



MOBILE & MANUFACTURED HOMES IN KENTUCKY

ASPI has always advocated building one's home, which can cost significantly less than what contracted or commercially built homes cost. We have talked about cordwood, pressed earth, and standard housing that does not use toxic or other chemically treated materials. Here we narrow our focus in order to assist people who must buy their homes ready-made.

Many members of the general public still consider mobile homes to be short-lived and beset by fires and windstorms - by no means a sound investment and by no means a home of choice for anyone with money to spend. On the other hand, the Manufactured Housing Institute and its state branches distribute fact sheets and studies presenting what they term manufactured homes, as a safe and durable alternative to expensive, site-constructed houses. How much have what are now called manufactured homes changed since the sixties and early seventies when a Congressional investigation led to a law mandating that future homes be constructed to meet national standards?

In this report ASPI aims to give an objective presentation of the issues surrounding manufactured housing. We take up in turn the questions of affordability; quality of construction; safety in relation to fires, high winds, floods, and air quality; manufactured home parks; lifespan; and depreciation/appreciation. Our assessment of the homes overall? Yes, they have improved greatly in the last two decades. An investment in a manufactured home may be a wise investment - particularly if the owner can afford to choose one of the higher quality homes on the market, anchor it well, maintain it, and locate it on property he or she owns in a desirable area.

DEFINITIONS

Manufactured housing. Federal law defines a manufactured home as a transportable structure in one or more sections, forty or more feet long and eight or more feet wide, built on a permanent chassis, and designed to be used as a dwelling with or without a foundation and with plumbing, heating, and electrical systems.

The Manufactured Housing Institute (MHI), which in 1975 changed its name from the 'Mobile Home Manufacturers' Association, makes a distinction between manufactured homes and mobile homes. It uses the term "mobile home" to refer to homes built before 16 June 1997, when the Department of Housing and Urban Development (HUD) put into effect a national building code; and the term "manufactured home" to refer to homes built after June 1997 in accordance with the code. In this report we shall, however, use the term "manufactured home" to refer to pre-HUD and HUD homes.

Modular home. A modular home is a home constructed in sections at a factory. The sections are put together at the housing site. Unlike a manufactured home it is subject to state and local building codes rather than to the HUD code.

Mobile home. The general public tends to use the term "mobile home" interchangeably with "manufactured home." The Manufactured Housing Institute makes a distinction. See above.

Single-wide, double-wide, triple-wide. A single-wide home is 12 to 18 feet wide. A double-wide, composed of two single sections joined together, is normally between 24 and 28 feet wide. A triple-wide is normally 36 to 56 feet wide.

NUMBER OF MANUFACTURED HOMES

In Kentucky the number of manufactured homes and the portion of the housing stock comprised of manufactured homes are both increasing.

	<u>1970</u>	<u>1980</u>	<u>1990</u>
Number of manufactured homes	37,354	108,473	185,336
% of housing units	3.5%	8.0%	12.3%

Source: US Bureau of the Census. *1970 Census of Housing*, Vol. 1, part 19; *1980 Census of Housing*, Vol. 1, chapter B, part 19; *1990 Census of Housing*, Vol. 1, part 19

The number of manufactured homes placed in Kentucky each year grew by 59.6% from 1991 to 1996, although the years 1993 and 1996 registered small decreases.

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Manufactured homes placed	6,200	8,000	7,800	9,300	11,400	10,400

Source: US Bureau of the Census. *Housing Starts. Supplement: New Mobile Homes Placed in 19xx*. May 1993, May 1994, May 1995, June 1996, May 1997.

From January to September 1997, 9,058 manufactured homes were shipped. The number of installations in 1997 could thus be expected to top the number in 1996. Manufactured homes represented approximately 44.3% of housing starts in Kentucky in the first nine months of 1997. [Statistics furnished by the Kentucky Manufactured Housing Institute (KMHI). The percentage is based on shipments of manufactured homes and building permits for site-built homes.]

Eastern Kentucky attracts the greatest number of manufactured homes. In 1990 seven of the ten counties with the most mobile homes were in the eastern part of the state: Floyd, Harlan, Laurel, Perry, Pike, Pulaski, and Whitley. The three to the west were Hardin, Jefferson, and Warren. [US Bureau of the Census, *Summary Population and Housing Characteristics, 1990, Kentucky*.] Eight of the top ten counties for manufactured home sales from January through August 1997 were in the east: Floyd, Harlan, Laurel, Madison, Perry, Pike, Pulaski, and Whitley. Two were to the west, Hardin and Jefferson. [KMHI Market Report, August 1997.]

Kentucky ranked eighth in the nation for shipments from January to September 1997. The south is the primary U.S. market for manufactured housing, and the east-south-central region to which Kentucky belongs accounted for 16% of US shipments in the first nine months of the year. [The source is graphs furnished by KMHI.]

Shipments of manufactured housing nationwide have increased rapidly in recent years. In 1991, 171,000 units were shipped. The number had doubled to 340,000 by 1995. For 1997 shipments totaling approximately 385,000 units are expected. In the future, shipments nationwide should continue to grow, but at only about 2.5% a year. [Patrick MacAuley, "Trends in US Construction, 1997 to 2001," *Construction Review*, 42/43 (spring 1997), pp. ivff.]

AFFORDABILITY

A 1997 fact sheet from KMHI states that the average construction cost for manufactured homes is \$27.40 per square foot as compared to \$60 per square foot for comparable site-built homes. These figures are corroborated by other

sources. The magazine *Construction Review*, for instance notes that manufactured homes cost about half as much per square foot as site-built homes. [MacAuley.] The comparison holds good only for homes built by a contractor, not for owner-built homes.

A typical single section manufactured home costs \$23,300, and a multi-section, \$41,600; thus the typical price for manufactured homes in general is \$29,600, according to KMHI. Again, other sources bear the figures out. The American Association of Retired People (AARP) says that in 1993 the average price for a new manufactured home was \$30,500 and gives a price range of \$16,000 to \$27,000 for single-wide units, excluding, of course, land. [AARP Webplace, Product Report: "Manufactured Housing."] The median price for a one-family, site-built home including land was about \$140,000 in 1996. [MacAuley.]

Construction at a factory facilitates use of standardized designs and bulk purchase of materials. It also means a reduction in the quantities of material wasted (left-overs may be used in other homes), an end to scheduling difficulties with contractors, and an end to weather-related delays.

Dealers generally include transportation and installation costs in the price that they charge for a manufactured home. However, finance charges can add to the price. Manufactured/mobile homes have usually been financed with personal property loans. The interest rates for personal property loans are approximately 2 to 4 percentage points higher than mortgage loan rates. [*Consumers Union's Tips on Mobile Homes* (Yonkers, NY: Consumers Union, 1997), p.15.]

Today a borrower may qualify for a standard mortgage loan if he or she owns the land on which the home rests and places the home on a permanent foundation. However, an article on mortgage trends in 1997 states that a personal property loan secured by the manufactured home is "the main financing instrument available to these homebuyers." In fact, a manufactured home and the land on which it rests are usually financed with separate loans, even though about half of manufactured-housing owners buy their lots. "A mere 10 percent of all manufactured-housing transactions are financed with mortgages secured by the underlying property." [Donald S. Bradley, "Will Manufactured Housing Become Home of First Choice," in "1997 Mortgage Market Trends," pp. 29-33.]

A personal property loan is generally subject to less strict loan-approval rules than are conventional mortgages. The disadvantages, apart from the higher interest rate, are that they are generally limited to 15 to 20 year terms (conventional mortgages may be stretched out as long as 30 years), meaning higher monthly payments (though less interest paid over the life of the loan). Payments on personal property are not necessarily tax deductible whereas payments on conventional mortgages are tax deductible. [*Consumers Union's Tips*, p.15.]

The affordability of manufactured homes comes at a cost to the economy of the state, it should be pointed out. According to statistics supplied by the Kentucky Manufactured Housing Institute (KMHI), Kentucky manufacturers produced 1684 homes in 1996, less than one sixth of the homes shipped to retailers in the state. The homes made out of the state mean a loss to Kentucky of the money that would have been paid to Kentucky builders if the owners had opted for site-built homes. Furthermore, transportation of the homes for long distances exacts a toll on highways.

IMPACT OF THE HUD CODE

In 1974, Congress passed the Mobile Home Construction and Safety Standards Act, which mandated HUD to draw up and enforce a code for construction of what were then called mobile homes. The code went into effect June 17, 1976, and is updated when HUD deems changes necessary. In 1994, for instance, following Hurricane Andrew, HUD mandated new wind resistance standards, and also adopted improved home energy and ventilation standards.

The code can be found in the Code of Federal Regulations (CFR), chapter 24, part 3280. Regulations referring to enforcement of the code are in chapter 24, part 3282. CFR is a multi-volume government document, frequently reprinted to incorporate updates. It can be found in any government documents library, but is too detailed and technical to be easy reading - section 3280 alone takes up 92 pages.

The HUD code regulates the design and the construction of manufactured homes. Under HUD rules, inspectors certified by HUD and employed by manufacturers, approve designs and inspect factories. If a manufacturer fails to meet HUD standards, the inspector is to withhold the HUD label, which should always be present on a red tag at the rear of a new home. However, HUD standards are not air tight, particularly since they generally specify performance standards (ie. ask manufacturers to achieve certain results) rather than mandate use of specific materials.

A chance to radically strengthen standards for manufactured housing was missed in 1994. The National Commission on Manufactured Housing, composed of industry representatives, consumers, and public officials, was on the point of sending to Congress a set of legislative proposals when industry representatives withdrew their support of the compromise deal. The proposals would have strengthened construction standards and provided protections for buyers, which included a five-year warranty covering transportation and installation. [Leah K. Glasheen, "Sudden Reverse: Mobile Home Execs Nix Reform," *AARP Bulletin*, 35, no. 7 (July/Aug.1994), pp. 1, 18.]

HUD regulations greatly improved the construction of manufactured housing. A look at fire statistics for pre-HUD and HUD homes illustrates this fact. Nevertheless, quality of the homes produced today is not uniform, as was underlined by a county Property Value Administrator (PVA)'s remarking to us that homes from some manufacturers are much more likely to appreciate in value than homes from others.

Just as with site-built houses, materials used in manufactured homes today vary, with some better than others. For example, sub-flooring may be plywood, particle board, or oriented strand board; but particle board is best avoided, because it may swell and crumble when wet. When AARP-sponsored analysts visited factories in 1993, they found wide variations in the quality of materials used and in construction methods, although HUD standards were being met. [Leah K. Glasheen, *AARP Bulletin*, June 1994, p. 17.]

Consumers Union reports that six out of every ten people surveyed by the Union reported "a major problem" with their homes. Single-section homes had problems most frequently with windows, doors, floors, and roofs; multi-section with the joining of the sections. [*Consumers Union's Tips*, pp. 1-2.]

Concerns expressed to the AARP by owners of manufactured housing include "leaky roofs," deteriorating floors, and "non-standard plumbing or other fixtures that wear out and are difficult to replace." Nevertheless, almost 80% of the homeowners who chose to respond to questions from AARP were "generally pleased" with their housing. [AARP Webplace, pp. 4-5.]

Addressing would-be purchasers, "AARP recommends [in a fact sheet currently on the Web] that you hire a professional inspector, architect, builder, or contractor to advise you about the integrity and quality of any home you buy. For the untrained, it's almost impossible to evaluate construction with either manufactured or site-built housing." Checking on the dealer's reputation is also recommended. At least one national manufacturer allows factory visits, a good way to find out what goes into homes.

No matter how well a home is built, the installation of the home, if not properly carried out, can cause the home to develop serious problems. HUD rules do not cover installation. Fortunately for residents of Kentucky, the state requires that installers be trained and certified, and maintenance of certification requires participation in continuing education programs. The State Fire Marshal is in charge of certification and KMHI offers educational programs. MHI is working to obtain requirements for training and certification nationwide. [Thad I. Vann, Executive Director, KMHI, personal communication.]

A person who purchases a manufactured home from a dealer may have difficulty in making any party accept responsibility if problems with the home arise. The manufacturer, the dealer, the mover, and the installer sometimes spend their energy blaming each other rather than attending to the problem. Therefore, where possible, buying from a manufacturer's retail outlet is a wise step, as a single company will make, sell, move, and install the home. [*Consumers Union's Tips*, p. 3.]

FIRE PREVENTION

Nationwide, manufactured homes have on average fewer fires than other single family dwellings: 1 fire per 293 manufactured homes and 1 fire per 200 other dwellings [John R. Hall, Jr., "Manufactured Home Fires in the U.S., 1980-1995" (Quincy, MA: National Fire Protection Association), 1997.] The number of fires is the annual average for 1991-95; the number of housing units is as of 1993.

Nevertheless, taking into consideration all manufactured homes no matter when constructed, "manufactured homes have a fire death rate per 100,000 housing units that is 77-102% higher than the rate for other dwellings." [Hall, p.25.]. This statistic reflects the death rate per 100 fires. For all manufactured homes the death rate per 100 fires is 2.0; for other dwellings, 0.8. [Hall, p. 7.]

Kentucky statistics bear out the fact that fires in manufactured homes are dangerous when they occur. According to an article in the *Courier-Journal*, "More than a fourth of Kentuckians who died in fires from 1991 to 1994 — 104 of the 382 victims — lived in mobile homes." [Bill Wolfe, "Home, Cheap Home," *Courier-Journal*, 22 February 1995.]

Why are fires in manufactured homes as a whole more dangerous than fires in other dwellings? One reason may be room size. In 1991 the median manufactured home had just over half the space of the median site-built house but almost as many rooms (4.5 vs. 5.4). The smallness of the rooms means that "the very hazardous conditions associated with flashover of the first fire-involved room can occur more rapidly in manufactured homes than in other dwellings" [Hall, pp.6, 8]. Moreover, people moving into a manufactured home from a larger site-built home may tend to overcrowd rooms and block exits with furniture.

Another problem may be demographics. Manufactured homes, because of their affordability, attract families with small children. The presence of several youngsters in a home may mean that a fire that otherwise might have caused one or no deaths results in several. The death rates for pre-HUD and HUD manufactured homes are, nevertheless, not uniform. Those for HUD homes are almost the same as those for site-built homes: 1.2 as compared to 0.8 deaths per 100 fires. Those for pre-HUD homes are much higher than those for site-built homes: 2.4 as compared to 0.8 deaths per 100 fires. [Hall, p. 3.]

The main reason for the difference in fatality rates between pre-HUD and HUD homes is the requirements imposed by the HUD code. These requirements include two widely separated doors for exit; windows designed for exit in each bedroom, materials that slow the spread of flame, particularly around appliances likely to cause fires, and smoke detectors. The effectiveness of specific HUD requirements has been analyzed. The flame spread requirement for materials has led to a 13% decrease in the number of fires that spread beyond the room of origin, for instance; and the use of smoke detectors cuts death rates in HUD homes. [Hall, pp. 11-24.]

Nevertheless, fire statistics are in some respect puzzling. For one thing, the death rate from fire in all manufactured homes has increased despite the fact that HUD homes are safer than pre-HUD homes and that HUD homes represent an increasing percentage of the homes in use. "In 1980-86, the civilian fire death rate averaged 2.0 or more in only one of the seven years. In 1987-95, the civilian fire death rate averaged 2.0 or more in seven of the nine years." [Hall, p. 25.] For another, "more than one-third of fires in post-Standard [HUD] manufactured homes are reported as having no detector present," although since 1976, homes leaving the factory should have either a factory-installed detector or factory-installed housing and a separate detector. [Hall, pp. 25-26.]

The National Fire Protection Association (NFPA) recommends for manufactured housing that use of detectors be a focus of fire safety programs; that owners of pre-HUD homes be urged to switch to HUD homes whenever possible and that remaining pre-HUD homes be upgraded; and that installation of sprinkler systems be considered, since the fire problem is one of severity not of frequency. [Hall, pp. 26-27.]

The Kentucky legislature passed a law in 1996 requiring that each manufactured home be equipped with at least one working smoke detector and have two operable exits if the home originally had two or more exits. Owners of mobile home parks are responsible for posting notices of these requirements and seeing to it that they are followed. Unfortunately there are no other means of enforcement, as no official has the authority to make inspections. [*Kentucky Revised Statutes* 227.555; Judith Walden, Kentucky Department of Housing, Building, and Construction, personal communication.]

WIND RESISTANCE

Since 1994, under HUD standards homes designed to be used in areas most prone to hurricanes—the coasts of Florida, Louisiana, North Carolina, and Alaska and various islands—must be able to withstand winds of 110 mph (Zone III). Homes designed for other areas along the south and east coasts, including the remainder of Florida must resist winds of 100 mph (Zone II). Homes for other areas of the United States should withstand gusts of 60-70 mph (Zone I).

The 1994 regulations have lessened the damage to manufactured homes during hurricanes. According to a study of the results of the 1996 hurricane Frank by the North Carolina Manufactured Housing Institute, manufactured homes fared as well or better in the storm than site-built homes. They should. In Zones II and III, the standard for manufactured homes is higher than current regional and national building codes for site-built homes, NCMHI reports. [“Industry Homes Stand up to Hurricane Fran.” Photocopy of an article furnished by Affordable Housing Mart, Richmond, KY.]

This, of course, does not mean that people in manufactured homes are protected from all harm. Hurricane winds can exceed 110 mph; and in some areas both manufactured homes and site-built homes were heavily damaged. Direct hits from tornadoes will destroy both manufactured and site-built dwellings. Furthermore, unfortunately, resistance to gusts of 70 mph, the standard for most of the United States, means that manufactured homes are subject to damage from more than tornadoes.

In February of 1997 the Council of the American Meteorological Society accepted a policy statement on “Mobile Homes and Severe Windstorms.” “The observation that tens of thousands of mobile homes are damaged each year by windstorms (to the extent that insurance claims are filed) is of grave concern to the American Meteorological Society.” The Society points out that winds of over 70 mph can occur in the form of “straight-line winds from thunderstorm outflows,” “wintertime frontal and cyclone systems,” and “severe downslope winds” as well as in hurricanes and tornadoes.

According to the Society, deaths and injuries “from high wind events” occur disproportionately more often to people who occupy manufactured housing. For example, 36% of the people in the United States who died in tornadoes between 1985 and 1995 were staying in or trying to evacuate manufactured homes at the time. [“Policy Statement: Mobile Homes and Severe Windstorms,” *Bulletin of the American Meteorological Society*, Vol. 78, no. 5 (May 1997), pp. 850-51.]

An informational sheet distributed by the manufactured housing industry affirms that a reason for the association between tornadoes and manufactured homes is that tornadoes tend to avoid central sections of cities and towns, probably due to the heat buildup there from buildings and asphalt, and to strike on the outskirts of cities and in rural areas where the majority of manufactured homes are located. [Informational page supplied by Affordable Housing Mart, Richmond, KY.] In reply to the American Meteorological Society, the industry could add that the manufactured homes in use from 1985 to 1995 were almost all constructed before HUD imposed stiff wind resistance standards.

Be that as it may, the American Meteorological Society recommends, as do various other publications on manufactured homes, that residents make sure that their homes are properly tied down or anchored; that they familiarize themselves with emergency procedures and be prepared to seek a safer location if warned of high winds or a tornado; and

that emergency structures be constructed at manufactured home parks. [Policy Statement, pp. 850-51.] The hazard mitigation officer at the Louisville-Jefferson County Disaster and Emergency Services office offered in 1997 to assist residents of manufactured home parks to identify shelters and obtain access to them in emergencies. [Bill Pike, "Shelters Urged for All Trailer Communities," *Courier-Journal*, 28 May 1997.]

FLOODS

Characteristics that make manufactured homes particularly vulnerable to high winds if precautions are not taken, their relative lightness and the lack in many cases of adequate tie downs, also make them particularly vulnerable in floods. The public is familiar with news accounts of manufactured homes torn off their foundations by rising waters. HUD regulations do not directly tackle the problem of floods, but many of the HUD measures intended to make homes resist high winds would also help hold homes in place during floods. A common sense precaution that would forestall most damage from flooding is to locate manufactured homes well away from flood plains and other areas where waters could rise dangerously.

ENERGY

Congress mandated HUD to establish "cost-effective" conservation levels for a home in each of the three climate zones in the United States. The standards were to "minimize the sum of construction and operation costs" over the life of the home. Environmentalists often advocate a life-cycle approach to energy conservation, since initial heavy costs of innovative equipment may be offset by lower operating costs. Buyers of manufactured homes may be offered a choice as to how they would like to achieve the conservation level for their home, whether they want to install more insulation or more efficient appliances, for example. If they wish to achieve large energy savings they may decide to buy a home equipped for a colder climate zone than the one in which they live. The one obvious drawback is that the homes are normally set up to use conventional sources of energy such as electricity, which is usually generated by fossil fuels or nuclear power, rather than to use solar or other alternative energy sources.

AIR QUALITY

Since 1985 the HUD code has set limits on the amount of formaldehyde that plywood materials and particle board materials used in manufactured housing can emit: 0.2 and 0.3 parts per million respectively. The Code specifies methods for ensuring that the limits are respected. Also since 1985, each manufactured home must have a notice on formaldehyde displayed in the kitchen until the sales transaction has been completed. The notice states that "reduced ventilation resulting from energy efficiency standards may allow formaldehyde and other contaminants to accumulate in the indoor air. Additional ventilation to dilute the indoor air may be obtained from a passive or mechanical ventilation system offered by the manufacturer."

Is this warning necessary? Site-built houses also use plywood and particleboard. In addition, site-built houses and manufactured homes alike use other toxic materials, synthetic carpets, for example. For someone sensitive to chemicals these materials will produce a problem in a site-built house as well as in a manufactured home.

There are several reasons, however, why the materials may be particularly harmful in manufactured housing. One is the reason stated on the formaldehyde label. Under the HUD code, manufacturers, to conserve energy, have made manufactured housing tighter than many site-built homes. Unfortunately the tightness also prevents contaminants from leaving. Another is that since manufactured homes tend to be smaller than the average site-built home, they contain a smaller volume of air in which contaminants can be diluted. A third is that because manufactured homes are made in factories, materials do not have a chance to off gas into the outdoor air as they would at a construction site.

Any house fresh from the manufacturer should be allowed to air out before it is occupied. Conscientious dealers

recommend taking this step as a safety precaution. Owners should also make sure that the house's ventilation system removes contaminants that subsequently gas off effectively enough to meet their health needs. HUD requires "a minimum of 0.35 air changes per hour" which can be achieved by active or by passive means.

Should supplemental ventilation be required, the least expensive answer is keeping windows open. A more satisfactory approach in cold weather is installing one or more air to air heat exchangers. Placed in an open window, an exchanger introduces fresh air and evacuates stale air while passing the heat from the exiting air to the entering air. The supplemental ventilation system offered by the manufacturer is another option.

Anyone who knows that he or she is sensitive to synthetic chemicals should exercise extreme care in purchasing a manufactured or a site-built home. Removal of materials in the home may be found to be necessary. A used home, manufactured or site-built, may be a better bet than a new one, provided previous owners have not treated it with chemicals. If it is a manufactured home, it should have been constructed after 1985.

MANUFACTURED HOME PARKS

Manufactured home parks are good investments for developers but not necessarily good places to live. The mobile home owner or would-be owner needs to look before he or she leaps. Talking to residents is one means of gaining needed information.

An article in the 17 June 1996, issue of *Forbes* advises investors that they can clear 30% a year on the money they put into a park if they develop the park themselves. According to *Forbes*, the main reason for the profitability of parks is that turnover of renters at a park is virtually zero as compared to 50% for apartment buildings.

Renters of space in parks are hostage to the difficulty and expense of moving a manufactured home—relocation can cost \$3,000-\$10,000 and "significantly damage the home." [Leah K. Glasheen, "Mobile Home Battles: Residents versus Park Owners," *AARP Bulletin*, Vol. 35, no. 9 (Oct. 1994), p. 10.] Fewer than 2% of manufactured homes are moved from their first site. [AARP Webplace.] The homes are also locked into place by the generally tight market for park space and the fact that most parks won't accept used homes. If a park owner decides to close a park, renters may find themselves having to walk away from their housing.

As a result, renters are often subject to unreasonable increases in rent, arbitrary rules as to what they can and can't do, the threat of eviction, and even inability to sell the home without incurring a major loss. To bring about a below-market-price sale, the park owner simply refuses to lease to prospective buyers. The renter who is determined to sell is thus forced to sell to the owner or a representative of the owner at the owner's price.

The most promising answer for park residents is to organize. Residents with financial means are increasingly pooling their finances and forming cooperatives to buy out the owners of the parks in which their homes are located. [Glasheen, October 1994, p. 10.]

Across the nation, upscale manufactured home parks are springing up—communities with amenities like recreation rooms and swimming pools. Nevertheless, in part because of the problems associated with parks, the percentage of owners of manufactured housing who are living on leased land is decreasing. A few years ago 70% of new manufactured housing was installed on leased land; today only 50% is. [MacAuley.]

In Kentucky the problems associated with parks are less pressing than they are in some other states, because the majority of manufactured homes are sited on individual lots. KMHI estimates "very roughly" that some 75% of all mobile/manufactured homes in the state are on individual lots; only some 25% in parks. For newer manufactured homes, the figure for individual lots would be more like 85% and for parks 15%. In this state the focal point of the difficulties with manufactured home parks is that many older mobile homes are sited in small, old parks. [Thad Vann, KMHI, personal communication.]

LIFE SPAN

A fact sheet from KMHI notes that the life span of homes shipped since 1964 - year-round occupation for 33.8 years and seasonal occupation for an additional 8 years - represents a dramatic increase from the 10.4-year life of homes built in 1945. [KMHI, "The Questions Most Often Asked about Manufactured Homes and the Facts," 1996 KMHI Fact Sheet, p. 4.] A study apparently more recent than that referred to by KMHI and also conducted for the Manufactured Housing Institute estimates that manufactured homes now being built can be occupied year-round for 55.8 years and that manufactured housing for seasonal use will have a life span of 71.4 years. The author reached these figures, she explains, by obtaining more accurate statistics on occupied units and shipments than were used in previous studies, and by basing her calculations on the attrition rates of homes. Can attrition rates, however, be used to forecast the life span of homes made only recently? [Carol B. Meeks, "Manufactured Home Life." Arlington, VA: Manufactured Housing Institute, 1995.] The truth of the matter is probably stated by Donald S. Bradley: "Insufficient time has passed to evaluate the durability and appreciation characteristics of the newer factory-built homes." [Bradley, p.31.]

APPRECIATION/DEPRECIATION

In the past manufactured homes have steadily depreciated in value and have been regarded as dragging down the value of neighboring property. A study conducted in North Carolina in 1996 shows that this is not the case there.

Researchers at East Carolina University analyzed the change in value of manufactured homes and of nearby site-built homes built to determine whether the manufactured housing negatively affects the values of nearby housing. The areas studied were four counties in different parts of the state: Carteret, Henderson, Pike, and Wake. The researchers compared the figures from the last two property valuations (1990 and 1996). In each county manufactured housing taxed as real property (ie. housing attached to a permanent foundation) appreciated in value, though not quite as much as single-family site-built homes.

On the other hand, in Henderson County, manufactured homes taxed as personal property appreciated slightly; in the other three counties they depreciated (-2.4% Carteret), (-2.94% Wake), (-3%—6% Pitt; the older the home, the smaller its depreciation). The presence of manufactured housing did not have a meaningful impact on the value of surrounding property. [Guoqiang Shen and Richard A. Stephenson, "The Impact of Manufactured Housing on Adjacent Site-Built Residential Properties in North Carolina (Executive Summary)." Greenville, NC: East Carolina University, n.d.]

In Kentucky each manufactured home is taxed as residential property whether or not the home is attached to a permanent foundation, and whether or not the owner of the home owns the land on which it rests. The home and the land are generally assessed separately; and if the owner of the home and the owner of the land are the same person, the two values are totaled to create one tax.

Each Kentucky county decides how it will arrive at the value of the land and the home. To evaluate the land, PVAs may use the value of land per acre in the area in which the home is located or visit the site and make a judgement call. To evaluate the homes, PVAs use sale prices, books stating values of manufactured homes, and/or visits to the property, even occasionally computer databases. The printed guide most frequently consulted is published by the National Automobile Dealers Association (NADA), which also produces the publications that assign to automobiles and trucks their "book value." The state sends the NADA guide annually to each PVA. We did not have a chance to look at a book, but from what we were told the NADA guides usually depreciate homes from year to year, just as they do cars. However, occasionally today they show appreciation. The tables are based on make and age, but material at the back of the book allows values to be adjusted according to condition, one PVA told us.

An informal telephone poll of a few PVA offices in Kentucky found a mix of methods and results. In Floyd County 80% of assessments are based on site inspections; 20% on NADA. The homes generally depreciate. In Pike County assessments are based partially on NADA and partially on site inspections. An official told us that he had seen a few

listings in the book go up in value, but in actuality the homes in the county depreciate. Hardin County bases its assessments only on NADA. Houses there don't seem to depreciate by as much as they did; some are going up; some stay the same. Warren County also uses only the NADA book but double-wides and "homes on real estate" do not depreciate. Scott County usually relies on NADA but will accept a bill of sale and sometimes has to examine a home, because the make and age are not known. In recent years homes have been holding their value, especially the double-wides.

Fayette County starts with the NADA guide but goes to look at the homes. If maintained or enlarged, homes will appreciate. Also, homes from certain manufacturers are more likely to appreciate than homes from others. Jefferson County starts from the sales price, the NADA book, and a computer assisted system but also goes out to the property. Homes are assessed at fair market value every year, and they appreciate or depreciate just as the site-built homes do. In fact, they tend to increase in value when other types of residences increase in value, Shannon Tivitt, chief of staff, Jefferson County PVA said.

The replies of the PVAs lend credence to industry's contention that manufactured homes can appreciate or depreciate just as site-built houses do. *Whether their value goes up or down depends on location, the quality of the home when bought, whether it has been secured to a permanent foundation, whether additions have been built, whether the home is well maintained, and whether housing and particularly manufactured housing is in demand in the area.* Therefore homes appear to be more likely to appreciate in relatively affluent areas near prosperous cities, than in rural and economically depressed areas where people cannot afford to invest in high-quality homes and valuable land initially or to pay for subsequent additions and maintenance.

SOURCES OF FURTHER INFORMATION

American Association of Retired People. "Product Report: 'Manufactured Housing.'" On the web at <http://www.aarp.org>.

Consumers Union's Tips on Mobile Homes. 1997. Available for \$2 from Consumers Union of U.S., Inc., 101 Truman Ave., Yonkers, NY 10703.

Krigger, John. *Your Mobile Home: Energy and Repair for Manufactured Housing.* 3rd rev. ed. Saturn Resource Management. Helena, MT: Saturn Resource Management, 1994.

Muhly, Ernest. *Mobile Home Living* in the Affordable and Safe Housing Series. Mt. Vernon, KY: ASPI Publications, 1994.

HUD USER, US Dept. Of Housing and Urban Development, PO Box 6091, Rockville, MD 20849. HUD USER is a research information service and clearinghouse, which publishes and sells research reports, operates a homepage offering access to resources (<http://www.huduser.org>), and has a toll-free information line (1-800-245-2691).

Kentucky Manufactured Housing Institute (KMHI), 2170 U.S. 127 South, Frankfort, KY 40601, (502) 223-0490.

Manufactured Housing Institute, 2101 Wilson Blvd., Suite 610, Arlington, VA 22201-3062, (703) 558-0400.