manufactured housing. For example, consider a 2,000-square-foot, site-built home selling for the national median of $144,728. The median sales price for a manufactured home of similar size and quality located in a land-lease community is far lower, at just $48,960. Even located on a modest owned lot valued at the same amount as the lot included in the site-built example, the total purchase price would be only $84,274.

While the land-lease option results in a substantially lower purchase price and down payment, the interest rate is higher by two percentage points. Indeed, with a monthly payment of $645, the land-lease option is more expensive than the land-home arrangement. The outcome of the two scenarios is even more different, however, because the land-rent component of the monthly payment is likely to increase over time for the land-lease option, while the land under the site-built unit is likely to appreciate while mortgage payments remain stable. Little wonder that advocates continue to highlight the advantages of owned lots for purchasers of manufactured home. Real estate offers the purchaser both lower monthly housing payments and potential equity build-up from land appreciation.

### Consumer Protection Issues

Unlike loans for real property, personal-property financing is not governed by the Real Estate Settlement Procedures Act (RESPA), which requires disclosure of settlement costs and prohibits kickbacks or referral fees for mortgage brokers. Some focus group participants argued that manufactured-home retailers, who often play the role of loan brokers, were taking advantage of this situation to earn payments on loan originations, credit life insurance and property insurance with little benefit to the borrower. Since the market peaked in 1998, however, many of the worst loan brokers have ceased operations. Credit life insurance contracts are reported to be rarely sold today, for example.

Defaults are far higher on manufactured-home loans than conventional mortgage loans. Some 12 percent of all manufactured-housing loans end up in default over the life of the loan, a rate that is some four times that of conventional home mortgages (Consumers Union 1998). In the late 1990s, delinquency rates rose for manufactured-housing loans, an increase linked to the easy credit terms that finance companies offered buyers during the mid-1990s. In fact, the extremely high demand for manufactured homes over this period was stimulated by lending to borrowers who in many cases did not have the requisite income, wealth or credit characteristics to take on the financial challenge of home ownership. Consequently, in 2001 alone fully two percent of all outstanding manufactured-housing loans were in repossession proceedings (Walker Guido 2001).

Even as advocates, regulators and lenders alike are mobilizing to ward off the abuses of predatory lending and excesses in the subprime sector of the mortgage-lending arena, manufactured-housing finance remains an area in which the range of permissible loan terms and tactics extends beyond what would pass muster in the conventional mortgage market. As a result, manufactured-home buyers, who are often those with the fewest resources, remain more vulnerable to a variety of unscrupulous practices than borrowers in the conventional market.

**Figure 10: Comparison of Financing of Site-Built and Manufactured Homes (2,000 square feet)**

| | Site-Built on Private Land | Manufactured on Private Land | Manufactured on Leased Land |
|---|---|---|---|
| Construction Costs | $77,140 | $38,000 | $38,000 |
| Overhead/Finance | $32,274 | $6,460 | $6,460 |
| Land Costs | $35,314 | $35,314 | $- |
| Delivery and Set-Up | | $4,500 | $4,500 |
| **Total Sales Price** | **$144,728** | **$84,274** | **$48,960** |
| Type of Loan | real property | real property | personal property |
| Interest Rate | 8% | 8% | 10% |
| Term in years | 30 | 25 | 25 |
| Down Payment (%) | 10% | 10% | 10% |
| Down Payment ($) | $14,473 | $8,427 | $4,896 |
| Closing Costs (4%) | $5,210 | $3,034 | |
| Sales Tax (3%) | -0- | $2,528 | $1,433 |
| Security Deposit | -0- | -0- | $250 |
| **Initial Cash Outlays** | **$19,683** | **$13,989** | **$6,579** |
| Loan Amount | $130,255 | $75,847 | $44,064 |
| Monthly Loan Payment | **$956** | **$585** | **$400** |
| Monthly Land Rent | -0- | -0- | $250 |
| **Total Monthly Payment** before taxes and utilities | **$964** | **$561** | **$645** |

Source: Based on model from HUD (1998) Table 23

## Refinancing, Home Improvement and Resale Finance

There are few lenders engaged in lending for refinancing or improving manufactured homes, or for the purchase of an existing, previously owned unit not attached to a permanent foundation. Because of the collateral risks and related difficulty in assessing the value of a unit, these loans can be risky. Lenders interviewed for this project suggested that automated appraisals or book values for units are unreliable, and appraisals are difficult. One appraiser admitted she would conduct a conventional appraisal if and only if the unit is permanently installed. Otherwise, she will not estimate a value. Focus groups comprised of current manufactured-home owners suggested they did not know of any way to refinance their loan, except with their current lender. None of the participants in the focus group had tried to refinance their loans, despite paying interest rates near 10 percent. For these same reasons, home-improvement loans for manufactured units on leased lots are much less common than in the conventional market. A few retailers cater to this market by selling manufactured or site-built additions, but in general home improvements are self-financed. Existing owners of manufactured units sited in leased-land communities suggested they would be able to sell their unit, but added it would be more difficult if the sale involved moving the unit. Park owners often require notification of a unit for sale, and must approve the new tenant for the lot lease. Most previously owned units are sold for cash or through seller financing, in part due to the dearth of other options. The lack of a viable financing mechanism for refinance, improvement and resale exacerbates the collateral value risks of manufactured housing. By limiting the marketplace to loans only for new units, the demand for older units is constricted to that segment of the market that can self-finance.

## Limited Sources of Mortgage Capital

Until very recently, few banks, savings and loans, or credit unions were willing to finance manufactured homes as real estate, except in cases where the land is owned or a land lease is in place with a length longer than the mortgage loan term.[2] In its *Annual Survey of Manufactured Home Financing,* the Manufactured Housing Institute found that consumer-finance companies that specialize in manufactured-home lending originate the bulk of manufactured-home loans. In recent years, mortgage lenders and government-sponsored enterprises Fannie Mae and Freddie Mac have begun to step up their activity in this market. Given the enormous emphasis on low-income, first-time homebuyers, and on policy efforts focused on opening mortgage markets for these buyers, the lack of attention manufactured-housing finance receives is somewhat ironic. Correcting market failures in manufactured-housing finance represents a crucial way to expand and sustain home ownership.

### FHA-Insured Lending and Ginnie Mae Securities

The Federal Housing Administration has several mortgage-insurance programs for loans used to purchase or refinance manufactured homes. FHA Title I can guarantee loans for manufactured homes, for manufactured homes and the property on which they are located, or for loans to purchase a manufactured home lot. FHA Title II can be used where the home is permanently placed on land and treated like real estate. These programs are used for fewer than 10 percent of all manufactured-home placements in a given year, despite FHA's emphasis on serving low-income borrowers. Inefficient administration of these programs, low loan limits and other restrictions create barriers few lenders are willing to confront. FHA's recent increases in insurance premiums and lender standards might begin to revive the struggling, negative cash flow program.[3] In the 1980s, Ginnie Mae issued a limited number of "eagle" certifications allowing lenders to receive a Ginnie Mae guarantee in the secondary market for their pools of manufactured loans. Few lenders use Ginnie Mae's manufactured-home loan programs today, in part because of regulations put in place to stem high losses in this product line in the past. Yet competition among lenders would be enhanced if Ginnie Mae once again supported this program.

Following Ginnie Mae's tightening of secondary-market criteria, for example, units in FHA's Title I program declined in the 1990s from 28,404 loans in 1991 to only 377 loans in 1999 (Genz 2001). As more community banks and mortgage companies enter this market and responsibly underwrite loans, boom and bust cycles could be dampened if FHA provided a consistent source of credit with clear and effective standards.[4] FHA and HUD need to allocate more staff and resources to explore options for supporting this segment of home ownership.

In most states, manufactured units may be classified as real estate. However, over a dozen states do not permit HUD-code units on leased land to be legally defined as real estate.[5] As a result, FHA and other mortgage programs cannot legally participate in mortgage loans on manufactured units in these states. Without changes to state laws, federal policy actions will be moot.

Most states permit classification of manufactured homes as real estate if sited on owned land. About fifteen states, however, will not classify manufactured homes as real estate regardless of land ownership, hindering the integration of manufactured housing into mainstream housing finance and capital markets.

### Rural Housing and Veterans Affairs

The programs of the U.S. Department of Agriculture's Rural Housing Service cover new, permanently installed manufactured homes sold by retailer-con-

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2 In 2001, Freddie Mac created a loan product for leased-land units, stipulating the lease term must be five years greater than the mortgage term; Fannie Mae offers a similar product requiring a 10-year differential. These loans offer rates of 3 percent or more below chattel loans.

3 24 CFR Parts 201 and 202 in the Federal Register, Vol. 66, No. 216, November 7, 2001, increased the Title I and II premium to 100 basis points and increased the asset requirement for lenders/dealers.

4 In 2000 the securitization of manufactured-housing chattel loans dropped to half the previous year's levels, despite only a 20 percent drop in the overall shipment of units. Industry analysts suspect the differential in loan volume is made by local lenders making chattel or real estate loans, which they are holding in their own portfolios.

5 Arkansas, Connecticut, Florida, Maryland, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, South Carolina, Utah, Washington, West Virginia and Wisconsin did not recognize these units as of 1999.

tractors who meet strict agency requirements, but as with the FHA, volumes are low. Nationally, RHS manufactured-home originations amounted to just 487 loans in the Section 502 direct-loan program, and 336 loans in the Guaranteed Rural Housing program, despite the preponderance of manufactured units in rural areas (Genz 2001). Likewise, Veterans Affairs insurance programs, which serve as many as 200,000 borrowers annually, have not served a single manufactured-home buyer in recent years. VA's manufactured-housing finance programs continue to exist, but with effectively zero usage.

### State Housing Finance Agencies

A frequent source of mortgage capital for first-time, low-income homebuyers are mortgage revenue bonds issued by state housing agencies. However, nationally there are few manufactured-housing finance programs runs by state agencies. The New York and New Hampshire agencies have financed resident purchases of manufactured-home parks. Maine has offered revenue bond-funded loans on leasehold mortgages since the early 1980s and now self-insures loans on single-section units, including resale homes (Genz 2002). Alaska, North Carolina and several other states have also offered programs for purchase of new units on owned or leased land. Mississippi has offered mortgage credit certificates to provide consumers with a 40 percent reduction in interest rates on purchases of manufactured homes; however, there has been very little volume due to a lack of dealer interest. It seems that state housing finance agencies are also likely allies as advocates and community-development practitioners seek to improve opportunities for manufactured-home buyers.

### The Role of the GSEs

Traditionally, Fannie Mae and Freddie Mac have not supported a secondary market for manufactured-housing loans classified as personal property. Recently new products have been introduced for tenants of land-lease communities that, under specific circumstances, allow borrowers to access credit as real estate loans. For example, Freddie Mac's program for financing manufactured homes on leased land requires that units be sited on properties with leases running at least five years longer than the loan term, the homes be built on permanent foundations, and are subject to taxation as real property. Freddie Mac will also purchase loans made to finance entire manufactured-housing parks.

Though Fannie Mae and Freddie Mac have established guidelines for accepting real estate mortgage loans secured by manufactured housing, their participation in the sector has been limited, particularly in comparison with their dominance of the conventional, conforming lending market. HUD estimates that in 1998, the GSEs funded less than 15 percent of all loans for manufactured housing, compared with their 55 percent share of the overall home-mortgage market. Much of the GSEs' current activity is in homes sited permanently on owned land. To the extent that loans for such homes conform to other GSE standards, they are frequently pooled with loans for conventionally built housing, and their status as manufactured homes may be submerged. As a result, precise estimates of GSE market share are difficult to establish.

Recognizing the importance of manufactured housing in meeting the nation's housing needs, HUD's updated Affordable Housing Goals for Fannie Mae and Freddie Mac in 2000 encouraged the GSEs to increase their purchases of loans for manufactured housing. In doing so, HUD cited numerous studies showing that the manufactured-home sector was an important source of low-income housing, and argued that a more active secondary market could encourage lending to traditionally underserved borrowers.

### Asset-Backed Securities

Asset-backed securities emerged as a source of capital for manufactured-home lending in the mid-1990s. Although the majority of manufactured-housing loans are traditionally held in portfolio, securitization of these loans has become common. Manufactured housing's share of total asset-backed security issues increased from three percent in 1995 to seven percent in 1999, before declining to four percent in 2000.[6] Considering the inherently higher risk profile of this type of lending, such asset-backed securities require significant credit protection. One sign of this for investors and lenders is that the spread between yield and coupon rates on manufactured-housing securities has historically been lower than for mortgage-backed securities, but higher than for credit-card and auto-loan pools (Davidson 1997).

6 Other assets securitized include auto and student loans, credit-cards obligations, equipment leases, and collateralized bond and loan obligations.

# III. MANUFACTURED HOUSING'S ROLE IN AFFORDABLE HOUSING

Currently very few affordable units are being created for low-income homebuyers. Using one set of mortgage underwriting assumptions, only 44 percent of all owner-occupied units in 1999 were valued in a range that would be affordable to a household earning 80 percent or less of area median income. Of the 540,000 affordably priced new units added to the housing stock from 1997 to 1999, *two-thirds* were manufactured units (Collins, Crowe and Carliner 2000). Manufactured housing clearly plays a crucial role in providing affordable home-ownership options. Yet very few community-development entities or local agencies are actively integrating manufactured units into their affordable-housing development strategies. Recent innovations in design, new installation standards and regulations, existing subsidies, the need for consumer education, and manufactured housing's key role in very-low-income rental markets all indicate the need to re-examine the potential of manufactured housing as part of an affordable-housing strategy.

## Innovations in Design

Across the country practitioners are troubled by the boxy and generic design of manufactured housing and its effects on community character and sense of place. Practitioners in New Mexico report that new manufactured-home communities are virtually indistinguishable from their counterparts in South Carolina and do not fit into the local context. Both practitioners and consumers criticize the layout of most manufactured-home communities as too dense, affording little privacy. Practitioners respond favorably to the new designs that are available for manufactured units and published widely by the industry. However, focus group participants noted that in many regions innovative units have yet to be seen on the ground. Similarly, while many retailers sell a variety of models, they often have only a few units on display, making it difficult for consumers to understand the variety of options available.

Single-section units, despite some design improvements, are still rectangular in shape, evoking the old "trailer" stigma and contributing to the ongoing bias against manufactured housing. Moreover, single-section buyers who do not own land may be left with few choices of where to locate other than a rental park. But local resistance to the expansion of creation or parks often results in a shortage of lots and pushes land rents upward.

Advances in design and technology have made manufactured units more suitable for urban infill developments. In addition to savings from production techniques and lower materials and labor costs, factory-built units dramatically reduce security costs and speed up the development process. The Manufactured Housing Institute, in partnership with Freddie Mac and the Low Income Housing Fund, has begun to promote the use of manufactured housing as an urban-revitalization strategy. MHI has reached out to redevelopment authorities and housing agencies to educate them about recent changes and improvements in the industry. In 1996 MHI launched the Urban Design Project in an effort "to illustrate that today's manufactured homes can meet the need for affordable housing and can be aesthetically compatible within existing urban neighborhoods" (Manufactured Housing Institute 2001, 4). Five cities were selected to participate in the pilot project: Birmingham, Alabama; Louisville, Kentucky; Milwaukee, Wisconsin; Washington, DC; and Wilkinsburg, Pennsylvania. The cities and their respective development teams were selected through a request for proposals and evaluated according to criteria such as available funding sources, community involvement, site availability, potential for wider application and impact on the regulatory environment. One of the primary goals of the project was the removal of zoning and other regulatory barriers to the use of manufactured housing in urban areas; consequently the proposed project's ability to aid in this effort was seriously considered.

The projects demonstrated that collaboration between an architect and manufacturer could successfully develop attractive units that were context-specific and factory-built. Focus groups and the use of architectural models helped to educate the public about manufactured housing and helped to reverse negative perceptions. According to project observers, "city officials and the public are more concerned with appearance issues than with the difference between the HUD code and model building codes" (Manufactured Housing Institute 2001, 27). The Urban Design Project provided new insights into the opportunities and challenges of using manufactured housing as an urban infill strategy; however, only three of the five pilot programs were successfully carried out, suggesting a need for other approaches and models.

## New Legislation Improving Installation

The lion's share of consumer complaints stems from installation problems. Improper installation undermines the quality, safety and durability of manufactured units. One manufactured-home inspector claims that over 90 percent of the homes he inspected were improperly installed (White 2002). Problems are typically associated with failing to set the unit properly on the piers, using too few piers, using piers made of materials inappropriate for the site, and setting the piers on foundations that cannot adequately support the unit or on ground that has not been compacted. Improper installation causes the piers and/or the unit to settle unevenly, warp, sag, and often crack, and can cause doors and windows to become misaligned, making them difficult or impossible to open and close. Few licensing procedures exist for manufactured-home installation, making it difficult to identify and sanction those with a history of poor performance.

The HUD code does not require manufacturers to provide warranty protection, and while it is a requirement in some states, there is no uniform system to ensure compliance. A typical warranty covers home defects for one year.[7] However, it does not include defects that result from improper transport or installation and often excludes problems caused by improper site preparation. According to Consumer's Union, most problems occur within the first year when the warranty is still in effect; however, consumers often encounter resistance when they call on the manufacturer or retailer to honor the warranty (Consumers Union 1998).

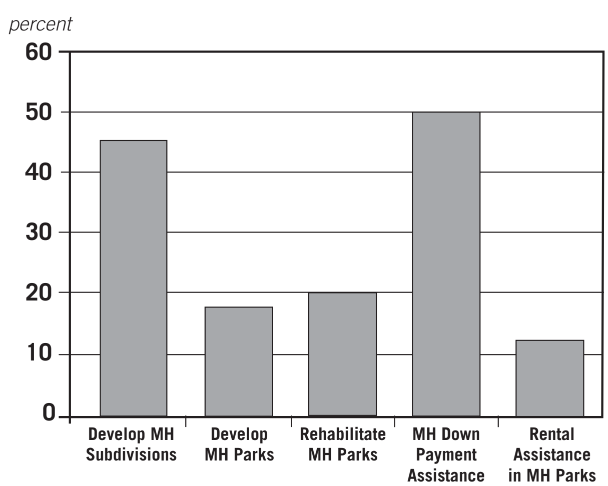
Although many states have adopted a model installation code developed by the American National Standards Institute, it is still often unclear to consumers whether the manufacturers, retailers or installers are responsible for correcting unit defects. The Manufactured Housing Improvement Act of 2000 requires HUD to develop a national model for installation standards, and gives states five years to either adopt these standards or develop an alternative and more stringent set of installation standards. States are also required to adopt a law mandating installer licensing and training, and installation inspections, by December 2005. In addition, the legislation also requires that each state establish a dispute-resolution system that will enhance consumer protection in situations where responsibility for poor product performance may result from some varying combination of manufacturer, retailer and installer error.

The new law potentially reduces the collateral risk lenders face that a unit may be improperly installed or placed on a faulty foundation. While there is hope the new law may signal a future marked by greater innovations in design and finance, in recent years many manufactured-housing lenders and developers have experienced record high delinquencies and repossessions. The next decade will prove if these growing pains can be resolved to form a market that better serves low-income families.

## Emerging Use of Home and CDBG Subsidies

Explicitly, there are few prohibitions to using manufactured units in urban areas. However, local administrators and developers often discourage the use of HUD-code units in affordable housing projects. Clearly

**Figure 11: Allowable Manufactured Housing Uses Reported by HOME Administrators**




Source: Manufactured Housing Institute Survey, 2002

[7] Many warranties cover only "structural" defects and will not cover "cosmetic" problems. Determining which category a problem falls under can be contentious. Extended warranties are available, but they are frequently too expensive for the many manufactured-home residents who have modest incomes.

stating in the administrative rules of existing affordable-housing programs that manufactured units may be used may help overcome resistance. In fact, a recent survey of a sample of HOME program administrators by the Manufactured Housing Institute revealed that in many areas manufactured-housing projects would be eligible for HOME funds. However, it seems few such projects have yet been initiated.

## Enormous Need for Homebuyer Education and Counseling

The lure of "no money down" and the immediate gratification that the one-stop shop affords are often overshadowed by the risk of an uninformed purchase. Manufactured-home buyers typically spend less time looking at other homes or attempting to find more favorable loan terms than is typical with site-built homebuyers. Quoted a lower monthly cost than their current rental payment, prospective buyers may sign on immediately, unaware of exorbitantly high interest rates and numerous hidden costs.

Retailers frequently promote the home-purchase transaction as a one-stop shop, arranging for financing with approvals coming in a few hours. While this brings value to the consumer, without question, there is a need for increased homebuyer education and counseling, especially for first-time buyers. There are currently few outside sources of information available to potential buyers and consumers have few places to turn to guide them through the manufactured-home purchase process.

While the Truth in Lending Act provides consumers a three-day cooling-off period during which they can terminate the real estate loan on their homes, a manufactured home financed as personal property rather than real estate does not offer such protection (Genz 2002).

Throughout the home-purchase process, consumers may interact with the retailer, manufacturer, transporter and installer. If something goes wrong it can be difficult for the consumer to discern who should be contacted. It is not uncommon for whoever is contacted to suggest that one of the other parties is responsible. Consumers may feel that the manufacturer is the obvious candidate to contact when problems arise since it was responsible for the construction, and it is likely to have the deepest pockets. Manufacturers, however, do not typically control the retail and installation networks, and therefore have limited influence over practices and promises.

Homebuyer educators and counselors interviewed for this project emphasized that all too often, the contracts and terms of financing have already been negotiated when the buyer begins counseling. Counselors point out that better informed buyers could reduce the number of repossessions, since they would scrutinize the financing terms and actual monthly costs, and be better able to gauge their preparedness for buying a home. The counselors interviewed welcomed opportunities for partnerships with manufacturers and lenders as a way to provide consumers with balanced information and prepurchase counseling earlier in the process.

Counselors are aware that there are dramatic variations in the quality of manufactured homes, but they do not always know how to discern the differences themselves, let alone aid consumers in making an informed decision. Checklists that specify what to look for in a home and what to ask the retailer before signing a contract are invaluable to both counselors and consumers. At present counselors rely heavily on the Internet for information about manufactured housing. They point out that many of the resources, while very helpful, are produced by the industry and therefore not entirely objective. In addition, they want to complement research with practical advice. For example, with respect to estimates of the life of a manufactured home, counselors would like more than a number. They want to know what, if anything, can be done to extend the life and how they can incorporate this information into their education curriculum. Additional topics homebuyer educators suggested for inclusion into a curriculum include the HUD code, financing options, the implications of placing a home on owned versus leased land, maintenance, energy efficiency, ensuring proper installation and property taxes. Each counselor also needs to uncover information on local zoning laws, tenants' rights and housing markets, since this varies by market.

None of the major homebuyer education curricula by Fannie Mae, Neighborhood Reinvestment, AHECI or other sources addresses manufactured housing. A few even incorrectly define these units. Given the preponderance of manufactured-housing purchases among first-time, low-income borrowers who are often the focus of homebuyer education, this again seems incongruous.

Interviews and focus groups with leading practitioners and intermediaries suggest that creating a whole new curriculum for manufactured-home buyers is not the most effective strategy. Many of the skills and information currently included in conventional homebuyer-education programs are transferable to buyers of manufactured homes. The unique aspects of buying a new or existing manufactured home on owned or leased land could make up a supplement, likely covering one to two hours of material. Equally important is the training the trainers receive, and the materials made available for use by practitioners. Neighborhood Reinvestment Corporation will be offering such a supplement to its *Realizing the American Dream* materials, and integrating the material into its training-for-trainers sessions in late 2002.

## A Crucial Part of the Affordable Housing Stock

Even as new manufactured homes get bigger and better, problems in the older manufactured inventory persist. The over 2 million homes manufactured before 1976, when the HUD code was enacted, present the greatest challenges, due to their small size and often advanced state of physical deterioration. While only 26 percent of owner-occupied manufactured units built since 1993 are smaller than 1,000 square feet, two-thirds of those built prior to 1976 are. For renters the gap is even greater, as fully 83 percent of rented units built before 1976 are 1,000 square feet or less, while just 31 percent of rented units built since 1993 are as small.

Problems with older units are more common among rented manufactured homes. While 95 percent of homes built since 1993 are owner-occupied, only 73 percent of those built prior to 1976 are. The very-low-income households that often occupy these older rented units have few housing options, making problems in this section of the nation's housing inventory particularly troubling. Consequently, many of the nation's lowest-income families, both owners and renters, continue to live in deteriorating manufactured units that have long since outlasted their useful life.

These older units are more often rented or sited on leased land, are smaller, physically distressed, and occupied by very-low-income households. However, they are a critical housing source for many low-income people. Strategies are needed to assist the thousands of households trapped in older, structurally inadequate units or locked into land-lease arrangements. If the communities 3.4 million families nationally who own home on rented are deducted from owner-occupied statistics, the national home-ownership rate, it would drop from 68 percent to 65 percent.

None of the practitioners, consumers or industry representatives interviewed for this project suggested many promising strategies for pre-HUD code units. Most expressed surprise that these units have lasted as long as they have, and a few seemed to wish the demise of these units could be accelerated because of the negative stigma they impart on the entire market. These units are replaced, often with state or federal subsidy, when floods or high winds cause damage, but otherwise tend to remain in use. The state of Vermont piloted a program to recycle units for scrap value, but found little economic value in the salvaged materials. There are cases, however, especially in regions with favorable climates, where 1950s-era units continue to be occupied in well-maintained communities.

Strategies are still needed to address the 1.4 million rental units, many of which are in substandard condition. Replacing aging units with better designed and fairly financed housing will help improve the overall appearance of many communities, as well as provide families with safer, more stable housing with increased opportunities for wealth-building.

# IV. MODEL COMMUNITY DEVELOPMENT STRATEGIES

Difficult questions persist: What should be done about this housing stock? How can we protect the occupants? How can the cost advantages of manufactured units be used to achieve goals for affordable housing? What role can a community-based organization play?

This section draws on the experiences of five organizations that have begun efforts to address these issues:

- Better Housing for Tompkins County, Ithaca, New York;
- North Country Affordable Housing, Watertown, New York;
- Colorado Rural Housing Development Corporation, Westminster, Colorado;
- New Hampshire Community Loan Fund, Concord New Hampshire; and
- HomeSight, Seattle, Washington.

While these programs are small in scale, they demonstrate that it is possible to tap into federal and local funding sources for the replacement, rehabilitation and development of manufactured units. Innovative programs have traded in dilapidated mobile homes and trailers for more modern manufactured or modular units, and others have attempted to maximize the scrap value of aging units.

## Replacement of Aging Manufactured Units

### Better Housing for Tompkins County

In 1999 the town of Enfield, New York, received a $400,000 Community Development Block Grant (CDBG) to replace 18 dilapidated and insufficiently winterized mobile homes with units built since 1993. Better Housing for Tompkins County was contracted to administer the project.

To be eligible participants must own the land on which the new home will be placed, and earn less than 80 percent of area median income.[8] Once selected, participants must attend a prepurchase workshop offered by Better Housing. The land serves as the down payment; in addition, households can receive CDBG funds of up to $25,000 toward the purchase of their new unit, in the form of a second mortgage that is forgiven over a 10-year period.

As of January 2002, only two families had completed the program and moved into new modular homes. The program has had difficulty recruiting eligible participants. Stacey Crawford, Better Housing's executive director, explained that many potential participants are wary of assuming debt, while others face issues related to their income, credit history or property title. Some members of the community feel that the program, with its emphasis on replacement, is critical of their housing choice. In an effort to combat this perception, Better Housing has begun to promote manufactured housing as a replacement option.

### North Country Affordable Housing

When 1990 Census data revealed that manufactured homes comprise 15 percent of the housing stock in rural Jefferson County, New York, North Country Affordable Housing conducted a survey which indicated that 83 percent of all homes built in the area in the last 11 years required some level of maintenance and repairs. In response North Country began to replace the oldest mobile homes with new modular or site-built homes in order to eliminate substandard housing. Program participants must live in Jefferson, Lewis or St. Lawrence county and earn 80 percent or less of area median income.[9] They must own their homes and the land on which the new units will be sited. A program priority is to replace units destroyed by fire. Potential participants must attend approved home-ownership training programs.

Participants are eligible for grants provided by the State of New York Affordable Housing Corporation and federal HOME funds of up to $20,000, subject to a recapture formula that is forgiven over a 10-year period. Average development costs, net of land, are $62,826 per home, more expensive than HUD-code units, but still cost-effective. Many participants contribute their own sweat equity to further lower costs, and the remainder is financed by local lenders and Rural Development RHS mortgages.

Since the program began five years ago, North Country has completed 55 units, with only one foreclosure. There is currently a waiting list of approximately 50 families interested in participating. However, Barbara Willis, North Country's executive director, estimates

[8] Tompkins County's estimated AMI in 2002 is $53,300. Data available at www.efanniemae.com.

[9] Estimated area median income in 2002 in Jefferson County is $39,400; Lewis County AMI is $38,900; and St. Lawrence AMI is $40,300. Data available at www.efanniemae.com

that only about one in four applicants successfully completes the process. Poor credit history, fear over assuming debt, and the length of the process are all common deterrents. Some participants lose patience with a process that can take up to a year when a new manufactured home could be purchased immediately. Program staff and outside contractors who really understand the program and are willing to work with the families individually are important since each situation is different.

Like Better Housing, North Country has designed its program with a preference for site-built, or in some cases modular factory-built units, over HUD-code units. This is a common approach among community-development practitioners—in some cases based on careful analysis, in others based simply on personal biases and perceptions.

## Rehabilitation of Aging Manufactured Units

**Colorado Rural Housing Development Corporation**
In the late 1980s, Exxon Corporation abandoned an oil shale exploration in western Colorado, leaving behind a stock of empty mobile homes. Colorado Rural Housing Development Corporation saw this as an opportunity to rehabilitate the abandoned homes and provide low-cost housing for families elsewhere in the state.

The first phase of the project transported 12 single-section manufactured homes 150 miles to several scattered lots that were zoned to allow their placement. Once placed, new windows, drywall and insulation were installed, and rooms and garages were added to several of the units. The wheels were removed and CRHDC met with the county recorder's office to purge all the titles and convert the homes to real estate. Most of the program participants were renters, often living with other family members, and had incomes less than 60 percent of area median income. Once they were prequalified, they were placed into groups of six families. Each group worked together on the reconstruction of the homes, adding a sweat-equity component that further lowered total costs. Participants received training in construction techniques as well as extensive home-ownership education.

Phase two of the project relocated 12 multisection manufactured home units to a single site. The multisection units required less rehabilitation than the single-sections and cost about $40,000 per unit, including land.

A typical unit cost was about $34,000, and the sweat equity for each unit was valued at $10,000. The Office of Community Services of the U.S. Department of Health and Human Services and the Colorado Housing Finance Authority financed the project. Grants covered about 50 percent of the costs, while CHFA provided low-interest loans to finance the remainder. The grant contains a 20-year recapture provision. All the units have held up well and have appreciated in value; some residents have refinanced their homes or made additional improvements.

While this program was quite successful, a ready supply of vacant homes is a rare occurrence. Al Gold, CRHDC's executive director, reports that it was difficult to find developable land that was zoned for manufactured homes, given the bias that exists against these units.

## Cooperative Park Ownership

Nearly three million families live in manufactured homes sited in "land-lease communities," more often called trailer parks or rental communities, where they pay a monthly ground rent to a landlord in addition to their loan payment for the unit.[10] The park owner typically provides sewerage, water, electrical systems and landscaping, and maintains the roads and other common areas.

Landlord quality is uneven in any rental housing market, but especially in manufactured housing. Tales of frequent rent increases, little or no infrastructure maintenance and excessive rules governing what tenants can and cannot do are common. Moreover, it is difficult and expensive to move a manufactured home (typically costing $1,500 to $5,000), essentially tying

[10] Homes placed in rented parks are financed as personal property because conventional single-family mortgage programs require that the land and property be bundled together to qualify. Conventional single-family mortgages also require that a home be placed on a permanent foundation; however, owners of manufactured housing cannot always afford the higher costs of a permanent foundation.

low-income and low-wealth occupants to a site. Current legislation governing rental park arrangements in some states is weak, giving tenants little recourse in the event of a park sale that will lead to eviction.

In Athens, Georgia, construction has begun on an apartment complex located on the former site of Garden Springs mobile-home park. Garden Springs was home to about a hundred predominately Hispanic families, who were notified in June 2001 that the park had been sold to a developer and that they would have to relocate within 30 days. Many residents could not afford the cost of relocation, and others were prohibited from moving by a local ordinance that forbids relocation of trailers built prior to 1977 (Gallentine 2002). Local church groups and other volunteers rallied to help the families find new housing, and plans are still underway to develop another mobile-home park. The Athens case, which is in no way exceptional, highlights the vulnerability of residents in parks, where tenure is insecure.

In some cases, park tenants have collectively purchased their community as a cooperative. These resident-owned communities allow residents to have control of their community, acquire long-term site commitments, and transform their homes into real assets. Several states have laws providing residents the right of first refusal when leased-land communities are placed on the market.[11] Currently, New Hampshire has 55 cooperatively-owned manufactured-housing parks, California has over 100, and Florida has nearly 500. The state of Vermont has directly acquired parks, through the Vermont State Housing Authority (Bradley 2000). Despite the challenges of management and finance, the benefits of this ownership structure are significant.

### The New Hampshire Community Loan Fund

In the movement to convert parks to cooperative ownership, the New Hampshire Community Loan Fund (NHCLF) has demonstrated significant leadership. Established in 1983, NHCLF is a private, nonprofit organization dedicated to creating affordable housing and fostering economic opportunity for low- and moderate-income people. In 1984, NHCLF advanced $42,000 to residents of a rental park in Meredith, New Hampshire, to cooperatively purchase the park. Sixteen years later the Meredith Center Cooperative is not only still in existence but also debt-free. Building on the success of Meredith Center, NHCLF developed the Manufactured Housing Park Cooperative Program to provide technical assistance and management training to potential and current cooperative residents. The program has two objectives: to maximize resident control over mobile-home parks, and to provide membership for the entire community, regardless of income. The second objective is achieved by providing the benefits of membership to residents who pay a low down payment during the acquisition phase and pay the remainder of their membership share in monthly installments (Bradley 2000).

In 1988, NHCLF joined with the Mobile Homeowners and Tenants' Association and successfully lobbied for a law to give residents a 60-day right of first refusal to negotiate the purchase of their park in the event it is put up for sale. This important law changed the dynamic between residents and park owners. About 75 percent of the coops in New Hampshire (about 30 parks) have been acquired directly or indirectly under this law. It has also resulted in negotiated sales by owners who have called NHCLF directly once they decide to sell.

Cooperative ownership stabilizes ground rents and allows profits that once left the community to be directed toward infrastructure and other improvements. In addition, some coops have secured Community Development Block Grant or USDA Rural Development money to make important health, safety and infrastructure improvements. Cooperatively owned parks have kept rents lower than investor-owned parks (Bradley 2000). One co-op in Dover, New Hampshire, actually reduced rents by $10 over the last 13 years, while also making major sewer and road improvements. Cooperative parks have also successfully elected their residents to town boards, thereby increasing their political clout and have regular meetings with the local officials to discuss park issues (Bradley 2000).

Cooperative ownership does present a challenge to those who organize them in terms of paying for

[11] The Washington state supreme court struck down a right-of-first-refusal law as interfering with the right to sell property. New Hampshire and other states have addressed this by utilizing a 60-day notice, wherein the seller has to negotiate in good faith with tenants. States could add protections for estate owners, such as exempting transfers between related entities, restricting the provision to arms-length sales, or trigger the right of refusal only in cases where the property will no longer be used for manufactured housing (a change in use).

ongoing leadership development and management support. Enforcing standards, sustaining member involvement and collecting land rent from neighbors and friends can place pressure on cooperative boards. Some cooperatives have found it worthwhile to contract with a management company. NHCLF helps residents to develop leadership skills and is currently publishing *How To Manage a Manufactured Housing Park Cooperative,* a 300-page guide.

Private banks were initially reluctant to finance manufactured-housing park conversions; however, after NHCLF and the New Hampshire Housing Finance Authority financed several deals, the banks became convinced that it could work. The Federal Home Loan Bank of Boston instituted a fixed-rate lending program with member banks for cooperative residents to purchase parks at loan-to-value ratios of 80 percent or less. Residents contribute what equity they can, typically enough to cover some closing costs, and NHCLF makes up the difference with a fixed-rate, subordinate down-payment loan. To date no New Hampshire coop has defaulted on a loan (Bradley).

Based on the demand for homes in cooperatively owned parks, Paul Bradley, vice president of NHCLF, believes reliable and affordable fixed-rate financing would create a market in which homes will increasingly appreciate.

## Developing Affordable Housing with Manufactured Units

Very few nonprofit housing organizations are discussing manufactured-housing projects, let alone developing them. However, concerns over rising land and construction costs may lead some organizations to explore alternatives to their current development practices. HomeSight, a Seattle-based CDC, is an often-cited example of just such a case. Whether the circumstances that led to their decision to use manufactured housing will lead others to follow remains to be seen, but it may be an indication that attitudes are changing and that manufactured housing has wider applications than it once did. The efforts of HomeSight, the Manufactured Housing Institute's Urban Design Project, and NHCLF's Barrington Project provide some insight into the challenges and opportunities of manufactured-housing development, particularly as it pertains to community development.

### Noji Gardens

Noji Gardens is a 6.5-acre, 75-unit development of affordable-housing developed by HomeSight in southeast Seattle.[12] Between 1995 and 1999, both construction and land costs in Seattle skyrocketed, with construction costs going up at a rate of 1.0 to 1.5 percent *per month* over the entire period. Typical single-family lots, which had been priced at under $10,000 in 1995, rose to around $65,000 by 1999. HomeSight lowered its costs in a variety of ways; however, nearly every time costs were reduced, the intensifying market diminished the savings. Project economics made it increasingly hard for HomeSight to serve its target market, families earning 60 to 70 percent of area median income.[13]

HomeSight had some experience with manufactured housing through collaboration with the Snohomish County Housing Authority, in which the authority developed a manufactured-housing subdivision while HomeSight marketed the units and provided homebuyer education. Following this project, HomeSight's executive director, Dorothy Lengyel, began discussions with HUD and attended a Manufactured Housing Institute conference which discussed using manufactured housing in urban areas as a way to minimize costs.

The Manufactured Housing Institute provided technical assistance to HomeSight, and put it in touch with Schult Homes, a large manufacturer with a Marlette Homes plant in Oregon. Schult created two-story manufactured housing through an inclusionary process with HomeSight. Noji Gardens managed to avoid some of the stereotypes associated with manufactured housing because the homes look like typical, site-built Seattle homes. Most passersby do not even realize they are manufactured homes. Throughout the process, HomeSight collaborated with the city and community groups, involving them in the process to dispel fears regarding the boxy aesthetic of manufactured housing and to demonstrate the potential of two-story, modern homes. On-site finishing provided ample work for local contractors, minimizing complaints about housing produced outside Seattle.

[12] Fifty-one of the units are manufactured, while the remainder are stick-built.
[13] Area median income for a family in the Seattle MSA in 2001 was $72,200.

Flexibility on issues such as property taxes and property titles were key to the project's success. HomeSight worked closely with the city to amend its property tax abatement program to include the single-family homes at Noji Gardens, which they estimate will save buyers about $15,000 to $25,000 over a period of 10 years. Good relations with all the project partners and the community were critical to the success of the project.

HomeSight used a block grant float loan of $1.2 million at two percent from the city of Seattle, backed by a letter of credit, to secure the site. Infrastructure development was financed by a program-related investment of $500,000 at two percent from the Fannie Mae Foundation. Local Initiatives Support Corporation, through its National Community Development Initiative, provided a construction loan of $3 million at 5.8 percent interest.

HomeSight averaged savings of $10,000 to $15,000 per unit by using manufactured housing, and expects to save even more per unit in the future. For example, logistics planning was a challenge, but costs decreased as efficiencies increased. The first unit took about eight hours to set in place and cost about $2,500 due to the expense of the crane rental. More recently three units were set in four hours, costing about $600 per unit. The major sources of cost savings are labor, materials and the time of construction.

The median selling price for a single-family home in King County was $264,000 in 2001. Home prices at Noji Gardens range from $175,000 to $255,000 depending on the lot size and number of bedrooms.

HomeSight speaks enthusiastically of its first manufactured-housing project, but admits the project was complex. In-house construction management and architects, as well as significant development experience, are prerequisites to tackling a project of this scale.

### Barrington Project

The New Hampshire Community Loan Fund's Manufactured Housing Park Program is currently building an affordable home-ownership project of 45 to 47 sites in Barrington, New Hampshire. The development is to be the first manufactured-housing development where all the homes receive the U.S. Environmental Protection Agency's Energy Star rating.[14] HUD's Partnership for Advancing Technology Office is funding the architect, Steven Winters Associates, a leading green architect, and the Ford Foundation funded the predevelopment.

Homes will have a variety of innovative construction features, such as advanced septic systems that emit cleaner effluent than standard systems and allow for smaller leach beds that reduce disturbance to the natural landscape, and propane heat in all homes that will eliminate both the environmental hazard created by outside oil tanks and the extra charge for kerosene in the winter. Homes will also be sited to maximize passive solar gain in winter and natural cooling in summer.

The project will be a clustered development with single-family lots as small as 10,000 square feet, or about four homes per disturbed acre. The clustered development reduces land consumption and lowers the costs of community infrastructure. Other conservation features will include a 50-foot natural buffer zone around all wetlands, and wildlife corridors providing access to and from neighboring sites, including several large conservation tracts.

NHCLF hopes to demonstrate to land-use planners, consumers and others that manufactured housing can be a good choice for affordable home ownership in an attractive, safe and green-planned community. The homes will be financed conventionally and cost between $75,000 and $100,000—impressive in a market where the median sales price is in excess of $235,000.

[14] Energy-efficient new homes that earn the Energy Star label incorporate energy savings in design and construction and use 30 percent less energy for heating, cooling and water heating than standard homes (www.epa.gov/nrgystar/newsroom/newsroom_factsheet.htm).

# V. OPPORTUNITIES AND CHALLENGES FOR COMMUNITY DEVELOPMENT

To supplement the quantitative findings and case studies, anecdotal information was gathered from a variety of sources to provide a more complete picture of the opportunities and challenges of manufactured housing, as well as the range of attitudes toward it. Focus groups with community-development practitioners, lenders, manufactured-housing retailers, consumers and homebuyer-education specialists were convened to assess perceptions, knowledge and experience with manufactured housing and to begin to discern what market-based changes and improvements are needed and where policy might intervene. Guiding this research were questions related to the community-development field, namely what, if anything, should community-development corporations be doing about manufactured housing?

One of the first findings of this effort is that the term "manufactured housing" continues to confuse practitioners. The differences between trailers, mobile homes, modular housing and manufactured housing are not easily explained by referring to the performance standards and specifications of the HUD code. The legacy of early mobile homes endures in the negative perceptions of manufactured housing today. Modular and panelized housing elicit more positive reactions and are perceived to be a more acceptable housing choice, despite being such a small portion of housing starts (less than five percent in 2001). Uncertainty persists as to how, if at all, manufactured homes have changed—even if the families occupying them have.

Second, focus-group participants revealed that this market should not be divided into pre- and post-HUD code, as is sometimes assumed by housing economists. Moreover, the tendency to discount the importance of older, low-value units is misleading, as these units are so crucial to low-income housing. The market can be divided into three distinct segments:

*(see chart above)*

| Market Type | Location | Issues and Concerns | Significance |
|---|---|---|---|
| **Leasehold Communities (Parks)**<br><br>**(typically single-section)** | Rural and Suburban | • Escalating land rent<br>• Quality of park management<br>• Cost of personal-property loans<br>• Unsafe, aging units with difficult repairs<br>• Location and amenities<br>• Right of first refusal - coop conversions<br>• State laws prohibiting real estate loans<br>• ALTA titling regulations | • Entry-level housing stock<br>• Only affordable rental option in some markets<br>• Offers principal pay-down and space control for tenant not available in apartments<br>• Critical for low-income families |
| **Affordable HUD-Code Units on Owned Land**<br><br>**(mix of single-and double wide)** | Primarily Rural | • Quality and design of units<br>• Cost of personal-property loans<br>• Aging units with difficult repairs<br>• Restrictive zoning<br>• Utility hook-ups<br>• State laws prohibiting real estate loans<br>• Titling on family-owned land<br>• Initial remedial aesthetics vs. affordability<br>• Predatory lending<br>• Uneven appraisal process<br>• Installation and foundation standards<br>• Unfair retailer practices | • Entry-level owner-occupied housing stock<br>• Only way to develop units in some markets due to lack of contractors<br>• Critical for young working families and single-parent households |
| **Newly Placed Factory-Built Units (multisection)** | Urban and Suburban, Upscale Rural (metro fringe, resorts) | • Design<br>• Lending and appraisals<br>• Restrictive zoning<br>• Resolving code differences<br>• Installation standards | • Cost-effective, owner-occupied unit development<br>• Fast and secure infill option<br>• Fills gap left by site-builders' movement upscale |

Third, attitudes among practitioners are mixed. Perceptions can be characterized along a continuum of:

### Industry Advocates

Acknowledge that the industry has made mistakes, but believe the scale and market acceptance can not be ignored. Advocates often view manufactured housing as a building process, rather than as an industry as a whole. This allows them to look beyond the problems in certain sectors, such as finance or installation, to the potential that technology offers on the production side. Advocates often proactively suggest innovations in design, zoning and finance. They frequently cite the cost advantages that the technology offers, but in an eagerness to shake the trailer-park stigma, they can forget the importance of single-sections in parks for low-income families. This segment seems to rely more for solutions to housing issues on market forces rather than regulatory responses, and views manufactured housing as a housing-policy issue.

### Skeptics

Wary of the industry based on past product design and performance, lending practices and questions related to depreciation. Skeptics pragmatically acknowledge that manufactured housing is a neglected issue that deserves attention, but are unsure of how to analyze the issues. Finance, titling, tenant protections, design, installation standards and materials quality are major concerns, as well as local economic impact and political ramifications for unions and local government. Concerns over community development and revitalization often conflict with a desire for affordability. Resistance tends to decrease when they are introduced to the range of high-quality manufactured-housing units currently available, though often with reservations. Community-development entities tend to be in this category.

### Antagonists

Burned by shoddy products, troubled by the prevalence of unsightly units in the landscape, and bruised by powerful industry lobbyists, this group views manufactured housing as a destructive force in low-income communities. Antagonists are highly critical and suspicious of the industry; they respond to claims that it has changed with even greater condemnation. Antagonists charge that so long as some manufacturers continue to turn a blind eye to problematic financing, installation and sales practices, they are complicit in this destructive force. Often the sense is that manufacturers, lenders, retailers and park owners have taken advantage of low-income people in such a deceptive way that they should be shut down the same way that producers of fraudulent consumer products have to pull their products from the market. This group tends to gravitate toward regulatory and government remedies, and sees this as a consumer-protection issue or associated with continuing "War on Poverty" work in rural communities. Homebuilders and union members, due to concerns about competition and reduced job opportunities, are often members of this group.

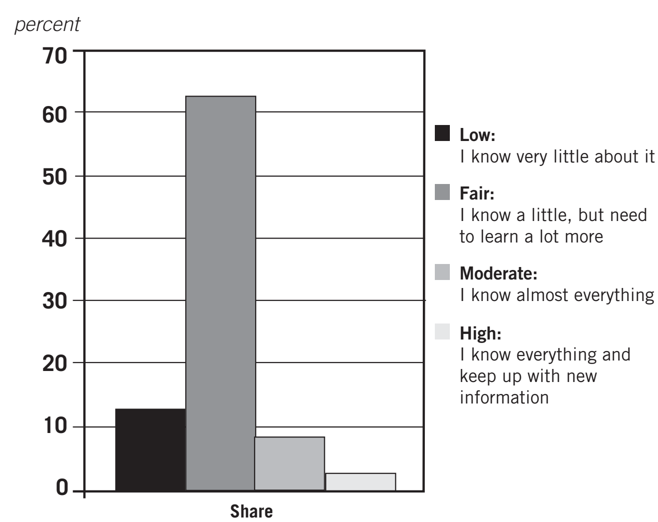
## Role for Community-Development Entities

Very few nonprofit organizations are involved with manufactured housing in the areas of development, lending, consumer education and counseling, or park ownership and management. Organizations with programs targeted at manufactured units rarely highlight this work; some only shared their experiences after it was clear such programs were not going to be criticized. Few practitioners embrace all aspects of the manufactured-housing industry, but more are beginning to advocate for product improvements or better financing terms. Others are exploring using manufactured units in their developments or adding sections to homebuyer-education classes on how to buy a manufactured home. Overall, however, community-development practitioners have much to learn, at least based on the results of a Neighborhood Reinvestment survey in February 2002 (Figure 12). Most of those surveyed suggested they knew a great deal about affordable housing issues, but very little about factory-built housing.

Possible roles for community-development entities include:

- owner or manager of traditional leasehold community;

**Figure 12: Community-Development Professionals' Knowledge Level Regarding Factory-Built Housing**




Source: Neighborhood Reinvestment Survey of 120 professionals nationally

- source of technical assistance or loans to convert leasehold communities into resident-owned cooperatives;
- designer of innovative loan products in partnerships with housing finance agencies and local lenders for the purchase, refinance, improvement and resale of units;
- developer of replacement or recycling programs for severely dilapidated units;
- upgrader of existing units, using HOME and CDBG funds, to better blend into community setting;
- developer of subdivisions of new owner-occupied manufactured housing;
- developer of innovatively designed factory-built units placed in scattered-site infill projects;
- provider of prepurchase homebuyer education and counseling directed at manufactured-home consumers;
- provider of home-improvement and repair loans for personal-property titled units;
- owner or manager of a factory to build housing as an economic-development program;
- advocate for fair housing compliance; or
- advocate for appropriate state and local oversight and regulation, consistent with 2000 law.

## Persistent Issues of Concern

Several issues were raised repeatedly in interviews and focus groups across the country:

### Finance
The process and cost of securing a loan to purchase a new HUD-code home is well established, and it is evolving to more closely mirror conventional lending. Loans for homes titled as personal property continue to carry increased collateral and default risk, although recent regulations regarding installation and leasehold mortgage loans may begin to address this issue. The most significant shortfall is in the financing of an existing unit for resale, refinance, and renovation or repair. Few lenders are active in these markets.

### Repossessions
The market is flooded with repossessed units, which presents opportunities for acquiring low-cost units, but also perpetuates the perceived risks of owning and lending on HUD-code units.

### Retailers
Many retailers do add value to the transaction, similarly to a general contractor in a site-built development. However, retailers shirking responsibility for installation problems and rushing contracts are often cited as problems, although new federal requirements for installation standards, installer licensing and dispute resolution should begin to address this. A lack of transparency in pricing and the lack of a public record of sales prices need to be addressed.

### HUD-Code Standards
Some newer units with poor materials and workmanship seem to be slipping through. However, it is not clear that this proves that the HUD code is inferior. It is more likely that homes are approved that do not meet the standards. Better monitoring and code enforcement is required.

### Rental Park Communities
While land ownership is a preferred arrangement, many households cannot afford land, and will continue to opt instead for rental park communities. New mortgage products do seem to be pushing landlords to extend lease agreements, and state laws offering increased tenant protections are promising. Who owns and controls the land is a critical factor in the quality of life for low-income households, since each new park investor will finance a higher purchase price, which the tenants will ultimately pay for. Cooperative ownership removes the park from the speculative market.

### State and Local Regulations
State laws prohibiting HUD-code units from being titled as real estate are a major obstacle. However, most of the 16 states that do this are considering legislation to conform to real estate titling. Zoning and code rules continue to be a major barrier. Factories are increasingly building units to match the needs of localities, rather than trying to bend regulations. However, the vast majority of local governments continue to discriminate against manufactured housing, thereby limiting its potential to meet the need for affordable housing.

### Homebuyer Education
Consumers of manufactured housing are not well informed before, during or after the purchase process. They also lack funds to pay for counseling or group classes. Nonprofits play a key role, but reaching consumers before the purchase—before they walk onto a retailer's lot—is a challenge.

# CONCLUSION: THE CHALLENGES THAT REMAIN

Recognizing the advantages of lower production costs inherent in manufacturing housing, the challenge for advocates is to work to capture these production efficiencies for the advantage of lower-income clientele. First and foremost, advocates must push for rationalization of the finance process and expansion of options intended to afford manufactured-home purchasers access to credit on the best terms for which they qualify. In addition, state and local installation standards must be made more rigorous and subject to better enforcement, to ensure that the useful life of manufactured homes and the flow of housing services they generate is extended. Similarly, land-use controls must be reformed in order to allow manufactured homes to be placed on lots in a wide range of communities so that owners of manufactured homes are able to reap the equity build-up associated with land ownership. Finally, designers and planners must continue to advocate for manufactured-housing units and subdivisions as acceptable alternatives to site-built housing, while maintaining the affordability advantages that still lie at the heart of the product's market appeal.

Even while working to expand acquisition and financing of new manufactured homes on owned land, equal effort must be devoted to addressing the difficult conditions of many lower-income people— owners and renters alike—living in older, and often deteriorating, mobile homes. While a few of these families and individuals could be relocated to new and better quality homes with the help of existing government subsidies, resource limitations at the state and federal level suggest the urgency of devising cost-effective methods to eliminate both pressing health and safety problems, and upgrading or rehabilitating this very affordable element of the nation's housing inventory.

Although there is a growing body of research on the advantages of manufactured housing, policies and practices in support of it are lacking. A coherent national agenda using both market-based and policy strategies is need to implement the promising efforts that have transformed local markets. Community-development entities can and should play an important role in the dialogue going forward.

There are at least seven reasons community-development practitioners should re-examine their long-held beliefs regarding factory-build housing:

1. New designs offer styles and quality almost indistinguishable from site-built units, at a lower cost.
2. Manufactured unit sales and placements have experienced high growth rates in almost every region of the country.
3. Manufactured units play a growing role in expanding home ownership for low-income and first-time buyers, and play a crucial role in providing affordable rental markets to extremely low-income families.
4. New legislation passed in 2000 requires involvement at the state and local levels in setting standards and oversight of the HUD code.
5. Efforts are being made at reforming the finance of manufactured units, stemming from the collapse of major specialists in this arena; state housing finance agencies and the secondary market are coming up with innovative financing options.
6. Efforts are being made by the industry to change its methods, its image and generally improve its products and delivery system. The recent down turn in the industry has forced it to become more aware of its need to work collaboratively in a variety of environments.
7. There are emerging, exciting models of community-development organizations that have successfully developed programs which overcome some of the historic failings of this housing market.

Practitioners interested in serving low-income communities and families needs to overcome historic biases and resentments towards the industry and take leadership of the future of manufactured housing.

# REFERENCES


Ahluwalia, Gopal. 1998. Concentration in home building. *Housing Economics,* NAHB, December, p. 10.

Ahluwalia, Gopal. 2001. Factory-made housing. *Housing Economics,* NAHB, November, p. 7.

Bradley, Paul. 2000. Manufactured housing park cooperatives in New Hampshire: An enterprising solution to the complex problems of owning a home on rented land. *Cooperative Housing Journal.* pp. 22-32.

Collins, Michael, David Crowe and Michael Carliner. 2000. "Supply Side Constraints to Home Ownership," Joint Center for Housing Studies of Harvard University Low-Income Home Ownership Symposium, November.

Consumers Union. 1998. Dream home…or nightmare? *Consumers Report,* February. Available at www.consumerreports.org.

Davidson, Steven. 1997. Financing manufactured housing. *America's Community Banker* 6(11): 38-39.

Gallentine, Shana. 2002. Former Garden Springs site set for construction. *Athens Banner-Herald* May 16.

Genz, Richard. 2002. Is your CDC in denial about manufactured homes? Four steps to recovery. White paper prepared for Developing Community Assets with Manufactured Housing Symposium. Atlanta, GA, February 20.

—-. 2002. *Mortgage Lending for Manufactured Homes: Maine State Housing Authority Gets it Done.* Washington, DC: Neighborhood Reinvestment Corporation.

—-. 2001. Why advocates need to rethink manufactured housing. *Housing Policy Debate* 12(2): 393-414.

Gordon, Jeffrey and William B. Rose. 1998. Code Comparison Study: MHCSS vs. *CABO One- and Two-Family Dwelling and Model Energy Codes.* University of Illinois at Urbana-Champaign School of Architecture.

Hegji, Charles E. and Linda Mitchell. 2000. The impact of manufactured housing on adjacent site-built residential properties in two Alabama counties. *Southern Business Review* Fall.

Jewell, Kevin. 2002. *Appreciation in Manufactured Housing: A Fresh Look at the Debate and the Data.* Consumers Union: Austin, TX.

MacTavish, K., and S. Salamon. 2001. Mobile home park on the prairie: A new rural community form, *Rural Sociology,* p. 66.

Manufactured Housing Institute. 2001. *The Manufactured Housing Institute's Urban Design Project.* Arlington, VA: MHA.

National Commission on Manufactured Housing. 1994. *Final Report.* Washington DC: U.S. Government Printing Office.

Nkonge, Japhet H. 2000. *A Review of Key Trends in the Domestic Environment of Manufactured Housing Marketing and Their Implications for International Involvement of the Industry.* Available at dor.ncat.edu/housing/cert/pubs/nkonge/index.htm.

Sichelman, Lew. 2001. Manufactured called opportunity. *National Mortgage News* 25(22):7.

Stephenson, Richard and Guoqiang Shen. 1997. *The Impact of Manufactured Housing on Adjacent Site-Built Residential Properties in North Carolina.* Greenville, NC: East Carolina University.

Stinebert, Christopher S. 1998. New products, new markets. *Urban Land* 57(6):77-79.

Stringer, K. 2001. How manufactured-housing sector built itself into a mess, *Wall Street Journal* May 24, p. B2.

U.S. Department of Housing and Urban Development, Office of Policy Development and Research. 1998. *Factory and Site-Built Housing: A Comparative Analysis.* Washington, DC.

Walker Guido, Daniel. 2001. Manufactured mess. *Builder* 24(13):51-52.

Warner, Kate and Robert Johnson. 1993. *Manufactured Housing Research Project.* Ann Arbor, MI: University of Michigan.

Warner, Kate and Jeff Scheuer. 1993. *Manufactured Housing Impacts on Adjacent Property Values Manufactured Housing Research Project Report 4.* Ann Arbor, MI: University of Michigan.

White, Bill J. 2002. *The National Consumer Law Center Guide to Mobile Homes.* Boston: National Consumer Law Center.

### Focus Groups Held by Neighborhood Reinvestment

| Place | Date | Audience | Number Attending |
|---|---|---|---|
| Las Vegas, NV | May 2001 | Executive Directors | 18 |
| Washington, DC | August 2001 | Homebuyer Counselors | 15 |
| Memphis, TN | October 2001 | Lenders, Developers, Rural Development Staff, HFA Staff | 12 |
| Philadelphia, MS | January 2002 | Lenders, Nonprofits, HFA Staff | 20 |
| Santa Fe, NM | January 2002 | Lenders, Real Estate Brokers, Appraisers, Potential Buyers, Existing Owners | 32 |
| Atlanta, GA | February 2002 | All of the above | 130 |

## Selected Data from the 1999 American Housing Survey Published Tables

### Year Structure Built, Owner-Occupied Units (AHS Table 3-1)

| | All Owner Occupied | % All Owner Occupied | Mobile Homes | % of All Mobile Homes |
|---|---|---|---|---|
| 1995 to 1999 | 6,040 | 9% | 1,352 | 24% |
| 1990 to 1994 | 5,234 | 8% | 880 | 16% |
| 1985 to 1989 | 5,283 | 8% | 631 | 11% |
| 1980 to 1984 | 4,297 | 6% | 657 | 12% |
| 1975 to 1979 | 7,053 | 10% | 791 | 14% |
| 1970 to 1974 | 6,218 | 9% | 810 | 14% |
| 1960 to 1969 | 9,483 | 14% | 417 | 7% |
| 1950 to 1959 | 8,919 | 13% | 74 | 1% |
| 1940 to 1949 | 4,721 | 7% | 10 | 0% |
| 1930 to 1939 | 3,387 | 5% | 27 | 0% |
| 1920 to 1929 | 2,896 | 4% | 0 | 0% |
| 1919 or earlier | 5,264 | 8% | 0 | 0% |
| Median | 1969 | | 1985 | |

Source: American Housing Survey. Data available online at www.census.gov/hhes/www/ahs.html.

### Mobile Home Location, Owner-Occupied Units (AHS Table 3-1)

| Location | Units | % Total |
|---|---|---|
| Inside Metropolitan Statistical Area | 2,854 | 51% |
| * Central Cities | 269 | 5% |
| * Suburbs | 2,585 | 46% |
| Outside Metropolitan Statistical Area | 2,795 | 49% |
| Total | 5,649 | 100% |

Source: American Housing Survey. Data available online at www.census.gov/hhes/www/ahs.html.

### Mobile Home Placements in Groups (AHS Table 3-8)

| Number in Group | Units | Percent |
|---|---|---|
| 1 to 6 | 3,711 | 66% |
| 7 to 20 | 235 | 4% |
| 21 or more | 1,704 | 30% |

Source: American Housing Survey. Data available online at www.census.gov/hhes/www/ahs.html.

### Mobile Home Site Placements (AHS Table 3-2)

| | Units | Percent |
|---|---|---|
| First Site | 3,869 | 68% |
| Moved from another site | 1,089 | 19% |
| Don't know | 370 | 7% |
| Not reported | 321 | 65 |

* Occupied Units Only, number in thousands.
Total mobile homes = 5,649

Source: American Housing Survey. Data available online at www.census.gov/hhes/www/ahs.html.

### Current Mortgage Interest Rate (AHS Table 3-15)

| | Total | New Construction 4 Years | % of All New Construction | Mobile Homes | % of All Mobile Homes |
|---|---|---|---|---|---|
| Less than 6% | 897 | 65 | 2% | 61 | 3% |
| 6 to 7.9% | 24,918 | 2,644 | 70% | 848 | 35% |
| 8 to 9.9% | 10,316 | 745 | 20% | 848 | 35% |
| 10 to 11.9% | 1,876 | 196 | 5% | 375 | 16% |
| 12 to 13.9% | 606 | 57 | 2% | 169 | 7% |
| 14 to 15.9% | 138 | 36 | 1% | 55 | 2% |
| 16 to 17.9% | 47 | 19 | 1% | 24 | 1% |
| 18 to 19.9% | 70 | 5 | 0% | 17 | 1% |
| 20% or more | 16 | 13 | 0% | 13 | 1% |
| Not reported | 0 | 0 | 0% | 0 | 0% |
| **Median** | **7.5** | **7.4** | | **8.7** | |

Source: American Housing Survey. Data available online at www.census.gov/hhes/www/ahs.html.

### Term of Primary Mortgage at Origination or Assumption

| | Total | New Construction 4 Years | % of All New Construction | Mobile Homes | % of All Mobile Homes |
|---|---|---|---|---|---|
| Less than 8 years | 1,020 | 106 | 3% | 310 | 13% |
| 8 to 12 years | 1,353 | 94 | 2% | 296 | 12% |
| 13 to 17 years | 8,008 | 589 | 16% | 717 | 30% |
| 18 to 22 years | 2,604 | 362 | 10% | 405 | 17% |
| 23 to 27 years | 1,362 | 130 | 3% | 113 | 5% |
| 28 to 32 years | 23,238 | 2,431 | 64% | 488 | 20% |
| 33 years or more | 860 | 22 | 1% | 13 | 1% |
| Variable | 438 | 45 | 1% | 66 | 3% |
| **Median** | **29** | **7.4** | **29** | **16** | **16** |

Source: American Housing Survey. Data available online at www.census.gov/hhes/www/ahs.html.

# LITERATURE REVIEW

## I. COMMUNITIES

### [DESIGN, MANAGEMENT, OWNERSHIP AND CONDITIONS]

Allen, George F.
**1998. Managing the manufactured housing community. *Journal of Property Management* 53(3):42.**
Managing manufactured-housing communities can be challenging. While older manufactured-housing communities had small lots and predictable design, newer sites feature curved streets and angled home sites. Property managers must also maintain common areas and supply water, sewer, electricity and heating fuel to residents. Other challenges include the tendency for manufactured-housing communities to be more regulated than apartment complexes and the strong territorial feelings many manufactured-home residents may develop. Management income is generated from base rent, per-capita charges, service and home repair.

Bergman, David
**1991. New visions for manufactured housing. *Urban Land* 50(11):36-37.**
Bergman discusses an infill project in Oakland, California, that achieved 17.5 units per acre with lots perpendicular to the street and using zero-lot-line placement, emphasizing that site placement is the key to making an attractive community. Using different retailers who buy from different manufacturers can help the community to look less homogeneous. Bergman advocates for local planning and zoning officials to be more open-minded to possibilities for inner-city infill housing projects.

Bradley, Paul
**2000. Manufactured housing park cooperatives in New Hampshire: An enterprising solution to the complex problems of owning a home on rented land. *Cooperative Housing Journal* 22-32.**
The article describes the infrastructure in New Hampshire that led to and supports the current trend of converting manufactured-housing parks to cooperatives, the structure and financing vehicles employed, the benefits and challenges of cooperative ownership, and a vision for a cooperative manufactured-housing park system in New Hampshire.

Gentry, Carol
**1999. Mobile-home residents find strength in numbers. *The Wall Street Journal* September 8.**
This short article describes the formation of cooperatives by owners of manufactured homes in New Hampshire. Several quotes in the article support the argument that a co-op is a better deal than a traditional rental arrangement.

Halpern, Sue
**2001. The trailer park revolution. *Mother Jones* May/June.**
“Owners of what used to be called ‘mobile homes’ are forming cooperatives—putting landlords and lenders on notice that they’re not going anywhere.” This short article includes quotes from several co-op members and mobile-home owners, describing this arrangement as a way to make ownership possible for people who otherwise could not afford it.

Manufactured Housing Institute
**1999. *Play It Safe: How to Safeguard Your Community, Save Lives and Minimize Damage From Disasters.***
This resource provides managers and residents of manufactured-home communities with the information they need to work together to develop and implement a disaster plan that is up-to-date, realistic and tailored to specific community needs. It provides relevant information on all the different types of natural and manmade problems that can affect a community, and offers concrete steps to minimize the impact these disasters can inflict. Topics range from organizing a residents’ disaster-planning committee, to what needs to be included in emergency supplies, to what to do with family pets during times of disaster.

Rowe, Randall K.
**1998. Investing in manufactured housing communities. *Urban Land* 57(6):80-81.**
The 1993 initial public offering of a Manufactured Housing Community led to three public offerings, leading many to question whether these manufactured-housing REITs were an appropriate investment.

Positive attributes (most stated in comparison to ownership or investment in an apartment complex):

- Low maintenance: Homeowners are responsible for all maintenance on their homes. When the home is sold, arrangement for repainting or other repairs are made between the buyer and the seller.
- Stable rent stream: Because homeowners are responsible for all the maintenance on the properties, downtime is minimal at the time of turnover and there is less chance of a month of lost income.
- Low turnover rates: Two to four percent average, compared to over 50 percent for an apartment complex.

Negatives:

- Small size: Fewer than 40 owners own more than 3,000 home sites each, which means the majority are small portfolios. They typically trade for prices between $2 and $10 million, with relatively high transaction costs.
- Fragmented ownership: Many owners, few with really big holdings.
- Potential obsolescence: Many of the old communities contain only single-section units, and are soon to be in need of updating. Redevelopment and reconfiguration to accommodate multisection homes will be costly.
- Communities take much longer to stabilize (four to eight years) than apartments (generally less than one year).

Sanders, Welford
**1993. *Manufactured Housing Site Development Guide.* Chicago: Manufactured Housing Institute and the American Planning Association.**
This guide is intended to help builders and developers interested in developing manufactured-home communities understand the latest trends. It covers the entire development process, from initial project planning and feasibility analysis, to project financing, regulatory concerns, home design, proper siting techniques and marketing. Case studies of successful manufactured-home communities are used to identify effective product design and development standards.

Warner, Kate and Robert Johnson
**1993. *Manufactured Housing Research Project.* Ann Arbor, MI: University of Michigan.**
***Report 4: Manufactured Housing Impacts on Adjacent Property Values,* Kate Warner and Jeff Scheuer.**
The report focuses particularly on manufactured-home rental communities (parks). It is mainly a review of existing studies, supplemented with three case-study comparisons. It concludes that rental manufactured-home communities do not appear to have a significant positive or negative effect on adjacent residential property values, in terms of the private market or in terms of how public tax-assessment officials established valuation levels.

The case studies include two in which subdivisions were developed after the manufactured-home park had been developed, and one where the park development occurred after that of the site-built residential subdivision. The researchers looked at the percent change in average sales prices of homes sold in the adjacent subdivisions over a five- to six-year period, and compared this with homes sold in comparable subdivisions not near manufactured-home parks, or homes located in the case-study subdivision but not near the park.

***Report 6: Alternative Ownership and Innovative Uses,***
Kate Warner and Victoria Basolo.
In describing alternative ownership, state and local governments, usually in concert with community nonprofit groups, have facilitated the purchase of manufactured-home parks by residents or a public or quasi-public entity. Ownership of the parks could be in a cooperative form, as illustrated by the Colorado example, or could involve individual resident purchases of park lots through a lease-purchase program.

Manufactured housing is not just restricted to rental communities or rural sites. Innovative uses include manufactured-home subdivisions, projects with a mix of manufactured and site-built homes, urban infill development, and the use of manufactured homes in rural areas to replace homes where the homeowner owns the land but cannot afford to replace the structure.

The report stresses that manufactured housing plays a key role in the provision of affordable housing in a number of communities.

## II. DEMOGRAPHICS

### [OCCUPANTS, GEOGRAPHIC AREAS, CONSUMER SATISFACTION]

American Association of Retired Persons.
**1999. *National Survey of Mobile Home Owners.* Washington, DC: National Family Opinion Research for AARP.**
A survey of 933 mobile-home owners who had purchased new mobile homes within the past eight years was conducted to document the extent to which homeowners have experienced problems with the construction and/or installation of their mobile homes, and to explore how they dealt with and resolved these problems. Structural and installation problems appear to be pervasive, with only a few attributed to daily wear and tear by the owners. The data suggests that although most problems emerge within the first year of ownership, while warranty coverage is still in effect, many people have difficulty invoking warranties for various reasons. Those surveyed did not seem

very critical of the structure of their homes, but satisfaction with construction dropped dramatically when problems appear. Findings included:

- 77 percent of mobile-home owners reported at least one problem with the construction, installation, systems or appliances of their homes.
- The most frequently named problems were improper fit in doors or windows, interior fit or finish, and problems with actual construction, such as cracks or separation of walls.
- 61 percent of the problems of greatest concern occurred during the first year of ownership.
- 81 percent of homes were installed on blocks or piers with anchors or tie-downs.
- 15 percent experienced problems with set-up or installation of their homes, this more frequently occurring in newer and more expensive homes.
- About half of the problems of most concern led to out-of-pocket expenses to homeowners, which aver aged $1,140.
- Homeowners were unsuccessful in their attempts to use warranties to resolve problems 40 percent of the time, while about 35 percent of the problems of most concern were repaired under warranty.
- Homeowners' satisfaction with the quality of construction of their homes averaged 4.0 on a 5 point scale where 5 is highest.
- About half of all problems reported had less-than-satisfactory outcomes in attempts to resolve them.

Beamish, Julia O., et al.
**2001. Not a trailer anymore: Perceptions of manufactured housing. *Housing Policy Debate* 12(2):373-392.**
This article reports on a statewide study that profiled Virginia residents of single- and double-section manufactured housing, and compared their perceptions with the perceptions of other community residents. The authors found that:

- Double-section residents had more education and higher incomes and were more likely to own their home and its land than were single-section residents.
- Community residents had persistently negative opinions about the impact of manufactured housing on their community, and these perceptions tended to be based on older stock than on newer, multisection stock that was harder to differentiate from site-built housing.

Canner, Glenn B., Wayne Passmore and Elizabeth Laderman **1999. The role of specialized lenders in extending mortgages to lower-income and minority homebuyers. *Federal Reserve Bulletin* November.**
The specialized mortgage lenders in the title consist of prime, subprime and manufactured-home lenders. The article describes a shift in credit toward lower-income and minority borrowers due to the expansion of activity by subprime and manufactured-home lenders. Graphs show changes in borrower and applicant characteristics over time.

Foremost Insurance Group of Companies
**1999. *The Market Facts.* Caledonia, MI: Foremost Insurance Group.**
This study contains data compiled from a survey about who owns manufactured homes, how and where they live, finding that the average owner is 53 years old, married, employed and has an income of $26,900. The study includes data on age, income, household size, music and reading preferences, perceptions of manufactured homes and of the features and value of manufactured homes.

Geisler, Charles C. and Hisayoshi Mitsuda
**1987. Mobile-home growth, regulation, and discrimination in upstate New York. *Rural Sociology* 52(4):532-543.**
The recent surge in manufactured housing within the nation's rural housing stock reflects the accelerating costs of single-home alternatives in the U.S. In both 1970 and 1980, mobile-home growth in rural areas surpassed that in urban areas. This paper uses 1980 census data and current zoning ordinance listings for 92 towns in northern New York state to examine the influence of community social-class composition on discrimination against such housing. The positive influence of population growth on mobile-home occurrence is shown to be conditioned by intercommunity social-class composition. Social class overshadows population pressure as a factor contributing to the formal regulation of mobile homes.

Hill, Ingrid
**1999. A poetics of trailer park class. *Peace Review* 11(2):225-230.**
This article discusses social changes in the evolution of "trailer living." While post-World War II trailers were tiny, today's manufactured housing units are larger and look more like site-built homes. Trailer parks have given way to mobile-home "villages." Costs and features of manufactured homes are discussed. The author asserts that today's manufactured-home occupants are mostly divorced women and their children who suffer from personal and financial dislocation, similar to post-WWII trailer occupants.

**Housing Assistance Council**

**1996. *Manufactured Housing in Nonmetropolitan Areas:* A Data Review. Washington, DC: Housing Assistance Council.**

This study examines available data on manufactured homes and their occupants in nonmetropolitan areas in the U.S. It includes data on economic characteristics of residents, comparative costs of manufactured housing, consumer satisfaction with manufactured homes and neighborhood opinion data. It concludes with recommendations for further research.

**Jovan, Wendy and W. Benoy Joseph**

**1997. Industry corner: The outlook for manufactured housing in the United States. *Business Economics* July.**

The article describes the increasing design options and appeal of manufactured homes among both low-income buyers and more affluent empty nesters and retirees. It discusses the areas of high demand for manufactured housing and its market share.

The authors predicted that due to rising lumber and labor costs, manufactured-housing costs would rise an average of 3 percent annually from 1996 to 2001, compared to a projected 4 percent annual increase for conventional housing.

Installation costs are significantly higher for a multisection home than a single-section one, due to the added complexity of joining the sections and the connection of the wiring between the floors. Average square footage of a multisection home was predicted to rise to over 1,700 square feet by 2001.

In 1996, individuals earning over $40,000 accounted for 20 percent of the market share and represented the fastest-growing income group for the industry. The South is the largest and strongest regional market for manufactured housing, due in part to more favorable zoning laws; rising labor and materials costs which can be controlled somewhat in the factory setting; and population demographics (such as lower incomes, retirees and buyers of second homes).

The top eight producers account for 65 percent of all sales. They are Fleetwood Enterprises, Champion Enterprises, Oakwood Homes, Clayton Homes, Skyline, Schult Homes, Cavalier Homes and Fairmont Homes. There has been considerable consolidation activity that has increased market domination. Because low price is the primary competitive advantage, big producers are favored because they can negotiate for lower materials costs by buying in high volume.

The retail end, on the other hand, is highly fragmented, with an estimated 6,000 retailers, though increasingly manufacturers are attempting to gain greater control of a market by controlling the retail end as well. In 1996, eight states (Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee and Texas) accounted for 5,000 retailers. Retailers typically own the units and then sell them to buyers. They often prepare the land and provide the installation, and many provide financing as well.

**Kochera, Andrew**

**2001. *Issues in Manufactured Housing.* Washington, DC: Public Policy Institute, American Association of Retired Persons.**

This brief report (available online at research.aarp.org) outlines the significance of manufactured homes as a source of housing for people age 50 and older, and also discusses construction and safety standards, as well as practices in manufactured-home parks.

In 1999, about 6.8 million manufactured homes were occupied as primary residences, around 2.8 million (41 percent) of which were owned or rented by a person age 50 or older. Nearly 750,000 had a household head between 65 and 74 years old, while 620,000 had household heads over 75. Thirty-nine percent of these 50-plus households were single-person households. In addition, about 1 million manufactured homes were held as a second home in 1999; about two-thirds of these were owned by a person aged 50 or older. In 1999, 348,000 manufactured homes were purchased, representing about 19 percent of all new, single-family housing. About 31 percent of these new manufactured homes were purchased by someone age 50 or older.

The median income for 50-plus households in manufactured homes was around $20,000. Limited financial resources make residents of manufactured housing particularly vulnerable to increases in park rents and unexpected home-repair costs. Manufactured homes are typically smaller and less expensive than site-built housing: the median size for a manufactured home owned by a 50-plus person was around 1,000 square feet in 1999. The most commonly cited reason that 50-plus purchasers chose a manufactured home was “financial.”

Older residents are more likely to own and live in the South; 91 percent of 50-plus households living in a manufactured home are owners and 52 percent lived in the South. Forty-seven percent of 50-plus owners of manufactured homes were located outside of metropolitan areas, compared to 27 percent of 50-plus owners of conventional, single-family homes. About 44 percent of manufactured-home owners aged 50 and older reside in a manufactured-home park.

So-called "mobile homes" typically do not move again once they leave the dealer's lot. Moving them is expensive and can cause extensive damage. It is also difficult for residents of manufactured-home parks to find alternative space to rent. Consequently, manufactured-home owners who rent lots in parks find it very difficult to move when a landlord engages in unfair practices. Unfair practices may include frequent or excessive rent increases, inadequate park maintenance, requirement that residents buy from a certain home dealer, lack of a written or long-term lease and unreasonable park rules. State legal protections for residents vary widely, and at least 15 states have no manufactured-home statutes at all.

**Luken, Paul C. and Suzanne Vaughan**
**1999. Community Development on Wheels. Paper presented at the Society for the Study of Social Problems.**
Oral histories of two women's experiences of buying, moving to and living in mobile homes, along with contextual materials on manufactured housing, is used to document one aspect of the transformation of the housing institution under late capitalism. The paper's objective is to demonstrate institutional ethnography as a method for documenting the changing gender, class and race relations within the institution of housing in the twentieth-century U.S.

**Owens, W. Joseph**
**1996. Who's buying manufactured homes? *Urban Land* 55(1):21-23.**
Manufactured-housing buyers are no longer conforming to the cliché "newly wed or nearly dead." This is due in part to housing that provides a better range of options and is bigger, but with a price tag that gives it a competitive advantage over site-built homes. For impatient buyers, another benefit of the manufactured home is the quick move-in time. For similarly priced homes, the manufactured home will almost certainly be ready for occupation before the site-built one.

**Secomb, Dorothy Margaret**
**2001. Retirement in mobile and manufactured housing on the north coast of New South Wales, Australia. Dissertation, University of New South Wales. *Dissertation Abstracts International* 62(1):345-A.**
The study considers four relocatable home environments as alternative housing for retirees: caravan parks, mobile homes in mixed parks, manufactured homes in mixed parks and manufactured-housing estates. Data is based on 778 questionnaires completed by residents of 34 parks/estates, and additional interviews and case studies. The results suggest that residents of relocatable homes tend to retain affiliation with organizations joined prior to relocation and are not reliant on their new neighbors to integrate in their communities. Residential satisfaction was most influenced by interactions and perceptions of residents; psychological adjustment is influenced by a positive attitude toward self and neighbors. Internal dwelling space affected satisfaction, adjustment and community integration. External space affected privacy and safety.

**Shelton, Gladys G. and Kenneth J Gruber**
**1997. The Perceived Demand for Manufactured Housing in Nonmetropolitan Communities in North Carolina. Paper presented at the Southern Rural Sociological Association.**
This paper surveyed 303 local community officials and housing professionals in 87 nonmetropolitan communities in North Carolina regarding their perceptions of the role of manufactured housing in their communities. Survey results indicated that communities with unfavorable zoning conditions tended to report less demand for existing manufactured housing than favorable-zoning communities. However, both types of communities showed a similar receptiveness to manufactured housing. Unfavorable zoning did not seem to reflect attitudes of local officials or indicate a barrier to manufactured housing as affordable housing.

**Turner, Carolyn S. and Gladys Vaughn**
**1998. Satisfaction with manufactured housing. *Journal of Family and Consumer Sciences* Fall.**
This study compared characteristics of residents of single-section and double-section homes and their satisfaction with their units. The study included six rural counties representing three regions in North Carolina. Respondents included 158 single-section occupants and 115 double-section occupants. Analysis revealed that single-section residents had lower incomes, were younger, tended to rent the units, and lived in older units. Double-section residents reported significantly higher satisfaction with space, design and ease of use. Both groups of residents reported high satisfaction with outside appearance, layout and design, and overall space of their units. Areas of concern for both groups of residents were storm safety, storage space and durability of the units.

Warner, Kate and Robert Johnson
**1993. *Manufactured Housing Research Project.* Ann Arbor, MI: University of Michigan.**
***Report 5: Manufactured Housing and the Senior Population,*** Kate Warner and Azza Eleishe.
This report examines the size and characteristics of the senior population nationally and in Michigan, and sets out the common housing needs and design requirements of the older population. It then describes a survey conducted in one of Michigan's manufactured-home communities for seniors, designed to evaluate how well manufactured homes and senior manufactured-home rental communities were meeting the needs of the seniors living in them. Resident evaluations were found to be positive with regard to the locational and neighborhood qualities of the manufactured-home community. Residents' greatest worries were economic, particularly increasing lot rents and the values of their homes for resale.

***Which of these Homes is a Manufactured Home?***
**1998. Washington, DC: Fannie Mae.**
Currently, about 50 percent of buyers of manufactured housing also own their lots. In 1997, almost one in four single-family housing starts was manufactured housing. Most homes come with a warranty ranging from 12 to 60 months, depending on the manufacturer. In 1996 the total economic impact from manufactured housing was $32 billion. Five states (Alabama, Georgia, Indiana, North Carolina and Texas) received over $2.5 billion each in economic impact.

The report cites a study conducted in Petaluma, CA, that compared the cost of building a 1,250-square-foot, single-family unit with the same materials in a factory versus on-site. They found that manufactured housing had a 20 percent lower cost per square foot. The costs accounted for in the study included all installation, transportation, foundation, land-developer overhead, financing and management fees, marketing, landscaping, driveways, walks and site construction of a garage.

## III. DESIGN

### [AESTHETICS, INNOVATIONS, ENGINEERING]

Blair, John
**2001. PATH Ways. *Urban Land* 58(3):78-79, 82-83.**
Advances in manufactured housing have come to the attention of a new federal program, the Partnership for Advancing Technology in Housing (PATH), a public-private initiative to expand development and use of new technologies to improve safety, durability, comfort, maintenance and efficiency of American homes. PATH unites several federal agencies and is charged with identifying and publicizing innovation in the homebuilding industry, testing new housing technologies in the field, and promoting development of housing technology through research. The Manufactured Housing Institute (MHI) is a member of PATH's coordinating council, which is made up of housing organizations. Several manufactured-housing technologies and models are featured in the PATH program's best practices: a self-contained heat pump/air handler, new foundation systems, tilt-up roof technology, and other features that have demonstrated that HUD-code housing can be as appealing as site-built housing. Lido Homes in Newport Beach, CA, and New Colony Village in Jessup, MD, are featured as manufactured-housing sites used as models by PATH. The author is PATH's director of communication and concludes by saying that the manufacturing-housing industry has a lot to gain from working with PATH.

Burns, Carol
**2001. It's not your father's trailer anymore. *Architecture Boston* 4(1):34-35.**
This short article provides a brief overview of the evolution of manufactured housing. The author argues that compared to mobile homes of the past, manufactured-homes units built today vary widely in appearance, can look just like site-built housing, are comparable to site-built homes in terms of maintenance, wind safety, fire safety and thermal efficiency, and appeal to diverse household types seeking affordability. "Recognized as a realistic option by both those who build them and those who buy them, manufactured housing continues to become evermore indistinguishable from conventional dwellings," Burns asserts. Interesting facts pointed out include:

- Manufactured homes comprise 25 percent of new homes, and are one of the fastest-growing segments of the U.S. housing market.
- They are only types of housing that is built in compliance with a federal building code that pre-empts state and local codes.

Burns, Carol and studio students
**1996. *A Manufactured Housing Catalog.* Cambridge, MA: Harvard University Graduate School of Design. (Studio catalog and Web site designed by Charlie Cannon.)**
This advanced design studio, sponsored by the Joint Center for Housing Studies, addressed physical design, communicable knowledge and informational expertise.

The Web site and catalog include an illustrated timeline of the evolution of manufactured housing and asserts that manufactured housing should be regarded as a genuine housing innovation that satisfies real needs in twentieth-century America.

Coaldrake, William H.
**1987. Manufactured housing: The new Japanese vernacular. *The Japan Architect* 62(1):58-62.**
Coaldrake asserts that conditions peculiar to the Japanese economy and environment stimulated the development of industrialized technologies in housing, and that this development has really been a combination of new tradition and old technology. Coaldrake concludes this series of studies by saying that "solutions to the problem of how to produce safe, durable, affordable houses range from closed system rigid-frame factory prefabricated units to open systems made of steel frames clad with wood or lightweight ceramic panels, to structural panel construction." He discusses the potential for export of these ideas, using the automobile industry as a possible model for housing exports, with local factories producing components appropriate for the region, and standardized main components shipped from Japanese factories. He believes manufactured homes are part of the new vernacular of postindustrial society and that the Japanese industry is built upon a firm industrial base, dedication to customer service and the need to compete in the world economy.

Dean, Edward
**1984. The new foreign import: Manufactured housing systems. *Journal of Architectural Education.* 37(3&4):12-19.**
Dean expresses concern for the housing crisis in the U.S., but maintains that methods of producing and constructing housing have not changed for 30 years; expensive, labor-intensive, energy-inefficient techniques are still used. He states an objective of developing a housing-construction process which minimizes costs in labor and time, minimizes prices of competed units, uses high-quality materials and construction, is energy efficient, achieves good indoor air quality and is an adaptable and variable system. Dean then states that these objectives have already been achieved by a numbers of foreign countries, including Sweden, Denmark, Finland and Japan. He then details the innovations and development of the Swedish manufactured-housing system, particularly the Borohus modular-design system.

Grogan, Bradley C.
**1999. Curb appeal. *Urban Land* 58(3):70-73, 80-81.**
Two-thirds of manufactured homes are being sited on private lots rather than in rental parks. Many exteriors are enhanced on-site. In Texas, for example, it is common to apply a brick faáade. Roof tiles are also frequently applied on-site. The innovation of hinging the roof results in more traditional pitched roofs while still allowing the unit to be transported under bridges and underpasses. The integrated wood-and-steel chassis means that the home can now be sited without pier support, which helps it to look even less like a trailer.

Many rental-park operators are upgrading their communities, trading in the mobile homes of the 1960s and '70s for more modern multisection manufactured homes. Fannie Mae was apparently impressed by the results of the Washington, DC, urban-design demonstration project and is now advocating manufactured infill housing in central-city areas. High urban land costs make manufactured housing a particularly attractive affordable-housing choice. Sales in California were up 38 percent in 1998.

Heavens, Alan J.
**2002. Home builders develop affordable alternatives to mobile homes. *The Philadelphia Inquirer* February 3.**
Construction foreman Chad Garner is interviewed about the growing popularity of manufactured housing in the affordable sector of the residential market, and conventional builders' response to it. His project is sited on the grounds of the National Association of Home Builders Research Center in Maryland, and includes four single-family, detached houses described as "marketable, affordable, durable and entry-level," called MADE homes. The plans for these houses were part of HUD's 2000 report, "Homebuilders' Guide to Manufactured Housing." The homes are intended to demonstrate the ability of site-built builders to use emerging technologies and innovative building techniques. The homes are stick-frame construction, built on basement lots and containing about 1,800 square feet of expandable living space. Several money-saving ideas were implemented, such as using open, multiuse living areas and eliminating the wasted space of hallways. Garner discusses how he shopped around for affordable ways to create energy efficiency, a security system, and an expandable wiring package.

Henkenius, Merle
**1999. Housing hits the highway. *Popular Mechanics* 176(7):110-121.**
This article offers a look at the latest in prefabricated housing technology, asserting that factory-built housing might sometimes be better than site-built housing, if not necessarily cheaper. Site-built housing involves many

more difficult-to-control variables, including weather, shortages of skilled labor, a decline in lumber quality, and problems with job management. Most of these problems are much more manageable in a factory environment, making some factory-built homes better quality than even up-market, site-built homes. The author defines the difference between manufactured housing (built to the HUD code) and factory-built housing (built to the Unified Building Code) and asserts that although manufactured homes are a popular and viable affordable housing option, factory-built housing simply fits more comfortably within the realm of local real estate. They are seen as real property that appreciates in value, while manufactured homes are often viewed as personal property, which depreciates in value. The article goes on to discuss types, features and uses of factory-built housing, including modular homes, insulated panels, post-and-beam construction and log homes, as well as site-preparation requirements.

**Keyes, Peter A. and Steven Winter**

**1996. The manufactured home: Design and construction. *Urban Land* 55(1):27-31, 73.**

Post-Hurricane Andrew, HUD revised the Federal Manufactured Home Construction and Safety Standards and designated three wind zones where homes would have to be constructed to withstand winds of 100 to 110 miles per hour, bringing them in line with their site-built counterparts. In 1994, HUD adopted new thermal performance standards that have greatly enhanced energy performance. Ventilation standards have also greatly improved since the 1980s. Manufactured housing tends to fair better in earthquakes, as it is designed for bumpy travel along the highway. The estimates of useful life for a manufactured home have risen significantly, from earlier estimates of 19 years, for homes built in the 1970s, to 55 years put forth by researcher Carol Meeks of Iowa State University.

Manufactured housing tends to follow trends in the building industry with respect to design features. Due to the limitation of the box, when a successful design enters the market, competitors are quick to imitate it. There is a tendency to ignore architectural rules about proportion in an effort to disguise the box with excessive ornament. Any site-built elements are subject to local codes. After living in the home for a while many owners choose to add a room for extra storage, an extra bedroom or a verandah. Ceilings are now up to 10 feet high in the more expensive units. The cost of wood has resulted in experiments with steel-frame construction. Site-built developers argue that if the chassis requirement is lifted, then manufactured housing should be subject to the local codes. Finally, the authors discuss the problems of design for infill housing in historic neighborhoods.

**Krigger, John**

**1994. *Your Mobile Home: Energy and Repair Guide for Manufactured Housing.* Helena, MT: Saturn Resource Management.**

This guide is geared toward those who own, repair, inspect or weatherize manufactured homes. Its focus is primarily on mobile-home construction, repair and weatherization. It contains information on heating, cooling, air quality, insulation, moisture control, plumbing, electrical, windows, roofs, doors, walls and ceilings, and includes over 200 illustrations.

**Krupka, John**

**1996. Rethinking manufactured housing: A graduate level design studio. (University of Wisconsin-Milwaukee.) *Crit* 37:43-46.**

Responding to the serious housing shortage in Milwaukee's inner city, with over 2,000 vacant, abandoned or neglected lots, this studio focused on the design of affordable manufactured housing for low-income families. Site conditions were examined and an anticipated owner profile was completed for a 60-square-block area of the inner city. The students determined that current occupants of homes remaining in this area were paying high rents for substandard homes and should qualify for mortgages on the new units. The studio then focused on the design and construction of the housing units. Manufacturing would incorporate HUD-code manufactured housing and modular units. The manufacturing facility would be located close to the study site, as a source of jobs for residents. Designs included HUD-code double-wide, stacked and nested modular units, and panelized systems. The article includes photos of unit models.

**Link, Joseph E.**

**1998. Breaking out of the box. *Urban Land* 57(6):82-84, 90.**

New Colony Village is located in Howard County, MD. The county has the lowest percentage of affordable housing of all the jurisdictions in the Baltimore/Washington corridor, at around four percent.

The developers, working with housing consultants, developed a HUD-code-approved chassis that allows transport and stacking capability to create two-story homes. The chassis is a combination of lumber and steel and is an integral part of the floor system. New Colony homes are two-, three- and four-section configuration over a basement foundation and range in size from 1,005 to 1,535 square feet. Transportation charges ran from $2,000 to $3,300, depending on the house type. Homes were priced at $109,990 to $132,440—well below the county average of $273,000. The net density of the development will be 14 units per acre.

The community is gated and contains walking trails and a central community facility with a fitness center and meeting rooms. Monthly fees cover property taxes and lawn maintenance, and range from $370 to $440. Annual increases will be tied to the Consumer Price Index.

Maxman, Susan and Muscoe Martin
**1997. Manufactured housing urban design project. *Urban Land* 56(3):49-51.**
The Manufactured Housing Institute initiated the Urban Design Project to demonstrate the potential for manufactured housing in urban areas. Susan Maxman Associates, a Philadelphia-based architecture firm, managed and designed the project in collaboration with local firms in each of the six cities chosen for the project. The cities, Milwaukee, Denver, Louisville, Birmingham, Washington, D.C. and Wilkinsburg, PA, were chosen through a request for proposals. In each of the areas, two to 10 units were built and sold at market rate.

The urban market and its development and financing methods were unfamiliar to many in the industry. In addition, community participation was built into the process, which was definitely unfamiliar territory. The architects worked to understand the character of the neighborhood and to design manufactured housing to fit the context. The authors state that there was a positive reception from many community residents, particularly the elderly, who like the idea of one-story living as it could allow them to remain in the community and while not having to climb so many stairs.

Moffett, Marian
**1994. Manufactured housing: The TVA experience. *Arris: Journal of the Southeast Chapter of the Society of Architectural Historians* 5:31-37.**
As a necessary adjunct to dam-building, the Tennessee Valley Authority provided worker housing for its construction camps. TVA architects created a series of designs for economical, demountable houses, all of which exploited the potential of off-site manufacture in sectional units. This article explores the TVA's "refinement of the design and manufacturing of demountable houses and the ideals that underlay them."

TVA records note the superior portability of sectional housing over panelized construction, and the lower cost involved in transport and assembly. Despite these advantages, the TVA's prefabricated housing did not find a postwar market. The very qualities that made it advantageous for defense work—small size and minimum cost—may have made it unappealing to a general public looking for a more expansive lifestyle after years of shortages and rationing. While TVA designers saw buying a demountable house as a smart consumer decision, analogous to buying a used car, American homebuyers thought differently. In the Tennessee Valley today, the cheaply made double-wides scattered in rural areas flourish as "the most prominent descendants of an innovative experiment in manufactured housing."

Sanders, Welford G.
**1995. Expanded role for manufactured housing. *Urban Land* 54(7):19-22.**
Sanders discusses some of the advances in the industry, such as "developer series" homes, which are indistinguishable from their site-built neighbors; hinged roofing systems that allow 5/12 roof pitches and are made with shingles rather than galvanized steel; and energy-conserving features such as double-glazed windows that are now standard.

The state of California is notable for its legislation that permits manufactured housing in traditional suburbs. Port Development, located in San Pablo, CA, has placed more than 50 manufactured units on infill sites in the Old Town District. In Oakland, Paul Wang and Associates developed a 30-unit manufactured-housing project called Laurel Courts aimed at low- and moderate-income residents.

Sanders maintains that new manufactured housing may be less costly in many cases than rehabilitating dilapidated housing. He also cites fewer short-term maintenance problems with the new units. Sanders also favors inner-city housing factories, and cites examples in Los Angeles and Indianapolis. He recommends testing the market with a pilot project that will educate the local population about the realities of manufactured housing. Factories, he argues, could also produce component parts such as cabinets, doors and floor trusses. This would expand the market (components could also be sold to site-built developers) and increase skills training.

Sanders estimates the extra cost of the chassis requirement at $3,000 to $4,000. Some of the resistance to lifting the requirement comes from traditional homebuilders, who see the removal as an unfair advantage (assuming manufactured housing were still kept under the HUD code).

Sokol, David

**2002. Feast or famine? *Architecture* 91(43):29.**

The brief article announces the National Association of Home Builders Research Center's tour (beginning April 2002) of two MADE homes at the NAHB Research Home Park in Maryland. The "marketable, affordable, durable, and entry-level" demonstration project, with construction costs of $55 to $60 per square foot, is intended to provide an alternative to multisection manufactured housing, which has an average fabrication cost of $32.18 per square foot, according to the Manufactured Housing Institute. HUD funded the creation of a manual containing the prototype standards.

The building plans for MADE prototypes should be available for sale in June 2002 through the NAHB and HUD. Sokol notes that while MADE homes' potential success may help the construction industry, it will not benefit architects because of the availability of preexisting plans; home developers may not need to turn to professional designers.

## IV. ECONOMICS

### [APPRECIATION, MAINTENANCE, USER COST, TAXATION, INSURANCE]

Allen, George

**1994. The manufactured home community metamorphosis. *Journal of Property Management* 59(3):34.**

The article reports on a survey of state manufactured-housing trade associations which named three significant problems still plaguing the manufactured-housing industry despite its growing popularity: local governments' discriminatory rule-making; zoning-related issues; and taxation of manufactured-home communities. However, managers of the 50,000 manufactured-home communities in the U.S. still have lower operating expenses than apartment managers. The national average operating expense ratio (OER) for conventional apartments is almost 52 percent, while the average OER for manufactured-home communities is only about 37.8 percent.

Berg, Sanford V. and Christopher Taylor

**1994. Electricity consumption in manufactured housing. *Energy Economics* 16(1):54.**

Data is presented regarding the factors that determine the consumption of electricity in manufactured homes. The study was conducted using a random sample of over 400 Florida electricity consumers, and includes information on socioeconomic characteristics, housing features and monthly electricity consumption. A model is constructed that explains over 40 percent of the variation between customer usages. Interesting suggestions are made for thermostat settings, site orientation and conservation investments.

Boehm, Thomas P.

**1995. A comparison of the determinants of structural quality between manufactured housing and conventional tenure choices: Evidence from the American Housing Survey. *Journal of Housing Economics* 4(4):373-391.**

This study employs data from the 1985 to 1989 AHS to compare the cost and perceived structural quality of owned manufactured housing with traditional rented and owner-occupied housing alternatives. In general, manufactured housing is found to compare favorably to traditional alternatives because of its low cost and households' perceptions that its structural quality is relatively high. An ordinal-probit model is used to examine the way in which specific structural attributes affect households' ordinal ranking of overall structural quality. Results suggest that the same factors are important across all tenure types in influencing perceived structural quality, and that under the right circumstances, manufactured housing could be a cost-effective way to improve the quality of housing for low-income families who currently rent. The low percentage of minorities utilizing manufactured housing is discussed and potential reasons explored. Finally suggestions are made regarding policy options and future research.

Boers, Ted

**1991. Do manufactured homes appreciate or depreciate? *Manufactured Home Merchandiser.***

An extensive database on value trends exists for Michigan, where Datacomp Appraisal Systems Inc. has specialized since 1987 in appraising manufactured housing using the comparable-valuation approach, appraising 8,000 units a year. Boers analyzed 88,000 resales from this database, identifying reasons for appreciation and depreciation.

**—-. 1997. Appraising manufactured homes: A step in the right direction. *Manufactured Home Merchandiser.***
Factors in appraisal were location, obsolescence and inflation. Values of identical homes in comparable parks varied by up to 24 percent, showing the importance of local market preferences.

**—-. 1998. Does collateral matter? *Manufactured Home Merchandiser.***
Paying too high a purchase price is correlated with decreasing value. The cost and availability of land-lease sites also affects values over time. High rents were correlated with low resale value. Where sites for new homes were in short supply, values of used homes increased. The supply of alternate forms of housing and the presence or absence of an organized resale network also affected resale values examined in the Michigan study.

**Burnside, Kevin**
**1999. *Buying a Manufactured Home: How to Get the Most Bang for Your Buck in Today's Housing Market.* San Francisco, CA: Van der Plas Publications.**
Geared toward prospective buyers and written by a former Realtor, this guide argues that newer manufactured homes are far better than the original trailer homes and are a viable housing option with realistic financing. Topics covered include choosing a home, financing, finding a dealer, locating a home, materials and construction, home options, and tips for staying in control of the home purchase.

**Carroll, Jeff**
**1997. Manufactured housing update. *Urban Land* 56(3):43-47.**
Manufactured housing is a $9.5 billion business. In 1995, there were 340,000 shipments of manufactured-housing units, a 100-percent increase over four years. The manufactured-home-community industry (as opposed to manufactured-housing production) is fragmented. The top 10 operators control only about 6.88 percent of the estimated 2.8 million lots in the U.S.

Manufactured-home loans are moving closer to traditional mortgages. Manufactured-home loans typically carry a 10 to 14 percent rate with a 95 percent loan-to-value ratio. The loan terms typically range from 20 to 25 years. The average manufactured-housing capitalization rate for all community types comes to 10.19 percent. In 10 years it is expected to fall 27 basis points, to 9.92 percent. The focus on increasing home ownership has helped the industry considerably. Decentralization has also increased demand, as it is a more acceptable form of housing away from the central city.

The assumption that retirees are increasingly migrating to Arizona and Florida is not entirely accurate and has led to overbuilding of retirement communities of manufactured housing. A study by the American Association of Retired Persons demonstrated that many retirees prefer open-age communities and prefer, when possible, to stay in their own home.

An affordable manufactured home in a rental park, assuming a 95-percent loan financed at 10 percent rate for 20 years, including the cost of moving in (down payment, security deposit and first month rent) is $2,245 and then $548 monthly for the house payment and land rent. This compares to a site-built starter home with a 9 percent rate for 30 years having a monthly payment of $726 plus $179 per month for property tax (assuming 1 percent of the value), totaling $805. Land-lease rents are expected to rise faster than apartment rents; however, lower monthly costs ($200 to $250 vs. $500 to $1000) means they can sustain 3 to 5 percent yearly increases for longer.

**Connors, John**
**1996. A profitable option. *Urban Land* 55(1):6.**
Connors lists as the primary benefits of the manufactured home quality control, the ability to strictly control costs and to accurately predict production time.

**Hegji, Charles E. and Linda G. Mitchell**
**2000. The impact of manufactured housing on adjacent site-built residential properties in two Alabama counties. *Southern Business Review* Fall.**
This study used 1997 and 1999 property valuations from Montgomery and Lee counties in Alabama to assess the impact of proximity to manufactured housing on site-built property values. Methodology used was similar to that used by Stephenson and Shen (1997), including a spatial analysis using GIS and scattered and clustered manufactured-housing properties. Average annual appreciation rates and weighted average annual appreciation rates were calculated for manufactured and site-built properties. The results partially contradict existing studies that show slower appreciation in site-built homes near manufactured homes and show this negative impact happening in one of the counties, but not the other.

- The appreciation rates of individual manufactured-housing units in both counties were comparable to those of site-built properties.

- In both counties, clustered and scattered manufactured-housing properties appreciated between 1997 and 1999. The appreciation rate for the latter was higher.
- For both counties, proximity to manufactured housing did not appear to be a significant determinant of property values of site-built residential housing, but the study found that while there was no negative impact observed in Lee county, a negative impact on the appreciation rates of adjacent site-built properties did exist in Montgomery county.

Sclafane, Susanne
**2000. Challenges ahead for mobile home insurers. *National Underwriter* 104(19):28.**
Recent years have seen high growth rates in the industry, but some market players expect challenges ahead. Falling interest rates in recent years have made purchase of regular suburban homes a viable option for some buyers who would otherwise have bought manufactured housing. There are also concerns over the large inventory of homes. The article quotes various people in the industry regarding their concerns.

**Stephenson, Richard and Guoqiang Shen**
**1997. *The Impact of Manufactured Housing on Adjacent Site-Built Residential Properties in North Carolina.* Greenville, NC: East Carolina University.**
This study used GIS to investigate manufactured housing's impact on values of site-built residential properties in close proximity, looking at both scattered manufactured homes and clustered manufactured-home communities in four counties in North Carolina. The researchers used the counties' two most recent residential property valuations conducted by the tax assessors' offices. The researchers found:

- There was no clear negative correlation discovered between the overall appreciation rate of site-built residential properties and the presence of manufactured housing in close proximity.
- Manufactured homes with a fixed foundation or listed as real property appreciated at comparable rates to site-built residential properties.
- In one county, manufactured housing listed as personal property depreciated; in another it appreciated, although at a lower rate than site-built housing. This reflected differences in how counties made their property valuations—with some automatically depreciating the value of manufactured housing if considered as personal property.
- On average, the newer a manufactured home, the higher its appreciation rate; multisection homes appreciated at higher rates than single-section ones.

Stringer, Kortney
**2001. How manufactured-housing sector built itself into a mess. *The Wall Street Journal* May 24, B2.**
"Easy credit led to repossessions and oversupply, as lenders then shied away." This brief article describes the rise and recent sharp fall in sales of manufactured homes (including a graph).

U.S. Department of Housing and Urban Development
**1998. *Factory and Site-Built Housing: A Comparison for the 21st Century.* Washington, DC: NAHB Research Center.**
A comparative study of the site-built, manufactured and modular sectors of the housing industry, detailing recent growth trends and identifying efficiencies in the manufactured-housing sector that can be applied to conventional site-built or modular home construction. It includes an extensive set of figures and tables.

Historically, manufactured homes built to the pre-emptive federal HUD code have not competed directly with site-built housing because of substantial differences between the two types of homes. However, recent trends suggest increasing market overlap, particularly in the entry-level, affordable-home market. Not only has the output of manufactured homes more than doubled from 1991 to 1996, but the units are larger, better equipped, and often similar in appearance to conventional ranch-style houses. Most new manufactured units are now being placed on privately owned land rather than on rented sites, and the development of two-story, HUD-code homes is underway. HUD-code and site-built producers are also forming partnerships that may point to future changes in the housing industry.

While most producers of manufactured and modular housing focus on the construction of the housing unit itself, site-built producers often must address issues including land development, zoning, subdivision planning, provision of utilities and other infrastructure, arrangement of financing and marketing.

The regulatory systems governing manufactured, modular and site-built housing differ based on the jurisdiction that oversees production. Site-built and modular homes must conform to state and/or local codes, while manufactured homes must comply with a federal code that pre-empts state and local code requirements. The report assesses the potential impacts of differences in code requirements on the cost of producing different types of housing. It compares and contrasts the regulation of housing-unit construction in each sector of the industry, including approval, design review and inspection; land development, site work and installation; and building, electrical, plumbing and energy requirements. For a variety of reasons the federal system regulating design and construction of manufactured housing appears to be more efficient and less costly to administer than the corresponding state and local systems regulating site-built and modular housing.

The study analyzes and compares the relative costs of site-built, modular and manufactured homes using three approaches. A detailed analysis contrasts the selling prices and production costs of each type of housing. Factors contributing to differences in selling prices and production costs include:

- Factory-production economies of scale and purchasing power of producers;
- Presence or absence of land in the transaction;
- Type of foundation system;
- Inclusion of design amenities such as garages and fireplaces;
- Building materials used for construction of floors, roofs, walls and other elements; and
- Regulatory systems and technical requirements for design and construction.

The cost comparison indicates that the manufactured homes analyzed are less expensive than the site-built or modular homes due to lower square-foot production costs, even after adjusting for major factors such as land, square footage and difference in foundation costs. The cost comparisons also examine up-front cost and monthly housing payments from the buyer's perspective under several scenarios.

The report makes regulatory and technical recommendations for site-builders and production builders, showing how conventional home-building firms can improve their operations, learning from the experience of manufactured-housing producers.

**U.S. House of Representatives Banking Finance and Urban Affairs Committee. 1990. *Manufactured Housing Construction and Safety Standards.* Washington, DC.**
This 946-page report was prepared for the May 1990 hearing before the Subcommittee on Housing and Community Development to examine the status of and possible need for changes to federal manufactured-housing construction and safety standards. It includes substantial statistics on mobile-home fires, deaths, injuries and property damage, and characteristics of residents of 32 mobile-home parks, estimated impacts of these parks on the local economy, mobile-homes sales, and comparative housing costs from 1980 to 1989.

**Warner, Kate and Robert Johnson**
**1993. *Manufactured Housing Research Project.***
**Ann Arbor, MI: University of Michigan.**
***Report 2: Manufactured Housing Costs and Finance,***
**Robert Johnson and Jeff Scheuer.**
This report investigates the cost or affordability characteristics of manufactured housing, including the initial cost obligation and cash outlay for the housing, and the ongoing annual and monthly housing costs. Five prototype manufactured-housing options are examined and contrasted with comparable site-built housing alternatives.

Manufactured housing shows significantly lower initial capital costs, due to the economies of scale arising from the manufacturing process, resulting in much lower construction costs per square foot; building-systems innovation resulting from sensitivity to quality and cost; and the fact that land is less expensive for those manufactured-housing consumers who rent rather than purchase lots.

Manufactured housing is shown to have affordability advantages given the lower amount of mortgage principal and interest incurred, along with lower tax and operating and maintenance payments. But rent is a significant and rising cost in terms of affordability of both manufactured housing and comparable rental apartments.

Historically, manufactured housing has been financed as personal property on an installment basis; this includes all homes located in rental-park communities. The conditions of such loans have been evolving to resemble more closely, in terms and interest rates, those of conventional-mortgage financing. Mortgage loans can be obtained on manufactured housing placed on private property. Both forms of financing offer the consumer different interest rates, fees and loan maturities that are associated with different ways that lenders have developed for managing risk, and both have advantages and disadvantages for the consumer.

The research concludes that manufactured housing compares favorably with site-built housing as an option for affordable housing.

***Report 3: Manufactured Housing Values.***
**Kate Warner and Jeff Scheuer**
Trends in market value in Michigan were determined through analysis of sales of 40,000 new and pre-owned manufactured-housing units from 1987 to 1990. Statewide, regional and county average sales prices of manufactured housing were compiled and analyzed by the size and location of the home. Price changes of specific manufactured homes sold twice during the three-year period were examined by the size and location of the home. Findings include:

- Manufactured housing, like site-built housing, can be viewed as an investment with probabilities of appreciation and equity accumulation.
- The average sales prices of previously owned manufactured homes show a varied pattern by regional housing markets, but generally indicated appreciation.
- Examining the values of homes sold twice, overall, average sales price change 3.7 percent. The average percent change in sales prices of homes purchased new and resold was —1.5 percent; for previously owned homes that sold twice it was 5.0 percent.
- Findings indicate that the value of manufactured housing, like other forms of real estate, is dependent on local market conditions rather than the type of housing-production processes used.
- The authors recommend employing appraisal techniques that emphasize more traditional real estate concerns such as comparable sales, home location, local housing-market demand and price structures, and housing availability.

**Wubneh, Mulatu and Guoquiang Shen**
**2001. The impact of manufactured housing on residential property values: A GIS-based approach. Working paper. Cambridge, MA: Lincoln Institute of Land Policy.**
This study tries to answer the question of whether manufactured housing negatively affects adjacent site-built housing property values. Using regression analysis, the study revealed that structure variables and degree of urbanization have an important influence on property values.

## V. FINANCE

**[MORTGAGE, PERSONAL, PARK DEVELOPMENT]**

**Allen, George**
**1996. Developing and financing in rental parks.**
***Urban Land*** **55(1):35-39.**
In a rental park, homebuyers own and maintain their homes, while the landowner owns and maintains the site, along with any common facilities or amenities. Monthly rent is collected to cover costs of land, not the building. There are 50,000 to 55,000 manufactured-housing communities in the U.S., the majority of which are land-lease. In 1993 and 1994, four large manufactured-housing community owners went public, attracting the attention of Morgan Stanley and Merrill Lynch: “The manufactured home community is a potentially powerful tool for generating cash flow and a valuable investment annuity. Once the property is fully leased, it generally enjoys high occupancy with a minimum of turnover.”

However, Allen claims that only when communities near 100 sites do they “begin to enjoy significant economies of scale in management and operation.” Other facts:

- Once installed, 90 to 95 percent of manufactured homes do not move; owners will instead sell and leave them behind.
- The national turnover rate for rental parks is 10 to 15 percent, compared to 55 percent for apartment complexes.
- Rent hikes in a rental park can be instituted annually, but are typically done at tenant turnover.
- Staffing requirements and maintenance demands are less for rental parks than for apartments.

Local credit loans are characterized by:

- Personal guarantees with recourse.
- Amounts at 70 to 75 percent of project cost, including land at fair market value (80 percent if the borrower is particularly strong).
- Available interest rate tied to a published index.
- Terms of 24 to 36 months with a possible extension.

**Berenson, Alex**
**2001. A boom built upon sand, gone bust: Trailer owners and Conseco are haunted by risky loans. *New York Times* November 21, Section 3, p. 1.**
The article’s focus is on the 1990s “good times” for trailer homes and the large role of Green Tree Financial, now Conseco Finance. Green Tree stimulated demand for

manufactured homes and made loans to borrowers who had little chance of repayment, many of whom have defaulted.

Bradley, Donald S.

**July 1997. Will manufactured housing become home of first choice? *Freddie Mac SMMOnline.***

Financing is one area where the costs born by manufactured-housing owners has been higher. According to Bradley, only 10 percent of all manufactured-housing transactions are financed with mortgages secured by the underlying property. The interest rate on a personal-property loan financing a manufactured home is about 3 percentage points higher than a typical 15-year, fixed-rate mortgage. A secondary market has emerged that could help to pump more capital into manufactured-housing financing. The secondary market packages manufactured-home sales-contract receivables into securities and sells them to investors.

Bradley cites Standard & Poor's rating service that demonstrated that investors are interested in manufactured housing bonds for the following reasons: lower loan losses (repossession rates decreased by 24 percent from 1993 to 1996); lower prepayment risk (due to smaller average loan size); and real estate mortgage investment conduit (REMIC) eligibility.

**Building a foundation in manufactured housing. 1995. *America's Community Banker,* September.**

Manufactured-home loan rates are typically 300 to 400 basis points higher than traditional home mortgages and can therefore be profitable for lenders. The article consists mainly of tips regarding manufactured-home loans and brief quotes on the subject from lenders and insurers.

Collins, Brian

**2001. Freddie working to reduce rates, costs of manufactured homes. *National Mortgage News* 25(36):18.**

**—-. 2001. Freddie effort may pave way for lower-rate MH loans. *Origination News* 10(10):14.**

Both brief articles announce that buyers of manufactured homes will soon be able to obtain mortgage loans at lower rates than traditional manufactured-housing financing because of a new product from Freddie Mac. Along with the Manufactured Housing Institute, Freddie has developed a template for a residential ground-lease agreement so that a manufactured home on a leased site can be titled as real estate and qualify for conventional mortgage financing.

- Less than 20 percent of new manufactured homes are titled as real estate each year.
- Personal-property loans, which finance most manu--factured-home purchases, carry interest rates 300 to 400 basis points higher than conventional mortgages.
- Guidelines for these mortgages can be found at www.freddiemac.com/sell/expmkts/mhle.html.

**Conseco uses its dealer ties to dominate mobile home market. 2000. *National Mortgage News.* 24(17):12.**

Conseco Finance Corp. (St. Paul, Minnesota) has been able to maintain its market dominance in the manufactured-housing lending business through its ability to create and maintain strong dealer relationships, a report by Fitch IBCA notes. Yet increasing competition for these loans caused an unexpected rise in prepayments starting in 1996, forcing a $190 million write-down in that year's earnings.

Conseco Finance originates loans through approximately 3,000 manufactured-housing dealers. "Prior to 1995, there was limited competition and the company was able to focus on loan quality," Fitch IBCA said. In fact, the report goes on to say, loan quality for originations between late 1994 and 1996 was lower than in other periods at the company. During 1994 and 1995, Conseco Finance relaxed its credit criteria by lowering the cutoff credit score. Senior credit managers also had the authority to override the scoring system and approve a loan that did not meet the minimum score. These exception loans, as well as loans made to customers who were "unscorable" because of a lack of credit history, have poorer performance than those that met the minimum score. Conseco Finance implemented remedies to this situation starting in 1997. It reduced the number of originations that do not meet the minimum score, plus it cut back on the percentage of loans to unscorable borrowers. It also tightened underwriting standards through the use of dealer-trend scorecards. These track default rates by dealers, which is a factor considered in the loan-approval process. To deter borrowers from making lower down-payment loans, the rate on a loan with 5 percent down is much higher than for one with 10 percent down.

**Davidson, Steven. 1997. Financing manufactured housing. *America's Community Banker* November.**

Manufactured-housing loans carry higher yields than traditional, first-mortgage loans. The loans are priced as a hybrid between consumer and mortgage loans, with rates typically 200 to 400 basis points above comparable site-built residential mortgages. The typical loan size is smaller. As a consequence, rising rates have a smaller dollar impact on the monthly debt service on these loans, and there is a smaller dollar benefit in refinancing in a falling rate environment. Thus manufactured-housing loans also tend to experience significantly slower prepayment speeds in declining-rate environments. Manufactured-housing niche lending is dominated by aggressive, specialized non-depository finance companies (accounting for two-thirds of all activity) and is characterized by more credit risk than traditional home-mortgage lending.

The industry has experienced sharp cyclical swings over the last 25 years. Average manufactured-home prices are increasing, but the cost is still less than site-built for a comparable unit: “According to 1996 Census Bureau data, the monthly cost, excluding insurance and taxes, to purchase a manufactured home is $580 (assuming a typical mortgage of 15 years) compared to $1,350 for the average site-built home (assuming a 15-year mortgage).”

Although the majority of manufactured-housing loans are held in portfolio, securitization of manufactured-home loans has experienced significant growth since 1992, when the first security was issued. Davidson predicts a continued trend of securitization. Over the past five years, $20 billion of manufactured-housing asset-backed securities (ABS) have been issued. According to CS First Boston estimates, the annual issue volume has increased from $2.5 billion in 1993 to an estimated $8 billion in 1996, and the manufactured-housing share of total security issues has increased from 3.8 percent in 1995 to 6.2 percent through the first half of 1996.

Considering the inherently higher risk profile of this type of lending compared to traditional mortgage lending, such asset-backed securities require significant credit protection in a subordination structure. Recent manufactured-housing asset-backed securities have required about 20 percent of subordination to achieve an AAA rating, with lower levels of subordination required for lower investment-grade securities. The spread between yield and coupon rates on manufactured housing ABSs historically has been lower than home-equity issues, but higher than credit card and auto loans. Only issues supported by loan pools that have relatively strong credit quality can be sold in the institutional investor marketplace. The weighted average yields run from 10 to 12 percent and the weighted average term is slightly less than 10 years.

**Fannie Mae to see if manufactured housing pilot will fly. 2000. *Origination News* 10(1):18.**
Recognizing potential in the manufactured-housing market, Fannie Mae has approved a pilot program for its financing. In the first deal growing out of the program, Fannie Mae and Birmingham-based Collateral Mortgage have provided $116 million in initial funding for a credit facility for Chateau Communities of Greenwood Village, Colorado, a real estate investment trust (REIT) that is an owner and manager of manufactured-home communities. Fannie Mae purchased seven first-mortgage loans funded by Collateral Mortgage, a Fannie Mae-delegated underwriting and servicing (DUS) lender—secured by seven separate manufactured-housing communities comprising 4,467 sites in California, Florida and Michigan—and used them to create a fixed-rate, mortgage-backed security.

Susanne Hiegel, director of multifamily capital markets at Fannie Mae, said, “Fannie Mae approved the program because we saw that there was a niche in the market that we were not serving and that looked like a very sound investment, and it promoted affordable housing and was a natural progress. Fannie’s goal is to disburse as much as $250 million of financing for this market segment during the pilot phase.”

Ms. Hiegel noted that while the manufactured-housing market presents a “different risk” than the usual multifamily loan, it is not necessarily riskier. In this case, the GSE has a lien on the land rather than the house. The homeowner in a manufactured-housing community typically pays “pad rent” to allow the house to sit on the pad and for the use of community facilities. Also, Ms. Hiegel said, there is about a two- to five-percent rate of resident turnover in a manufactured-housing community, whereas the turnover in a typical apartment complex is higher.

**Healthier outlook for manufactured housing? 1985. *Urban Land* 44(2):24.**

- Manufactured homes account for one-third of new single-family homes sales.
- Manufactured homes account for more than 75 percent of homes sales under $50,000.
- The Secondary Mortgage Market Enhancement Act should encourage the development of the still-new secondary market for conventional manufactured-home loans.
- Higher financing costs make manufactured homes less affordable than their sale prices suggest.

- Most manufactured homes are financed with 10- to 15-year consumer installment loans with larger down payments and higher interest rates than conventional mortgages.
- Ginnie Mae has been the vehicle for nearly all secondary-market activity.
- Freddie Mac and Fannie Mae have begun buying conventional loans on manufactured homes classified as real estate and placing them in pools of ordinary single-family mortgages.
- Congress has granted both Freddie Mae and Fannie Mae authority to purchase loans on manufactured homes classified as personal property, if they are principal residences. Foremost Financial Services Corp. and Northwest Mortgage Corp. have issued pass-through securities backed by pools of manufactured-homes loans.

**Manufactured Housing Institute. (Annual.) *Manufactured Housing Financing.* Arlington, VA: MHI.**
This annual report on mobile-home consumer financing, by type of lending institution, with loan characteristics and methods of repayment, reports on the previous year's survey results as well as general trends. Data come from responses to MHI's annual survey of lending institutions and from the National Conferences of States on Building Codes and Standards.

Sichelman, Lew
**2001. Manufactured called opportunity. *National Mortgage News* 25(22):7.**
Manufactured houses are financed in one of two ways: either as a house only or as a combination of house and land. Home-only financing is dominated by national finance companies that work directly with the dealers for whom they also carry inventory financing. Since many units are not permanently fixed to the sites, they are treated as personal property and financed with a consumer loan in which the lender takes a lien on the title, much like an automobile lender. While 30-year financing is available, these loans frequently carry rates that are 300 to 700 basis points above conforming mortgage rates, largely because "there are no Fannies or Freddies. And as a result, the cost of financing is so high that the affordability is taken away."

Land-home financing is more akin to traditional mortgage lending. But there are some significant differences. For one thing, in cases in which the buyer leases the site, the lender takes an interest in the lease, which often is five to ten years longer than the mortgage. For another, purchase-money mortgages for new units usually require a four-draw construction loan. The first draw covers the cost of the land plus the 10 percent of the price of the house the retailer must advance to the manufacturer. The second covers the cost of such improvements as the foundation, well and septic tanks to make the site ready to receive the house. Draw number three comes when the house is delivered to the site and covers the remainder of the cost less 10 percent for the final draw, which covers the final inspection.

Mortgage lenders who ignore manufactured housing could be missing 25 percent or more of the single-family market. Homes built to the national HUD code accounted for about one in four housing starts in the 1990s and 30 percent of all sales, according to Michael O'Brien of the Manufactured Housing Institute.

The urban in-fill market holds huge potential for builders and lenders. Other business opportunities include scattered-site transactions; fee-simple subdivisions where there is no other way for builders to meet their price points; and long-term land-lease projects for land developments.

Walker Guido, Daniel
**2001. Manufactured mess. *Builder* 24(13):51-52.**
Manufactured housing continues to buckle under the glut of repossessions caused by the easy credit terms that finance companies offered thousands of manufactured-home buyers in the mid-1990s. Currently, about two percent of all manufactured-housing loans are in repossession proceedings, according to the Manufactured Housing Institute. Many economists expect that figure to grow as more blue-collar workers join the unemployment rolls as companies cut jobs in the economic slump. The repossessed units compete with new-home sales, depressing prices and forcing manufactured-housing companies to scale back production.

Declining sales have forced many manufacturers to close production facilities. Champion, a Michigan-based manufactured-home builder, has recently closed 19 locations, with 49 remaining. Finance companies are being pummeled by the rising tide of bad loans engulfing them. Indiana-based Conseco, an insurance and finance company, recently reported a second-quarter loss of $30 million as delinquency rates rose on its manufactured-housing loans.

Until recent years, most manufactured homes were bought and placed on rental lots, and financed with subprime loans rather than traditional mortgages. But as subprime loan rates increased (to about 14 percent at this writing), many homebuyers bought land to put their homes on and applied for land-and-home mortgages. By doing this, they were able to take advantage rates for traditional loans (currently less than 8 percent). Last year, 22 percent of the manufactured homes sold were financed by mortgages, compared to only 9 percent in 1994, according to MHI figures.

This shift to "safer" mortgages means things could start looking up for this beleaguered sector of the building industry. Although the industry expects to see another 70,000 repossessions next year, that number will drop to 60,000 in 2003 and about 50,000 in 2004, says Colleen Bauman, assistant vice president for investor relations at Champion. MHI concurs with the improvement trend. "We expect an increase in sales and a decline in repossessions starting in the second quarter of next year," says Kami Watson, MHI's spokeswoman.

## VI. MARKET

### [PRODUCERS, RETAILERS, INVESTORS, INDUSTRY TRENDS]

Allen, George F.
**1997. Winning the manufactured housing game. *Journal of Property Management* 62(4):14-16.**
The article calls manufactured housing and the rental park the hottest affordable-housing option of the day. The increased popularity of this option has created an array of property-management opportunities. Investors find the favorable operating-expense ratios of manufactured-housing communities attractive. Issues affecting the market include a severe shortage of capable and experienced mid- and executive-level property managers, too few new manufactured-housing communities being built, replacement or rehabilitation of older manufactured homes and communities, and avoiding rent control and landlord-tenant legislation.

Benman, Keith
**2002. Manufactured homes industry starts to rise out of slump. *South Bend Tribune* January 13.**
Manufactured-home dealers and manufacturers have suffered through almost two years of severely slumping sales, but things seem to be picking up now, in part because many empty-nesters in their 50s see manufactured homes as a way to get more bang for their buck. The first half of 2001 saw declines in manufactured home shipments of more than 40 percent. Manufacturers that survived the downturn will be pulled out of recession by several factors: low inventories at dealers' lots mean they will have to replace every unit they set; fewer companies are making manufactured homes than two years ago, leaving more market share available; and very low interest rates on home mortgages and land-home financing are helping to perk up sales. This last factor is especially important in northern states, where manufactured homes often have basement foundations, a key criterion for qualifying for a mortgage or land-home financing.

Datres, Nancy
**1991. Manufactured housing: Industry still somewhat haunted by negative image. *Central Penn Business Journal* 7(8):13.**
The article begins by defining manufactured housing and explaining the 1976 passage of the National Manufactured Home Construction and Safety Standards Act, or HUD code. It reports that despite federal uniform building and safety standards, as well as contemporary designs, energy efficiency and safety features, manufactured housing continues to be misunderstood and often maligned. Although many modern manufactured homes are nearly indistinguishable from conventional homes, site availability and zoning remain restricted in many states and many people continue to hold a "not in my backyard" attitude toward manufactured housing. The author concludes that while some progress is being made on the public image of manufactured housing, setbacks still occur, such as the maligning of manufactured housing by other factory-built housing industry members who do not want their products confused with manufactured homes.

Fanjoy, Rob
**2000. Manufactured mansion to house first family. *Professional Builder* 65(12):50.**
Champion Enterprises, Inc., of Auburn Hills, Michigan, donated a three-bedroom, two-bath manufactured home to the Arkansas Governor's Mansion Association in an effort to raise awareness and change the public's outdated perceptions of manufactured housing. The home will house Arkansas Governor Mike Huckabee and his family while renovations are being done to the mansion. The home, chosen by first lady Janet Huckabee, was specifically designed to fit the needs of the baby-boomer market. Its selling price is $99,000.

Gillette, Becky

**1999. Manufactured homes well built, more popular than in the past. *The Mississippi Business Journal* 21(18):1-2.**

The article discusses the improved safety standards and designs of modern manufactured homes and their attractiveness as a quality, affordable-housing option. The director of the Mississippi Manufactured Housing Association is interviewed, and says that the life expectancy of manufactured homes built today averages 55 years. In Mississippi, about 21,000 manufactured homes were built in 1998. The industry employs about 4,500 people statewide and had an estimated economic impact of $1.1 billion in 1998.

Horsburgh, Scott D.

**2001. Fleetwood Enterprises, Inc. *Better Investing* 50(9):56.**

Fleetwood Enterprises, the leading producer of manufactured housing and recreational vehicles in the U.S., reported a huge net loss in the quarter ending January 2001, after manufactured-housing revenues fell 38 percent and RV sales fell 42 percent for the quarter. Eighteen months earlier, Fleetwood Enterprises had been featured as the undervalued stock selection. Since then, the stock has not fared as badly as it could have, but at this point it is probably existing shareholders and bold investors with a long-term horizon who are most interested in Fleetwood. Fleetwood's volume of manufacturing units has decreased more sharply than its major competitors and than the industry as a whole. The short-term outlook remains bleak.

Juarez, Macario Jr.

**2000. Low-price alternative catching on slowly. *The Arizona Daily Star* January 16.**

This article discusses a manufactured-home show that took place that week in Tucson and other Arizona cities. It briefly discusses the past growth and future prospects of manufactured homes.

Levy, E.

**1999. Manufactured housing research initiative. *Urban Land* 58(3):75-77.**

There is great industry fragmentation in the site-built industry. There are more than 100,000 site builders who construct on average fewer than 10 homes each per year. By contrast, in 1998, 89 manufactured-home builders shipped 372,800 homes to all states except Hawaii, which is an average of 4,200 homes each per year. The top five companies accounted for 57 percent of total annual production.

Manufactured home prices should drop.

**2000. *Journal of Property Management* 65(2):6, 96.**

This brief article reports that the prices of manufactured homes should be dropping in the range of 10 percent, according to the Pappas Report on Manufactured Housing. Increased manufacturing capacity, high inventory levels and too many retail outlets have combined to send the industry into a period of readjustment. Shipments are also expected to decrease by at least 10 percent in the coming months.

Manufactured Housing Institute

**1999. *Understanding Today's Manufactured Housing.* Arlington, VA: MHI.**

This 20-page report gives a basic but comprehensive snapshot of manufactured housing. It includes cost and size comparisons between manufactured and site-built housing, basic information on factory-built housing, the HUD code, the system of inspection for manufactured homes, the demographics of manufactured-home owners, siting and placement, impacts on property values, design innovations and financing. The tone of the report is positive, presenting manufactured housing as an opportunity for the home-building industry. It includes the American Planning Association's guide to manufactured-housing policy. The report stresses that manufactured homes can match site-built homes in appearance, fire safety and vulnerability to damage. Manufactured housing is presented as a tool for community revitalization and increased home ownership, and as a product that satisfies customers and will appreciate at the same rate as other homes in the same neighborhood.

Manufactured Housing Institute

**(Monthly) *Manufacturing Report.* Arlington, VA: MHI.**

This monthly report presents detailed data on manufactured-home production and shipment trends, nationwide and by state and census division, with shipment details for single- and multisection homes, and comparisons to trends in single-family housing building permits, starts and sales. Reports are issued approximately two to three months after the month of coverage. Each issue contains approximately 30 detailed tables and several charts along with two summary tables and brief analysis.

MBA offers course on mobile homes

**2001. *National Mortgage News* 25(29):21.**

This brief article announces that the Mortgage Bankers Association of America, in partnership with the Manufactured Housing Institute, is offering an online course on manufactured housing for real estate professionals. The course is offered through

www.campusmba.org, which also provides detailed information about factors contributing to the increased demand for manufactured homes.

Meeks, Carol B.
**1999. *Price Elasticity of Demand for Manufactured Homes: 1978-1997.* Arlington, VA: MHI.**
This report outlines how cost increases and decreases affect the demand for manufactured housing. The findings show that while single-section homes are price sensitive, multisection homes are not.

Nkonge, Japhet H.
**2001. *A Review of Key Trends in the Domestic Environment of Manufactured Housing Marketing and Their Implications for International Involvement of the Industry.* Greensboro, NC: North Carolina Agricultural and Technical State University.**
This paper discusses industry trends, such as manufactured housing's growing share of the single-family housing market, as well as the economic and social environment.

- In 1998, the top 25 manufacturers accounted for 92 percent of the total shipments.
- The top 10 manufacturers accounted for 78 percent of that number.
- The industry is becoming more vertically integrated as manufacturers take over retailers and financial services, thereby becoming more involved in sales, financing and installation.
- In 1997, multisection units outsold single sections (representing 58 percent of all units sold).
- Loan terms for manufactured-housing buyers are improving; a buyer can put as little as 5 percent down and take out a loan for 15 to 30 years with interest rates two to three percent higher than traditional loans.
- Alabama, Florida, Georgia, North Carolina, Tennessee and Texas accounted for 40 percent of all manufactured home sales in 1996. In 1997, Texas was first in sales, followed by Florida.

Nkonge asserts that the time is ripe for a new managerial mindset in the industry to make it more responsive to global marketing forces. He also expresses some concern that manufactured-home builders and retailers are going to continue to go after the higher-end market, and that lower-income groups, who have benefited for so long from this affordable-housing choice, will become less important to the industry.

Southall, Brooke
**1995. Manufactured home market sheds its "box" image. *Central Penn Business Journal* 11(7):12.**
Pennsylvania ranks as the seventh largest producer of manufactured homes in the nation, producing more than 13,000 HUD-code homes annually. Approximately 6,500 of that total is shipped out of state, and the total economic impact from the sale and manufacture of factory-built homes is over $2 billion annually. The article outlines the modernization of manufactured homes, the growth of the industry, their attractiveness as a quality, affordable option, and the growing interest of financing institutions in the industry.

Stinebert, Chris S.
**1998. New products, new markets. *Urban Land* 57(6):77-79.**
In 1997, 353,000 manufactured homes were produced. Approximately one in four single-family housing starts was manufactured, and the overall market share increased 32 percent. Multisection homes accounted for 58 percent of all manufactured homes sold in 1997. Total sales have more than doubled over the last six years. Depending on the region of the country, manufactured housing costs 15 to 40 percent less than a similar site-built product. The national average is $38,400, or $27.83 per square foot.

Manufactured homes are increasingly energy-efficient and relatively inexpensive to heat. Improved financing has resulted in more competitive pricing and significant developments in the secondary-mortgage market for manufactured homes. Fannie Mae and Freddie Mac have established guidelines for accepting real estate mortgage loans secured by manufactured housing. Finally, zoning barriers have eased considerably in some areas, and manufactured homes are no longer relegated to the least desirable lots.

Major developers such as Pulte, Centex and Zaring National Corporation's HomeMax have begun to incorporate manufactured housing into their developments. Often, it helps with the affordable component of a development. Manufacturers are now reaching out to developers and also housing agencies and redevelopment authorities.

Vermeer, Kimberly and Josephine Louie
**1997. *The Future of Manufactured Housing.* Cambridge, MA: Joint Center for Housing Studies.**
This comprehensive report first gives an overview of the evolution of manufactured housing and then describes

the current environment using demographic and industry data. The report concludes that because of demographic trends, affordability and continuing improvements in stock quality and appearance, the manufactured-housing industry is well-positioned for continued growth. Also discussed are obstacles to this growth, such as regulatory and zoning issues.

## VII. POLICY

**[COMMUNITY DEVELOPMENT, LEGISLATION, LOW-INCOME HOUSING]**

**A/H bill passes Congress; Awaits president's signature. 2001. Multi-Housing News 36(1):5.**
This very brief article reports that the American Homeownership and Economic Opportunity Act of 2000 had been passed by the House and Senate and was awaiting the president's signature. The act includes incentives to produce safer manufactured housing. Then-HUD Secretary Andrew Cuomo is quoted as saying the act strikes a balance "between protecting consumers' interests and encouraging the development of safe and affordable housing."

**Gann, John L. Jr.**
**2001. Mainstreaming factory housing. *Urban Land* 60(6):18, 20-21.**
The city of Robinson, Illinois, adopted a new policy that would abolish the city's zoning regulations for mobile homes. Factory-built residential units now are subject to all city zoning regulations for site-built homes. In addition, mobile-home parks are to be governed by standards for conventional subdivisions. New factory housing in effect is being "mainstreamed." This addresses demands from the industry for nondiscriminatory treatment of manufactured homes. Six manufactured-home parks are located in Robinson, with five to 80 homes each. To date, no manufactured homes have been allowed outside of the parks. For the new regulations, two kinds of single-family homes were defined, based on what they are like, not on where they were produced. "Conventional detached dwellings" are homes on permanent foundations that conform to the appearance typical of site-built homes. "Alternative detached dwellings" include everything else, both manufactured and stick-built structures. The Robinson regulations permit conventional, detached dwellings on individual lots in all residential districts. Alternative detached dwellings are allowed in urban and suburban residential locations only in developments of five or more units, with heavy buffering on all sides.

The regulations are the same for both kinds of homes with regard to the following: zero lot line development, standards for private streets and nonconformities. To earn the same zoning rights as conventional homes, the city's committee said, in effect, that manufactured homes must assume the same responsibilities. The new rules give flexibility to the city and to the property owner. Given the progress in the law and in the product of the factory-housing industry, mainstreaming may be the most reasonable option for other communities as well.

**Genz, Richard**
**2001. Why advocates need to rethink manufactured housing. *Housing Policy Debate* 12(2):393-414.**
In this literature review and position paper, Genz points out the importance of manufactured housing to the U.S. home-ownership rate and asserts that many issues important to these households are neglected because of bias. The article discusses vulnerabilities of manufactured-home owners, who are typically lower-income, and the isolation of manufactured housing from housing finance, which contributes to depreciation. Genz believes that advocates should be working to clear up misconceptions and stereotypes about manufactured housing so that the nonprofit development community can "help reinvent manufactured homes as quality, wealth-building, affordable housing."

- The U.S. home-ownership rate would decrease by almost 5 percent if owners of manufactured homes were excluded.
- Seventy percent of new manufactured homes are placed on the homeowner's land.
- "It should be possible to incorporate the cost advantages of manufactured homes into nonprofit housing developments."

Research should identify factors contributing to appreciation, and mainstream mortgage lenders should enter the market to offer cheaper, more transparent financing. Education would help consumers navigate the marketplace. By incorporating manufactured housing into consumer-orientated, wealth-building developments, nonprofits could take the lead in offering buyers real value, not just low price. Advocates' skills in finance, development and policy can help people make the most out of a fundamentally viable housing choice.

The author describes some necessary measures already being taken, such as:

- Grassroots owner organizations strong in California, Florida and Michigan.
- In New Hampshire, California and Vermont, advocacy for resident ownership of parks. In Vermont, state law gives tax benefits to park owners who sell to residents and gives tenants the right of first refusal to buy.
- The FHA's financing programs for purchasing or refinancing manufactured housing, including homes titled as personal property. But little used as industry's retailing system favors its own finance programs, and most conventional housing lenders have opted out.
- RDA— small loan amounts limited to new units sold by dealer-contractors who meet strict agency requirements.
- Government-sponsored enterprises including Fannie Mae and Freddie Mac in 1998 funded less than 15 percent of all manufactured-home loans. HUD is trying to stimulate GSE participation.

Advocates should focus on several areas which are not being adequately addressed: financing problems, unnecessarily high interest rates, relationship between value and price, lack of buyer education, lack of landlord-tenant protections, condition of older homes, personal-property financing which contributes to depreciation, and policy barriers to housing subsidies and tax benefits.

Hood, John

**1998. Factory-built housing: The path to ownership? *Consumers' Research Magazine* August 1998.**

The article discusses the emergence of the manufactured-housing industry and describes it as both profitable and innovative. It concludes by asserting that consumers will benefit if policymakers can free factory-built homes from punitive regulations and inaccurate stereotypes.

Hullibarger, Steve

**1996. Manufactured homes in single family subdivisions. *Urban Land* 55(1):42-44.**

California law (section 65852.3 of the government code) passed in 1980 requires California cities and counties to allow the placement of HUD-code housing on any lot zoned for residential development, providing that certain conditions are met. These conditions typically concern a permanent foundation and that the design be architecturally compatible with the surrounding housing.

**—-. 2000. Affordable Seattle: How one developer is taming the high cost of infill housing. *Modern Home* May.**

HomeSight a nonprofit housing corporation that has used HUD-code homes in its 75-home development, Noji Gardens, in Seattle's Rainier Valley (four miles southeast of the central business district). With 1999 median home prices in Seattle of $234,000, Noji Gardens was able to offer housing at $155,000 to $225,000. Schult Homes Corporation built the homes in Oregon. Two-story homes make the development of expensive city land more feasible. Since affordable-housing subsidies are generally targeted at rental housing, nonprofits and for-profits who wish to build affordable housing must increasingly look for ways to cut costs, and manufactured housing is looking increasingly attractive. The HUD-code homes were completed in two to three months, but HomeSight estimates that with experience it will be able to get it down to 30 days. The hinged roof has an 8/12 pitch. There is a general feeling that with projects like this one, and others such as New Colony Village in Elkridge, Maryland, and Lido Peninsula Resort in Newport Beach, California, perceptions about the product will begin to change.

Hullibarger, Steve and Paul Wang

**1998. Building fast and easy: Manufactured homes have revitalized many Oakland, CA, streets. *Urban Land* 57(6):87-89.**

This article discusses the urban decline of Oakland and the surrounding "flatlands" or lower-lying, lower-income neighborhoods in the late 1970s. Starting in the late 1970s, the California legislature and the city of Oakland began to consider whether the obstacles to the rebuilding of inner-city neighborhoods could be overcome by using manufactured housing. In 1980, the city and state threw out regulatory barriers that would have prohibited manufactured homes in residential zones, declaring that they would be permitted if made architecturally harmonious with the neighborhood. Shortly after the statutes were enacted, entrepreneurs began purchasing the vacant lots and bringing in specially designed manufactured homes. The current standard manufactured home was still too boxy to fit in architecturally, so builders began experimenting with add-on styling and other changes such as roofline extensions, tile roofing, attached garages and porches. This phase of industry development has made it easier to transform manufactured homes into single-family dwellings compatible with neighborhoods.
In the past, the city had difficulty disposing of vacant properties because they were too costly to improve; now, since so many urban lots have been developed here, the city has become comfortable in helping small groups of individuals acquire them for manufactured housing. The typical deal involves the city selling or often giving the lot to parties with a good performance record, sometimes

with a subsidy. In exchange the parties agree to place a new home, affordable to low- and moderate-income families, on the lot modified to fit the neighborhood physical context.

Knack, Ruth

**1995. House-in-a-box. *Planning* 61(8):10-13.**

Knack cites the 1994 National Commission on Manufactured Housing, which called for equal treatment of all types of housing in financing, public services, federal housing subsidies and zoning. Knack discusses several innovative projects:

- Elder Cottage Housing Opportunity (ECHO) was a $13-million demonstration project and part of the Section 202, Supportive Housing for the elderly program. ECHO used manufactured housing for low-income elderly people that were sited temporarily on family members' lots. It was based on the "granny flats" model used in Australia.
- In South Carolina, dilapidated housing for low-income residents was replaced with double-wide manufactured homes. It was estimated that the infill housing was about half the cost of a similar site-built home.

Knack presents proponents of the idea to bring manufactured-housing factories and homes to the inner city. She quotes Don O. Carson, editor and publisher of Automated Building magazine, "After the disturbances that followed the Rodney King beating in Los Angeles," he says, "it occurred to us that we ought to start building housing factories in the inner city that would employ local people and teach them skills" (p. 11).

**New alliance develops affordable housing for urban areas.**
**1998. *Freddie Mac News Archives* online, October 14.**

Nickerson, Craig S.

**1999. Housing partnership. *Urban Land* 58(3):74-77.**

Both articles discuss the Manufactured Housing Alliance formed by Freddie Mac, the Manufactured Housing Institute and the Low-Income Housing Fund to promote manufactured housing as a tool for revitalizing urban communities by increasing home ownership. Freddie Mac committed to provide financial assistance to LIHF to help nonprofit housing developers cover predevelopment and development costs of pilot projects. MHI would bring in members of the industry to complete the projects, which would begin in at least five cities initially. Freddie Mac would identify lenders to finance the mortgages once the homes were ready for sale, then purchase these mortgage loans from those lenders. The alliance evolved from the Urban Design Demonstration Project, initiated by MHI in 1997.

Lessons learned include:

- Work closely with local government, community organizations and area residents to promote acceptance and enthusiasm for the product.
- Design homes to fit the neighborhood context.
- Move quickly in order to hold neighborhood support.

**Residential property: Manufactured housing**
**1999. *Assessment Journal* 6(3):80.**

This brief report outlines the case of Miner and Miner v. Story County Boards of Review (1998), in which the Court of Appeals initially rejected any notion that the district court or the court of appeals is without authority to make its own fair market valuation. However, the court of appeals found that the assessments given by the expert witnesses presented by the taxpayers were not credible. The court of appeals found an analysis by the county assessor factoring in sales of manufactured homes to be the best indicator of the fair market value of the property, and reversed the district court's decision that the initial review board's assessment of value had been excessive.

Stephenson, Richard and Guoquiang Shen

**1999. *Identification and Measurement of Zoning Barriers Related to Manufactured Housing: A Location and Accessibility Analysis.* Greenville, NC: East Carolina University.**

This study examines what impact zoning has on manufactured-housing placement, along with its proximity to "positive" versus "negative" public facilities. For the purposes of the study, "positive" facilities included environmental, health and emergency rescue services; cultural, recreational and education services; and auto, food, shopping and other business services. "Negative" facilities include landfill and solid-waste sites and other similar uses. Findings include:

- Manufactured housing is located farther from "positive" community facilities, which is especially significant in the area of life-safety services.
- Manufactured housing is located closer to "negative" public facilities such as landfills and solid-waste facilities.
- Zoning districts where manufactured housing is a permitted use have a higher percentage likelihood of being located in flood zones.

The general conclusion is that many of the negative perceptions of manufactured housing are in fact self-fulfilling prophecies perpetuated in part by the limited placement opportunities created through local government's zoning actions.

White, S. Mark. 1996

**State and federal planning legislation and manufactured housing: New opportunities for affordable, single-family shelter. *The Urban Lawyer* 28(2):263-292.**

White maintains that the fact that only one in four low-income households in inner cities is a homeowner leads to the deterioration of urban neighborhoods and contributes to urban sprawl. While providing affordable shelter, manufactured-housing communities can also accommodate local planning concerns relative to neighborhood preservation, community character, open space and environmental protection through innovative site design. Misperceptions of the quality, safety and compatibility of manufactured homes have stifled the siting and construction of this form of shelter in some communities.

- In 1994, 339,601 manufactured homes were shipped in this country, representing an 80 percent increase over the number shipped in 1990.
- The average cost per square foot to produce a manu--factured home in 1994 was only 46 percent of the average cost to produce a site-built home.

The article provides an overview of recent state planning legislation and its impact on manufactured housing. Exclusionary zoning litigation and antidiscrimination legislation provide useful tools for removing unnecessary barriers to the construction of manufactured housing. However, comprehensive planning legislation provides a basis for quantifying the need for housing among various income levels in a community, and accordingly the removal of barriers that lead to expensive and antagonistic litigation. This article describes how manufactured housing is used to accommodate local affordable-housing needs within the context of a comprehensive plan.

Wilden, Robert W.

**1995. Manufactured housing: A study of power and reform in industry regulation. *Housing Policy Debate* 6(2):523-537.**

The article describes the importance of manufactured housing as an affordable-housing alternative, and also the regulatory system that manufactured housing is subject to. The information is presented through a case study of the National Commission on Manufactured Housing and its attempts to reform the regulatory system. It chronicles the ultimate failure of regulatory reforms and shows that while the short-term prospects for reform are not good, the long-term prospects are better. Manufactured-housing placements account for approximately one in five of all single-family completions plus manufactured homes installed each year.

Prospects for long-term reform are better because (1) a few large manufacturers are upgrading warranties, (2) states are improving their oversight of installation, and (3) there is reason to believe that regulatory functions will be moved away from HUD and given back to the states.

## VIII. STANDARDS

[QUALITY, CONSTRUCTION, DEVELOPMENT, SAFETY, PERFORMANCE]

de Alessi, Louis

**1996. Error and bias in benefit-cost analysis: HUD's case for the wind rule. *Cato Journal* 16(1):129-147.**

The author asserts that benefit-cost analyses conducted by third parties which resulted in the July 1994 adoption of the wind rule by HUD were inherently flawed. Limitations of the analyses include that the choices used to structure and conduct the analysis were guided by the preferences and constraints of the individuals managing the analyses, rather than by those of the individuals affected by the rule, so the findings disregard the distribution of gains and losses. The study also assumed that the proposed rule would work perfectly as implemented in practice. In addition, the benefit-cost analysis itself, even within these limitations "is riddled with errors."

**Dream home…or nightmare? 1998. *Consumer Reports,* February; available online at**
www.consumerreports.org/main/detailv2.jsp?CONTENT%3C%3Ecnt_id=18967&FOLDER%3C%3Efolder_id=18151&bmUID=1029787914016.

The message of the article is that manufactured housing has come a long way, but there are still some dangers for consumers in the market. In a two-year examination of the industry, including a national survey of 1,029 consumers and tours of factories, dealer lots and mobile-home communities, Consumer Reports found that problems arise most often in lower-cost mobile homes. They also found that HUD regulations have improved overall quality but that gaps in regulation exist, particularly regarding installation. Findings included:

- Manufactured housing can last as long as site-built housing. More expensive mobile homes have fewer problems. Cheaper models typically have lower-quality materials that wear out quickly or are easily damaged.
- Eighty-two percent of survey respondents reported that they were largely satisfied with their home, but a majority—even those whose home was less than five years old—also said they had had at least one major problem.
- Consumers who lease the land on which their manufactured house sits, including just under half of the survey respondents, are vulnerable to sudden, and sometimes dramatic, jumps in the rent on their lots. Those who cannot afford the increases or who lose their lease have few options other than to bear the expense of having their home moved. Or they can sell —often to the landlord at a distress price.

*Installation:* Manufactured homes are commonly set on piers and tied to the ground with steel straps. State and federal regulators say manufactured homes are often installed incorrectly, accounting for more than half the problems consumers report.

*The buyer's maze:* Ten manufacturers, each building homes configured in a range of floor plans and interior decors, account for nearly three-fourths of all factory-built housing units made. But most dealers who sell manufactured homes have only a narrow selection from a few makers on display, making it difficult to compare brands and models side by side.

*Siting:* Many municipalities discriminate against manufactured housing through restrictive zoning. Some park owners try to pressure buyers who want to lease a site in their community into buying from a retail outlet they own. If the prospective homebuyer wants to lease land in a park that has few vacancies, he or she may be pressed into buying a home that is already on the site. Of the consumers surveyed, 61 percent bought their home from a dealer, 22 percent bought from the previous owner, and 7 percent bought from a park.

*Costly financing:* Loan terms for manufactured-home buyers are superficially similar to those of conventional mortgages. Putting as little as 5 percent down, a borrower can take out a loan to be repaid over a period of 15 to 30 years. Government-backed FHA and VA loans are available to buyers who qualify. Like owners of site-built homes, consumers who reside in their home are permitted to deduct interest payments from their federal income taxes. But in other major respects, financing a mobile home is more like taking out a car loan. Overall, interest rates on mobile-home loans typically run some two or three percentage points higher than those for a conventional mortgage.

Dealers typically work with a handful of lenders, and they try to steer the prospective buyer to one of them so they can close the deal before the customer leaves the lot, effectively eliminating the opportunity to shop for better terms. The nation's largest mobile-home lender, Minnesota-based Green Tree Financial Corp. (now Conseco), for example, says it can extend conditional loan approval to would-be buyers within an hour of receiving an application through a dealer. Some manufacturers, such as Clayton Homes and Oakwood Homes, operate their own retail outlets and proprietary finance companies.

*Defaults:* Lenders justify the higher rates by pointing out that borrowers who buy manufactured homes are more likely to default than are traditional mortgage borrowers. Some 12 percent of all manufactured-home loans end up in default over the life of the loan, a rate that is four times higher than that for conventional home mortgages. But default rates may also be high because many mobile homes, especially those installed on a leased lot, lose value over time.

*Insurance:* Homeowners insurance on manufactured housing is also costlier than for a traditional home because mobile homes are more vulnerable to storm damage.

*Parks:* There are about 50,000 mobile-home parks throughout the U.S. Four publicly traded companies - Chateau Communities, Manufactured Home Communities, Sun Communities, and United Mobile Homes - operate 300 parks. One of the biggest makers of factory-built housing, Clayton Homes, owns 67 parks. Others are managed by dealers.

*Insecure leases:* Tenants are vulnerable to the vagaries of landlords. Even in the 34 states that provide tenants with some legal protection, regulations lack much enforcement bite.

**Gordon, Jeffrey and William B. Rose**
**1998. *Code Comparison Study: MHCSS vs. CABO One- and Two-Family Dwelling and Model Energy Codes.* University of Illinois at Urbana-Champaign School of Architecture.**
This study compares the applicable requirements of standards for construction of a home built to the federal

Manufactured Home Construction and Safety Standards (HUD code) with the CABO One- and Two-Family Dwelling Code and Model Energy Code. The comparison concludes that while in some areas the HUD code requirements are more restrictive, and in other areas the CABO codes are, on balance the two codes are comparable, resulting in houses that perform similarly.

**Meeks, Carol B. 1995. *Manufactured Home Life.* Arlington, VA: Manufactured Housing Institute.**
This report estimates the full-time occupied life and overall housing-stock life of manufactured homes.

**—-. 1998. *Manufactured Home Life: Existing Housing Stock Through 1997.* Arlington, VA: Manufactured Housing Institute.**
This study is an update to the 1995 study, and found that recently built units have a useful life of 55.8 years.

Meeks used manufactured-housing shipment data from 1945 to 1997 (as reported by NCSBCS to the Census Bureau), adjusted for differences in data collection over time, and estimated inventory using the American Housing Survey to adjust for seasonal and vacant units. Expected Habitable Life Estimates derived from the rate of attrition between the number of manufactured-housing shipments and the estimated inventory. The loss rate was based on the last 20 years. Year-round occupied life was estimated based on the age distribution of housing by year as reported in the 1995 AHS. The results of the study include:

- A habitable life expectancy of 71.4 years was calculated for manufactured housing.
- A year-round occupied life expectancy of 57.5 years for new manufactured homes produced in 1995 was estimated.
- Thus manufactured-housing home life is observed to have increased over the four decades of data.

**Sanders, Welford**
**1996. Regulating manufactured housing. *Urban Land* 55(1):46-49.**
The HUD code does not regulate installation, but about half of the states have adopted regulations. The following states prohibit exclusion and unfair regulatory treatment of manufactured housing: California, Colorado, Connecticut, Florida, Indiana, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, Nebraska, New Jersey, New Mexico, North Carolina, Oregon, Tennessee, Vermont and Virginia. Additionally, California, Iowa, Kansas and Minnesota require parity of treatment.

Frequently, manufactured homes can only be sited in manufactured-housing communities. When they are allowed alongside site-built homes, the design standards tend to be more rigorous. Also, a typical manufactured-home community has small lot standards, which increase density and therefore affordability.

- Six to eight units per gross acre is fairly standard, and densities are often higher.
- Some area is generally given over to common space.
- Twenty-foot setbacks from the front are often required, and four to eight feet from the side of lots is common, although some communities allow zero-lot-line zoning.
- Ten to twenty feet of separation between homes is typical.
- Landscaping is especially important in high-density developments.
- A common requirement for a single-family dwelling unit is two parking spaces.
- Many rental parks employ rent control, often due to concern for elderly residents with fixed incomes.

**—-. 1998. *Manufactured Housing: Regulation, Design Innovations, and Development Options.* Chicago, IL: Manufactured Housing Institute and the American Planning Association.**
This report examines development standards for manufactured housing and discusses land-development provisions which allow HUD-code homes to be used in neighborhoods. Development standards in communities are compared, and regulatory issues such as location restrictions, appearance standards and installation requirements are covered. It includes a detailed discussion of design innovations and case studies illustrating best practices. MHI's Urban Design Project case studies are also featured, illustrating how manufactured homes can meet compatibility standards of existing neighborhoods. This document is useful for those seeking to find a way to make manufactured housing part of the local housing stock. It includes a guide to drafting reasonable and effective local regulations.

**Schriever, W.R. 1977. Wind forces on mobile homes. *Canadian Building Digest* 188, June.**
The author reported that there were 200,000 mobile homes in Canada and that number was rapidly increasing. In 1974, 21 percent of single-family detached homes constructed were mobile homes. Wind damage to mobile homes comes not just with extreme weather events; thunderstorms can push an unanchored home off its blocks, a cause of concern to residents,

insurers and building-code authorities. Most codes require anchoring, but are often not enforced. The article describes the types of ties against wind forces and illustrates them with sketches. It concludes that municipal authorities, builders and owners should be aware of the potential hazard of wind damage and should ensure that all single-section mobile homes are properly anchored.

Tully, Gordon and Steven Hullibarger
**2000. *Manufactured Home Producer's Guide to the Site-Built Market.* Steven Winter Associates, for the HUD Office of Policy Development and Research.**
This guidebook includes chapters on negotiating finance and design issues, construction and production details, and manufacturer and developer agreements as well as case studies. Design and construction information is detailed and includes illustrations.

U.S. Department of Housing and Urban Development.
**2000. *Homebuilders' Guide to Manufactured Housing.* Washington, DC: NAHB Research Center.**
This guidebook is written for conventional builders and land developers, and provides an introduction to manufactured housing. It highlights the differences between manufactured and conventional homes that are likely to be encountered in practice.

**—-. (Biennial.) *Report to Congress on the Manufactured Housing Program.* Washington, DC: HUD.**
This biennial report on HUD administration of the National Manufactured Housing Construction and Safety Standards Act of 1974 covers manufactured-home standards development, enforcement activities of state administrative agencies and primary inspection agencies, research, accidents, and structural deficiencies. Data are drawn primarily from the National of States on Building Codes and Standards, Consumer Project Safety Commission National Electronic Injury Surveillance System, other federal and state agencies and various private sources. Publication began with an annual report for 1975, suspended for the 1982 to 1983 period and resumed in 1988 to 1990.

Warner, Kate and Robert Johnson
**1993. *Manufactured Housing Research Project.* Ann Arbor, MI: University of Michigan.**
***Report 1: Manufactured Housing Quality,* Robert Johnson.**
This report finds that manufactured housing has effectively demonstrated reasonable performance in the areas of structural durability, maintenance, wind safety, fire safety and thermal efficiency. It states that while there is room for improvement in some areas, "the manufactured home has essentially become equivalent to that of conventional housing."

It discusses the technological and production advantages of manufactured housing. In comparing the HUD and BOCA codes, it finds they are similar and that in some cases the HUD code is more restrictive. Johnson argues that the inspection systems for manufactured housing are more comprehensive than for site-built housing.

Johnson cites other research showing that there are no major quality differences between manufactured and site-built homes in terms of structural performance and maintenance and repair problems. Insurance-company data indicate that manufactured-home plumbing fixtures and roof problems generated the greatest number of complaints. Other findings include:

- There has been a drop in fire incidents in manufactured homes since the HUD code was instituted. Research suggests that manufactured-home fire safety is no different from that for site-built homes.
- Manufactured homes that use wind-stabilization systems or are located on permanent foundations suffer damage similar to site-built houses and show no additional vulnerability.
- There has been a demonstrated improvement in heating and cooling characteristics of manufactured homes since the HUD code was instituted.

NOTES

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