REGULATORY BARRIERS *to* MANUFACTURED HOUSING PLACEMENT *in* URBAN COMMUNITIES

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REGULATORY BARRIERS *to* MANUFACTURED HOUSING PLACEMENT *in* URBAN COMMUNITIES

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FOREWORD

One of HUD's highest priorities is to support and promote sustainable communities. This involves investing in communities that are inclusive, economically viable, safe, and healthy. A central part of this mission is to expand housing opportunities that are affordable, energy efficient, and provide access to a range of valuable community services. While HUD actively and vigorously supports the provision of affordable housing in sustainable communities, HUD itself does not actually build such housing. The actual gatekeepers for the approval and development of affordable housing are state and local governments. These governments, through their regulation of the housing development process, influence the type and amount of such housing that gets built, where it gets built, the pace of its development, and the cost and type of infrastructure used to support it.

Regrettably, when these policies or practices restrict the development of affordable housing in communities, such policies and practices become regulatory barriers that restrict the opportunity of hard-working American families to live in the communities where they work or where they would like to live.

An integral part of the mission to promote sustainable communities is identifying and addressing state and local regulatory barriers to affordable housing. As part of this effort, PD&R commissioned this report, *Regulatory Barriers to Manufactured Housing*, by Virginia Polytechnic Institute (Virginia Tech). Manufactured housing is an option that is little used in metropolitan communities although it appears to provide quality and cost advantages over site-built housing. This study examines the scope and severity of state and local regulatory barriers (such as local zoning, subdivision ordinances, and architectural design standards) to manufactured housing placement within entitlement communities in the Community Development Block Grant Program, and makes suggestions on how communities can address these barriers.

The analysis finds that key barriers to the placement of manufactured housing are regulatory, with permitting requirements, fire codes, zoning codes, subdivision regulations, and architectural design standards all impeding placement. Market factors such as land cost are also significant. The authors also highlight the role that planners can play in reducing these barriers, particularly those arising in part due to the stigma associated with manufactured housing. By pinpointing barriers that can needlessly restrict such housing or increase costs, this report can serve as a guide for communities to overcome their own regulatory barriers and, importantly, contribute to their becoming more sustainable.

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EXECUTIVE SUMMARY

Manufactured housing units (built under the HUD Code or Manufactured Home Construction and Safety Standards in the controlled environment of a manufacturing plant and transported in one or more sections on a permanent chassis) provide an important source of affordable housing within the United States. After adjusting for land costs, the per square foot cost of HUD-Code housing is less than half of standard, site-built housing. With the increased use of multi-section units and recent innovations in manufactured housing building technology, particularly integrated floor and chassis systems, many manufactured housing units are now virtually indistinguishable from conventional site-built units.

Despite the affordability advantages of manufactured housing, local zoning, subdivision ordinances, architectural design standards, and other requirements often limit the number of locations within which manufactured housing can be placed, impose additional onsite installation standards and other design requirements which do not pertain to site-built units, and in some cases, prohibit the use of manufactured housing units altogether.

This study examines the scope and severity of state and local regulatory barriers to manufactured housing placement within CDBG-eligible communities. Toward that end, three analytical approaches are employed:

- An examination of regional trends in manufactured housing shipment activity using shipments data collected by IBTS.

- An analysis of the impact of state statutes defining permissible regulations for local governments using IBTS shipments data along with the results of a content analysis of all states' manufactured housing statutes.

- An analysis of the impact of local regulatory barriers on placement of manufactured housing using a variety of secondary data sources paired with information obtained from a survey of local officials in CDBG-eligible jurisdictions.

The following are the major findings from the statistical analysis:

- Over the 2000 to 2005 period, there were significant regional differences in manufactured housing shipment activity. The South continued to attract the largest share of shipments, although this share declined somewhat since 2000. The relative decline in shipments to Southern states was accompanied by a relative decline in retention of the existing stock of units. The Midwest also saw declining shares of shipments over the 2000 to 2005 period, while the Northeast and West saw consistently low levels of shipment activity.

- Almost all states address the regulation of manufactured housing in some way, and more than half of states require localities to allow HUD-Code units somewhere within local jurisdictions. The majority of states do not address additional local regulations governing design, installation, lot improvements, or placement on site.

- Categorizing states by the degree to which states promote the use of manufactured housing by local governments, those that most strongly promoted HUD-Code usage captured the highest share of shipments over the 2000 to 2005 period. Furthermore, the gap between strong states and other states has grown over time. This suggests that state requirements to enact accommodating local standards appear to be having an influence on shipment activity at least at the state level.

- Regulatory barriers play a larger role in limiting the placement of manufactured housing than in limiting the sale or shipment of manufactured housing units. By-right zoning (allowed under present zoning code) does not significantly impact shipments or sales, and few perceived regulatory barriers impede HUD-Code shipments or sales at statistically significant levels. Manufactured housing placements, on the other hand, are influenced by a variety of regulatory barriers, including the lack of by-right zoning, burdensome fees, permits, snow load standards, fire codes, zoning codes, subdivision regulations, architectural design standards, and environmental regulations.

- Regulatory barriers are associated more with whether jurisdictions have any HUD-Code units, while market conditions play a greater role in determining the total number of units placed in a community, given that units are allowed. Market factors shown to have a statistically significant impact on placements include regional location, population density, median family income, the existing inventory of manufactured housing units, and proximity to manufactured housing plants. This finding suggests that while regulatory barriers are important impediments to the placement of manufactured units, such barriers are not the only constraint. Regulatory constraints interact with market conditions and local perceptions of manufactured housing to influence manufactured housing supply.

- This study's analysis of HUD-Code placements in urban communities suggests that the best approach to increasing the supply of HUD-Code homes would be to promote the use of manufactured housing in HUD-Code parks and infill in traditional subdivisions, along with allowing by-right placement in new single-family subdivisions. Jurisdictions approving new parks were twice as likely to have more than 50 units placed in the past five years than those not approving new parks. Communities with the highest placements of HUD-Code units were those with a mix of placements among HUD-Code parks, as infill in traditional subdivisions or in new subdivisions. However, jurisdictions with by-right regulations were less likely to approve new parks than those requiring special permits or restricting units to special districts. These findings suggest that to promote the supply of HUD-Code homes, regulations protecting by-right use in traditional single-family districts and infill locations should not be viewed as replacing regulations allowing the development of subdivisions devoted to manufactured housing.

To augment the survey and statistical analysis, four case studies were conducted on communities reported to have success in regulatory reforms and the urban placement of HUD-Code homes: Oakland (California), state of Washington, Pima County (Arizona), and Owensboro (Kentucky). Oakland is one of the premier success stories of the use of manufactured housing in urban infill. Washington recently passed state legislation enabling broader use of manufactured housing after a near three-decade-long advocacy effort and the success of several well-publicized subdivisions

featuring manufactured housing. The Pima County case illustrates the complexities of placing manufactured units in the expanding suburbs of a high-growth urban area. Owensboro illustrates the ongoing challenges of developing and marketing manufactured housing even within a state with a long reliance on manufactured housing in rural areas and a record of state legislative support. The prominent findings from the case studies include:

- Built-out urban areas can promote affordable redevelopment using manufactured housing on vacant infill lots, as illustrated by Oakland, particularly in cities with the potential to capture an important share of the moderate priced housing market.

- Using manufactured housing reduces the time required to enclose and secure the unit from theft or vandalism, potentially adding to the cost-savings particularly when used as infill.

- Successful manufactured housing based affordable housing strategies require strong community support, institutional mechanisms for delivering manufactured housing units, along with sustained political leadership. Communities must also be familiar with the technical constraints to transporting and securing units onsite.

- Manufactured housing needs to be priced competitively. When price advantages are achieved, developers can increase their profit margin or achieve a rapid sale.

- The support of financial and other housing market institutions influences the promotion of manufactured housing.

- The difficulty of financing units under traditional construction loans can impede the placement of units.

- The manufactured housing industry's supply chain (manufacturer-dealer-installer-buyer) affects timely placement of units.

- Although more units can be placed through the development of manufactured housing subdivisions, acceptance (public, governmental, and market) in high growth suburban areas will be difficult, but not impossible, as illustrated in Pima.

- Within a high growth area, infill might prove more successful within older cities where infill lots are often small and open areas are minimal than within suburban areas.

- The potential in lower-cost, lower-growth communities, such as Owensboro, might remain with the rural fringe urban areas more than with urban subdivisions and infill unless greater competitive advantages and public support can be gained.

- The greater potential for developing new manufactured housing subdivisions outside of cities could create a higher volume of units, but many of these subdivisions would be in strictly rural jurisdictions.

- Prominent successes and local initiatives, such as found in several manufactured housing subdivisions in the state of Washington, can help promote statewide legislative reform.

- The nonprofit affordable housing sector could be an important ally in promoting manufactured housing within urban communities, but the city/suburb, infill and new subdivision mix will depend on local market conditions that create greater competitive advantage for manufactured housing.

- Local nonprofit housing organizations should investigate opportunities provided by national nonprofit organizations to support manufactured housing initiatives within urban communities. CFED (Corporation for Enterprise Development) promotes manufactured housing through an initiative called I'M HOME, or Innovations in Manufactured Homes. Offering grants to nonprofit organizations throughout the nation and across the rural, suburban, and urban spectrum, CFED reports that only a few of the 39 organizations receiving their support promoted or developed manufactured housing within urban areas.

Together, these findings suggest that if HUD-Code homes are to be considered viable affordable housing options in urban communities, steps must be taken to remove the barriers that currently exist to placing such units. The following are offered as recommendations for achieving this goal:

- Since local regulations influence manufactured housing placement through a variety of channels, local regulators should seek to ensure that the overall permitting system is supportive of manufactured housing placement. Regulations protecting by-right use in traditional single-family districts and infill locations should not be viewed as replacing regulations allowing the development of subdivisions and parks devoted exclusively to manufactured housing. Similarly, states wishing to have the most significant impact on reducing local regulatory barriers should focus on minimizing the cumulative effect of all local regulations, rather than on requiring specific local provisions such as design requirements and by-right allowances.

- Regulatory reforms will help to alleviate some constraints to placing manufactured housing units, but market conditions will ultimately determine if manufactured housing is viable locally. Residents must be willing to pay for manufactured housing units, and financing must be available to those seeking to purchase a manufactured home. Furthermore, the manufactured housing industry's supply chain (manufacturer-dealer-buyer), and the difficulty of financing units under traditional construction loans until they are secured onsite, can impede the placement of units.

- Built-out urban areas can promote affordable redevelopment using manufactured housing on vacant infill lots, particularly in cities with the potential to capture an important share of the moderate priced housing market. Using manufactured housing also reduces the time required to enclose and secure the unit from theft or vandalism, potentially adding to the cost-savings particularly when used as infill.

- Manufactured housing may not be a viable affordable housing alternative for all communities. Although more units can be placed through the development of manufactured housing subdivisions, acceptance (public, governmental, and market) in high growth suburban areas will be difficult, but not impossible. Infill in older cities within high-growth metropolitan markets might prove more fruitful.

- Urban areas where placement of manufactured housing has been successful are models for other communities. For example, Oakland, California capitalized on state regulatory reforms to introduce manufactured housing on infill lots. Without a forward thinking or motivating leader (in the case of Oakland, a progressive city council), regulatory reform will not in itself promote manufactured housing.

- Efforts should be taken to familiarize nonprofit housing producers with the unique aspects of the manufactured housing supply chain, in addition to the role of regulations and local market conditions in influencing the viability of manufactured housing as an affordable housing alternative.

- Research on this topic is severely limited by the paucity of jurisdiction-level data on manufactured housing supply. Shipments are only provided in state-level aggregate form, and placements at the local level are not provided by any publicly-available sources. Furthermore, information on important aspects of the supply chain, particularly supplier-to-dealer relationships, is nonexistent. Collection of these data would help to generate additional research on the manufactured housing industry and provide local planners with a useful source of information for analyzing the impacts of local regulatory measures.

INTRODUCTION

In 1974, Congress enacted the Manufactured Home Construction and Safety Standards (HUD Code) Act, the nation's first set of uniform standards governing the construction of manufactured homes. The call for a uniform set of standards came from several sources (Manufactured Housing Institute, 2004):

- Since many manufactured housing units are shipped across state borders, individual plants often had limited information about which state building codes would apply at the location where the units would ultimately be placed. This effectively placed limits on the number of possible shipment locations, because the cost of tailoring each individual unit to the building code requirements of particular states was cost prohibitive.

- Many states were not successful in tailoring state codes to address the health and safety issues unique to manufactured housing.

- Since factory built housing offered a promising technological solution to the affordable housing crisis, given that the units could be constructed at a much lower cost by taking advantages of the economies of scale resulting from mass production, Congress sought to promote its use on a national scale.

Implemented in 1976, the HUD Code preempted state and local building codes governing the construction of manufactured housing units. While this effectively eliminated the state-level uncertainties surrounding the standards to which units would be constructed, the HUD Code does not address local standards governing the placement of individual units onsite. Local zoning, subdivision ordinances, architectural design standards, and other requirements often limit both the number of locations within which manufactured housing can be placed, impose additional onsite installation standards and other design requirements which do not pertain to site-built units, and in some cases, prohibit the use of manufactured housing units altogether.

While this problem has not gone unnoticed, particularly among affordable housing policy advocates, little is known about the impact of regulatory restrictions on the actual placement of HUD-Code units within communities. The purpose of this report is to eliminate this gap in current knowledge and provide information on the extent to which local regulations constitute regulatory barriers to the placement of manufactured housing within CDBG-eligible urban communities. CDBG-eligible communities are taken as the relevant unit of analysis because these communities constitute the universe of communities to which HUD programs pertain. Furthermore, urban communities have received scant attention in this literature, given that manufactured housing is typically viewed to be a more rural housing option. Since utilizing manufactured housing constitutes an important way to minimize capital costs in the face of high land costs, it stands to reason that this option may also be attractive in urban communities, if regulatory environments are supportive of its use.

To shed light on this issue, this report addresses the following research objectives:

1. Determine the type, incidence, and scope of regulatory barriers that local governments use to prohibit or restrict the use of manufactured (HUD Code) housing in their communities.

2. Provide alternative estimates, based on varying assumptions, of the impact that such barriers have had on the placement of manufactured housing in these communities.

3. Make suggestions and recommendations on steps that states and localities could take to eliminate or mitigate the identified barriers.

4. Prepare case studies of community efforts that provide a so-called level playing field for manufactured housing.

The report begins with a brief literature review that emphasizes recent literature examining the impact of regulatory barriers to the placement of manufactured housing. A section on regulatory barriers follows examining empirical evidence on the connection between regulatory characteristics and manufactured housing supply. Then four qualitative case studies illustrate a range from state to local efforts spanning public, for-profit, and nonprofit development. The case studies provide a detailed description of how regulations impact the development of manufactured housing within urban areas. In particular, the case study of Oakland, California traces infill development throughout the city over a 27 year period following regulatory reform of state statutes regarding manufactured housing. The report concludes with a summary of the major findings and a discussion of the policy implications of this report.

BACKGROUND

Manufactured housing accounted for more than one sixth of the growth in the owner-occupied housing stock between 1993 and 1999 (Apgar et al. 2002). However, the market share of manufactured housing declined significantly after 2000. Based on Census Bureau reports of housing starts and manufactured home placements, as well as IBTS data on manufactured home shipments between 2000 and 2003, manufactured housing fell from 23% of total single-family production (starts and placements) in 2000 to only 8% in 2003 and then remained at or below 8% through 2007.

Since the cost of constructing a new manufactured home has been estimated at less than two thirds the cost of the average site-built single-family home (HUD 1998), the average sales price of new manufactured homes is considerably lower than the average price of the new site-built single-family home. Estimates of new home sales suggest that in 2002, the average sale price for new manufactured housing units was less than one third the average sale price of new site-built single-family homes excluding land (Manufactured Housing Institute 2004). The average sales price for manufactured homes in 2007 was $63,400 overall and $83,700 for double-wide units, exclusive of land costs. The average sales price for new single-family homes at $311,600, inclusive of land, was 272% more than for double-wide units. Even if one-third of the single-family unit price is subtracted for land, the remaining price is still 146% above that for the average double-wide manufactured unit. Adjusting for both land and unit size, the per square foot cost of site-built units was 128% higher than manufactured units in 2005 (Manufactured Housing Institute 2006).

With the increased use of multi-section units and recent innovations in manufactured housing building technology, particularly integrated floor and chassis systems, many manufactured housing units are now virtually indistinguishable from conventional site-built units. Furthermore, an increasing number of units are now being placed on conventional owned lots, as opposed to being sited on rented lots within mobile home parks. In Michigan, for example, approximately one half of all manufactured homes purchased were placed on privately owned lots (Mrozowski 2002). Although demonstration programs (such as the Next-Gen and the Urban Design projects) generally report positive results, research to date has not addressed whether these design improvements have resulted in greater acceptance of manufactured housing in urban communities.

Evidence suggests that residents of manufactured homes view their homes to be of a quality that is comparable to site-built homes. Boehm (1995) finds that residents of manufactured homes perceive their homes to be of higher quality than similar rental units and of lower cost than traditional owned units. This quality-cost advantage points to a potentially significant market demand for manufactured units if regulatory barriers are reduced. Evidence from the 2003 National American Housing Survey indicates that the incidence of severe physical problems in manufactured housing is both rare and comparable to other housing units. While residents of 1.5% of manufactured housing units reported severe physical problems with their unit, this was only slightly higher than the percentage for all owner-occupied units (1.3%) and slightly less than the percentage for total occupied units (1.9%). For these reasons, Genz (2001) argues that

advocates should rethink the importance of manufactured housing toward the nation's affordable housing objectives.

Perhaps the most significant barrier to the siting of new manufactured homes in metropolitan areas is the presence of zoning codes which restrict the size, design, and location of manufactured units. These barriers likely explain the fact that in Michigan, for example, 80 percent of rural manufactured homes are sited on private lots, while 80 percent of urban manufactured homes are sited within traditional mobile home parks (Mrozowski 2002). Typical regulatory barriers include restrictions on building types which effectively rule out the most common types of manufactured homes and zoning requirements which limit the locations where manufactured housing units are considered allowable uses (Sanders 1998). As an example, the most affordable manufactured homes are not constructed to meet steep roof pitch requirements because steep pitches often make units more expensive to purchase, set-up, and difficult to transport due to height restrictions on highways (Hart et al. 2002). Although modular and even traditional site-built single-family homes are often subject to many of the same requirements, communities often place more stringent regulations on manufactured units due to the negative perceptions of manufactured housing held by many community residents chiefly relating to impact on conventional housing values. Yet, Wubneh and Shen (2001) show such adverse impacts often are not present and through site-planning potentially adverse effects can be reduced.

The following categorizes the most common types of regulatory barriers typically faced by developers and manufactured home producers:

- Exclusion of by-right (allowed under present zoning code) use in single-family zoning classifications.
    - Restriction of by-right use to mobile home parks and subdivisions.
    - Restriction of by-right use to agricultural and rural zones.
    - Prohibition of manufactured housing for replacement or infill use in existing single-family neighborhoods.

- Siting requirements.
    - Lot size restrictions which limit the density of manufactured housing units.
    - Minimum acreage or number of parcels for manufactured home community development.

- Design standards.
    - Exterior siding requirements.
    - Roof structure requirements regarding roof pitch.
    - Roof material requirements.
    - Minimum floor area requirements.
    - Minimum width requirements.
    - Foundation requirements.

- Landscaping requirements.
    - Landscape buffer requirements.

    - Parking requirements.
    - Street width requirements.
    - Common open space requirements.

- Public facility requirements.
    - Utility and public facility level of service standards that are higher than those for average site-built single-family homes.

- Regulatory review requirements.
    - Consideration of mobile or manufactured homes as "special uses" which are subject to additional regulatory review.
    - Inflexible zoning categories which impose rezoning requirements on those wishing to site manufactured homes.

- Restrictions on use of HUD-code units as affordable housing in community development projects.
    - Prohibition on manufactured housing within infill or redevelopment projects.

- Classification as personal property for tax purposes.

The existing literature points to several factors which motivate local government adoption of these and other manufactured housing regulatory barriers (Bean 2004):

- General prejudice against all forms of low-cost housing (Beamish et al. 2001).

- The perception that manufactured home residents constitute a transient population with weak ties to the community (Atiles 1995; Beamish et al. 2001).

- The low aesthetic appeal of the traditional trailer park community design (Gann 2001).

- Perceptions that manufactured housing is substandard and unsafe (Advisory Commission on Regulatory Barriers to Affordable Housing 1991).

- The perception that manufactured housing appreciates more slowly than traditional site-built homes and negatively influences adjacent housing prices.

Evidence suggests that nearly all of these claims are unwarranted and not based on empirical reality. For example, despite the common perception that manufactured homes are moved on a more regular basis, the reality is that few manufactured homes are ever moved from their initial setup sites. Bean (2004) estimated that less than 5% of units are moved. American Housing Survey data from 1999 to 2003, reported later in Table 1.1., indicate that 7% of units were moved during this period. Other evidence from the American Housing Survey suggests that the incidence of severe structural problems is no more frequent among manufactured housing residents than it is among all owner-occupants. Regarding differences in home price appreciation, manufactured homes sited on owned lots exhibit appreciation rates that are comparable to those of site-built homes (Consumers Union 2003). Furthermore, several studies

find no evidence of any impact of manufactured homes on the sales prices of adjacent properties (Apgar et al. 2002; Warner and Scheuer 1993; Stephenson and Shen 1997; Hegji and Mitchell 2000). Despite this evidence, community residents continue to harbor stereotypes against manufactured housing and will likely continue to appeal to local government officials to impose regulatory restrictions on such housing.

Sanders (1998) is the only author to examine the extent and severity of local manufactured housing regulatory barriers nationwide. The report is based on 475 respondents to a 1996 survey of 1,172 communities conducted by the American Planning Association. This survey found that while almost all communities permit manufactured homes in residential districts, permit manufactured homes on individual lots, and permit manufactured homes by right (allow units to be placed without additional administrative review or approval), considerably fewer allow manufactured homes in the most restrictive residential districts or in all residential districts. Furthermore, only 29 percent of communities had regulations that treated site-built homes and manufactured homes comparably. Sanders' findings, however, require careful interpretation. Permitting manufactured housing in residential districts "by right" does not necessarily mean that manufactured housing is a by-right use comparable to site-built housing. Reviews of state statutes indicate a range of by-right use of manufactured housing in single-family zoning districts, with 22 states providing some by-right use but only eight states treating manufactured housing on an equal basis as site-built.

States play an important role in ignoring, enabling, mitigating, or banning local regulatory barriers to the use of manufactured housing. The National Association of Home Builders (NAHB) Research Center (2000), Sanders (1996), and Bredin (2000) provide some information on the degree to which states limit the authority of local governments to enact regulations which restrict the placement of manufactured housing. Additionally, a review of the Manufactured Housing Institute's (MHI) current Summary of State Laws and Court Decisions Regarding the Zoning, Placement and Tax Treatment of Manufactured Housing shed further light. There is clearly a continuum of inclusion with respect to state-level manufactured housing regulations ranging from equal treatment (compared to site-built single-family houses) in single-family residential zones to no state legislation impeding exclusion of manufactured housing.

Several studies have examined the impact of various types of land use regulations on housing market outcomes (Nelson et al. 2004; Quigley and Rosenthal 2004). In general, these studies find that while land use regulations do, in some cases, constrain the supply of affordable housing, the impact of such constraints varies considerably with the nature of local housing market characteristics including factors affecting regional housing demand, housing supply and demand elasticities, and the ownership structure of local land markets.

Although many studies to date focus on the equilibrium housing price impacts of regulatory barriers, two recent studies focus directly on the supply side of the housing market. Thorson (1997) examines the factors affecting new building permit issuance in a sample of Illinois towns and finds that after controlling for other factors affecting housing supply, a change to a more restrictive local zoning classification (that is "downzoning") lead to long-run reductions in the number of new housing units permitted. Somerville and Mayer (2003) rely on data from the American Housing Survey to examine the impact of government land use regulations on the loss

of units from the affordable housing stock over time. The authors find that when new construction is constrained, either through lower supply elasticities or through mandated and self-imposed regulatory barriers and covenants, than affordable housing units are more likely to filter up and become unaffordable over time, controlling for unit and local housing market characteristics.

Green (1999) traces the effects of six land use indicators, one of which is the permitting of mobile homes, in 37 Milwaukee suburbs and finds that a mobile home prohibition increased home prices between 7.1 and 8.5 percent (the highest impact among the six land use variables studies). He found that both the exclusion of mobile homes and the imposition of street width minima significantly reduce the proportion of modestly priced homes.

Curiously, the regulation that has received the most attention among those analyzing the manufactured housing market is rent control. Due to the separation of land and unit ownership in most manufactured home markets, rent controls imposed on mobile home park landlords can have the unintended effect of raising the price of new manufactured homes. This occurs because the lower land rents are capitalized into the price of housing. Hirsch (1988) examines the impact of such rent control provisions on the sales price of mobile homes in California and finds that mobile home sales prices are about 32 percent higher in communities which have imposed rent control on mobile home pad rents. Similar results are reported by Mason and Quigley (2004). Hirsch and Rufolo (1999) examine the supply-side impacts of such restrictions and find that rent control restrictions have reduced the shipments of manufactured housing units to California by between 200 and 300 units per year.

Less is known about the impacts of other market and regulatory conditions on the manufactured housing market. Research on local housing markets has identified several variables that should be considered in research on barriers to manufactured housing: land values, distance from the central city, state water pollution control regulations, and local zoning ordinances (Field 1972; Hart et al. 2002); the proximity to amenities and negative externalities of zones allowing manufactured housing (Stephenson and Shen 1999); and the percent of owner-occupied housing, housing prices, rents, and the percent of affordably-priced homes (Green 1999). In addition, macro-economic characteristics such as interest rate levels and availability of capital have influenced recent trends in manufactured housing.

REGULATORY BARRIERS AND THE SUPPLY OF MANUFACTURED HOUSING: RESULTS OF EMPIRICAL ASSESSMENTS OF IMPACTS

To determine if local regulations impede the placement of HUD-Code units, it is important to control for other factors which also influence manufactured housing supply, such as regional variations and overall market conditions. It is also important to recognize that local jurisdictions influence the placement of manufactured housing units through a variety of different regulatory and fiscal policy instruments, as suggested previously. This section addresses these issues using a multi-pronged analytical approach:

1. An examination of regional trends in manufactured housing shipment activity.

2. An analysis of the impact of state statutes defining permissible regulations for local governments.

3. An analysis of the implementation and impacts of local regulatory barriers on placement of manufactured housing, controlling for local and regional market conditions.

Regional Trends in Manufactured Housing Supply

This section provides an overview of manufactured housing shipment activity nationwide and within different regions of the country. Figure 1.1 displays data on the total number of units shipped to each U.S. region and across the entire U.S. between 2000 and 2005. In this table, a manufactured housing "unit" refers to either a single-wide or multi-sectional unit. As such, shipment totals reflect the sum of these two unit types.

As mentioned in the previous section, manufactured housing shipments in the U.S. declined between 2000 and 2003. Shipments then leveled off in 2003 only to rebound slightly during the following years but without increasing market share. Over this period, the Northeast and West saw little change in shipment activity, with the Northeast consistently underperforming relative to other regions. The Midwest, on the other hand, saw declining shares of overall shipment activity. The South accounted for the largest share of shipments, with a trend that largely mirrors the national trend. Possible explanations for these regional differences in shipment activity include regional differences in preferences for manufactured housing, regional differences in land costs, and regional differences in climatic conditions such as snow and wind levels which influence the durability of manufactured housing units over time.

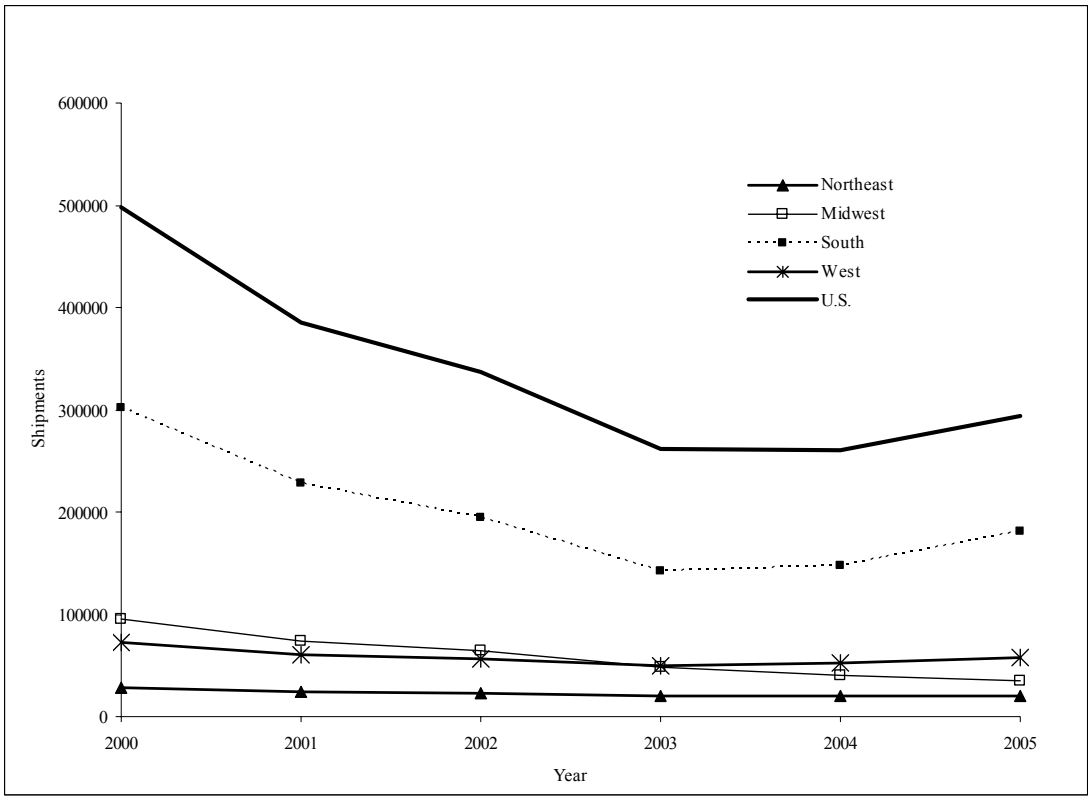
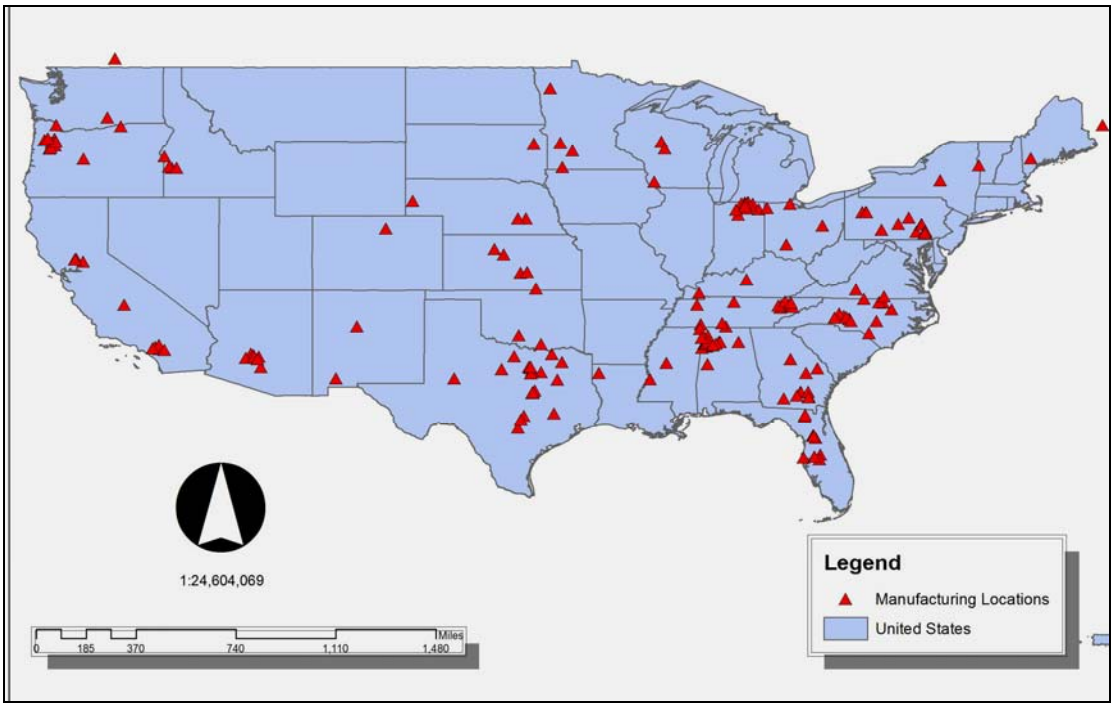


Figure 1.1: Manufactured Housing Shipments, 2000 to 2005

Map 1.1 provides additional detail on the supply-side determinants of the trend displayed above. As the map indicates, manufactured housing plants (production facilities) are also concentrated in the South. Given that shipments from plants entail significant transfer and transportation costs, it is generally more cost-effective to ship units over a relatively shorter distance; hence, one would expect to find higher numbers of shipments in areas that are more proximate to production facilities. Furthermore, road noise and vibration degrade the structural integrity of manufactured housing units over long distances. Interestingly, despite a relatively high share of plants within portions of the Midwest, this region has seen relative declines in shipments over the most recent period.



Map 1.1: Geographic Distribution of Manufactured Housing Plants

To gain a slightly different perspective on these regional trends, Table 1.1 below examines recent trends in the existing stock of manufactured housing units. This table relies on data from the 1999 through 2003 waves of the national sample of the American Housing Survey (the most recent years for which data were available for this type of analysis) to explain, for those units present in the 1999 wave, the proportion of units that remained in the stock versus being moved, demolished, converted to site-built, or converted to something else by region.

Table 1.1: Change in Manufactured (Mobile) Home Status by Region, 1999 to 2003

MANUFACTURED HOME STATUS	REGION				
	Northeast	Midwest	South	West	All Regions
Unit Remained	81.92%	81.14%	76.82%	83.78%	79.40%
Unit Moved	4.23%	6.41%	8.88%	3.78%	7.04%
Unit Demolished	0.38%	1.65%	1.66%	0.36%	1.30%
Unit Converted to Site-built	6.92%	4.58%	5.43%	4.50%	5.23%
Other	6.54%	6.23%	7.22%	7.57%	7.04%

Source: 1999 and 2003 National American Housing Survey. Unweighted percentages displayed.

As this table suggests, almost all units in the sample remained in place over the period under investigation. Across regions, the South saw the largest net loss of existing units. Of those that did not remain in place, almost all units in the South were moved to another location. Recall that the South also saw the largest declines in shipment activity over this same period. Since existing manufactured housing units and new units are likely close substitutes, particularly given the standardization of such units under the HUD Code, one would expect to find a high degree of correlation between regional trends in the existing stock and regional trends in the shipment of new units. Further research is needed to understand the factors contributing to the relative dampening of manufactured housing supply within the South over the 2000 to 2003 period, however.

The Scope and Influence of State Manufactured Housing Statutes

The analysis of the influence of regulations on manufactured housing supply begins with an examination of state statutes which address the regulation of manufactured housing by local governments. Given that manufactured housing offers a technological solution to the affordable housing dilemma, many state policymakers have enacted provisions requiring localities to place manufactured housing on a level regulatory playing field with site-built housing. For example, Section 17–27–105.5 of the Utah Code states that "manufactured homes, which comply with the HUD Code, may not be excluded from any single-family residential zone or area where a site-built home would be permitted, as long as the home complies with all zoning and deed restrictions on the property." Other states require that manufactured homes be treated similarly to other site-built homes, but allow local governments to specify certain restrictions on architectural elements, placement on site, and exterior design and materials. For example, California Government Code 65852.3 states that "permanently sited manufactured homes built to the HUD Code may not be excluded from lots zoned for single-family dwellings, and are subject to the same rules as site-built homes, except for architectural requirements concerning the manufactured home's roof overhand, roofing materials, and siding materials." Others, such as Colorado, also include minimum unit size requirements in their definition of state-compliant manufactured homes (Manufactured Housing Institute 2005).

At the other extreme are states that do not address manufactured housing at all in their state statutes, other than with respect to real property issues or taxation (that is Alabama, Alaska, Louisiana, North Dakota, Oklahoma, and Wyoming). Some even go so far as to enact state-level provisions which may have the effect of excluding manufactured housing units as a preferred

residential option. For example, Section 3 of the Kentucky Revised Statutes states that "any local government may adopt and enforce as part of its zoning regulations, compatibility standards governing the placement of qualified manufactured homes in residential zones … Compatibility standards shall be adopted, amended, and enforced in the same manner as other zoning regulations and shall be in addition to any zoning regulations that are generally applicable to single-family residences. The compatibility standards shall be designed to ensure that when a qualified manufactured home is placed within a residential zone it is compatible, in terms of assessed value, with existing housing located within a one-eighth mile or less radius from the proposed location of the qualified manufactured home" (Manufactured Housing Institute 2005).

To determine how states are addressing manufactured housing in their statutes, a content analysis was performed on all state statutes (and the District of Columbia) addressing any issue related to manufactured housing. For each state, the presence of a statute governing manufactured housing, the definition of manufactured housing (that is, Is manufactured housing defined more restrictively than the HUD Code specifies?), the treatment of manufactured housing as real property, the treatment of manufactured housing in local zoning regulations, and the treatment of additional local regulations governing design, installation, lot improvements, and/or placement on-site were examined. Table 1.2 summarizes the results of this analysis.

Table 1.2: Summary of Manufactured Housing Statutes for the 50 States and the District of Columbia

ISSUE	TREATMENT OF ISSUE	STATES*	
		N	Percent
Presence of state MH Statute	Statute not present	11	21.57%
	Statute present	40	78.43%
Coverage of MH in state Statute	No state statute	11	21.57%
	Statute pertains to HUD-Code homes which meet certain requirements	9	17.65%
	Statute pertains to any HUD-Code home	31	60.78%
Treatment of MH as real property	State does not address this issue	19	37.25%
	MH classified as real property	32	62.75%
Treatment of MH in zoning classifications	State does not address this issue	24	47.06%
	State requires local governments to allow MH somewhere	7	13.73%
	State requires local governments to allow MH in all residential districts	20	39.22%
Regulations governing design, installation, improvements, and placement on site	State specifies quantitative standards which apply only to MH	7	13.73%
	State does not address this issue	26	50.98%
	State enables local standards but encourages fair treatment of MH	18	35.29%

*Including the District of Columbia.

As the above table indicates, 40 states (78%) address the regulation of manufactured housing in some way. Of those 40, 31 (77.5%) define manufactured housing as any HUD-Code compliant unit, and the other nine states qualify those definitions with additional items, including minimum square footage, placement on a foundation, architectural features, and so forth. Thirty-one states (62.8%) define manufactured housing as real property rather than personal property. This designation facilitates the placement of manufactured housing units by allowing homeowners to

pursue mortgage-based financing for such homes. This designation also allows homeowners to qualify for federal and state income tax deductions received by other residential property owners.

Regarding the treatment of local regulations in state statutes, more than half of states (52.9%) require localities to allow HUD-Code units somewhere within local jurisdictions. The majority of states do not address additional local regulations governing design, installation, lot improvements, and/or placement on site, however.

To determine the degree to which states are permissive or restrictive with respect to manufactured housing provisions, the information from the state-level content analysis was used to construct a state-level regulatory inclusion index reflecting the extent to which states encourage local governments to include rather than exclude manufactured housing from their jurisdictions. For those states addressing manufactured housing in state law, the index is simply the sum of three different measures of the intensity of state laws addressing real property designation, treatment of manufactured housing in local zoning statutes, and local design regulations governing manufactured housing (states are penalized if design requirements are required to be exclusively applied only to manufactured housing). This sum is weighted by the degree to which each of these issues pertains specifically to HUD-Code homes.

The formula used to calculate this index is described below. The index equals 0 if the state does not address manufactured housing in the state's statutes. If state statutes address manufactured housing, the value of the index is the sum of the values for three regulatory barrier measures (Q_2, Q_3 and Q_4) times two (* symbolizes multiplication) if the statute(s) pertain to any HUD-Code home or times one if additional requirements are imposed. The index can range from 0 (no state statutes pertaining to manufactured housing) to 8 if the statutes apply to all HUD-Code homes without additional qualification and all of the following additive conditions apply: if classified as real property when on a permanent foundation (1), if local governments required to allow HUD-Code housing in all residential zoning districts (2), and if local standards promote consistent treatment with other housing types (1). The highest index weight is given when states require localities to allow HUD-Code housing, without additional qualification, in all residential districts (4 points). The other two "inclusionary" practices (treating as real property and encouraging fair treatment when standards are imposed), if applied to all HUD-Code units without additional qualification, add 2 points for each.

State Regulatory Inclusion Index (INDEX) = $Q_0 * \{Q_1 * (Q_2 + Q_3 + Q_4)\}$

Where:

Q_0 = 1 if state addresses manufactured housing in state statute; 0 otherwise.

Q_1 = 1 if state statute pertains to any HUD-Code home which also meets other requirements (minimum size, siding material, and so forth); 2 if state statute pertains to any HUD-Code home; 0 otherwise.

Q_2 = 1 if manufactured housing on a permanent foundation is classified as real property (possibly subject to conditions regarding ownership of land,); 0 otherwise.

Q_3 = 1 if state statute requires local governments to allow HUD-Code housing somewhere in the jurisdiction; 2 if state statute requires local governments to allow HUD-Code housing in all residential zoning districts; 0 otherwise.

Q_4 = -1 if state statute specifies quantitative standards which apply only to manufactured housing; 1 if state statute enables local standards, primarily to ensure consistency with other single-family units, but encourages fair treatment of manufactured housing; 0 otherwise.

* = multiplication.

Table 1.3 below displays the frequency distribution of INDEX. To facilitate the analysis of the state regulatory inclusion index, states were further classified into "weak" states (INDEX value = 0), "moderate" states (INDEX value ranges from 1 to 3), and "strong" states (INDEX value ranges from 4 to 8). Table 1.4 displays the states that fall within each of these ranges. Categories were chosen according to natural breaks in the frequency distribution and to ensure a roughly equivalent number of states within each category.

Table 1.3: Summary of State Regulatory Inclusion Index

INDEX VALUE	FREQUENCY	PERCENT	SUMMARY GROUPING
0	15	29.4%	Weak
1	1	2.0%	Moderate
2	12	23.5%	Moderate
3	2	3.9%	Moderate
4	9	17.6%	Strong
5	0	0.0%	Strong
6	5	9.8%	Strong
7	0	0.0%	Strong
8	7	13.7%	Strong
Total	51	100%	

Table 1.4: State-by-State* Summary of the Strength of Manufactured Housing Statutes

PROTECTION OF MANUFACTURED HOUSING	STATE	
Weak (Index = 0)	Alabama	Massachusetts
	Alaska	North Dakota
	Delaware	Oklahoma
	Washington DC	Pennsylvania
	Georgia	Rhode Island
	Hawaii	Texas
	Kentucky	Wyoming
	Louisiana	
Moderate (Index Range: 1–3)	Arizona	Oregon
	Colorado	South Carolina
	Maryland	South Dakota
	Missouri	Vermont
	Montana	Virginia
	New Mexico	West Virginia
	New York	Wisconsin
	North Carolina	
Strong (Index Range: 4–8)	Arkansas	Minnesota
	California	Mississippi
	Connecticut	Nebraska
	Florida	Nevada
	Idaho	New Hampshire
	Illinois	New Jersey
	Indiana	Ohio
	Iowa	Tennessee
	Kansas	Utah
	Maine	Washington
	Michigan	

*Including the District of Columbia.

Figure 1.2 examines the total number of units shipped again, only this time, differentiating the destination of shipment flows by type of state statute. As Figure 1.2 suggests, states classified into the weak and moderate categories of the state regulatory inclusion index have seen increasingly lower shares of manufactured housing shipments over the 2000 to 2005 period, with weak states exhibiting a slight increase over moderate states spanning the most recent two years of the analysis period. The most dramatic trend evident from this graph, however, is the significantly higher number of shipments captured by strong states over the analysis period. Not only were shipments in strong states much higher than in other states, the gap between strong states and other states has been growing over time. A separate analysis of shipment trends by each value of INDEX reveals that while no single value of INDEX dominates these results, the increase in shipments between 2003 and 2005 is larger for higher values of INDEX within the strong state category. At the state level, this suggests that requirements to enact accommodating local standards appear to be having an influence on local shipment activity. To determine if the

impacts are observed at a level below the state, local regulations and their impacts on manufactured housing supply are investigated.

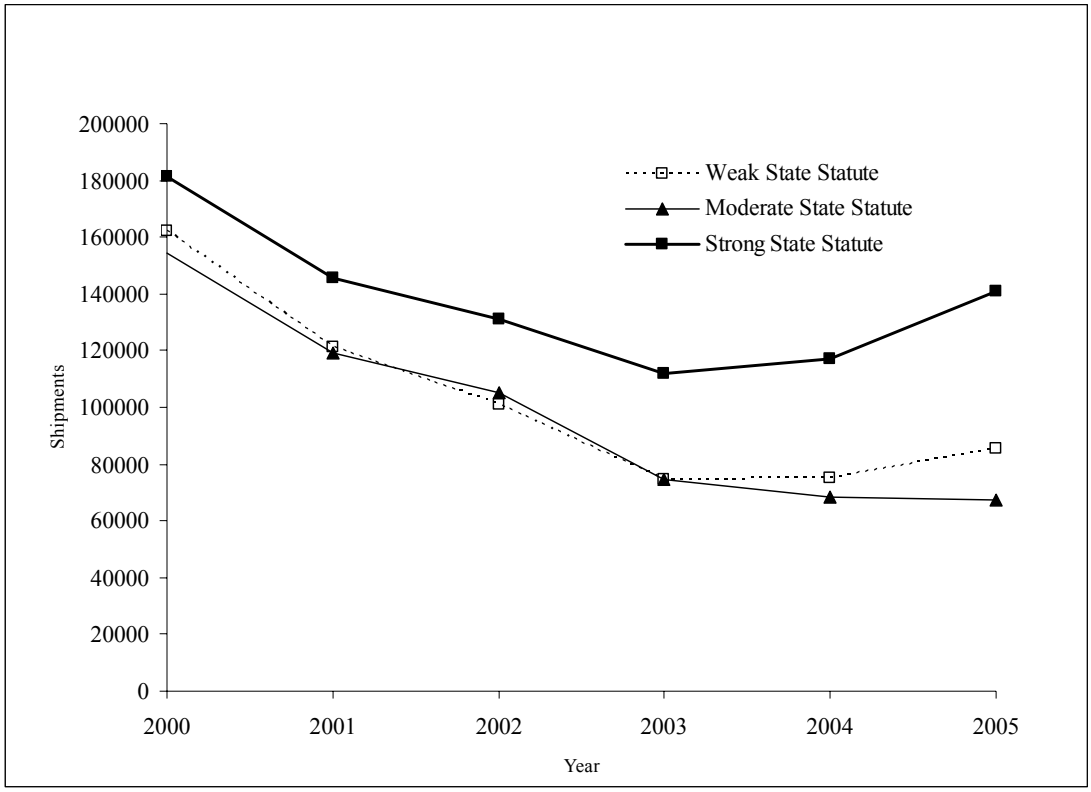


Figure 1.2: Manufactured Housing Shipments by Type of State Statute

Survey of Local Regulatory Barriers and Placement of HUD-Code Homes

Description of Survey

A survey instrument was designed to gauge an understanding of how regulations and specific barriers affect the placement of manufactured homes in urban communities. The survey instrument was a short questionnaire intended to be received by mail and self administered by the recipient (see Appendix A). The recipients were part of a universe that consisted of 1,839 CDBG-eligible communities across the nation (contact information was successfully obtained for 1,736 of the CDBG-eligible jurisdictions). Recipients were primarily local planning directors or other officials with knowledge of local regulations as they relate to manufactured housing (in order to get the respondent with the best knowledge of local code practices, the recipient was given the option to pass the questionnaire to a person he or she believed was better suited to answer questions on coding regulations related to manufactured housing).

The survey was administered using a modified Dillman technique for mailed surveys, a technique that often generates response rates of over 50% when the survey content is of direct interest to the recipient. The survey process began by mailing the survey instrument along with a personalized cover letter and a postage-paid, pre-addressed return envelope to the community representative. Two weeks after the first mailing, a postcard reminder was sent. If no response

had been received within a few weeks following the reminder, a second and final survey instrument along with a cover letter encouraging the recipient to reply was sent. The Dillman technique resulted in a final response rate of 55 percent. A total of 940 completed surveys were returned (eleven surveys were returned as undeliverable, so these were subtracted from the 1,736 surveys mailed to community representatives when calculating the response rate).

Survey Results

The survey was designed to identify the jurisdiction's regulatory practices regarding manufactured (HUD-Code) homes, whether any incentives are provided for the use of HUD-Code homes, the number of new homes placed in the past five years, and the distribution in placements among designated parks, subdivisions, infill, or single-family zone districts.

Nearly one-third of the total respondents reported that no or probably no units were placed in the past five years (Table 1.5). A majority (n=558, 59.4%) reported that new HUD-Code units had been placed in this time span, with another 5.7% (n=54) indicating that units probably had been placed.

Of the 612 respondents who reported that new HUD-Code units were or probably were placed in their jurisdictions in the past five years, 572 were able to indicate the number of units placed (using five intervals of 10 units each and then 51–99 units and 100+ units). One-fifth had only 1–10 units and one-fourth had between 11–50 units. One hundred and forty-five respondents reported HUD-Code placements of 51 or more units, and nearly all of these had 100 or more units.

The median number of units placed over the past five years was less than 10, or fewer than 2 units per year. The distribution of units suggests that communities separate into three primary categories: those with no units placed, those with only a few units placed, and those that manage to place a large number of units.

Table 1.5: Number of Respondents by Units Placed in the Past Five Years

UNITS PLACED	FREQUENCY	PERCENT
None	291	31.0%
1–10	191	20.3%
11–20	105	11.2%
21–30	67	7.1%
31–40	29	3.1%
41–50	35	3.7%
51–99	36	3.8%
100+	109	11.6%
Total Non-missing	863	91.8%
Missing	77	8.2%
Total	940	100.0%

Additional evidence from the survey indicates that many of the jurisdictions without any units placed in the past five years are not entirely exclusionary of HUD-Code homes. The majority

(159 or 58.0%) of the 291 respondents who answered that there were no (or probably no) HUD-Code homes placed in the past five years reported that their jurisdictions do allow HUD-Code homes to be used. These respondents classified their jurisdiction's regulatory approach as one of the following:

- Allowing HUD-Code homes as a by right use in single-family zones (n=73, 46.8%).
- Allowing HUD-Code homes in single-family zones on a temporary basis or with special or conditional use permits (n=16, 10.3%).
- Restricting HUD-Code homes to designated mobile home parks, communities, or subdivisions (n=67, 42.9%).

Extreme exclusion of HUD-Code homes was fairly rare among the respondent communities. Only 115 respondents (12.2% of the total respondents to the survey) indicated that their jurisdictions never (n=74) or rarely (n=41) allow HUD-Code homes to be used.

The 612 respondents indicating that HUD-Code homes were placed in their jurisdictions in the past five years were asked about their jurisdiction's regulations controlling the placement of these homes (Table 1.6). Since these regulatory controls are not mutually exclusive, respondents were asked to respond about each type of regulation. Nearly 40 percent of these jurisdictions restrict HUD-Code homes to special zoning categories such as mobile home parks, communities, or subdivisions. One-fifth requires a special or conditional use permit for HUD-Code homes to be placed or located in single-family zones. But a majority of these jurisdictions allow HUD-Code homes as a by-right use in single-family zones either under the same rules as other housing or if design standards are met. The substantial overlap between the "design standards" and "same rules" responses indicates that communities allowing HUD-Code homes as a by-right use in single-family zones do so by requiring them to meet design standards and to meet the rules applied to other homes.

Table 1.6: Zoning Regulations in Jurisdictions With Units Placed in the Past Five Years

ZONING REGULATION	YES	NO	OTHER	NO RESPONSE	TOTAL	N
Restrict to mobile-home parks	38.9%	56.0%	0.2%	4.9%	100.0%	612
Require a permit for use in single-family zones	20.9%	68.5%	3.4%	7.2%	100.0%	612
Allow as a by-right use in single-family zones if design standards are met	58.3%	34.2%	0.5%	7.0%	100.0%	612
Allow as a by-right use in single-family zones under same rules as other housing	56.5%	35.0%	0.7%	7.8%	100.0%	612

Respondents answering that design standards are applied to HUD-Code homes were asked if the planning staff or building department have any discretion in the administration of these design standards. Seventy-one percent indicated that they have no discretion and the design standards are fixed and clear. Seventy-four percent indicated that the standards are easily met and 18.4 percent said that the standards significantly affect unit costs.

Among communities with some units placed in the past five years, 104 (17.0%) approved new mobile home parks, communities, or subdivisions for HUD-Code homes in that time span. Sixty-five of these approved only one such community and another 21 approved two communities, but 18 had approved three or more communities. The approval of new HUD-Code parks or subdivisions could dramatically expand the placement of units, perhaps even more so than the seemingly less exclusionary acceptance of HUD-Code units as a by-right use in single-family zones. Jurisdictions with by-right regulations were less likely to approve new parks than those requiring special permits or restricting units to special districts (Table 1.7). Although the association is statistically significant, it only increases the probability of approving new parks from 15 percent to 20 percent.

Table 1.7: New Parks Approved by Zoning Regulation

ZONING REGULATION	NEW PARKS APPROVED			
	Yes	**No**	**Total**	**N**
By right	14.8%	85.2%	100.0%	311
Permit	20.4%	79.6%	100.0%	284
Total	17.5%	82.5%	100.0%	595
N	104	491	595	

Sig. .05

All of the respondents were asked to rate a list of potential barriers to HUD-Code homes. Almost all of the items are regulatory barriers, while three are market characteristics that could limit the placement of HUD-Code homes (high land cost, not much land, and insufficient demand). The approval of new HUD-Code subdivisions was also included as a barrier, since the supply of land in such subdivisions could influence placements. None of the respondents identified any these barriers as "not applicable" so that category is not shown in Table 1.8. The respondents overwhelmingly felt that almost all of the potential barriers listed were either not barriers or were minor barriers, or apparently did not know and skipped the item. Few respondents (below 10%) thought any of the barriers listed would prevent HUD-Code homes from being placed in their communities. Items were more likely to be classified as "significant barriers" to placing HUD-Code homes than as preventing these units. The high cost of land category was selected most frequently as a significant or preventive barrier (42.4%), followed by citizen opposition (36.1%), no new parks (35.6%), zoning codes (33.4%), and not much land (31.1%), but these were always minority opinions. Fees, permits, wind codes, snow load standards, fire codes, and environmental regulations were the most likely items to be identified as "not a barrier" or a "minor barrier".

Table 1.8: Potential Barriers to HUD-Code Homes

POTENTIAL BARRIERS	NOT A BARRIER	MINOR BARRIER	SIGNIFICANT BARRIER	PREVENT HUD-CODE HOMES	NO RESPONSE
Fees	67.3%	17.6%	2.5%	0.5%	12.1%
Permits	66.4%	19.0%	5.1%	1.5%	8.0%
Deed restrictions/covenants	33.5%	19.6%	20.4%	6.4%	20.1%
Wind standards	53.7%	23.1%	7.4%	1.1%	14.7%
Snow load standards	50.5%	16.3%	2.7%	0.8%	29.7%
Fire codes	62.6%	20.0%	5.6%	0.7%	11.1%
Zoning codes	34.2%	28.7%	24.2%	9.2%	3.7%
Subdivision regulations	46.6%	24.1%	14.4%	6.0%	8.9%
Architectural design standards	39.0%	24.7%	10.2%	3.1%	23.0%
Citizen opposition	22.2%	31.6%	31.3%	4.8%	10.1%
Environmental regulations	64.4%	13.3%	2.7%	0.5%	19.1%
Historic district regulations	31.8%	16.1%	16.2%	9.9%	26.0%
High land costs	26.5%	22.0%	38.0%	4.4%	9.1%
Not much land (built-out)	35.9%	20.0%	27.3%	3.8%	13.0%
No new HUD-Code parks, communities, or subdivisions approved	27.0%	14.6%	28.4%	7.2%	22.8%
Insufficient demand for HUD-Code homes	37.8%	20.7%	18.2%	3.6%	19.7%

The relationship among zoning regulations, barriers and whether jurisdictions had no or some units placed in the past five years is shown in Table 1.9. Zoning regulations do not appear to be associated clearly with whether units were placed in the community. Although jurisdictions with by-right regulations and not requiring special permits for using HUD-Code units in single-family zones had a slightly higher probability of having some units placed, the differences were insufficient to significant. (Statistically significant associations are identified by italics in Table 1.9.) This could reflect the complexity of regulatory barriers rather than the absence of barriers, a caution suggested by the association of the respondents' ratings of barriers with whether no or some units were placed.

In jurisdictions where zoning was rated as a significant barrier, the probability of units having been placed was significantly lower than in jurisdictions where zoning was rated as a minor barrier (dropping from 77.5% to 53.9%). In jurisdictions where respondents rated subdivision covenants, architecture design standards, citizen opposition, high land costs, not much land, no new parks approved, and insufficient demand as significant barriers, there were similar statistically significant negative impacts on HUD-Code units being placed. The largest impact was associated with insufficient demand, which was the only factor associated with a lower than 40% likelihood of some units being placed.

Table 1.9: HUD-Code Units (None/Some) by Selected Barriers

BARRIERS	NO UNITS	SOME UNITS	N
Statistically Significant Associations			
Zoning (.000)			798
Not a barrier	28.7%	77.5%	516
Significant barrier	46.1%	53.9%	282
Subdivision regulations (.000)			740
Not a barrier	22.5%	76.2%	571
Significant barrier	46.1%	55.0%	169
Architectural design standards (.000)			624
Not a barrier	24.2%	75.8%	513
Significant barrier	55.0%	45.0%	111
Citizen opposition (.000)			727
Not a barrier	21.4%	78.6%	429
Significant barrier	41.9%	58.1%	298
High land costs (.000)			747
Not a barrier	20.3%	79.7%	225
Significant barrier	41.1%	58.9%	522
Not much land—Built out (.000)			707
Not a barrier	19.7%	80.3%	446
Significant barrier	47.1%	52.9%	261
No new HUD-Code parks approved (.000)			622
Not a barrier	18.2%	81.8%	329
Significant barrier	46.8%	53.2%	293
Insufficient demand (.000)			647
Not a barrier	18.4%	81.6%	467
Significant barrier	62.8%	37.2%	180
Not Statistically Significant			
Units allowed in single-family zones			711
By right	18.3%	81.7%	360
By permit/park	22.2%	77.8%	351
Requires special use permit in single-family districts			669
Yes	23.8%	76.2%	193
No	19.5%	80.5%	476
Deed restrictions			636
Not a barrier	28.7%	71.3%	422
Significant barrier	24.3%	75.7%	214
Historic district regulations			598
Not a barrier	27.6%	72.4%	388
Significant barrier	30.5%	69.5%	210

It bears noting that except for insufficient demand, when barriers rated as significant were associated with reduced percentages of placing units, a majority of the impacted jurisdictions still had some units placed.

Local regulations and other potential barriers could also affect the number as well as the likelihood of units being placed. Given the bi-modal distribution of units placed, the categories were reduced to the four shown in Table 1.10 for the purpose of cross-tabulating the number of units with various potential barriers. These results are limited to the 572 respondents reporting the number of units placed in the past five years. Since respondents did not answer every question, the number of respondents (Frequency) for each category is shown in the table.

Table 1.10: Survey Responses With One or More HUD-Code Units Placed in the Past Five Years

UNITS PLACED	FREQUENCY	PERCENT
1–10	191	33.4%
11–30	172	30.1%
31–50	64	11.2%
51+	145	25.3%
Total	572	100%

As with the earlier comparison of the association of by-right and permit-park regulations with the likelihood of having no or some units placed, there was no association between these regulation approaches and the number of units placed (Table 1.11).

Table 1.11: Units Placed by Zoning Restriction

UNITS PLACED	ZONING RESTRICTION		
	By-right	Permit or in Park	Total
1–10	34.4%	33.0%	191
11–30	32.3%	26.7%	168
31–50	8.2%	14.7%	64
51+	25.2%	25.6%	144
Total	100.0%	100.0%	
N	294	273	567

Not Sig.

As suggested earlier, the approval of new HUD-Code parks or subdivisions appears to dramatically increase the placement of units (Table 1.12). Jurisdictions approving new parks were twice as likely to have more than 50 units placed in the past five years than those not approving new parks. As shown in Table 1.7 previously, by-right jurisdictions were slightly less likely to approve parks than jurisdictions restricting units with special permits or park locations (15% to 20%).

Table 1.12: Units Placed by New Parks Approved

UNITS PLACED	YES	NO	TOTAL
1–10	10.9%	38.5%	191
11–30	27.7%	30.8%	172
31–50	15.8%	10.0%	63
51+	45.5%	20.7%	143
Total	100.0%	100.0%	
N	101	468	569

Sig. .000

Table 1.13 provides additional support to viewing new HUD-Code park development as a means of promoting manufactured housing. The table provides the distribution for the number of HUD-Code units placed in the past five years according to the percent of units placed in HUD-Code parks. Communities where the percent of units placed in HUD-Code parks is very low (<25%) are more likely than others of having only 1–10 units placed (43.7%) and much less likely of having 51 or more units placed (15.8%). But the relationship between HUD-Code parks and units placed is not linear. Communities where placements are heavily concentrated in HUD-Code parks (90% or more) have the second highest percent (26.5) of placing only a few units (1–10) and the second lowest percent (30.1) of placing a large number of units (51+). The communities with higher levels of HUD-Code placements are those with more balance between placements in HUD-Code parks and in traditional subdivisions as infill or an alternative to site-built homes.

Table 1.13: Units Placed by Percent in HUD-Code Parks

UNITS PLACED	PERCENT IN HUD-CODE PARKS						
	0–24%	25–49%	50–74%	75–89%	90%+	Total	N
1–10	43.7%	18.5%	10.5%	13.3%	26.5%	31.7%	151
11–30	33.5%	25.9%	36.8%	30.0%	24.7%	30.0%	143
31–50	7.0%	11.1%	13.2%	20.0%	18.7%	12.6%	60
51+	15.8%	44.4%	39.5%	36.7%	30.1%	25.6%	122
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	476
N	215	27	38	30	166	476	

Sig. .000

Table 1.14 provides the complementary perspective in terms of the percent of units placed as infill units. Again, a higher number of units placed (in any location) is associated with communities achieving a balance between infill and other locations (particularly parks).

Table 1.14: Units Placed by Percent Infill

UNITS PLACED	PERCENT INFILL						
	0–24%	25–49%	50–74%	75–89%	90%+	Total	N
1–10	33.8%	14.3%	20.8%	26.7%	44.8%	32.0%	151
11–30	28.6%	46.9%	41.7%	30.0%	39.7%	32.6%	154
31–50	13.5%	8.2%	8.3%	13.3%	8.6%	12.1%	57
51+	24.1%	30.6%	29.2%	30.0%	6.9%	23.3%	110
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	472
N	311	49	24	30	58	472	

Sig. .05

Table 1.15 shows that although this mix can include placements in single-family zones (aside from infill), very few communities (only 35 of those responding) had 25 percent or more of their new HUD-Code units placed in single-family zones. These communities were more likely to reach the 51+ placement level, but the association between units placed and the percent placed in single-family zones is not statistically significant. This suggests that the best approach to increasing the supply of HUD-Code homes emphasizes parks and infill somewhat more so than placement in single-family zones.

Table 1.15: Units Placed by Percent of Units in Single-family Zones

UNITS PLACED	PERCENT IN SINGLE-FAMILY ZONES			
	0–24%	25+%	Total	N
1–10	31.2%	20.0%	30.2%	127
11–30	31.9%	37.1%	32.4%	136
31–50	12.7%	5.7%	12.1%	51
51+	24.2%	37.1%	25.2%	106
Total	100.0%	100.0%	100.0%	420
N	385	35	420	

Not Sig.

Survey respondents were also asked if their communities promoted the use of HUD-Code homes through any special incentives (Table 1.16). Although only 11 responded that they provide incentives, mostly through targeting redevelopment and infill (n=9) and with the use of CDBG, HOME or other federal funds (n=7), these communities were substantially more likely to have had 51+ units placed in the past five years (63.6%) compared with those not providing incentives (25.2% from Table 1.15). The success of these 11 communities suggests the benefit of promoting the use of HUD-Code homes with the resources provided in other HUD programs.

Table 1.16: Units Placed by Promotion Through Incentives

UNITS PLACED	PROMOTES HUD-CODE HOMES WITH INCENTIVES			
	Yes	No	Total	N
1–10	27.3%	33.4%	33.3%	190
11–30	9.1%	30.5%	30.1%	172
31–50	0.0%	11.4%	11.2%	64
51+	63.6%	24.6%	25.4%	145
Total	100.0%	100.0%	100.0%	571
N	11	560	571	

Sig. .05

Only two of the respondents' ratings of potential barriers to HUD-Code units were statistically associated with the number of units placed (Table 1.17): not much land (built out) and insufficient demand. Both of these are market barriers rather than regulatory barriers. It would appear that regulatory barriers are associated more with whether jurisdictions have no or any HUD-Code units, while market barriers might have a greater role in determining the number of units that are placed in a community.

Table 1.17: Number of HUD-Code Units by Selected Barriers

SELECTED BARRIERS	NUMBER OF HUD-CODE UNITS					
	1–10	11–30	31–50	51+	Total	N
Statistically Significant Associations						
Not much land—Built out (.000)						
Not a barrier	28.2%	32.4%	12.0%	27.4%	100.0%	358
Significant barrier	47.8%	25.4%	8.7%	18.1%	100.0%	138
Insufficient demand (.000)						
Not a barrier	30.2%	31.0%	13.1%	25.7%	100.0%	381
Significant barrier	56.7%	23.9%	4.5%	14.9%	100.0%	67
Not Statistically Significant						
Zoning (Not sig.)						
Not a barrier	33.8%	30.8%	10.0%	25.5%	100.0%	400
Significant barrier	34.2%	28.9%	14.5%	22.4%	100.0%	152
Subdivision regulations (Not sig.)						
Not a barrier	32.4%	29.9%	10.8%	26.9%	100.0%	435
Significant barrier	37.6%	34.4%	11.8%	16.1%	100.0%	93
Architectural design standards (Not sig.)						
Not a barrier	33.2%	32.1%	9.8%	24.9%	100.0%	389
Significant barrier	40.0%	28.0%	6.0%	26.0%	100.0%	50
Citizen opposition (Not sig.)						
Not a barrier	31.8%	30.0%	10.4%	27.9%	100.0%	337
Significant barrier	32.9%	32.4%	13.3%	21.4%	100.0%	173
Historic district regulations (Not sig.)						
Not a barrier	30.6%	32.4%	10.3%	26.7%	100.0%	281
Significant barrier	39.0%	28.1%	9.6%	23.3%	100.0%	146
High land costs (Not sig.)						
Not a barrier	31.5%	33.8%	12.7%	22.0%	100.0%	314
Significant barrier	34.6%	26.0%	9.1%	30.3%	100.0%	208
No new HUD-Code parks approved (Not sig.)						
Not a barrier	32.0%	28.6%	13.4%	26.0%	100.0%	269
Significant barrier	34.6%	28.8%	10.3%	26.3%	100.0%	156

The examination of bi-variate associations as done in this section can help point to potential relationships that influence the placement of HUD-Code homes, but can also mask interrelationships between several variables and measures not included in the survey. The multivariate models presented in the next section on the impact of regulatory barriers on the supply of new manufactured homes provide more exacting and thorough tests of the associations suggested so far.

Regulatory Barriers and the Supply of New Manufactured Homes

This section describes the approach to estimating the impact of local regulatory barriers on the supply of new manufactured homes. A general discussion of the empirical issues that arise when

estimating such a model precedes a discussion of the data used in the analysis and an examination of the results.

Estimating the Supply of Manufactured Housing

Empirical models of housing supply typically model the number of new residential housing starts as a function of variables influencing the price and cost of producing housing. In a dynamic model of housing supply, the flow of new construction in a given time period depends on the sensitivity of construction activity to changes in the price of housing. If the supply of housing is inelastic (that is, insensitive to price changes), producers respond to economic shocks with a considerable lag, leaving a short-run gap between actual and equilibrium quantities of housing. This type of model has come to be known as the "stock adjustment model" of housing supply and has been widely used to estimate housing supply elasticities (DiPasquale and Wheaton 1994).

Several unique features of the manufactured housing market complicate any attempt to empirically estimate the supply of this housing type. Unlike traditional site-built homes, manufactured units are constructed off-site, often transported to a dealer where sales are conducted, and finally placed on-site following a sale. This feature of the manufactured housing market has implications for both the measure of housing supply and the exogenous factors which likely influence housing supply. Regarding the measure of housing supply itself, publicly-available sources such as the U.S. Census of Construction provide information on shipments from plants to dealers and ultimately placements on site, but this information is only available as state-level aggregates. Neither shipment nor placements information are publicly available at the jurisdiction-level.

A second important distinction between manufactured housing and single-family homes is the difference in the cost of supplying units. Since almost all of the costs associated with constructing a single-family home are incurred on site, in the form on labor, land, and materials, it is relatively straightforward to estimate regional construction cost indices which vary as a function of these inputs. Costs are more complicated in a model of manufactured housing supply, however, because on-site labor requirements are minimal, land costs are typically lower given that manufactured homes tend to be constructed in rural areas, and almost all material costs are incurred off-site. Furthermore, an important additional cost of producing manufactured housing units is the cost of transporting units from the plant to the final dealer or home site. Given these idiosyncrasies, regional construction cost indices such as those available from Means or McGraw Hill are less accurate measures of the true costs facing manufactured housing producers.

A final distinction that is particularly relevant for this analysis is the difference in the manner in which regulations typically treat manufactured housing relative to single-family units. Traditional site-built single-family residential units are easy to identify and define, and almost all zoning ordinances are designed with the explicit purpose of protecting this housing type from incompatible land use interactions. Such is not the case with manufactured housing. Manufactured housing units are defined in a variety of ways within zoning ordinances and are usually treated differently from single-family homes. Furthermore, approval of manufactured housing units often involves a different review process that is administrative in some cases and

legislative in others. These subtleties must be carefully considered when quantifying the impact of zoning ordinances on the supply of manufactured homes.

In the empirical analysis that follows, the basic reduced-form housing supply model developed by DiPasquale and Wheaton (1994) is modified to incorporate these factors. Given the difficulties associated with acquiring information on the number of manufactured home placements within individual communities, the supply of units is measured using a variety of proxy variables. The supply of units is modeled as a function of relevant supply determinants identified in the literature, including regional controls, population density (a proxy for land costs), and the number of manufacturing plants within 500 miles (a proxy for shipment costs from the manufactured housing plant to the final site). Demand-side price influences include median family income and the value of manufactured homes relative to single-family homes. Since adjustments to the stock in the form of new supply occur only through modifications to the existing stock plus the number of new units added through shipments, both of these factors are included as exogenous controls to capture the influence of the stock adjustment process. Finally, a measure of regulatory barriers is incorporated to capture the influence of regulatory constraints on the number of new units supplied. The next section describes the data employed to measure each of these variables.

The Data

This analysis is conducted for a sample of CDBG-eligible communities, using the most recent CDBG eligibility criteria. This sample selection criterion has three advantages: (1) it defines a sample of communities for which federal housing and urban development policy has been established, thus making the communities a relevant object of federal policy analysis; and (2) the sample criteria ensure that the communities are roughly homogeneous in terms of population size, geography, and metropolitan designation; and (3) since almost all studies of manufactured housing focus on rural communities, this sample selection criterion provides new information on an understudied dimension of the manufactured housing market. There were a total of 1,839 communities that were deemed CDBG-eligible for inclusion in the sample.

The data used in this analysis are derived from a variety of sources. Three different sources were relied on to construct four different measures of manufactured housing supply. First, data were obtained on the flow of new manufactured housing shipments from data collected by the Institute of Building Technology and Safety (IBTS) for the HUD-Code inspection program. These data, available upon contractual arrangement with IBTS, are available at the local jurisdiction-level where homes are shipped for all years between 2000 and 2005. The shipments measure is used both as a dependent variable, to determine if regulations influence shipments from plants, and as an independent variable (lagged to avoid endogeneity concerns) in models explaining placements, given that placements are likely to adjust in response to the existing supply of manufactured homes which also include inventories built up through shipments.

Since homes may be placed in a variety of locations once shipped, separate measures of housing supply that reflect the actual number of units placed were identified. The first proxy for placements is the total number of manufactured home sales (loans) as reported in the Home Mortgage Disclosure Act (HMDA) data. These data were made available in 2004 for the first

time, so data were pooled from 2004 and 2005 to construct a two-year count of manufactured home sales. Although sales totals reflect both the number of existing units sold as well as the number of newly-placed units sold, placements and total sales are probably highly correlated at the jurisdiction-level. In communities with few existing units, nearly all sales would reflect new placements. If communities with more existing sales are also more favorably disposed to approving new units, the total sales and new placements would be correlated.

The final chosen measure of manufactured housing supply is taken from the survey described in the previous section. Two supply measures were constructed from the responses to this survey. The first measure is a dummy variable equal to 1 if the respondent responds "yes" or "probably yes" to the question, "In the past five years has your jurisdiction approved the placement or location of any new HUD-Code homes?" The second supply measure is an ordinal scale that identifies the number of units placed, based on responses to the question, "Approximately how many HUD-Code homes have been placed or located in your jurisdiction in the past five years?" Since the assumption was made that due to limited recall, respondents would only be able to identify actual unit totals within particular ranges, the categories for this variable include the following ranges: 0, 1–10, 11–20, 21–30, 31–40, 41–50, 51–99, 100+. Since some categories had limited response ranges, a few categories were combined to estimate the regression model described in the next section, given that the model requires a sufficient number of responses per category to estimate the relevant regression coefficients. The final category ranges, after combining categories with low response rates, include the following: 0, 1–20, 21–50, 50+.

Since each of these supply measures has unique advantages and disadvantages, all measures were examined to determine the robustness of results to different measures of supply. One could argue that shipments should be relatively insensitive to regulatory characteristics, given that knowledge of regulations at the plant level is likely minimal, and local dealers can simply avoid restrictive local regulations by placing units in adjacent less-restrictive communities. For this reason, it is also useful to examine actual measures of placements. The HMDA proxy is an indirect measure, but it also reflects the supply of existing units as well as the turnover rate in units due to mobility. As a result, it is at best an indirect proxy for placements. The most direct measures of placements are the ones constructed from responses to the survey questions described above, although the accuracy of these data are limited by the recall ability of local respondents and should be interpreted with this caution in mind.

The measure of regulatory barriers is also obtained from the manufactured housing survey described above. Using this source, two types of regulatory barriers variables were constructed:

- *By-Right Zoning Indicator*: This variable is equal to 1 if respondents placing manufactured homes during the last five years answered "yes" when asked if the following best describes the jurisdiction's regulations on HUD-Code homes: "HUD-Code homes are allowed as a by right use in single-family zones, but there have been no requests to locate HUD-Code homes in the past five years." This variable is also equal to 1 if those not placing manufactured homes answered "yes" to the question "Does your jurisdiction allow HUD-Code homes as a by right use in one or more single-family zones if design standards are met?" The variable is equal to 0 otherwise.

- *Measures of Perceived Regulatory Barriers*: The question, "For your jurisdiction, please rate the following potential barriers to HUD-Code homes:" was used to construct a vector of variables. Each variable in the vector is equal to 1 if a given issue is seemed a "significant barrier" or worse and 0 otherwise. The issues posed for consideration by respondents include: fees, permits, deed restrictions/covenants, wind standards, snow load standards, fire codes, zoning codes, subdivision regulations, architectural design standards, citizen opposition, environmental regulations, historic district regulations, high land costs, not much land (built-out), no new manufactured housing communities approved, insufficient demand for manufactured housing.

Each of these measures provides different information on the content of local regulations. The by-right zoning indicator is an objective measure of actual regulatory requirements, but it does not capture the extent to which the regulation, as implemented in practice, actually constrains the supply of manufactured units. The measures of perceived regulatory barriers are employed for this purpose, with the caveat that these measures reflect the subjective interpretation of respondents.

In addition to the data obtained from the survey, several independent variables were included from the 2000 U.S. Census of Population and Housing and the 2004 Census Population Estimates, including regional dummy variables, population density, population growth rate between 2000 and 2004, median family income in 2000, the total number of existing manufactured housing units in 2000, and the median value of manufactured homes relative to the median value of single-family homes.

The final independent variable is the number of manufactured housing plants within 500 miles of each CDBG-eligible community. The 500 mile radius was chosen both to reflect the reasonable distance that a home could be shipped in a single day and to ensure sufficient variability in the count variable. To measure the proximity between each community in the sample and nearby manufactured housing plants, Arc-GIS was employed to construct 500 mile circles around the centroid of each CDBG-eligible community allowing the number of manufactured housing plants that fell within each circle to be counted. The data on the location of manufactured housing plants were provided by IBTS.

Out of the initial universe of 1,839 CDBG-eligible communities, 940 responded to the regulatory barriers survey. Of these, several communities did not respond to all questions used in the analysis and had to be dropped from the final sample. Furthermore, manufactured housing shipments data were not available for some communities in the sample. While the final sample size used in the regression analysis varies from model to model, the final sample sizes generally range from 547 to 843, which is sufficiently large to ensure efficient estimates of the regression parameter coefficients. Table 1.18 below provides descriptive statistics for all variables used in the regression analysis, including the sample sizes associated with each variable.

Table 1.18: Descriptive Statistics for Variables in Regression Analysis

VARIABLES	DESCRIPTIVE STATISTICS				
	N	Mean	Std. Dev.	Min	Max
MH shipments, 2000–05	843	393.686	684.089	0.000	8233.000
Total MH loans, 2004–05	843	128.668	247.847	0.000	3519.000
MH units placed	818	0.681	0.466	0.000	1.000
(Recoded) MH placements scale	843	2.047	1.052	1.000	4.000
Northeast region	843	0.108	0.310	0.000	1.000
Midwest region	843	0.281	0.450	0.000	1.000
South region	843	0.364	0.481	0.000	1.000
Population density	830	2756.609	2485.024	11.300	26403.810
Population growth rate, 2000–04	843	4.134	9.195	-18.744	90.947
Median family income (2000 $s)	843	46167.780	13339.980	21677.000	109455.000
Total existing MH units, 2000	843	897.263	1962.430	0.000	30984.000
Median value MH homes / Median value SF homes	843	0.303	0.256	0.000	2.818
Number of MH plants within 500 miles	843	11.275	12.974	0.000	54.000
MH is treated as a by-right use in SF zones	843	0.437	0.496	0.000	1.000
Fees are significant MH barrier	682	0.034	0.181	0.000	1.000
Permits are significant MH barrier	712	0.067	0.251	0.000	1.000
Deed restrictions/covenants are significant MH barrier	617	0.358	0.480	0.000	1.000
Wind standards are significant MH barrier	663	0.109	0.311	0.000	1.000
Snow load standards are significant MH barrier	547	0.051	0.221	0.000	1.000
Fire codes are significant MH barrier	683	0.078	0.268	0.000	1.000
Zoning codes are significant MH barrier	767	0.347	0.476	0.000	1.000
Subdivision regulations are significant MH barrier	715	0.227	0.419	0.000	1.000
Architectural design standards are significant MH barrier	611	0.185	0.389	0.000	1.000
Citizen opposition is significant MH barrier	696	0.409	0.492	0.000	1.000
Environmental regulations are significant MH barrier	624	0.035	0.185	0.000	1.000
Historic district regulations are significant MH barrier	587	0.365	0.482	0.000	1.000
High land costs are significant MH barrier	713	0.452	0.498	0.000	1.000
Not much land (built-out) is significant MH barrier	678	0.344	0.475	0.000	1.000
No new MH communities approved is significant MH barrier	599	0.457	0.499	0.000	1.000
Insufficient demand is significant MH barrier	624	0.271	0.445	0.000	1.000

Results Using the By-Right Zoning Indicator of Regulatory Restrictiveness

The discussion begins with the results from models which rely on the by-right zoning indicator of regulatory restrictiveness. This variable was included along with the others described above in models which rely on the four separate measures of manufactured housing supply described above as the relevant dependent variables. The results of these regressions are displayed in Tables 1.19 and 1.20. The models employing the shipments variable and manufactured home sales variable as dependent variables were estimated using ordinary least squares (OLS), and the models employing the binary indicator of placements as a dependent variable were estimated using logit regressions. Since the manufactured housing placements scale is measured on an

ordinal scale, this model is estimated using a generalized ordered logit model. Ordered logit models account for the ordinal nature of the data, as opposed to ordinary least squares, which treats the dependent variable as a continuous measure. Generalized ordered logit models are employed for two reasons. First, the models provide separate coefficients for each level of the dependent variable which allows for determining if regulatory barriers have an impact on placements beyond the 0–1 threshold. Second, Chi-Square tests (not reported for brevity) soundly reject the proportional odds restriction placed on the usual ordered logit model in favor of the generalized model which relaxes this restriction.

Table 1.19: Regression Results, By-Right Zoning Indicator of Regulatory Restrictiveness

MEASURE OF MH SUPPLY	SHIPMENTS		LOANS		UNITS PLACED		
Independent Variables	**Coefficient**	**Signifi-cance**	**Coefficient**	**Signifi-cance**	**Coefficient**	**Odds Ratio**	**Signifi-cance**
Constant	431.161	***	-44.659	*	3.431		
Northeast region	-61.022		-2.923		-1.398	0.247	***
Midwest region	-51.497		-6.685		-0.839	0.432	***
South region	339.263	***	35.496	**	-0.858	0.424	***
MH shipments, 2000–05			0.098	***	2.2E-04	1.0002	
Population density	-0.019	**	0.002		-3.1E-04	0.9997	***
Population growth rate, 2000–04	-0.221		-0.354		-0.007	0.993	
Median family income (2000 $s)	-0.005	***	0.001	**	-4.1E-05	0.99996	***
Total existing MH units, 2000	0.139	***	0.084	***	2.3E-04	1.0002	**
Median value MH homes / Median value SF homes	-61.342		-1.245		-3.1E-04	0.9997	
Number of MH plants within 500 miles	3.277	**	-0.042		0.004	1.004	
MH is treated as a by-right use in SF zones	-3.046		5.765		1.356	3.882	***
R-squared	0.2814		0.675		0.1966		
N	830		830		807		

*** p < .01; ** p < .05; * p < .10

NOTE: Shipment and loans models rely on OLS; Units placed models employ logistic regression.

R-squared for logit models refers to the pseudo R-squared.

Table 1.20: Generalized Ordered Logit Regression Results, MH Units Placement Scale

PLACEMENT SCALE	MEASURE OF MH SUPPLY			
Outcome Category	**Independent Variables**	**Coefficient**	**Odds Ratio**	**Signifi-cance**
At least 1 MH unit placed in last 5 years				
	Constant	3.007		
	Northeast region	-1.233	0.292	***
	Midwest region	-0.907	0.404	***
	South region	-0.647	0.524	**
	MH shipments, 2000–05	1.6E-05	1.00002	
	Population density	-2.9E-04	0.9997	***
	Population growth rate, 2000–04	-0.002	0.998	
	Median family income (2000 $s)	-4.1E-05	0.99996	***
	Total existing MH units, 2000	1.5E-04	1.0002	*
	Median value MH homes / Median value SF homes	-0.174	0.840	
	Number of MH plants within 500 miles	0.006	1.006	
	MH is treated as a by-right use in SF zones	1.596	4.935	***
More than 20 MH units placed in last 5 years				
	Constant	0.437		
	Northeast region	-1.697	0.183	***
	Midwest region	-1.343	0.261	***
	South region	-0.680	0.507	***
	MH shipments, 2000–05	2.5E-04	1.0002	*
	Population density	-2.8E-04	0.9997	***
	Population growth rate, 2000–04	-0.020	0.981	**
	Median family income (2000 $s)	-1.2E-05	0.99999	
	Total existing MH units, 2000	3.7E-04	1.0004	***
	Median value MH homes / Median value SF homes	-0.562	0.570	
	Number of MH plants within 500 miles	0.011	1.011	*
	MH is treated as a by-right use in SF zones	0.555	1.742	***
More than 50 MH units placed in last 5 years				
	Constant	-1.948		
	Northeast region	-1.089	0.337	
	Midwest region	-1.388	0.250	***
	South region	-0.212	0.809	
	MH shipments, 2000–05	2.2E-04	1.0002	
	Population density	-2.4E-04	0.9998	***
	Population growth rate, 2000–04	-0.004	0.996	
	Median family income (2000 $s)	1.4E-05	1.00001	
	Total existing MH units, 2000	3.6E-04	1.0004	***
	Median value MH homes / Median value SF homes	-1.511	0.221	*
	Number of MH plants within 500 miles	0.020	1.020	**
	MH is treated as a by-right use in SF zones	0.526	1.693	**
Pseudo R-squared		0.158		
N		830		

*** p < .01; ** p < .05; * p < .10

The sample sizes in these models range from 807 to 830, and the R-squared measures range from .158 to .675. Although .158 is on the low end of an acceptable measure of fit, this measure along with the goodness of fit measure for the logit model are based on Pseudo-R-squared measures calculated for maximum likelihood estimation. These measures tend to be a bit lower than the actual R-squared measures reported for ordinary least squares (OLS) models.

As might be expected, the results suggest that the determinants of manufactured housing supply are sensitive to the measure of supply employed. When measuring the supply in terms of the number of shipments or manufactured housing loans, the South captures a larger share of manufactured housing units. However, when placements are taken as the measure of supply, supply is higher in the West. One explanation for this apparently contradictory finding is that the South exhibits a larger inventory of unplaced units and a larger number of existing manufactured housing sales relative to sales of new units. Further analysis is needed to determine if this theory is correct.

When the flow of units is taken as an independent variable explaining the number of recent sales and units placed, flows have a strong impact on sales, but only influence placements within a relatively moderate (20+ unit) range. This suggests that inventory shortages do not constrain unit placements unless the shortages are moderately large.

Several community characteristics influence manufactured housing supply. Population density is negatively associated with manufactured housing supply in three of the four models. This implies that on average, manufactured housing is a more feasible option in more suburban CDBG-eligible jurisdictions where density is low, likely due to the relatively lower land costs in those areas and possibly higher demand for this housing type. In all models but the manufactured housing sales model, median family income is negatively associated with manufactured housing supply, as might be expected given that manufactured housing units typically sell for lower prices than equivalent site-built homes. The positive impact of income on manufactured housing loans possibly reflects the influence of income on *total* home loans, which are likely also higher in areas with higher income. In all cases, manufactured housing supply is positively associated with a higher existing supply of manufactured housing. This suggests that manufactured housing does not follow the traditional stock adjustment process that typically characterizes the supply of site-built homes. In the case of manufactured housing, the existing stock is more likely an indicator of community-level tastes for manufactured housing, as well as the historical regulatory stance of the community in allowing the placement of such units. Interestingly, the relative price of manufactured housing does not influence supply until a higher (50+) placements threshold is reached. Beyond this threshold, higher prices are equated with lower levels of supply. It is possible that this estimate reflects the endogeneity of housing prices in the model (that is, increased housing supply is associated with relatively lower prices rather than the reverse). Finally, proximity to manufactured housing plants influences the number of shipments but does not influence other measures of housing supply. This is somewhat expected, given that shipment costs likely have a much larger impact on the flow of homes rather than the stock of homes sold and placed at any given time.

Regarding the influence of the policy variable of interest, allowing manufactured housing as a by right use in single-family zones has no influence on shipments or sales. This is somewhat

expected, given that shipments are largely influenced by inventory adjustment considerations for a given level of demand, while sales reflect the turnover in existing units as well as the number of new units sold. By-right zoning for manufactured housing is shown to have a positive impact on the probability of a new unit being placed, however. Also, comparing the logit and the generalized ordered logit models, the impact is largest at the 0–1 threshold. The relative impact of by-right allowances on the odds of placing one unit or more is three times higher than the odds of placing more than 20 units. Above the 50 unit threshold, the impact of by-right allowances diminishes in magnitude even further, although it is still statistically significant. This result suggests that by-right zoning of manufactured housing units has a larger impact on the likelihood of a small number of units being placed. At higher numbers of placements, other local economic factors become more important in determining the supply of manufactured housing units.

Results Using the Measures of Perceived Regulatory Barriers

The models discussed in this section rely on the vector of perceived regulatory barriers indices described above. Separate models are estimated for each different regulatory barriers indicator, given that each is likely highly correlated. The discussion focuses on a comparison of the relative influence of the regulatory barriers coefficients for each different measure of manufactured housing supply. The section begins with a discussion of the regulatory barriers coefficients from models employing the number of shipments as the dependent variable (Table 1.21).

Table 1.21: Summary of MH Shipment Models

REGULATORY BARRIERS	STATISTICS			
	N	R-squared	Coefficient	Significance
Fees	673	0.283	-142.619	
Permits	703	0.282	-79.351	
Deed restrictions/covenants	609	0.287	-21.452	
Wind standards	654	0.289	-138.197	*
Snow load standards	538	0.275	155.520	
Fire codes	674	0.250	-138.243	
Zoning codes	758	0.272	-18.768	
Subdivision regulations	706	0.289	-125.938	**
Architectural design standards	603	0.283	-64.432	
Citizen opposition	688	0.275	53.979	
Environmental regulations	616	0.284	-201.085	
Historic district regulations	579	0.293	56.570	
High land costs	704	0.287	-50.282	
Not much land (built-out)	671	0.292	-62.906	
No new MH communities approved	592	0.291	3.168	
Insufficient demand for MH	616	0.241	-36.028	

*** p < .01; ** p < .05; * p < .10

The R-squared measures range from .24 to .29, which is comparable to the shipment model described above. Some of the models presented in this section tend to have lower sample sizes due to the relatively higher number of missing responses to the perceived regulatory barriers questions.

Regarding the impact of regulatory barriers, only wind standards and subdivision regulations have a statistically significant negative impact on the number of shipments to localities. Of the two, it is possible that the significance of wind standards reflects regional variation given that some regions are much more wind-prone than others. It is rather expected to find that regulatory barriers have a limited impact on shipments for reasons discussed above. It is not clear why the only factor of importance would be subdivision regulations, however. Perhaps this regulatory feature is more difficult for dealers to avoid by placing in neighboring jurisdictions given that subdivision regulations are likely similar from jurisdiction to jurisdiction.

Turning now to a summary of the regression coefficients from models employing the number of manufactured housing loans as the dependent variable, the R-squared values are again much higher. This is likely due to the inclusion of the flow variable as a determinant of sales. In these models, one regulatory barrier (snow load standards) is shown to have an unexpectedly positive and statistically significant influence on manufactured home sales. There are two possible explanations for this unexpected finding. First, as with wind load standards, this variable could be capturing unobserved regional characteristics associated with snow-prone areas. However, one would expect that this would bias this coefficient in the negative direction and not the positive direction since nearly all snow-prone regions of the country tend to exhibit much lower levels of manufactured housing activity. It is also possible that in snow-prone areas the absence of standards simply renders manufactured housing an infeasible housing option. Further research is needed to understand this unexpected finding.

The other statistically significant coefficients do display expected signs, however. Burdensome zoning codes, architectural design standards, and lack of buildable land all serve to reduce the number of manufactured housing sales within a community (Table 1.22). Of these factors, burdensome architectural design standards have the largest dampening effect on sales, possible suggesting that such standards reduce the cost effectiveness and affordability of this housing option in many communities.

Table 1.22: Summary of MH Loan Models

REGULATORY BARRIERS	STATISTICS			
	N	R-squared	Coefficient	Signifi-cance
Fees	673	0.671	0.809	
Permits	703	0.669	13.967	
Deed restrictions/covenants	609	0.675	1.467	
Wind standards	654	0.661	-20.656	
Snow load standards	538	0.759	40.033	**
Fire codes	674	0.746	-6.151	
Zoning codes	758	0.669	-32.254	***
Subdivision regulations	706	0.678	-4.915	
Architectural design standards	603	0.674	-38.353	**
Citizen opposition	688	0.668	-4.748	
Environmental regulations	616	0.649	17.872	
Historic district regulations	579	0.673	-4.640	
High land costs	704	0.664	-18.257	
Not much land (built-out)	671	0.662	-28.264	**
No new MH communities approved	592	0.662	2.396	
Insufficient demand for MH	616	0.745	-1.773	

*** p < .01; ** p < .05; * p < .10

Table 1.23 displays a summary of the odds ratios (impact of each independent variable on the odds of observing a value of "1" on the outcome variable of interest) from logit models predicting the probability that a single manufactured housing unit or more will be placed within a given community. The pseudo R-squared values for these models range from .12 to .22, which is comparable to the logit model estimated in the previous section.

Table 1.23: Summary of Logit Models

REGULATORY BARRIERS	STATISTICS			
	N	Pseudo R-squared	Odds Ratio	Significance
Fees	673	0.137	0.369	**
Permits	703	0.147	0.205	***
Deed restrictions/covenants	609	0.129	1.241	
Wind standards	654	0.124	0.775	
Snow load standards	538	0.162	0.381	**
Fire codes	674	0.131	0.289	***
Zoning codes	758	0.165	0.349	***
Subdivision regulations	706	0.147	0.345	***
Architectural design standards	603	0.174	0.334	***
Citizen opposition	688	0.165	0.358	***
Environmental regulations	616	0.141	0.395	*
Historic district regulations	579	0.134	0.850	
High land costs	704	0.164	0.536	***
Not much land (built-out)	671	0.169	0.382	***
No new MH communities approved	592	0.179	0.324	***
Insufficient demand for MH	616	0.217	0.185	***

*** p < .01; ** p < .05; * p < .10

When relying on an actual measure of placements as the dependent variable, almost all regulatory barriers were found to exhibit a statistically significant impact on the probability that a unit will be placed. Recalling that odds ratios above 1 indicate that a given variable increases the odds that a unit will be placed, while odds ratios below 1 suggest the opposite, burdensome fees, permits, snow load standards, fire codes, zoning codes, subdivision regulations, architectural design standards, citizen opposition, environmental regulations, high land costs, not much land, no new manufactured housing communities approved, and insufficient demand for manufactured housing all were found to reduce the odds of unit placement. Of these factors, insignificant demand for manufactured housing has the largest negative impact on the odds of unit placement. Among regulatory factors, the overall permitting system, when perceived to be burdensome, has the largest negative impact on unit placement. All statistically significant impacts are quite large in magnitude, however.

Table 1.24 displays a summary of the results from generalized ordered logit models predicting the conditional probability that a community receives a number of placements that falls within a higher category on the manufactured housing scale relative to the next lowest category. Again, the results from Chi-Square tests (not shown for brevity) suggest that the generalized ordered logit model is superior to the basic ordered logit model which relies on the proportional odds assumption. The pseudo R-squared values for these models range from .10 to .13, which is slightly lower but comparable to the ordered logit model described in the previous section.

Table 1.24: Summary of Generalized Ordered Logit Models

REGULATORY BARRIERS	MODEL SUMMARY		IMPACT OF REGULATORY BARRIER PRESENCE ON ODDS OF PLACING					
	N	Pseudo R-squared	>0 MH Units		>20 MH Units		>50 MH Units	
			Odds Ratio	Signifi-cance	Odds Ratio	Signifi-cance	Odds Ratio	Signifi-cance
Fees	673	0.111	0.506		0.979		1.901	
Permits	703	0.110	0.287	***	0.414	**	0.229	*
Deed restrictions/covenants	609	0.105	1.272		1.259		1.547	*
Wind standards	654	0.105	0.735		0.632		0.561	
Snow load standards	538	0.112	0.421	*	0.392		1.125	
Fire codes	674	0.104	0.358	***	0.612		1.012	
Zoning codes	758	0.119	0.415	***	0.601	***	0.535	**
Subdivision regulations	706	0.113	0.456	***	0.487	***	0.326	***
Architectural design standards	603	0.120	0.397	***	0.560	**	0.867	
Citizen opposition	688	0.115	0.474	***	0.492	***	0.442	***
Environmental regulations	616	0.110	0.621		1.618		2.482	
Historic district regulations	579	0.115	0.913		0.752		1.003	
High land costs	704	0.116	0.593	***	0.785		0.913	
Not much land (built-out)	671	0.124	0.583	***	0.388	***	0.278	***
No new MH communities approved	592	0.128	0.406	***	0.546	***	0.746	
Insufficient demand for MH	616	0.160	0.264	***	0.174	***	0.252	***

*** p < .01; ** p < .05; * p < .10

These models present a more nuanced view of the impact of regulatory barriers, because they describe how barriers influence the number of units across the distribution of the placements. Again, insufficient demand has the largest dampening effect on unit placement. This effect is rather consistent across all categories of units placed. The built-out nature of the community has an increasing effect over the distribution of units placed. This is somewhat expected, given that the land scarcity constraint is likely higher for large-scale developments compared to smaller scale developments. Among the regulatory influences, the overall permitting system again was found to exhibit the largest impact at lower levels of units placed. The effect of permits exhibits a more nonlinear trend across the distribution of units placed, however, with the influence diminishing rather significantly over moderate levels of units placed. Snow load standards, fire codes, zoning regulations, and architectural design standards exhibit effects that either become statistically insignificant at higher levels or diminish in magnitude. Such is not the case with subdivision regulations, which exhibit larger impacts at higher levels of units placed. An unexpected finding is that deed restrictions and covenants actually increase the odds of a higher number of units being placed, although this effect is only statistically significant at the .10 level.

Summary of Major Findings from the Empirical Analysis

State and local regulatory barriers to placement of manufactured housing were analyzed through three approaches:

1. An examination of regional trends in manufactured housing shipment activity.

2. An analysis of the impact of state statutes defining permissible regulations for local governments.

3. An analysis of the impact of local regulatory barriers on placement of manufactured housing.

The following summarizes the major findings from each of these three analyses.

Regional Trends in Shipment Activity

Over the 2000 to 2005 period, there were significant regional differences in manufactured housing shipment activity. The South continued to attract the largest share of shipments, although this share declined somewhat since 2000. The relative decline in shipments to southern states was accompanied by a relative decline in retention of the existing stock of units. The Midwest also saw declining shares of shipments over the 2000–05 period while the Northeast and West saw consistently low levels of shipment activity.

The Impact of State Manufactured Housing Statutes

Almost all states address the regulation of manufactured housing, and more than half of states require localities to allow HUD-Code units somewhere within local jurisdictions. The majority of states do not address additional local regulations governing design, installation, lot improvements, and/or placement on site, however.

Categorizing states by the degree to which states promote the use of manufactured housing by local governments, those that most strongly promoted HUD-Code usage captured the highest share of shipments over the 2000 to 2005 period. Furthermore, the gap between strong states and other states has grown over time. At the state level, this suggests that requirements to enact accommodating local standards appear to be having an influence on local shipment activity.

Analysis of Local Regulatory Barriers

Communities were separated into three primary categories: those with no units placed, those with only a few units placed, and those that manage to place a large number of units. Extreme exclusion of HUD-Code homes was fairly rare among the respondent communities, with only 12.2 percent of respondents to a national survey indicating that their jurisdictions never or rarely allow HUD-Code homes to be used. Many of the jurisdictions that have not placed HUD-Code units in the past five years do allow such units. This suggests that both regulatory practices and market factors are important in determining whether developers choose to include HUD-Code units in new housing developments.

Among those communities placing manufactured housing units in their communities, the majority allow HUD-Code units as a by-right use, either with or without additional requirements that ensure consistency with other single-family residential units. Further analysis of these design requirements suggests that most standards are clear, nondiscretionary, and easy to meet.

The analysis also suggests that the best approach to increasing the supply of HUD-Code homes would be to promote the use of manufactured housing in HUD-Code parks and for infill in traditional subdivisions, along with allowing by-right placement in new single-family subdivisions. Jurisdictions approving new parks were twice as likely to have more than 50 units placed in the past five years than those not approving new parks. Finally, a higher number of units placed (in any location) is associated with communities achieving a balance between infill and other locations (particularly parks).

However, jurisdictions with by-right regulations were less likely to approve new parks than those requiring special permits or restricting units to special districts. These findings suggest that to promote the supply of HUD-Code homes, regulations protecting by-right use in traditional single-family districts and infill locations should not be viewed as replacing regulations allowing the development of subdivisions devoted to manufactured housing.

Among the perceived barriers to placing manufactured housing in communities, high land costs was most frequently selected as a significant or preventive barrier, followed by citizen opposition, no new parks, zoning codes, and not much land. Fees, permits, wind codes, snow load standards, fire codes, and environmental regulations were among the least likely items to be identified as regulatory barriers.

A multivariate statistical analysis suggests that the placement of local HUD-Code units is influenced by a variety of market factors, including regional location, population density, median family income, the existing inventory of manufactured housing units, and proximity to manufactured housing plants. Regarding the influence of regulatory barriers, by-right zoning of manufactured housing units influences the likelihood of a small number of HUD-Code units being placed. At higher numbers of placements, other local economic factors become more important in determining the supply of manufactured housing units.

In models that measure the impact of regulations and other local constraints in terms of the degree to which they are perceived to be barriers by local officials, almost all regulatory barriers, with the exception of subdivision regulations, zoning, wind standards, and architectural design standards, do not reduce HUD-Code shipments or sales at statistically significant levels. A number of regulatory and market barriers – including burdensome fees, permits, snow load standards, fire codes, zoning codes, subdivision regulations, architectural design standards, citizen opposition, environmental regulations, high land costs, not much land, no new manufactured housing communities approved, and insufficient demand for manufactured housing – reduce the probability that a HUD-Code unit is placed in a community. Among these regulatory influences, the overall permitting system, when perceived to be burdensome, has the largest negative impact on unit placement. Different regulatory barriers have different impacts on unit placement across the distribution of units placed, with almost all exhibiting threshold effects at the 0–1 unit level. This is consistent with the findings discussed earlier which suggest that regulatory barriers are associated more with whether jurisdictions have no or any HUD-Code units, while market barriers have a greater role in determining the number of units that are placed in a community, given that units are allowed.

CASE STUDIES

Introduction

The statistical research and analysis of regulatory and market factors influencing the placement of HUD-Code homes in CDBG-entitlement communities highlights the complexity of the topic. Not only do the survey data and statistical models help identify the complexity of the measurable effects influencing the use of HUD-Code homes, they demonstrate that the majority of variation in the use of HUD-Code homes was not captured in the statistical analysis. Unmeasured variables could help explain the large amount of unexplained variation. In addition, some important effects could be random or so highly contextual that they cannot be adequately measured in quantitative research.

To help expand understanding of the contextual and unmeasured factors influencing the use of HUD-Code homes, four qualitative case studies were conducted. The cases were identified through news stories, industry reports, discussions with advocates and leaders within the manufactured housing and affordable housing industries. They four cases were selected to illustrate a range from state to local efforts spanning public, for-profit and nonprofit development.

The cases include Oakland (California), state of Washington, Pima County (Arizona), and Owensboro (Kentucky). Oakland is one of the premier success stories of the use of manufactured housing in urban infill. Washington recently passed state legislation enabling broader use of manufactured housing after a near three-decade long advocacy effort and the success of several well publicized subdivisions featuring manufactured housing. Pima County profiles efforts to promote manufactured housing in the high-growth area of Tucson and the complexities of placing manufactured units in the expanding suburbs. Owensboro illustrates the ongoing challenges of developing and marketing manufactured housing even within a state with a long reliance on manufactured housing in rural areas and a record of state legislative support. Throughout the case studies, the nonprofit affordable housing sector is shown to play a critical role in promoting the use of manufactured housing.

Lessons Learned from the Case Studies

The prominent lessons provided by these cases include:

- Built-out urban areas can promote affordable redevelopment using manufactured housing on vacant infill lots, as illustrated by Oakland, particularly in cities with the potential to capture an important share of the moderate priced housing market.

- Regulatory reforms should be seen as enabling rather than causing change—regulatory reform is a necessary but not sufficient condition to promote change.

- Competitive advantage (price and quality) and the support of financial and other housing market institutions have to be secured. Nonetheless, the numerical impact of regulatory reforms and promotional efforts is likely to be modest.

- Prominent successes and local initiatives, such as found in several manufactured housing subdivisions in Washington, can help promote statewide legislative reform.

- The nonprofit and public development sectors can be leaders in facilitating change, but the broader impact of national market forces must be recognized and the expectations for impacts need to be realistic.

- Although more units can be placed through the development of manufactured housing subdivisions, acceptance (public, governmental, and market) in high-growth suburban areas will be difficult, but not impossible, as illustrated in Pima.

- Infill in older cities in high-growth metropolitan markets, although likely to reach only modest levels, might prove more fruitful in high-growth markets.

- The potential in lower-cost, lower-growth communities, such as Owensboro, might remain with the rural fringe urban areas more than with urban subdivisions and infill unless greater competitive advantages and public support can be gained.

- The greater potential for developing new manufactured housing subdivisions outside the city could create a higher volume of units but many of these would be considered rural placement rather than urban.

- The nonprofit affordable housing sector could be an important ally in promoting manufactured housing, but the city/suburb, infill and new subdivision mix will depend on local market conditions that create greater competitive advantage for manufactured housing.

- Nonprofit housing organizations can utilize manufactured housing as a means of expanding opportunity for affordable homeownership within urban areas.

Oakland, California Case Study[1]

Introduction

Since 1980, the placement of manufactured homes on individual vacant lots has been a steady activity in the urban setting of Oakland, California over a 27 year period[2]. The current case study covers the overall Oakland experience with manufactured housing following significant city and state regulatory changes in 1980.

Unlike its more glamorous San Francisco neighbor across the Bay, Oakland is blessed with an abundance of relatively level land. The building-friendly landscape facilitated Oakland's development and steady growth from the Gold Rush days of the 1850s until growth waned shortly after World War II. Because of the availability of vacant lots in areas served by developed streets and utilities and because of a forward-looking City Council that adopted favorable ordinances lifting restrictions on the development of urban lots with manufactured homes, the city has seen a very large investment of private capital that has contributed to revitalization of many declining neighborhoods.

The majority of manufactured housing units in Oakland are single-family homes placed on scattered single lots (see Figures 2.1 and 2.2).

[1] Case study prepared by Steve Hullibarger, The Home Team, Fair Oaks, California.

[2] The dataset used in this case study is maintained and the property of Steve Hullibarger and contains information on 259 HUD-Code homes covering the time period 1980 through present (2007) located on individual lots in the City of Oakland. In addition, the database includes eight modular homes in the city. For all of Alameda County, the count totals 332 HUD-Code homes and 10 modular homes.

Figure 2.1: Single-section, Single-family Manufactured Home

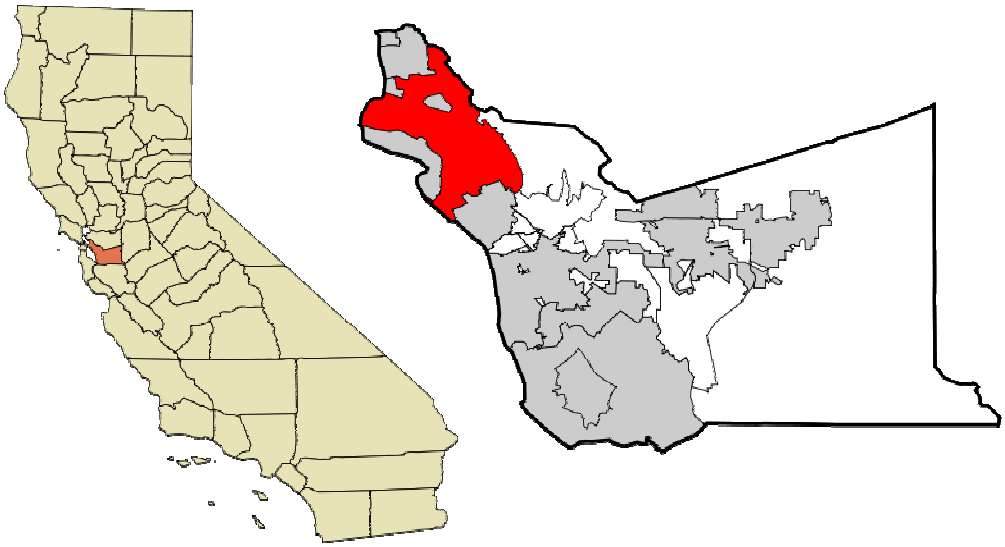
Figure 2.2: Multi-section Single-family Manufactured Home

Beginning in the mid-1980s, a hybrid type of manufactured home began to appear in Oakland—manufactured home duplexes as small investment rental properties. Inasmuch as the HUD Code does not address multi-family homes, the creation of manufactured home duplexes was achieved through an interesting merging of two single-family homes on a single lot. The most popular format to emerge was the placement of two large single-section homes on a single foundation, with two one-hour fire resistive construction walls separating the two modules. The homes, most commonly 14 feet wide by 66 feet long with three bedrooms and two baths, were built in mirror image to each other. Additionally, roof trusses more commonly used on double section homes were used on each home. At the match line between the units, the floor plans were altered to eliminate any openings, such as windows. When placed within one inch of each other on the foundation, the two units assumed the physical characteristic of one large two-family home. Garages were added to many, but not all, of the homes.

More recently, multi-family (and multi-story) HUD-Code homes have been used in developments of significantly greater sophistication (and price).

City Background

Oakland, California, surrounded by Alameda County, is located in the San Francisco Bay Area of Northern California as seen in Map 2.1. The city of Oakland is highlighted in red within the breakout map of Alameda County.



Map 2.1: Location of Oakland, California

As of July 1, 2006, the population of Oakland was estimated by the Census Bureau at 397,067, down slightly from 2000 (a decline of only 0.6%). However, the city's finance department estimated that as of January 1, 2006, Oakland's population was 411,755. Only 56 of Oakland's 78 square miles are land area and the city's population density is approximately 7,100 people per square mile. Oakland is generally considered one of the most diverse cities in the U.S., with whites and African-Americans each accounting for about one-third of the population in 2006. In addition, the Hispanic/Latino population was almost double the national percentage (2000).

While the 2006 median household income in Oakland, at $45,552, was approximately $3,000 less than the national median, it was well under California's median household income of $56,645. The average household size in 2006 (2.56) was lower than the national and state averages (2.61 and 2.93 respectively).

Over half (56.3%) of the occupied housing units in 2006 were renter-occupied and 43.7 percent were owner-occupied. The ownership rate was considerably lower than the national rate of 66.2 percent, reflecting both Oakland's urban setting and high owner costs. Oakland had a very low owner vacancy rate in 2006 (1.7%) in comparison to a national rate of 2.4 percent. The rental vacancy rate in Oakland, on the other hand, was relatively high in 2006 (11.1% as compared to the national rate of 9.7%). With over 65 percent of Oakland's housing stock built prior to 1960, the housing stock was significantly older than that of the nation (35% of the housing stock built prior to 1960 based on the 2006 American Community Survey).

Oakland's principal economic activities are light manufacturing, business services and shipping (the Port of Oakland is the fourth largest container port in the country). The California Employment Development Department reported that Oakland's unemployment rate was 6.9 percent in 2006, comparing poorly to the surrounding Alameda County's rate of 4.4 percent.

Even for those with jobs, the average wage in Oakland does not support the high cost of owner housing. According to the Bureau of Labor Statistics, the annual mean wage for the Oakland metropolitan area in May 2006 was $49,830. The median owner-occupied home value for the City of Oakland as estimated by the U.S. Census 2006 American Community Survey was $590,800. Median monthly gross rent in Oakland for 2006 was estimated at $947. Oakland's relatively low homeownership rate (43.7% in 2006) is partly a factor of the high owner costs relative to wages.

Manufactured Housing Characteristics

Table 2.1 depicts manufactured housing characteristics for the city of Oakland (data reported are for 2000 due to the sampling variability of the ACS 2006 estimate of number of manufactured homes). Less than one percent of all housing units in Oakland in 2000 were manufactured homes. The city gained 178 manufactured housing units between 1990 and 2000 according the U.S. Census, and manufactured homes as a percentage of all housing units in Oakland almost doubled from 0.12 percent in 1990 to 0.23 percent in 2000. Manufactured housing units had a higher homeownership rate than all housing units within Oakland in 2000 (56.2% and 41.4% respectively). However, the median value of these owner-occupied housing units was lower for manufactured homes at $95,000 than for all housing units at $227,300 indicating that manufactured housing has created affordable ownership opportunities in Oakland.

Table 2.1: Comparison of Manufactured Homes with All Housing Units in Oakland

	MANUFACTURED HOME UNITS	ALL HOUSING UNITS
Total Number of Units 2000	364	157,505
Total Number of Units 1990	186	154,737
Percent Change in Number of Units 1990–2000	95.7%	1.8%
Percent Owner Occupied 2000	56.2%	41.4%
Percent Renter Occupied 2000	43.4%	58.6%
Median Value Owner-Occupied Housing Units 2000	$95,000	$227,300
Median Value Owner-Occupied Housing Units 2006	Not Available	$590,800

Source: U.S. Census, 1990 and 2000 and American Community Survey, 2006

Terrain and Lot Characteristics

Oakland is divided into two principal areas known as the hills and the flatlands. In general the areas west and south of International Avenue (formerly East 14th Street) and Telegraph Avenue are referred to as the flatlands. There are considerable differences in property values between the lower value flatlands and the higher value hills which have some extremely expensive housing and are mostly built out. The northerly hills experienced a catastrophic fire in 1991, in which more than 3,300 houses were destroyed. While the area is mostly rebuilt today, few if any of the properties were rebuilt with manufactured homes, partly due to the steep terrain in the area. On the other hand, the flatlands are peppered with vacant lots and dilapidated houses. The flatland area is level, ideal for manufactured homes.

There is no standard lot description for the hills other than from steep to very steep, and mostly unsuitable for manufactured homes. On the other hand, lots are quite suitable for manufactured homes in the aptly-named flatlands. In the older neighborhoods, many tracts were originally mapped with 25-foot widths and 100 to 130-foot depths. Over the years, a large number of these narrow lots were combined to result in more-adaptable 50-foot wide properties. Occasionally, larger lots are found, but they are rare.

Almost all vacant lots in Oakland had a structure on them at one time in the past. Few true greenfield sites exist. When developers search for their prospective sites, many encounter lots that are filled with trash, overgrown with vegetation, encroached upon with structures from adjacent lots, and otherwise discouraging to consider for purchase.

To find legitimate vacant lots, imagination must be used, along with detective skills. What may appear to be someone's garden or parking lot frequently turns out to be an individual property, owned by a third party. Previously, infill entrepreneurs needed to spend a lot of time at the Alameda County Assessors Office, perusing assessor parcel maps to determine whether target properties were truly independent. Today, with the myriad of Internet tools, this process is greatly simplified.

While many of the lots have remnants of old foundations and storage tanks, they also often have existing fencing, sidewalks, curbs, gutters, driveway aprons, and often-useable utility

connections. However, lots may shrink in their appeal for placement of manufactured homes if they are on narrow streets or fronted by large trees, both of which can severely restrict access for placing a manufactured home. However, with the numerous clever devices the manufactured housing industry has invented to maneuver the homes, almost no obstacle is any longer fatal.

Manufactured Homes in Oakland

Neighborhood Areas of Greatest Manufactured Home Activity

For over 27 years, the areas of greatest manufactured home infill activity have been in the flatland neighborhoods of North Oakland, West Oakland, San Antonio, Fruitvale, East Oakland and Elmhurst. In general, these are all older areas, having been originally developed in the 1860 to 1880 period in the westerly areas and the 1940 to1960 period in the east. See Map 2.2.

Map 2.2: Oakland Neighborhood Areas

Table 2.2 shows the more concentrated areas of manufactured housing activity by Zip Code zones. A zip code reference map follows (see Map 2.3). Manufactured housing is located mainly in the southeastern portion of the city (zip codes 94603 and 94619).

Table 2.2: Distribution of Oakland's 259 Manufactured Homes by Zip Code

ZIP CODE	NUMBER OF HOMES	ZIP CODE	NUMBER OF HOMES
94601	20	94608	25
94602	18	94609	12
94603	49	94611	1
94605	17	94612	1
94606	15	94619	19
94607	30	94621	52

Source: The Home Team

Map 2.3: Oakland Zip Code Areas

Architectural Context

Manufactured homes are best accepted when they successfully fit within the architectural context of existing structures. Oakland is rich in architectural history and was known as the Athens of the West in the period following the California Gold Rush. Due to the abundance of level land in Oakland and the milder climate as compared to the rocky and hilly San Francisco, many affluent neighborhoods were developed in the mid to late 1800s, particularly in West Oakland. Extravagant homes, constructed in the Italianate, Queen Anne and Stick styles, still exist in these areas. Similarly, other parts of Oakland have extensive neighborhoods of strong architectural styles. In the north areas near Berkeley, Craftsman style homes predominate. Only in the East Oakland and Elmhurst areas are there large neighborhoods of simple tract or bungalow style homes. Obviously, for the modern manufactured home to fit into many of these neighborhoods, architectural modifications or enhancements are desirable.

Description of Oakland's Manufactured Homes

Physical Configuration (Singles / Doubles / Triples / Number of stories)

Oakland provides examples of several configurations of manufactured housing that demonstrate the products flexibility for infill housing in urban areas. The first manufactured homes to be placed in Oakland in the early 1980s were single-section models, measuring 14 feet by 60 to 64 feet (see Figure 2.3). Almost all of these early homes were unadorned and few had garages. With lot dimensions of 25 feet by 100 feet, there was not much room to add accessory structures. Of the 259 homes tracked on the database, 80 are single-section single family homes.

Figure 2.3: Single-section HUD-Code Home

Multi-section homes began to appear in Oakland after the 1980s. Again, due to the narrow lot characteristics, almost all of these homes were two-section models oriented with the gable end to the street. Currently, 112 of the 259 HUD-Code homes in Oakland are of two-section, single-family design (see Figure 2.4). Due to their size, triple-section homes do not represent a good fit with Oakland's small flatlands lots, although 6 homes have been place, mostly in the hills where lots are often larger.

Figure 2.4: Two-section HUD-Code Home

Oakland provides examples of numerous interesting adaptations of single-section homes, such as transforming them into duplexes by abutting two units together on one lot. Of the 249 properties in the database, 21 are duplexes that were created this way. Additionally, two properties were developed with three single-section homes as triplexes (see Figure 2.5), and five four-plexes were built. Of the five four-plexes, four were built with four single-section homes and one was developed with two multi-section homes.

Figure 2.5: Tri-section HUD-Code Home Located in the Hills

Twenty-four two-story manufactured homes have been sited in Oakland, all since 2002 when two-story manufactured homes began to be built and offered by HUD-Code manufacturers. Two-story manufactured homes are constructed under the special provisions of the HUD Alternative Construction Letter program.

Foundations

With few exceptions, the manufactured homes in Oakland are supported by foundations constructed of poured-in-place concrete, or mortared and grouted concrete blocks. Almost all of the homes enjoy full perimeter wall structural support with additional piers placed under the steel sub frame under the house (see Figures 2.6 and 2.7). Since Oakland is located in the highest known seismic risk area (the San Andreas fault is a few miles to the west and the Hayward fault lies along the city's east limits), all foundations have enhanced steel reinforcing and heavy fastening schedules for the attachment of the home to the foundation.

Figure 2.6: Foundation for a Two-story Manufactured Home

Figure 2.7: Foundation for a Manufactured Home Duplex

Exterior Designs/Architectural Modifications

Developers use a number of techniques to harmonize the exteriors of manufactured homes with the streetscape. Among these are garages and porches that are meant to add utility to the home and to create a more permanent appearance. Some homes have exterior material overlays that match nearby existing homes. In some areas, reducing the elevation of the home by using an excavated foundation adds to the appeal of the home. In other neighborhoods, raising the home is necessary (see Figures 2.8 through 2.11). Some small lot developers do not budget for exterior designs that help the home fit into the neighborhood and consequently a minority of Oakland's manufactured homes may appear out of place.

Figure 2.8: Garage Abutting Front of Manufactured Home

Figure 2.9: Early Attempt to Get Rid of the Singlewide Look by Extending Roof

Figure 2.10: Carpenter Built Front Porch and Detailing on Manufactured Home

Figure 2.11: A Tract Style Manufactured Home (Montclair Area)

Developers making changes or additions must observe an overlay of building codes. Any site-built structure, such as a foundation, garage or porch, must conform to city building codes, go through city plan checking and city inspection. In addition, if the manufactured house is physically modified, with the addition of an attached garage for example, an alteration permit must be obtained from the state of California.

Manufactured Housing Regulations

Regulations at both the city and state levels have significantly impacted manufactured housing development in Oakland. In1980, the city enabled manufactured housing development by allowing placement of HUD-Code homes in residential zones. At the same time, the state passed legislation allowing HUD-Code homes to be developed according to the same standards as conventional, single-family housing. Removing regulatory barriers regarding placement and development standards resulted in evolving designs and innovation in manufactured housing.

City Ordinances

On December 9, 1980, the Oakland City Council unanimously enacted Ordinance No. 10004, "An Ordinance Authorizing Development of Manufactured Housing in Residential Zones." Among the Council's findings were these critical statements:

> "Whereas, the City of Oakland recognizes that manufactured houses on permanent foundations in the City would provide many Oakland residents, who are priced out of the conventional housing market, with decent, safe and affordable housing...."
>
> "Whereas, improved construction techniques and materials have made manufactured houses on permanent foundations virtually indistinguishable from conventionally constructed houses and have decreased the cost of said manufactured homes up to 50 percent less than conventionally constructed houses...."

The effect of Ordinance No. 10004 was to allow the placement, on permanent foundations, of HUD-Code homes, with certain qualifying standards, throughout the city (see Ordinance No. 10004 in Appendix B–1.1).

In July 1981, the council adopted Ordinance No. 10092 (see Appendix B–1.2), which removed any qualifications listed in the prior statute that were out of conformance with California legislation (described in following section) that became effective July 1, 1980. At that point, the regulatory barriers had been removed, and private enterprise, with private capital and risk-takers, began to seek out urban vacant lots for development with HUD-Code homes, possibly for the first time in the country.

State Legislation

The California legislature passed Senate Bill 1960 (Rains-Ventura) in 1980, which was then signed by Governor Jerry Brown. This bill created Section 65852.3 of the California Government Code regulating the installation of manufactured homes, and became operative July 1, 1981, about 6 months after Oakland's ordinance. The bill mandated that cities and counties allow the installation of HUD-code homes on an approved foundation system on lots zoned for conventional single-family residential dwellings. Except with respect to architectural requirements, manufactured housing would be subject only to the same development standards applied to a conventional single-family residential dwelling on the same lot. Any architectural requirements imposed on the manufactured home structure itself, exclusive of requirements for additional enclosures, are limited to roof overhang, roofing material, and siding material. any architectural requirements for roofing and siding material shall not exceed those which would be required of single family dwellings constructed on the same lot. Local government can prohibit installation of manufactured units that were manufactured more than 10 years prior to installation. Local governments may not apply any development standards having the effect of precluding manufactured homes from being installed as permanent residences.

Special Considerations

California might be the only state to create a special class of contractor licensing in recognition of the unique nature of installing manufactured homes. This allows the licensee to complete a wide range of tasks associated with installing the home that otherwise would have to be done by holders of other licenses. Because some of these tasks are minor (connecting plumbing lines, for example), the cost of bringing in a specialty contractor would add unnecessarily to costs and this regulation has helped keep on-site costs lower.

Impact of Regulatory Changes on Volume of Development

Subsequent to the adoption of favorable regulations, the volume of manufactured housing development began to increase. Shortly after the new regulations took effect, Bay Area entrepreneurs began to approach Sacramento-area manufacturers to learn of the types of manufactured homes available to them. Developers and manufacturers had to learn how to satisfy the regulations (for example, foundation requirements, building permits, code conflicts, on-site inspections, transfer of legal title, conversion to real property and the jurisdiction of various professional licenses), but eventually homes began to move into the neighborhoods as these obstacles were ironed out.

Manufactured home retailers (or street dealers) have traditionally brokered the supply of manufactured homes. These dealers had no experience and often no interest in buying and developing urban lots and the bulk of the development activity was by developers, builders and Realtors. Many developers obtained their own retailer licenses in order to purchase the homes directly from the factories. Unlike traditional retailers, nearly all infill developers were unconcerned about exclusive distribution rights and manufacturers experienced little backlash from developers with retailer licenses when manufacturers provided homes to other developers who were often operating in nearby neighborhoods.

Other traditional practices of the manufactured home industry can impede the creation of a smooth supply chain for developers. Manufacturers require up-front deposits of 20 to 25 percent of the eventual factory invoice to protect themselves from a developer's failure to pay for the home. The balance of the invoice is due before the home is shipped from the factory. The developer cannot finance this purchase as part of a construction loan as the construction lender will not advance on a property improvement before it is affixed to the land securing the construction note. This financing gap reduces the appeal of factory-built housing to developers and remains an impediment to their use of HUD-Code homes.

Housing Price/Home Equity Effects

Developers' Market Pricing Advantage

Almost all developers enjoyed significant savings of both hard and soft costs by using manufactured homes versus doing on-site construction. The primary component of hard cost savings was the transfer of the material and labor costs to an industrial site located in a lower cost area, such as the Central Valley. Other advantages accrue to the builder by doing the assembly work in a factory setting. These savings are compounded by using the factory-built dwelling in an expensive, high labor cost market.

Manufactured housing can also reduce time-sensitive soft costs such as insurance, property taxes and the cost of borrowed capital. In many parts of urbanized Oakland, the manufactured housing reduced costs associated with property security and the risk of loss. Most often, the houses were transported from the factory and installed on the concrete foundation in one day. By the end of the day, the building could be secured, using plywood to cover windows and doors, if necessary.

Thus, in lieu of having a semi-complete structure exposed to overnight and weekend theft and vandalism, use of manufactured units allowed the house to be secured within 8 to 12 hours.

With often significant savings, developers using manufactured housing found themselves in a good sales position. Developers could sell the property at the market price and enjoy attractive profit margins, or they could offer the property at a below market price and enjoy a rapid sale.

Homeownership and Growing Family Wealth

Based on the 259 HUD-Code home database referenced earlier and data from the Alameda County Assessor, it has been possible to track price appreciation in manufactured housing over the years. Beginning in the early 1980s, new single-section manufactured homes sited on foundations on city lots sold for prices in the $50,000 to $75,000 range, including the land. Later, larger homes, many with garages, were sited and sold for prices ranging up to $300,000.

The real story is in the subsequent resale of these homes. In each instance, the homes are listed with a real estate broker, entered in the multiple listing services, and sold in exactly the same manner as any other parcel of real property. While there are too many transactions to describe in detail, some examples may serve to illustrate the point about manufactured home property values. In 1989, Outlook Development Company placed a single-section Silvercrest home on a 25-foot wide by 121-foot deep, $12,000 lot on 25th Avenue in Oakland's San Antonio neighborhood. The lot was too small for a garage. With only 933 square feet, the house has three bedrooms and two baths. In January of 1989, the new home sold for $88,500. Eleven years later, the home was sold for $130,000. Most recently, in January of 2006, the home again sold for $360,000.

Oakland architect and developer Paul Wang (see following section for more on Paul Wang) placed a 1,233 square foot two-section home on a 2,800 square foot lot on 35th Avenue, finishing it with a one-car attached garage. The original property sale was $92,000 in September 1987. Subsequent resales of the property were: January 1996 ($145,000), February 2001 ($280,000), and December 2003 ($365,000).

A small developer used a crane to install two specially designed single-section homes over a ground floor garage on an up-sloping lot to create a duplex in 1987. Each home had 933 square feet with three bedrooms and two baths. The units were built in mirror image to each other, with a fire wall separation. The 13th Avenue lot in the San Antonio District was a little over 7,000 square feet, a luxury in densely-populated Oakland. The developer kept the duplex as an investment property until selling it in 1998 for $146,500. In a few short years, the property changed hands several times: December 2000 ($274,000), October 2002 ($420,000), October 2003 (falling back to $375,000), and finally in March 2006 ($620,000).

Obviously, much of the impetus for rising prices comes from being located in a hot real estate market. Since 2006, all of California has seen what began as normal market adjustment, a leveling off and some backing down on prices. Most recently, however, there have been some substantial declines in prices due to in large part to the affects of poor lending practices.

Families living in these manufactured homes enjoy the same potential for wealth building as families living in other homes built through different processes. However, the fact that well-located manufactured homes will increase in value (and decrease in value, periodically), in concert with their neighborhood, is undisputed by these data.

Views of Manufactured Home Participants

Developers / Entrepreneurs

Paul Wang began using manufactured homes in his urban lot development plans in the mid 1980s. A practicing architect, Wang has become one of the most prolific and successful manufactured home infill entrepreneurs in the Bay Area.

Prior to completing his first manufactured home project in 1987, Wang designed and constructed site-built homes in Oakland and Berkeley. Commenting that he had always been interested in factory-built housing, Wang said, "I had an opportunity to squeeze a profit from a neighborhood housing project where the city sold me the land at market prices, but I was required to sell the completed homes to qualifying families based on limited income and affordability yardsticks." He is sure that he could not have done that using traditional building processes. As of mid 2007, Wang had completed 39 homes in Oakland and had two more in progress.

Wang's contribution to the evolving practice of urban infill development with manufactured homes has been to demonstrate the value of sensible visual enhancements to the often plain looking base unit. However, he does not seek to completely revamp the look of the house, but to add to the structure's natural virtues, especially those of texture and color. When planning each new project, he spends time looking at other houses in the neighborhood. "I don't want to clone the houses in the area," he says, "but rather bring some variety that adds interesting details to the streetscape."

Wang tries to economize where possible and is guided by a preference for utilizing wood in a straightforward way to get those interesting looks without exceeding his budget. "I've never been hurt by the addition of exterior treatments, and I have never had to discount a house merely because it was manufactured and not built on site," he said. Wang's two most recent completed homes were two-story models shown in Figure 2.12.

Figure 2.12: Two-story Manufactured Home

Builder / Investors and Rental Property Owners

David Bonde and Tom Blean discovered attractive advantages to using manufactured homes to build their portfolio of rental properties. The partners had previously constructed their properties via the stick and brick method. Beginning in 1988, they acquired vacant lots in the West Oakland and San Antonio neighborhoods. Each was developed with the unique duplex configuration described above. Market rents in the mid-$800 range were achieved, growing to nearly $1,700 in the 2005 period, and declining slightly with the overall market since. Almost all renters received HUD Section-8 and Voucher rental assistance through the Oakland Housing Authority; although Bonde and Blean report that there have been numerous non-assisted tenants over the two decades.

The partners report that, with some exceptions, the property components have held up well to tenant wear and tear over the years. “We would recommend against using particleboard for flooring,” Blean says, “opting instead for plywood whenever we have the choice.” The problem lies mainly in the potential for damage due to water. Fortunately, almost all manufacturers offer plywood or equivalent materials for floor decking.

The other bane of Bonde and Blean’s maintenance program was the use of polybutylene (PB) plumbing lines in the houses, a material now discredited and no longer used in any form of housing construction.

The ability to transform the personal property manufactured home into real property under California's laws has created financial benefits for the partners. "We were able to arrange equity lines of credit on our manufactured rental properties," Bonde comments, "and that has allowed us to use some of our equity to embark on additional manufactured home developments here in the Bay Area." As of mid 2007, they are nearing completion on a four-section, two-story manufactured home that they intend to put on the market in nearby Crockett (see Figure 2.13).

Figure 2.13: Four-section, Two-story HUD-Code Home

Nonprofit Housing Corporations

Oakland Community Housing, Inc. (OCHI), a 34-year-old 501(c)(3) nonprofit housing corporation has been attracting much attention in the Bay Area and the West with its advanced applications of one- and two-story manufactured homes. OCHI's first property was a two-section HUD-Code home placed in 2003 on a 40 foot by 100 foot lot in the flatlands area of Central East Oakland (see Figure 2.14). The 1,300 square foot house came from the factory with a fully-integrated front porch, which minimized OCHI's need to add costs for architectural enhancements. OCHI constructed a one-car detached garage in the rear yard. This new home was purchased by a single mother of two, whose yearly earnings were only 45 percent of the area median income.

Figure 2.14: Nonprofit Developed Single-family HUD-Code Home With Factory Built Porch

Advancing on this design, OCHI next acquired a half-acre parcel in the Elmhurst District which they split into four lots and in 2005 installed manufactured homes with a similar design. Attached one-car garages were site-built alongside each home. Low- and moderate-income families purchased these homes for $390,000 each, with low interest rate mortgages and down payment assistance programs from the California Housing Finance Agency (CALHFA).

In a dramatic leap into the far more complex area of multi-story manufactured homes, OCHI then completed Linden Terrace, a West Oakland collection of eight two-story manufactured homes placed with a crane atop a ground-level garage. Installed in four buildings of two homes each, the configuration is that of a "duet" or zero-lot-line single-family attached homes with 1,500 to 1,700 square feet each. These were also sold to low- and moderate-income households

using down payment assistance from CALHFA and the City of Oakland's mortgage assistance program (see Figures 2.15 and 2.16).

Figure 2.15: Crane Installation of HUD-Code Home

Figure 2.16: Two-family HUD-Code Home Developed by a Nonprofit Organization

The most recent OCHI development is also in West Oakland, another eight-house project with similarities to the Linden Terrace plan, but with a new manufacturer. These 1,600 square foot homes were installed with a crane in June 2006. The houses are now on the market at about $500,000 each.

OCHI, like private developers, was able to successfully utilize manufactured homes in its development programs due to the favorable regulatory environment that exists in Oakland. However, recent trends in the mortgage market (for example, Fannie Mae's decision to increase its underwriting criteria for manufactured home loans) disfavored this segment of the industry

and OCHI experienced problems with lenders. Amanda Kobler, OCHI's Director of Real Estate Development, describes their obstacles, "OCHI is building high quality homes that fit into the urban neighborhoods where we work, yet we have met with a surprising amount of resistance from mortgage lenders. The mortgage stigma against manufactured housing runs deep. In some cases it has made it difficult for our low-income buyers to get enough mortgage financing, not because of their ability to pay, but because lenders are nervous about underwriting manufactured houses. Our houses are often the nicest, newest homes on the block in Oakland but the lenders aren't looking at that."

Manufacturers

Silvercrest/Western Homes (a subsidiary of Champion Enterprises), with 98 houses, is the top manufacturer of the 220 homes in Oakland with manufacturer data. Next, with 46 homes, is Kaufman & Broad Home Systems, a former operating subsidiary of the homebuilding giant now known as KB Homes. The other manufacturers represented are Fleetwood, Fuqua, Guerdon, Madison (now out of business), and Golden West and Marlette (both now part of Clayton Homes).

The manufacturing locations, especially in the 1980–2000 era, have primarily been in the Sacramento area, 75 miles away. In recent years, homes have been transported to Oakland and other cities in the Bay Area from southern California, a distance of 400 miles, and from central and northeast Oregon, over distances as far as 750 miles.

The expansion into more expensive neighborhoods, with the corollary need for more elaborate specifications, has pushed developers to look further into the market in pursuit of exactly the right manufactured home for each building site.

Conclusions and Benefits

Oakland is an excellent example of the benefits that can come to a city and its people through the intelligent regulation of manufactured housing. The city and the state both put carefully crafted regulations in place that encourage the use of this alternative method of home building, while assuring that development standards are observed, and that the homes are a good fit to the neighborhoods in which they are placed.

Oakland has reaped these benefits:

- A large number of trashy, weed-infested vacant lots no longer exist. Instead of being burdens on city budgets through nuisance-abatement work, these properties now generate property taxes.

- Many families now have their own home in a city which may have been prohibitively expensive for them and are benefiting from wealth accumulation through appreciation.

- Many renters live in new homes in neighborhoods where there has been a dearth of site-built homes constructed for decades.

- Some neighborhoods have witnessed reversals in deterioration and decline, when a new home reignites some pride of ownership up and down the street.

- Local jobs have been created through the need for labor in site prep, foundations, fencing, landscaping and other tasks.

State of Washington Case Study[3]

Introduction

In 2004, the state of Washington mandated that all local governments regulate qualifying manufactured homes in the same way as all other homes in terms of land use and zoning. This landmark legislation was not easily obtained and was the result of an intensive effort on behalf of the Washington Manufactured Housing Association (WMHA) and other supporters of manufactured homes. This case study traces the events and prior legislation leading up to the passage of the 2004 law. The case demonstrates that the support of the public and of state and local legislators can be gained through a diligent and thorough education and lobbying campaign.

Following implementation of the National Manufactured Housing Construction and Safety Standards (the HUD Code) in 1976, WMHA began a jurisdiction-by-jurisdiction effort to educate and inform the public and policy makers about HUD-Code homes. Over the years, many individual local regulations were changed making it easier for manufactured homes to be placed within communities. WHMA's ultimate goal was fair and equitable treatment of manufactured homes statewide. WHMA was instrumental in passing state legislation that required all jurisdictions in the state to allow manufactured homes with qualifying criteria anywhere that site-built homes are allowed.

Washington Background

The state of Washington is located in the northwest region of the United States. According to the July 1, 2007 Census Population Estimates, the population of Washington was 6,468,424, a 10 percent increase since 2000. With approximately 66,544 square miles of land area, Washington's population density was 88.6 people per square miles. Table 3.1 shows the population of Washington's five largest cities in both 2000 and 2006.

Table 3.1: Population of Washington's Five Largest Cities

FIVE LARGEST CITIES	2000	2006 CITIES (2007 STATE)
Seattle	563,374	582,454
Spokane	195,629	198,081
Tacoma	193,556	196,532
Vancouver	143,560	158,855
Bellevue	109,569	118,186
State of Washington	5,894,121	6,468,424

Source: U.S. Census 2000 and July 1, 2006 Census Population Estimates (cities) and July 1, 2007 state of Washington

The racial composition of Washington is predominantly white (80% in 2006). Washington has a relatively large percentage of Asian alone compared to the country as a whole (7% and 4% respectively). The state's median household income was $52,583, approximately $4,000 more

[3] Case study prepared by Steve Hullibarger, The Home Team, Fair Oaks, California.

than the national median income of $48,451(2006 American Community Survey). The state's average household size in 2006 was 2.53, slightly below the national average of 2.61.

Of the total occupied housing units in Washington, 65.5 percent were owner-occupied in 2006, slightly below the national rate of 67.3 percent. In 2006, the owner market, with a vacancy rate of only 1.6%, was extremely tight and the rental vacancy rate (6.1%) was barely adequate for demand. With nearly 30 percent of Washington's housing stock built since 1990 and only 26 percent built prior to 1960, the state's housing stock is relatively new.

Manufactured Housing Characteristics

Table 3.2 displays manufactured housing characteristics for the state of Washington. In 2006, 7.7 percent of all housing units were manufactured housing units. While Washington's total number of housing units increased by 10 percent from 2000 to 2006, the number of manufactured housing units decreased slightly by 0.5%. Manufactured housing units had a higher homeownership rate (77%) than the overall homeownership rate (65.5%) in 2006 and the median value of owner-occupied manufactured housing units was significantly lower than the median value of all housing units in both 2000 and 2006. As with Oakland, these data suggest that manufactured housing has created affordable ownership opportunities in the state of Washington.

Table 3.2: Comparison of Manufactured Homes With All Housing Units in Washington

	MANUFACTURED HOME UNITS	ALL HOUSING UNITS
Total Number of Units 2006	206,809	2,699,658
Total Number of Units 2000	207,861	2,451,075
Percent Change in Number of Units 2000–06	-0.51%	10.1%
Percent Owner Occupied 2006	77%	65.5%
Percent Renter Occupied 2006	23%	35.5%
Median Value Owner-Occupied Housing Units 2000	$66,000	$158,800
Median Value Owner-Occupied Housing Units 2006	$90,300	$267,600

Source: U.S. Census, 2000 and American Community Survey, 2006

Table 3.3 shows manufactured home shipments from 1977 to 2006 reflecting all manufactured homes shipped to Washington retailers, including those from out-of-state factories. Almost all of the homes shipped to, and sold by, Washington's retailers originate in Oregon and Idaho.

Table 3.3: Manufactured Home Shipments to Washington Retailers 1977 to 2006

YEAR	SHIPMENTS	YEAR	SHIPMENTS	YEAR	SHIPMENTS
1977	11,211	1987	3,873	1997	6,419
1978	11,978	1988	4,184	1998	6,874
1979	10,814	1989	4,397	1999	5,339
1980	7,505	1990	5,645	2000	3,853
1981	6,163	1991	5,353	2001	2,971
1982	4,840	1992	5,964	2002	2,933
1983	6,153	1993	6,849	2003	2,868
1984	6,014	1994	7,332	2004	2,705
1985	5,597	1995	7,252	2005	2,723
1986	4,550	1996	6,257	2006	2,653

Source: Manufactured Housing Institute

Washington has long been a net importer of manufactured homes. In 1995, in-state production of 2,329 homes was only 32 percent of the total of 7,232 homes shipped to Washington's retailers. In 1999, Washington's plants produced 1,131 (21%) of total shipments. (Note: years 1995 and 1999 both included actual production numbers from Washington since there were three or more operating factories in the state. However, some years do not include all production numbers since the number of operating factories has to be three or more to avoid disclosure of proprietary information.)

Washington, like the other West Coast states, is a predominantly multi-section market. For example, of Washington's 5,964 homes shipped in 1992, 5,240 or 88 percent were multi-section homes. Similarly, of the 2,868 shipments in 2003, 97 percent were multi-section homes.

Regulatory Impact of Manufactured Homes

On March 31, 2004, Washington Governor Gary Locke signed Senate Bill 6593 into law and thus brought manufactured homes into a position of equity and fairness among all forms of housing construction with respect to zoning and land-use regulations throughout the state. Termed "An Act Prohibiting Discrimination Against Consumers' Choices in Housing," the law mandates that all local governments regulate qualifying manufactured homes the same as all other homes. Although the legislation is too recent to be able to document its impact, the legislative history provides a valuable example for other states where regulations may restrict the fair and equitable treatment of manufactured homes.

Regulatory Reform History 1977–2003

1977—An early effort to pass state legislation requiring cities and counties to include manufactured homes in a minimum designated percentage of residential zoning failed to pass out of its Committee.

1979—The state legislature passed Mobile Home Study Resolutions providing for the formation of research groups to study the impact of restrictions on manufactured housing in three specific areas. Committees convened all over the state to gather facts and evidence related to these three issues.

Spokane County liberalized its land use regulations by declaring that all multi-section homes would be permitted by right on land zoned as agricultural-suburban. Additionally, both single- and multi-sectional homes would be permitted on any agriculturally-zoned property.

WMHA retained the services of Ronald J. Clarke who would play a pivotal role in the regulatory reform effort over the next 20 years. Mr. Clarke brought with him a resume and a credibility that would benefit the reform effort handsomely based on his past experience in both the public and private sectors as a planner, urban renewal specialist, city administrator, consultant and educator. He was later elected President of the Planning Association of Washington.

1981—House Bill 397 declared the need for land to be zoned for manufactured housing and encouraged local governments to address the issue but had little effect on local zoning barriers. Snohomish County (Everett), Stevenson, Anacortes, North Bend, Moses Lake and Colville modified their zoning codes to be more permissible toward manufactured homes.

1984—The city of Aberdeen qualified manufactured homes to be placed on individual lots in all residential districts if they had multiple sections, at least a 3/12 roof pitch and rain gutters, and were not more than five years old.

1985—State legislation requiring manufactured housing as a permissible use in single-family districts stalls; Spokane, the second largest city in Washington, began steps toward relaxing its zoning barriers.

1986—The industry trade associations in Washington, Oregon, and Idaho formed Northwest PRIDE (Public Relations and Industry Development Effort), a tri-state program with the objective of improving the public's perception of the industry and its homes.

1988—Successful passage of an interim state law requiring that city and town comprehensive plans which did not allow for mobile homes on individual lots needed to be reviewed for the need and demand for such homes by December 31, 1990. Cities and towns had to meet one of the four following criteria by the deadline date: 1) have zoning that permits mobile homes on individual lots as a permitted use, as a conditional use, or by administrative review; 2) have zoning which defines mobile homes as single-family residences and regulating them as site-built homes; 3) have existing language in the comprehensive plan which indicates that mobile homes should be sited on individual lots; or 4) initiate a comprehensive plan amendment review process whereby the planning

commission through the public hearing process considers the issue of mobile homes on individual lots. Afterwards, WMHA worked with the cities to prepare for meeting the requirements of SHB 1690 through meetings and conferences.

1989—Three of the state's larger cities, Bellevue, Yakima and Bremerton, authorized the installation of manufactured homes on individual lots in residential neighborhoods as a permitted use by right.

1994—WMHA distributed copies to cities of HUD preemption letters strongly suggesting that zoning actions may be in conflict with the HUD Code, related to the preemption clause, if the locality required specified construction features that superseded the national building code.

1996—Seattle mayor wrote, "In summary, single-family manufactured housing which meets Seattle's building, electrical, and energy code requirements and the development standards of the Seattle Land Use Code, and are placed on a permanent foundation are permitted as single-family dwelling units on individual lots in the City of Seattle."

1997—Spokane, Washington's second largest city, approved the placement of manufactured homes on individual city lots if they were less than five years old, at least two sections in size, and were judged to be architecturally compatible with surrounding homes. Indicating a lingering reservation about the regulations, a final stipulation (later rescinded) was that a manufactured home could not be placed on any city block that already contained two existing manufactured homes.

2003—After a series of un-passed bills introduced in the state legislature in the late 1990s, WMHA sponsored House Bill 1741 in 2003 declaring that consumers' choices in housing were being denied because certain types of homes were arbitrarily outlawed in the neighborhoods in which people wanted to live. An identical bill, SB 6593, was introduced in the 2003 senate which eventually passed as the 2004 law known as "An Act Prohibiting Discrimination Against Consumers' Choices in Housing."

2004 Landmark Legislation

Each of the bills introduced in 2003 needed to first pass its own house and then be passed by the other house. Initial results were startling: HB 1741 passed by a vote of 86–7, and SB 6593 passed unanimously, 49–0. Since both bills were identical, only one—SB 6593—went forward and successfully passed the opposite house and was signed by Governor Locke on the last day of March in 2004. SB 6593, An Act Prohibiting Discrimination Against Consumer's Choices in Housing, became effective July 1, 2005. The Act requires that local governments regulate manufactured housing in the same manner as any other housing and may not enact any statue or ordinance that has the effect of directly or indirectly discriminating against consumers' housing choices that is not equally applicable to all homes. Local governments MAY, however, require that a manufactured home: be new; be set upon a permanent foundation as specified by the manufacturer; have the space from the bottom of the home to the ground enclosed by concrete or an approved concrete product; comply with all local design standards applicable to all other

homes in the neighborhood; be thermally equivalent to the state energy code; be comprised of at least two fully enclosed parallel sections each not less than twelve feet wide by thirty-six feet long; have a composition, wood shake or shingle, coated metal or similar roof of nominal 3:12 pitch; and have exterior siding similar in appearance to siding materials commonly used on conventional site-built residences.

Immediately after the bill's signing, WMHA planned for its implementation by designing educational materials and budgeting for staff to visit cities as needed. The information summarized in an Affordable Housing Brochure (see Appendix B–2).

WMHA contracted with a certified planner, Michael Davolio, to become the source of credible information for the cities. His own credentials were impressive: former President and Legislative Chairman of the Washington Chapter of the American Planning Association. Over the next two years, WMHA advised its members to take advantage of newly-opened markets, but cautioned them against giving ammunition to critics. In a newsletter, WMHA advised, "Pay attention to what your consumers are purchasing for placement in these cities and do everything you can to make sure it is legal, appropriate and responsible."

Manufacturer Acquisition Program

Further burnishing the image of quality in manufactured housing was the successful energy conservation program that became known as MAP (Manufacturer Acquisition Program). Electric utilities in the northwest, in conjunction with the Bonneville Power Administration, determined that it would be less costly to subsidize higher energy standards in manufactured homes than to construct new power generation facilities. A demand-side management deal was struck with all 18 manufacturers in the three states, by which the manufacturers would beef up the energy efficiency of every all-electric home they built, in exchange for a $2,500 subsidy per house, paid directly to the manufacturer. The utilities' consensus was that these specifications would together save homeowners of MAP homes approximately $200 per year in electric costs.

Exemplary Developments Demonstrate the Benefits of Manufactured Housing

A number of highly publicized manufactured home developments began expanding the design envelope of the homes themselves. These developments demonstrated the benefits of manufactured housing and designs that promote community acceptance. Public authorities and nonprofit organizations were instrumental in these efforts. Several of these projects would gather media attention and spur increased demand for the homes. Notable among them were The Lakes (Gig Harbor), Laurel Oaks (Lacey), Azalea Gardens (Graham), Lake Wilderness Villa (Maple Valley), HarvestGate (Puyallup), Sierra Estates (Yakima), and Sunny Creek (Spokane). Figures 3.1 through 3.6 illustrate the physical attractiveness of these developments.

Figure 3.1: Manufactured Home in Laurel Oaks, Lacey, Washington

Figure 3.2: Manufactured Home in Azalea Gardens, Graham, Washington

Figure 3.3: Manufactured Home in Lake Wilderness Villa, Maple Valley, Washington

Figure 3.4: Manufactured Home in HarvestGate, Puyallup, Washington

Figure 3.5: Manufactured Home in Sierra Estates, Yakima, Washington

Figure 3.6: Manufactured Home in Sunny Creek, Spokane, Washington

Further, the King County (Seattle) Housing Authority (KCHA) had been utilizing manufactured homes in several subdivisions and land-lease communities over recent years. KCHA was both the developer and the marketer of homes in their developments Vantage Glen and Glenbrook. A key KCHA staff member became executive director of the Snohomish County (Everett) Housing Authority and, based on his KCHA experience, developed two notable properties in Everett: Thomas Place (see Figure 3.7) and Millwood Estates.

Figure 3.7: Manufactured Home in Thomas Place, Everett, Washington

Perhaps the most innovative and notable development of all was Noji Gardens, built in 2000 in southwest Seattle (see Figure 3.8). Developed by HomeSight, a prominent Seattle nonprofit housing corporation, Noji Gardens created 75 new homes, including duplex and two-story models. It was the first major development in the city of Seattle. Building on its success, HomeSight then developed another notable subdivision, Kokanee Creek, in Everett. The community of two-story manufactured homes was completed in 2005.

Figure 3.8: Duplex, Two-story Manufactured Home in Noji Gardens, Seattle, Washington

Infill developers doing individual lot developments scattered around Washington also demonstrated the attractiveness of manufactured housing in existing neighborhoods (see Figures 3.9 and 3.10 of Olympia and Pasco).

Figure 3.9: Manufactured Home on Infill Site in Olympia, Washington

Figure 3.10: Manufactured Home on Infill Site in Pasco, Washington

Conclusions

This case study documents the nearly 30-year struggle to get legislation passed in the state of Washington to put HUD-Code manufactured homes on par with site-built homes in regard to land use and zoning. Led by the Washington Manufactured Housing Association, advocates of manufactured housing achieved their goal in 2004 when Senate Bill 6593 was passed into law. The Washington law stipulates that local governments regulate manufactured housing (localities may require the manufactured home to meet certain criteria and standards) in the same manner as any other housing and may not enact any statue or ordinance that has the effect of directly or indirectly discriminating against consumers' housing choices that is not equally applicable to all homes.

Beginning in 1976, WMHA began a city-by-city and county-by-county campaign to educate policy makers and the general public about HUD-Code homes. WMHA faced long-term perceptions of manufactured housing as poor quality and not up to the standards of traditional site-built housing. Advocates of manufactured housing in other states can draw from the experiences of the Washington Manufactured Home Association in their successful quest for equal treatment in terms of zoning and land use regulations for HUD-Code manufactured homes, including these strategies:

- Routine meetings with local public officials.
- Hosting plant tours and visits to manufacturers.
- Participating in conferences such as the Governor's Housing Conference and the Washington Association of Cities Conference.
- Retaining the services of a advocates who are well-respected throughout the state for their knowledge of land use and planning.
- Hosting exhibitions and display homes in many venues across the state.
- Developing and distributing brochures and other information packets on why manufactured housing should be treated as any other housing.
- Partnering with other state associations in a multi-state coalition to increase awareness regarding manufactured housing.
- Improving the environmental quality of manufactured housing by supporting programs such as the Management Acquisition Program to help finance energy efficiency features in manufactured homes.
- Encouraging best practices in designing and developing with manufactured homes.

Pima County, Arizona Case Study[4]

Introduction

Zoning and land use regulations regarding manufactured housing in Tucson, Arizona are much less stringent than those currently in place in Pima County, the adjacent jurisdiction. However, some of the most desirable neighborhoods are located in the county in close proximity to the Tucson city limits. Currently manufactured housing in these neighborhoods is restricted by county regulations. This study describes and discusses an effort on the part of for-profit and nonprofit organizations and trade groups, in conjunction with local government officials, to equalize zoning and land-use regulations for manufactured homes in the unincorporated areas of Pima County, Arizona to those which exist within Tucson. Opening opportunity for living in these desirable neighborhoods and increasing affordable housing options are, in large part, the impetus behind the organized effort for changing regulations affecting manufactured homes in Pima County.

County Background

Surrounding the city of Tucson, Pima County is located in the Sonoran Desert of southern Arizona (see Map 4.1). Pima County is relatively large, spreading over 9,186 square miles. However, most of the county is fairly remote and sparsely populated desert and range country. The bulk of Pima County's population is concentrated in the eastern third of the county on the outskirts of Tucson. The county borders on Mexico, with the city of Nogales just over the Mexican side of the border.

[4] Case study prepared by Steve Hullibarger, The Home Team, Fair Oaks, California.

Map 4.1: Pima County, Arizona
Source: U.S. Census Bureau

Demographic Characteristics

According to the U.S. Census Bureau, Pima County experienced rapid population growth between 2000 and 2006, increasing from 843,746 in 2000 to an estimated 946,362 in 2006, an increase of 12.2 percent. Arizona as a whole is growing even faster, 20.2 percent over the same period. One reason is that the Phoenix metropolitan area (Maricopa County, 100 miles to the northwest) has been at or near the top of the nation in terms of growth for many years and had a 22.6 percent increase over this period. However, Pima County's own growth is impressive.

With approximately 9,000 square miles of land area, Pima County had a population density of 92 people per square mile. Based on the 2006 American Community Survey, Pima County was just under 70 percent white. At 32.5 percent, the County's Hispanic/Latino population was more than double the national percentage of 14.8 percent and the County's percentage of some other race alone (17.5%) was almost triple the national percentage (6.4%). The city of Tucson is the population, employment, educational, cultural, and financial center of Pima County. Tucson's population, according to the Census, was an estimated 518,084 in 2006, comprising 55 percent of the entire county.

The 2006 median household income in Pima County was $42,984 which was below the Arizona median of $47,265 and the national median of $48,451. The average household size in Pima County was 2.51, below the Arizona average of 2.72 and the national average of 2.61, and the

County's percent elderly population (65 years and older) in 2006 was well above those of Arizona and the nation ((14.6%, 12.8% and 12.4%, respectively).

The county's ownership rate was 66 percent in 2006 with an owner vacancy rate of 2.4 percent and renter vacancy rate of 7.3 percent (all very similar to national rates). The housing stock is relatively new, with about one-third of units built since 1990 and only 15 percent built prior to 1960.

The economy was stable based on an unemployment rate of 4.0 percent in 2006 in Pima County compared to the state and nation (4.1% and 4.6% respectively). Manufacturing is a relatively small part of the local economy, which has higher concentrations of employment in 2007 in government (77,400), trade, transportation and utilities (63,200), professional, business and information services (58,300), leisure and hospitality (41,700), and construction (28,900).

Manufactured Housing Characteristics

Approximately 11 percent of all housing units in Pima County were manufactured homes in 2006 (Table 4.1). The percentage of manufactured housing units decreased by approximately 2 percent in Pima County from 2000 to 2006. However, manufactured housing units (81.1%) had a much higher homeownership rate than all housing units (66%) in Pima County in 2006 and the median value of owner-occupied manufactured housing units was significantly lower than that of all housing units in 2000 ($42,500 and $102,600 respectively). While the median value for all housing units in Pima County almost doubled from 2000 to 2006 ($102,600 to $204,800), the median value for manufactured housing units increased by 23 percent (from $42,500 to $52,300), improving their affordability relative to other owner-occupied housing while still appreciating in value. Some portion of this increase is likely due to increases in land costs which affect all housing types.

Table 4.1: Comparison of Manufactured Homes With All Housing Units in Pima County

	MANUFACTURED HOME UNITS	ALL HOUSING UNITS
Total Number of Units 2006	46,142	418,213
Total Number of Units 2000	47,112	366,737
Percent Change in Number of Units 2000–06	-2.06%	14.04%
Percent Owner Occupied 2006	81.09%	65.95%
Percent Renter Occupied 2006	18.91%	34.05%
Median Value Owner-Occupied Housing Units 2000	$42,500	$102,600
Median Value Owner-Occupied Housing Units 2006	$52,300	$204,800

Source: U.S. Census 2000 and American Community Survey, 2006

Manufactured Homes

Manufactured Home Production in Arizona and Surrounding States

For many years, Arizona has been a center for manufactured housing, with production

concentrated in the Phoenix metropolitan area. As of late 2007, there were nine operating factories in the Phoenix area. In addition to homes produced in Arizona factories, the state imports large numbers of homes from surrounding states, including New Mexico, Texas, Colorado, and Southern California.

Manufactured Home Sales in Arizona

Manufacturers report their home shipments to the various states as part of the HUD program and these shipments provide a highly accurate picture of manufactured home sales. Lag times between shipment and sale dates frequently are no more than a few months. Arizona has been a significant market for manufactured homes over the last three decades, as shown in Table 4.2.

Table 4.2: Shipments of Manufactured Homes to Arizona Retailers

YEAR	SHIPMENTS	YEAR	SHIPMENTS	YEAR	SHIPMENTS	YEAR	SHIPMENTS
1970	8,735	1980	5,616	1990	3,047	2000	6,664
1971	17,380	1981	6,457	1991	2,721	2001	8,859
1972	21,452	1982	5,108	1992	3,470	2002	5,419
1973	21,055	1983	7,150	1993	4,654	2003	4,454
1974	9,312	1984	6,694	1994	6,258	2004	4,570
1975	4,371	1985	5,565	1995	6,999	2005	6,056
1976	4,465	1986	5,728	1996	8,095	2006	5,518
1977	6,257	1987	5,871	1997	8,545		
1978	8,103	1988	4,717	1998	8,611		
1979	9,276	1989	3,276	1999	8,827		

Source: Manufactured Housing Institute

Manufactured Homes in Pima County

Manufactured housing has long been an important part of the eastern Pima County/Tucson area. The Pima Association of Governments (PAG) estimates that there are 52,863 manufactured homes in the Tucson metro area, accounting for 12.3 percent of the overall 428,722 homes.

Part of the appeal of manufactured homes is their affordability. As in other areas around the country, housing affordability is a serious concern in Pima County. PAG reports,

> "As the affordability of new single-family housing has lessened, used housing has acted as a substitute. Growth in real incomes has not kept pace with housing costs, an issue that is coming to the forefront regionally. When housing returns to be priced as shelter rather than an investment, stability will return to the market."

The Pima County housing market has been cooling since mid-2005, as it has in other areas of the nation. Board of Realtors data show that the average number of days on the market before a

home sold was 65 days in mid-2007, compared to only 35 days in mid-2005. Still, prices in Pima County have not dropped. The median selling price in mid-2007 was consistent with the median price in mid-2005.

Manufactured Housing Regulations

There is a significant difference between zoning policies in the unincorporated portion of Pima County and in the city of Tucson. The city has relatively relaxed and liberal regulations related to manufactured home placements, while the county limits their placement to very large, and often rural, properties.

Tucson Regulations

Prior to 2001, the city of Tucson's Land Use Code permitted units in all zoning districts where dwellings were permitted with the exception of the R–1 zone. In the R–1 zone, manufactured homes could only be placed in subdivisions recorded after January 1, 1982. Design criteria were added in 2000 for placing manufactured homes in a variety of residential zones. For the details of Tucson's zoning ordinance, see Appendix B–3.

Pima County Regulations

Pima County's regulations specify particular zones where the installation of individual manufactured homes is allowed. All are rural, and several require extremely large parcels. Table 4.3 presents critical zoning specifications for the installation of individual manufactured homes. This limitation acts to keep manufactured homes out of higher density, developed areas. Persons wanting to live in a manufactured home thus face severely restricted access to the amenities of urban living, including schools, shopping, employment, parks, transportation and cultural events.

Table 4.3: Zoning Specifications for Installation of Manufactured Homes

CODE	NAME	MINIMUM LOT SIZE	RELATED ISSUES
IR	Institutional Reserve	36 acres	Individual manufactured homes permitted.
RH	Rural Homestead	180,000 sq.ft.	Individual manufactured homes permitted.
GR–1	Rural Residential	36,000 sq.ft.	Individual manufactured homes permitted.
SH	Suburban Homestead	72,000 sq.ft.	Individual manufactured homes permitted.
CMH–1	County Manufactured and Mobile Home-1	8,000 sq.ft.	Manufactured home parks permitted; not individual homes on individual lots.
CMH–2	County Manufactured and Mobile Home-2	No minimum	Manufactured home parks permitted; not individual homes on individual lots.
MU	Multiple Use	7,000 sq.ft.	Other permitted uses are incompatible with residential: manufacturing, food processing, stables, kennels, crematoria, and so forth.

Source: Pima County

In addition to these regulations pertaining to the placement of individual manufactured homes, multi-sectional manufactured homes are permitted in all residential subdivisions recorded after June 15, 1981 if the designation "multisectional manufactured homes permitted" is approved by the Board of Supervisors at the time of rezoning and is noted on the plat at the time of recording. Under this provision, multisectional homes could be included as the subdivision was being built or subsequently as infill.

Changing Pima County Regulations

Early in 2007, the Pima County Board of Supervisors initiated a movement that could remove some of the restrictions on manufactured home placements in the county's unincorporated areas. A Manufactured / Affordable Housing Strategy Committee (MAHSC) was organized to:

- Review the zoning code and propose amendments to code sections that govern manufactured housing in Pima County.

- Explore and propose strategies that promote, expand and encourage the availability of affordable housing options in Pima County.

- Generate reasonable and viable zoning code text amendments to be forwarded to the Pima County Planning and Zoning Commission and the Board of Supervisors for consideration.

The Manufactured/Affordable Housing Strategy Committee has 18 members and a hired professional mediator to act as Chairperson and facilitator. Committee members include one appointee from each of the five supervisorial districts, two manufactured housing industry representatives, representatives from several community associations, and a staff person from the Pima County Assessors Office.

The initial meeting was held in Tucson on October 2, 2007. At the time of this writing, it is still too soon to know the outcome of this effort, but hopes are high that a reasonable compromise can be reached that will work to the benefit of persons wishing to live in a manufactured home and enjoy the many benefits of urban or suburban living.

Successful relaxation of Pima County's zoning regulations regarding manufactured homes, however, will not be easy. Reports have surfaced that neighborhood groups are fearful that, if Pima County's zoning restrictions against manufactured homes are eased, their own home values could decline. This is mostly based on the concern that manufactured homes will not conform to neighborhood aesthetic norms. There are solid reasons for these concerns as it is easy to spot examples of homes that will be terribly out of place in typical neighborhoods (see Figure 4.1).

Figure 4.1: Typical Manufactured Home in Rural Pima County

However, if careful structuring of new regulations result in standards for architectural compatibility, new manufactured homes could enhance any neighborhood. In fact, there are already good examples of such homes throughout the Tucson area (see Figures 4.2 through 4.6). Often, however, the public has no awareness of such homes, as they blend into their streetscapes so well that they are no longer distinguishable as manufactured homes. By using examples such as manufactured homes pictured below, public concerns could be ameliorated.

Figure 4.2: Manufactured Home Located in Subdivision in Rural Pima County With Exterior Stucco, Tile Roof, and Garage

Figure 4.3: Conventional Looking Manufactured Home in Subdivision in Rural Pima County

Figure 4.4: Manufactured Home in Rural Pima County That Would Easily Fit Into A Suburban or Urban Area

Figure 4.5: Manufactured Home in Rural Pima County Displaying On-site Architectural Modifications

Figure 4.6: Manufactured Home Located Within Tucson City Limits in a Small Infill Subdivision Exemplifying Santa Fe Architecture

Conclusions

Pima County, Arizona serves as an example of where an ongoing effort is taking place to look into the feasibility of changing land use and zoning regulations so that citizens may place manufactured homes in more suburban or urban areas of the county. For-profit, nonprofit organizations, and trade groups, in conjunction with local government officials, are attempting to equalize zoning and land-use regulations for manufactured homes in the unincorporated areas of Pima County with those of Tucson (Pima County's central city) where zoning restrictions are less restrictive. Current county regulations allow manufactured homes only on large rural lots relatively far from the Tucson city limits. Promoting affordable housing in the desirable neighborhoods on the outskirts of Tucson are, in large part, the impetus behind the organized effort for changing regulations affecting manufactured homes in Pima County.

Proponents of change believe that revising the county zoning and land use regulations to allow manufactured homes in a broader range of areas will help address housing affordability issues and discriminatory practices of the county. Current restrictions deprive those county residents who choose to live in manufactured homes from benefiting from the advantages of a more urban setting. Some citizens, however, are concerned that manufactured homes could negatively impact housing values in certain areas. Appearance, design, and architectural compatibility of manufactured homes will be a key issue impacting any change in regulations.

In 2007, a Manufactured/Affordable Housing Strategy Committee was organized with goals to review the zoning code and propose amendments to code sections that govern manufactured housing in Pima County and to explore and propose strategies that promote, expand, and encourage the availability of affordable housing options. Members serving on this committee consist of a staff member from the Pima County Assessor's Office, representatives of nonprofit associations, appointees from each of the five supervisorial districts in Pima County, and representatives from the manufactured housing industry. A paid professional mediator serves as the chairperson.

After becoming fully informed of the current codes and issues surrounding manufactured homes and affordable housing concerns, the committee will make recommendations to the Zoning and Planning Commission and Board of Supervisors. Recommendations may include any code amendments that are the result of a consensus of the committee. In addition, any housing policy recommendations that are supported by the majority of the committee will be forwarded to the Pima County Housing Commission, the Board of Supervisors, and other relevant parties.

Owensboro, Kentucky (Doe Ridge Subdivision) Case Study[5]

Introduction

The Owensboro, Kentucky case study illustrates where local regulations were revised in 1982 to allow manufactured housing in all residential zones of a city long before the state passed similar legislation. However, it took nearly 20 years before a significant development was able to take advantage of the local area regulatory reform. In 1999, Doe Ridge Subdivision was the first project with manufactured housing to apply the Owensboro zoning ordinance enacted 17 years before. The subdivision is located in Owensboro, Kentucky in the northwestern corner of the state. The developer, Robert Wimsatt, received approval for the first subdivision unit (18 lots) from the city of Owensboro in March 1999. With that approval, the city annexed the subdivision from Daviess County. In June of 2000, unit two (containing 17 lots) was approved and annexed. Following subsequent approvals, Doe Ridge is currently a subdivision of 70 single-family, one-story manufactured homes located within a 183-acre site that includes site-built lots as well. The subdivision is planned to include 150–200 manufactured homes.

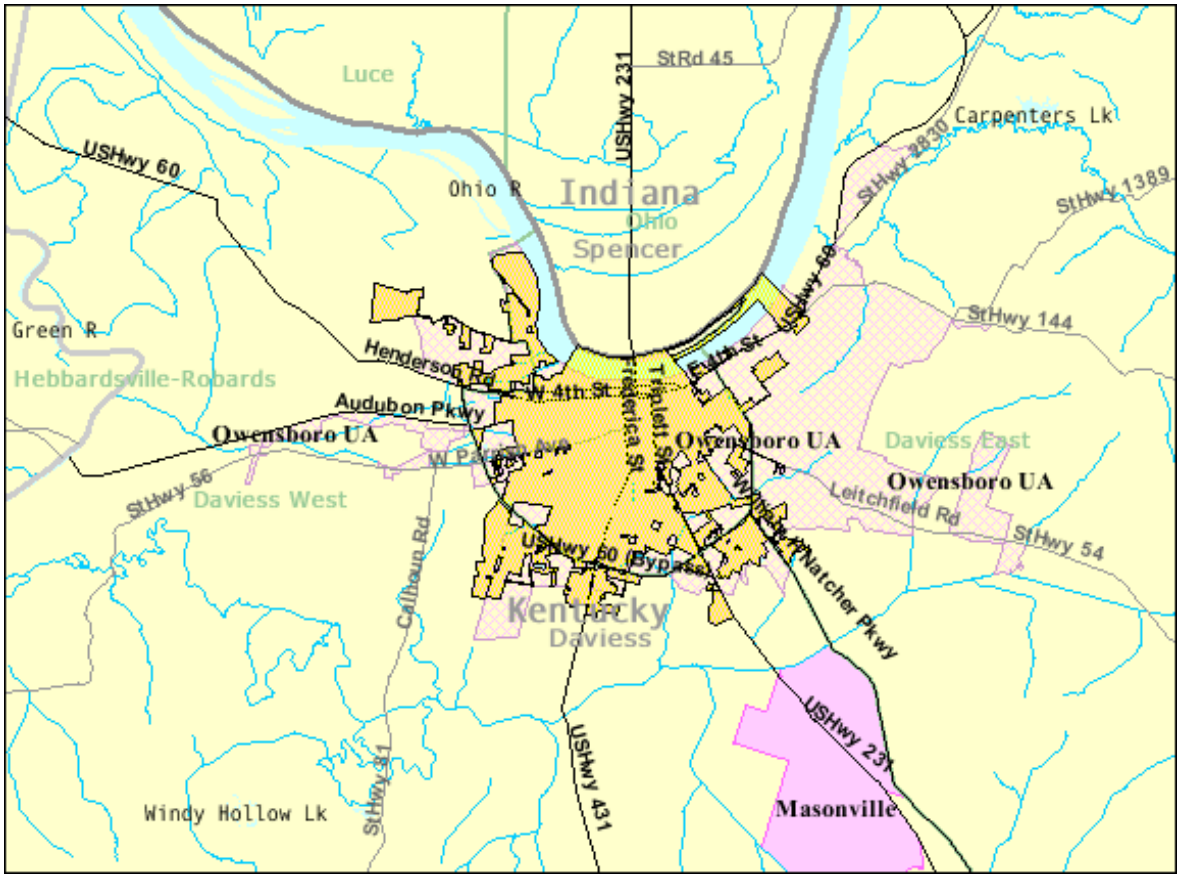
The developer's business model previously was limited to purchasing land, site development and selling lots to individual homebuilders. The land at Doe Ridge is located in the proximity of gas wells and compressor stations, leading the developer to consider it appropriate for low- to middle-range housing, but he did not want a trailer park. In 1999, a progressive and aggressive Fleetwood dealer with the backing of Fleetwood's corporate policy of development provided the developer with an opportunity to put in a manufactured housing development on individual lots.

[5] Case study prepared by David Hattis, Building Techology, Inc.

City Background

Owensboro is located in Northwestern Kentucky along the Ohio River bordering southern Indiana (see Map 5.1). Owensboro is relatively flat, with rolling hills in the western part of the county. With the Ohio River bordering the north and the Green River bordering on the west, 25 percent of the area of Owensboro is flood plain. Recent residential development has been located in the flood plain.

Owensboro is in an area affected by the New Madrid Seismic Zone and seismic design is required by the local building code. Foundations and their attachments to accommodate seismic loads (Category C or D1 in the International Residential Code) are subject to local regulation and enforcement. Seismic design along with other local building code issues such as sprinkler requirements are not addressed in the HUD Code.



Map 5.1: Owensboro, Kentucky
Source: U.S. Census Bureau

Demographic Characteristics

According to the 2000 Census (most recent Census data available), Owensboro's population was 54,067, an annual increase of less than 0.1 percent since 1990, on approximately 17 square miles of land area for a population density of 3,102 people per square mile. The population of Daviess

County (including Owensboro) is growing somewhat more, with 93,613 people in 2006 and an annual growth rate of approximately 0.3 percent since 2000. The County's growth rate is projected to continue through 2025.

Owensboro and Daviess County were over 90 percent white in 2000. The median household income in Owensboro was just under $32,000, almost $2,000 less than the Kentucky median, $4,800 below the Daviess County median and over $10,000 below the national median.

The median age in both Owensboro and Daviess County was 37 years, approximately 2 years older than the Kentucky and national median ages. This can be explained, at least partially, by the relatively large proportion of elderly in Owensboro and Daviess County in 2000 (16.5% and 13.8% respectively), well above the Kentucky and national rates which were just over 12 percent in 2000.

The local economy has been shifting from manufacturing to services. In 1970, manufacturing comprised 33 percent of employment, while the 2007 Owensboro Comprehensive Plan reports manufacturing represented 16 percent of employment in 2000. Manufacturing had been surpassed by services (32%), retail trade (24%) and government (18%) as sources of employment.

Owensboro's homeownership rate was 60 percent in 2000, well below Daviess County, Kentucky and the nation (70.8%, 70.3% and 66.2% respectively). Owensboro and Daviess County had vacancy rates for owner-occupancy units of 1.9 percent and 1.7 percent in 2000, similar to state and national rates and indicative of a tight market. In 2000, Owensboro and Daviess County had rental vacancy rates of 7.7 percent and 7.9 percent, both lower than the Kentucky rate of 8.7 percent but still indicating an adequate supply of rental housing.

Owensboro's housing stock was older (approximately 39% built prior to 1960) than the nation's housing stock (approximately 35% built prior to 1960). Typical of less urban areas, Daviess County's housing stock was somewhat newer with 34 percent of the housing stock built prior to 1960. Housing units in the city of Owensboro consisted primarily of single-family units, which account for 70 percent of all units.

Manufactured Housing Characteristics

Manufactured homes made up less than 1.5 percent of all housing units in Owensboro in 2000 which was well below the Kentucky rate of 14.1 percent and also below the national rate of 7.6 percent (Table 5.1). In contrast to the other case studies, manufactured homes had a lower homeownership rate (approximately 45%) than the rate among all housing units (approximately 60%) in Owensboro in 2000. The median value of owner-occupied manufactured home units was $20,000 compared to $76,100 for all owner-occupied housing units. Almost all of the manufactured housing in Owensboro is located in manufactured housing parks at the fringes of the city. There are a few units located on scattered sites within the city.

Table 5.1: Comparison of Manufactured Housing With All Housing Units in Owensboro

	MANUFACTURED HOME UNITS	ALL HOUSING UNITS
Total Number of Units 2000	347	24,361
Total Number of Units 1990	262	23,074
Percent Change in Number of Units 1990–2000	32.4%	5.6%
Percent Owner-Occupied 2000	44.5%	60.4%
Median Value Owner-Occupied Housing Units 2000	$20,000	$76,100

Source: U.S. Census, 1990 and U.S. Census, 2000

In 2003, the Kentucky Manufactured Housing Institute (KMHI) reported, "Manufactured homes now represent 33 percent of all new home building permits, as well as 25 percent of all the housing stock in Kentucky." The percentages were considerably lower in the city of Owensboro (4.7% and 1.5% respectively) based on 2005 estimates published in Owensboro's 2007 Comprehensive Plan. Of 548 building permits issued after March 2000 through December 2005 in Owensboro, 26 or 4.7 percent were for manufactured homes. Based on the 2005 estimated housing stock total for Owensboro, 1.5 percent or 373 of 24,909 total units were manufactured homes. Seventy units are located in Doe Ridge subdivision, which is the subject of this case study. Manufactured homes are more prevalent in Daviess County, with 2,826 units and 7 percent of the total housing stock.

The dealer/builder of the manufactured housing at Doe Ridge reported that he has done one other manufactured housing development in the county's rural area consisting of eight units on eight lots. Almost all of the manufactured homes in the county are in mobile home parks, and a small number are built on scattered sites, using the conditional use permit process and consisting of one-story single-wide units. The developer of Doe Ridge reported that typically manufactured housing dealers do not do development and builders do not use manufactured housing because it cuts into their profits.

Few manufactured homes are built on the available vacant lots in the city. The Associate Director of Planning in Owensboro reported that there is "no large quantity of vacant lots" in Owensboro. While there is a community development program to develop the few existing lots as affordable housing, the city prefers site-built units as the costs are perceived to be similar to that of constructing manufactured housing.

Recently, a very small number (in 1996, three units) of manufactured homes have been constructed in the city of Owensboro. The Owensboro Metropolitan Zoning Ordinance classifies manufactured homes into three Classes. In 2006, 27 permits were issued for Class 1 manufactured homes (double-wide or larger units that meet installation and appearance standards), and 25 of these were in Daviess County outside the Owensboro city limits. Thirty permits were issued for Class 2 manufactured homes (single-wide units permitted under specified conditions), and 29 of these were in Daviess County outside the Owensboro city limits.

Manufactured Homes in Doe Ridge

Doe Ridge subdivision, positioned on the northwest fringe of the city of Owensboro, is currently a subdivision of 70 single-family, one-story manufactured homes. The subdivision is outside the flood plain, with gently rolling hills, according to the dealer/builder. The manufactured homes are located within the 183-acre subdivision that includes site-built lots and homes as well. An article on Doe Ridge in the *Owensboro Messenger Inquirer*, in June 2000 (see Appendix B–4.1) provides a detailed description of the project.

Doe Ridge was the first project to apply the Owensboro zoning ordinance to a subdivision, 20 years after zoning regulations were revised to allow manufactured housing in all residentially zoned areas. The subdivision is planned to include 150–200 manufactured homes, but development has slowed in recent years.

According to the developer, Robert Wimsatt, Doe Ridge was possible due to the combination of reasonably priced land and the participation of the Fleetwood Corporation in the purchase of part of the land. Recently, Fleetwood reportedly decided to eliminate their development business, stalling the manufactured housing subdivision at 70 units. It is currently unclear whether another manufacturer will participate in the future of this development.

Description of Doe Ridge Manufactured Homes

Physical Configuration (Singles / Doubles / Triples / Number of Stories)

The single-family manufactured homes at Doe Ridge are all single-story double-wide units (see Figures 5.1 through 5.4). The average area of the units is 1,680 sq. ft. (28’ x 60’), and about 20 percent of the units are 2,430 sq. ft. (32’ x 76’). The average lot size at Doe Ridge is 75’ x 85’–100’. The homes are all HUD-Code homes, and none were subject to any Alternative Construction Letter from HUD.

Exterior Designs

Foundation and skirting:	Block foundation; split-faced block skirting.
Siding:	Vinyl siding and shutters.
Porches:	Post-production porches and stairs on all the houses.
Garages:	About 10 percent of the houses have garages. Two or three of them are attached to garage-ready homes, and the rest are detached. The dealer/builder reported that lot size and configuration constrained the use of attached garages.
Roofing:	Roofs are all asphalt shingles. Roof slopes are 3/12, 4/12, and 5/12. A dealer reported they got away from 7/12 roof slopes for reasons of transportation.
Other additions:	10’ x 20’ elevated rear decks; sidewalk lights.

Figure 5.1: Manufactured Home With Post-production Porch, Vinyl Decorative Column, and Roof Vents (attributed to steeper pitch)

Figure 5.2: Manufactured Home With Post-production Porch

Figure 5.3: Manufactured Home With Post-production Porch and Attached Garage

Figure 5.4: Manufactured Home With Attached Garage

Doe Ridge is a subdivision that includes an area of manufactured housing lots while the rest of the development is site-built. The site-built houses are not interspersed with the manufactured, but the two types do back up on each other at several points. The manufactured housing subdivision was the first to be built and design compatibility with site-built homes was not considered. The dealer/builder reported that an architectural committee has been established for the subdivision to review additions such as fences. The developer stated, "Roof pitches are the biggest giveaway." Figure 5.5 shows a manufactured home in relationship to several site-built homes behind it.

Figure 5.5: Manufactured Home With Three Site-built Homes in the Background

Existing Homes Similar to Manufactured Housing

Architectural Context

There are a few two-story homes in Owensboro, but these are mostly older houses. One-story residential construction in the city of Owensboro is predominant and exclusive in the Doe Ridge subdivision. The site-built homes of the subdivision set themselves apart by having steeper roof pitches than manufactured homes.

Site-built Homes in the Doe Ridge Development

The site-built homes in the Doe Ridge Development are similar in size and appearance to the manufactured homes except for the steeper roofs. Figures 5.6 through 5.8 illustrate site-built homes in the subdivision.

Figure 5.6: One-story Site-built Home Under Construction with Attached Garage

Figure 5.7: One-story Site-built Home With Double Attached Garage

Figure 5.8: One-story Site-built Home With Brick and Single Attached Garage

Impact of Manufactured Home Regulations

Owensboro's zoning ordinance was amended in 1982 to allow manufactured housing on residentially zoned sites. In 2004, the 1982 provision on manufactured housing was revised so that manufactured home definitions would be in accordance with the recently passed state legislation (KRS 100.348 and KRS 227.550) discussed below, and with KMHI definitions.

The Owensboro Metropolitan Zoning Ordinance permits the use of double-wide or larger manufactured housing units that meet installation and appearance standards in all Single-Family Residential Zones. Single-wide manufactured homes or larger units not meeting installation and appearance standards are conditionally permitted (with Board of Adjustment approval) in those zones. Manufactured housing built prior to the HUD Code are permitted only in Agriculture Zones. (See Appendix B–4.2 for an excerpt from Owensboro Metropolitan Zoning Ordinance, Article 8, Zones and Uses Table showing where each class of manufactured home is principally or conditionally permitted. Also see Appendix B–4.3 for definitions and descriptions of the installation and appearance standards for each class of manufactured home from Article 14, Definitions of the Owensboro Metropolitan Zoning Ordinance which were reviewed by the Kentucky Manufactured Housing Institute prior to their adoption.)

In April 2002, the Kentucky General Assembly passed legislation (SB 197, which was signed into law effective July 1, 2003) and was codified into KRS 100.348 addressing land use regulation of manufactured homes within cities and counties across Kentucky (see Appendix B–4.4). The intent of the legislation was to ensure that manufactured homes were included within jurisdictions as an acceptable form of economically priced housing. Owensboro's zoning ordinance preceded this legislation by 20 years and the Doe Ridge development was not affected by the state legislation.

Doe Ridge was undoubtedly enabled by the zoning ordinance of 1982, but this ordinance had not prompted other subdivisions to include manufactured housing. Although the use of manufactured housing in Doe Ridge was facilitated by the zoning ordinance, it was the combination of acquiring land at a reasonable price and the participation of Fleetwood corporate headquarters in the purchase of part of the land that made the project possible. Absent these circumstances, volume development of manufactured housing subdivisions has simply not happened in Owensboro, and seems unlikely in the foreseeable future.

Market and Non-regulatory Impacts

The dealer/builder of the manufactured housing at Doe Ridge reported that the manufactured units sold in the range of $80,000–$115,000. Site-built houses at Doe Ridge were in the range of $125,000–$165,000. The dealer/builder's other development in the county, on lots ranging from 1/2 to 3/4 acre, sold in the range of $90,000–$125,000. The Associate Director for Planning stated that it is hard to compare pricing advantage, but acknowledged that standard double-wide units are significantly less costly than equivalent site-built units.

The purchases of the first set of manufactured homes at Doe Ridge were financed by Green Tree, which finances manufactured homes, but the rest of the units were financed by conventional

loans at rates equivalent to those applicable to site-built homes (6–6.5% based on the dealer/builder's recollection).

Reports on long-term values of manufactured homes at Doe Ridge are mixed. The dealer/builder at Doe Ridge stated, "Our customers are our best salesmen. These aren't trailers." He reported that to his knowledge about eight houses have been resold, and they were listed by realtors. The developer stated that he had heard that some owners had a tough time selling their units.

The developer's feeling is that the units maintain their long-term value, but stated that insurance for manufactured housing can be expensive. "It doesn't reflect the reduced risk of HUD-Code houses." The developer believes that on average the manufactured houses will appreciate, although at a lower rate than site-built homes. An Owensboro Board of Realtors staff member stated there is no indication of decline in value of manufactured homes, and that value is a function of the maintenance of the home. The Director of the Owensboro Community Development Department, however, stated that resales at Doe Ridge have lagged, and owners have had a hard time selling.

There was no indication from any of the interviews of public or nonprofit promotion of manufactured housing. The Director of the Community Development Department reported that the city has not used manufactured housing because of architectural features and the requirement for steeper roof pitches. He believes that manufactured housing is not appropriate for infill housing. In infill situations, the price becomes similar to site-built, and the city prefers that local contractors build the infill housing. The dealer/builder of the manufactured homes at Doe Ridge reported that in 1998 he applied for a Community Development grant of $20,000–$30,000 for an infill unit, but the Department of Community Development conditioned the grant on use of a roof slope of 7/12 which could not be done.

The Executive Director of the Housing Authority of Owensboro reported that the Authority is currently involved in managing existing inventory of public housing and Section 8 housing vouchers and has not produced housing in quite a while. He has recently become aware of factory-produced housing as a solution to housing affordability and stated that he would consider using manufactured housing should the Authority produce housing in the future.

Discussions were conducted with the Executive Director of Habitat for Humanity in Owensboro and with GRADD (Green River Area Development district) which is active in seven counties surrounding Owensboro (Daviess, Hancock, Henderson, McLean, Ohio, Webster and Union Counties). Neither has used manufactured housing as part of their affordable housing programs. The Executive Director of Habitat for Humanity also stated that Owensboro is in tornado alley and manufactured housing is not appropriate, adding "There is a stigma to mobile homes."

Conclusions

- Regulatory reform is necessary, but not sufficient, for the development of fee-simple manufactured homes in either subdivisions or scattered sites.

- There is a need to better communicate the benefits of manufactured housing to nonprofit housing developers.

- Although manufactured housing is prevalent in rural Kentucky, the Owensboro case indicates significant obstacles beyond regulatory impediments facing any significant increase as an affordable housing alternative in urban development.

CONCLUSION

HUD-Code housing offers much promise as a technological solution to the affordable housing crisis facing many Americans. This study examined the factors influencing the placement of HUD-Code units to determine if local regulatory practices play a role in limiting the use of HUD-Code homes within urban communities. Two separate analyses were performed: (1) an empirical analysis of local regulations, emphasizing their implementation and influence on manufactured housing supply, and (2) qualitative case studies of four communities reported to have success in regulatory reforms and the urban placement of HUD-Code homes. The results of these analyses are summarized below, followed by a discussion of policy recommendations.

Overall Summary of Results

Over the 2000 to 2005 period, there were significant regional differences in manufactured housing shipment activity. The South continued to attract the largest share of shipments, although this share declined somewhat since 2000. The relative decline in shipments to Southern states was accompanied by a relative decline in retention of the existing stock of units. The Midwest also saw declining shares of shipments over the 2000 to 2005 period, while the Northeast and West saw consistently low levels of shipment activity.

Almost all states address the regulation of manufactured housing, and more than half of states require localities to allow HUD-Code units somewhere within local jurisdictions. The majority of states do not address additional local regulations governing design, installation, lot improvements, or placement on site, however.

States that most strongly promoted HUD-Code usage captured the highest share of shipments over the 2000 to 2005 period. Furthermore, the gap between strong states and other states has grown over time. At the state level, this suggests that requirements to enact accommodating local standards appear to be having an influence on shipment activity at least at the state level.

Local regulatory barriers play a larger role in limiting the placement of manufactured housing than in limiting the sale or shipment of manufactured housing units. By-right zoning does not significantly impact shipments or sales, and few perceived regulatory barriers impede HUD-Code shipments or sales at statistically significant levels. This is somewhat expected, given that shipments to communities are influenced primarily by transportation costs and logistical factors, while sales are influenced by market conditions, given the existing supply of units. Manufactured housing placements, on the other hand, are influenced by a variety of regulatory barriers, including the lack of by-right zoning, burdensome fees, permits, snow load standards, fire codes, zoning codes, subdivision regulations, architectural design standards, and environmental regulations. Among these regulatory influences, the overall permitting system has the largest negative impact on unit placement. Different regulatory barriers have different impacts on unit placement across the distribution of units placed, with the largest number exhibiting threshold effects at the 0–1 unit level. This suggests that regulatory barriers are associated more with whether jurisdictions have no or any HUD-Code units, while market conditions have a greater role in determining the number of units that are placed in a community, given that units are allowed. Market factors shown to have a statistically significant impact on placements include

regional location, population density, median family income, the existing inventory of manufactured housing units, and proximity to manufactured housing plants.

This study's analysis of HUD-Code placements in urban communities also suggests that the best approach to increasing the supply of HUD-Code homes would be to promote the use of manufactured housing in HUD-Code parks and infill in traditional subdivisions, along with allowing by-right placement in new single-family subdivisions. Jurisdictions approving new parks were twice as likely to have more than 50 units placed in the past five years than those not approving new parks. Communities with the highest placements of HUD-Code units were those with a mix of placements among HUD-Code parks, as infill in traditional subdivisions or in new subdivisions.

However, jurisdictions with by-right regulations were less likely to approve new parks than those requiring special permits or restricting units to special districts. These findings suggest that to promote the supply of HUD-Code homes, regulations protecting by-right use in traditional single-family districts and infill locations should not be viewed as replacing regulations allowing the development of subdivisions devoted to manufactured housing.

Obviously, allowing HUD-Code homes as a by right use in single-family zones is not a panacea and does not guarantee that these homes become part of the housing production stream. Even if permitted to do so, developer-builders might not mix different housing production systems within a subdivision. In single-family subdivisions where local regulations allow HUD-Code homes as a by-right use along with other types of housing, land developers might place private restrictions on lots sold to builders that exclude HUD-Code homes. The impact of government regulations are mediated by market dynamics that those regulations cannot control.

To augment the survey and statistical analysis, four case studies were conducted on communities reported to have success in regulatory reforms and the urban placement of HUD-Code homes: Oakland (California), state of Washington, Pima County (Arizona), and Owensboro (Kentucky). Oakland is one of the premier success stories of the use of manufactured housing in urban infill. Washington recently passed state legislation enabling broader use of manufactured housing after a near three-decade-long advocacy effort and the success of several well-publicized subdivisions featuring manufactured housing. The Pima County case illustrates the complexities of placing manufactured units in the expanding suburbs of a high-growth urban area. Owensboro illustrates the ongoing challenges of developing and marketing manufactured housing even within a state with a long reliance on manufactured housing in rural areas and a record of state legislative support.

Nonprofit organizations played a critical role in placing HUD-Code homes within the urban locations documented in the case studies, particularly in the state of Washington. Nationwide, nonprofits are a relatively untapped resource for promoting placement of manufactured homes in urban areas. CFED (Corporation for Enterprise Development), whose I'M HOME program provides funding nationally to nonprofit organizations for implementing manufactured housing initiatives, reports that efforts are focused primarily in rural areas. Less than 10% of grant recipients concentrate efforts within urban areas and less than 25% concentrate efforts in urban/suburban areas.

The most important lesson emerging from the case studies is that successful manufactured housing based affordable housing strategies require strong community support, institutional mechanisms for delivering manufactured housing units, along with sustained political leadership. Communities must also be familiar with the technical constraints to transporting and securing units onsite.

Recommendations

These findings suggest that if HUD-Code homes are to be considered viable affordable housing options in urban communities, steps must be taken to remove the barriers that currently exist to placing such units. The following are offered as recommendations for achieving this goal:

- Since local regulations influence manufactured housing placement through a variety of channels, local regulators should seek to ensure that the overall permitting system is supportive of manufactured housing placement. Regulations protecting by-right use in traditional single-family districts and infill locations should not be viewed as replacing regulations allowing the development of subdivisions and parks devoted exclusively to manufactured housing. However, parks are only one element of the affordable housing toolkit, and HUD's previous research has shown that capital appreciation potential is significantly tied to land ownership. States wishing to have the most significant impact on reducing local regulatory barriers should focus on minimizing the cumulative effect of all local regulations, rather than on requiring specific local provisions such as design requirements and by-right allowances.

- Regulatory reforms will help to alleviate some constraints to placing manufactured housing units, but market conditions will ultimately determine if manufactured housing is viable locally. Residents must be willing to pay for manufactured housing units, and financing must be available to those seeking to purchase a manufactured home. Furthermore, the manufactured housing industry's supply chain (manufacturer-dealer-installer-buyer), and the difficulty of financing units under traditional construction loans until they are secured onsite, can impede the placement of units.

- Built-out urban areas can promote affordable redevelopment using manufactured housing on vacant infill lots, particularly in cities with the potential to capture an important share of the moderate priced housing market. Using manufactured housing also reduces the time required to enclose and secure the unit from theft or vandalism, potentially adding to the cost-savings particularly when used as infill.

- Although regulations requiring by-right use of HUD-Code homes in single-family districts are necessary to promote the supply of such homes on infill lots and in traditional subdivisions, these regulations do not eliminate the need for regulations allowing the creation of special HUD-Code subdivisions. The creation of new subdivisions targeted to HUD-Code homes can expand opportunities for affordable housing and should be considered as a way of promoting manufactured homes along with regulations allowing their use in traditional residential zones.

- Manufactured housing may not be a viable affordable housing alternative for all communities. Although more units can be placed through the development of manufactured housing subdivisions, acceptance (public, governmental, and market) in high growth suburban areas will be difficult, but not impossible. Infill in older cities within high-growth metropolitan markets might prove more fruitful.

- Urban areas where placement of manufactured housing has been successful are models for other communities. For example, Oakland, California capitalized on state regulatory reforms to introduce manufactured housing on infill lots. Without a forward thinking or motivating leader (in the case of Oakland, a progressive city council), regulatory reform will not in itself promote manufactured housing.

- The nonprofit affordable housing sector could be an important ally in promoting manufactured housing. Efforts should be taken to familiarize nonprofit housing producers with the unique aspects of the manufactured housing supply chain, in addition to the role of regulations and local market conditions in influencing the viability of manufactured housing as an affordable housing alternative.

- Local nonprofit housing organizations should investigate opportunities provided by national nonprofit organizations to support manufactured housing initiatives. One such organization, CFED (Corporation for Enterprise Development), promotes manufactured housing through an initiative called I'M HOME, or Innovations in Manufactured Homes, offering grants and contracts to nonprofit organizations interested in promoting or developing manufactured housing.

- Research on this topic is severely limited by the paucity of jurisdiction-level data on manufactured housing supply. Shipments are only provided in state-level aggregate form, and placements at the local level are not provided by any publicly-available sources. Furthermore, information on important aspects of the supply chain, particularly supplier-to-dealer relationships, is nonexistent. Collection of these data would help to generate additional research on the manufactured housing industry and provide local planners with a useful source of information for analyzing the impacts of local regulatory measures.

APPENDIXES

Appendix A: Impact of Regulations on Manufactured Housing Survey

VirginiaTech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

LOCAL REGULATORY PRACTICES AND MANUFACTURED HOMES

Please answer the following questions about your jurisdiction's practices regarding manufactured homes which we refer to as **HUD-Code** homes. A manufactured home (formerly known as a mobile home) is built to the Manufactured Home Construction and Safety Standards (HUD Code). Manufactured homes are built in the controlled environment of a manufacturing plant and are transported in one or more sections on a permanent chassis. These questions have been approved by the United States Office of Management and Budget. Answering is completely voluntary and information provided will be protected. If you believe there is another person better suited to answer questions on regulations related to manufactured housing, please ask that person to complete this questionnaire. After answering all the questions, please promptly return the questionnaire in the envelope provided. Thank you for your valuable input and time.

Total N=940 out of 1,725. Questions have N followed by the % that answered for each choice

Q1. In the past 5 years has your jurisdiction approved the placement or location of any new **HUD-Code** homes (please check the answer that best fits)?

☐ No 235, 26% ☐ Not Sure, Probably Not 56, 6.2%

☐ Not Sure, Probably Yes 54, 6.0% ☐ Yes 558, 61.8%

If you answered Q1 as *No* or *Not Sure, Probably Not*:

Q1a. Does your jurisdiction ever allow **HUD-Code** homes to be used?

☐ Yes 159, 58.0% ☐ Rarely 41, 15.0% ☐ No 74, 27.0%

If you answered Q1a as *Rarely* or *No*, please skip to Q8 at end.

If you answered Q1a as *Yes*:

Q1b. Please check which one of the following best describes your jurisdiction's regulations on **HUD-Code** homes?

73, 46.8% ☐ **HUD-Code** homes are allowed as a by right use in single-family zones, but there have been no requests to locate **HUD-Code** homes in the past 5 years.

16, 10.3% ☐ **HUD-Code** homes are allowed in single-family zones on a temporary basis or with special or conditional use permits, but there have been no requests to locate **HUD-Code** homes in the past 5 years.

67, 42.9% ☐ **HUD-Code** homes are restricted to designated "mobile home parks", communities, or subdivisions, but we haven't received any proposals for new parks in the past 5 years.

Please skip to Q6.

If you answered Q1 as *Yes* or *Not Sure, Probably Yes*, please continue:

Q2. Approximately how many **HUD-Code** homes have been placed or located in your jurisdiction in the past 5 years?

☐ 1-10 ☐ 11-20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-99 ☐ 100+

191, 33.4% 105, 18.4% 67, 11.7% 29, 5.1% 35, 6.1% 36, 6.3% 109, 19.1%

Q3. Does your jurisdiction:

1. Restrict **HUD-Code** homes to special zoning categories such as "mobile home parks", communities, or subdivisions? ☐ Yes ☐ No

   238, 40.9% 343, 58.9% 1, .2% other

2. Require a special or conditional use permit for **HUD-Code** homes to be placed or located in single-family zones? ☐ Yes ☐ No

   128, 22.5% 419, 73.8% 21, 3.7% other

3. Allow **HUD-Code** homes as a by right use in one or more single-family zones if design standards are met? ☐ Yes ☐ No

   357, 62.7% 209, 36.7% 3, .5% other

4. Allow **HUD-Code** homes as a by right use in one or more single-family zones subject to the same rules as other housing? ☐ Yes ☐ No

   346, 61.3% 214, 37.9% 4, .7% other

If you answered *Yes* to #3. above:

Does the planning staff or building department have any discretion in the administration of these design standards?

259, 71.3% ☐ No, the standards are fixed and clear.

91, 21.5% ☐ Yes, describe _____

13, 3.6% ☐ Not Applicable

How difficult is it for **HUD-Code** homes to meet these design standards?

256, 73.6% ☐ They are easily met.

64, 18.4% ☐ They can be met, but the standards significantly affect unit costs.

5, 1.4% ☐ They are hard to meet.

23, 6.6% ☐ Not Applicable

Q4. Has your jurisdiction approved any new "parks", communities, or subdivisions for **HUD-Code** homes in the past 5 years?

104, 17.3% ☐ Yes 495 82.5% ☐ No 1, .2% other

If *Yes*, how many "parks", communities, or subdivisions for **HUD-Code** homes were approved?

_____ (please write in the number)

492, 82.6%=0 (includes those who said no above); 65, 10.9%=1; 21, 3.5%=2; 9, 1.5%=3; 9, 1.6%=4 or more

Q5. Approximately what proportion of **HUD-Code** homes placed or located in your jurisdiction in past 5 years have been in:

HUD-Code parks, communities, or subdivisions?

☐ 0-24% ☐ 25-49% ☐ 50-74% ☐ 75-89% ☐90%+ ☐ Don't Know
223, 39.7% 30, 5.3% 39, 6.9% 30, 5.3% 169, 30.1% 71, 12.6%

Infill in older single-family neighborhoods?

☐ 0-24% ☐ 25-49% ☐ 50-74% ☐ 75-89% ☐90%+ ☐ Don't Know
325, 59.1% 50, 9.1% 26, 4.7% 31, 5.6% 60, 10.9% 58, 10.5%

New single-family subdivisions (not restricted **HUD-Code** homes)?

☐ 0-24% ☐ 25-49% ☐ 50-74% ☐ 75-89% ☐90%+ ☐ Don't Know
401, 80.4% 20, 4.0% 7, 1.4% 6, 1.2% 4, .8% 61, 12.1%

Q6. Does your jurisdiction require a special or conditional use permit or other permit if **HUD-Code** homes are placed or located in single-family zones (other than designated mobile home parks, communities, and subdivisions)?

☐ Yes ☐ No
198, 26.3% 514, 68.2% 42, 5.5% other

Q7. Does your jurisdiction promote the use of **HUD-Code** homes through any special incentives or programs?

☐ Yes ☐ No (Please skip to Q8)
11, 1.4% 759, 98.6%

If you answered *Yes* to Q7:
Are these incentives or programs targeted to redevelopment or infill?

☐ Yes ☐ No ☐ Not Applicable
9, 90% 1, 10%

If *Yes*, please describe the incentives used:_____
_____
_____

Do you use Community Development Block Grants (CDBG), HOME or other federal funding in these programs?

☐ Yes ☐ No ☐ Not Applicable
7, 70% 3, 30%

Of the **HUD-Code** homes placed or located in your jurisdiction in the past 5 years, what percentage of homes were placed in areas targeted by these programs?

☐ Less than half ☐ 50%-74% ☐ 75-89% ☐ 90%+ ☐ Don't Know ☐ Not Applicable
7, 70% 1, 10% 0, 0% 2, 20% 0, 0%

Q8. For your jurisdiction, please rate the following potential barriers to **HUD-Code** homes (please check one box per barrier): Based on full N = 940

	Not Applicable	Not a Barrier	Minor Barrier	Significant Barrier	Prevent **HUD-Code** Homes
Fees	☐	☐ 1 67.3%	☐ 2 17.6%	☐ 3 2.5%	☐ 4 .5%
Permits	☐	☐ 1 66.4%	☐ 2 19.0%	☐ 3 5.1%	☐ 4 1.5%
Deed restrictions/covenants	☐	☐ 1 33.5%	☐ 2 19.6%	☐ 3 20.4%	☐ 4 6.4%
Wind standards	☐	☐ 1 53.7%	☐ 2 23.1%	☐ 3 7.4%	☐ 4 1.1%
Snow load standards	☐	☐ 1 50.5%	☐ 2 16.3%	☐ 3 2.7%	☐ 4 .8%
Fire codes	☐	☐ 1 62.6%	☐ 2 20.0%	☐ 3 5.6%	☐ 4 .7%
Zoning codes	☐	☐ 1 34.2%	☐ 2 28.7%	☐ 3 4.2%	☐ 4 9.2%
Subdivision regulations	☐	☐ 1 46.6%	☐ 2 24.1%	☐ 3 14.4%	☐ 4 6.0%
Architectural design standards	☐	☐ 1 39.0%	☐ 2 24.7%	☐ 3 10.2%	☐ 4 3.1%
Citizen opposition	☐	☐ 1 22.2%	☐ 2 31.6%	☐ 3 31.3%	☐ 4 4.8%
Environmental regulations	☐	☐ 1 64.4%	☐ 2 13.3%	☐ 3 2.7%	☐ 4 .5%
Historic district regulations	☐	☐ 1 31.8%	☐ 2 16.1%	☐ 3 16.2%	☐ 4 9.9%
High land costs	☐	☐ 1 26.5%	☐ 2 22.0%	☐ 3 38.0%	☐ 4 4.4%
Not much land (built-out)	☐	☐ 1 35.9%	☐ 2 20.0%	☐ 3 27.3%	☐ 4 3.8%
No new **HUD-Code** parks, communities, or subdivisions approved	☐	☐ 1 27.03%	☐ 2 14.6%	☐ 3 28.4%	☐ 4 7.2%
Insufficient demand for **HUD-Code** homes	☐	☐ 1 37.8%	☐ 2 20.7%	☐ 3 18.2%	☐ 4 3.6%

THANK YOU! Please make sure you have answered all the questions and return the questionnaire in the business reply envelope provided (no postage required) or, if envelope misplaced, to:

Casey Dawkins, Ph.D.
Center for Housing Research, Mail Code 0451
Virginia Tech
Blacksburg, Virginia 24061

Optional: To receive the results of this survey, provide your email or mailing address:

_____

Appendix B: Supporting Documents for Case Studies

Appendix B–1: Oakland, California

Appendix B–1.1: Oakland, California, City Ordinance 10004

APPROVED AS TO FORM AND LEGALITY

INTRODUCED BY COUNCILMAN_____

CITY ATTORNEY

ORDINANCE No. 10004 C.M.S.

AN ORDINANCE AUTHORIZING DEVELOPMENT OF MANUFACTURED HOUSING IN RESIDENTIAL ZONES

WHEREAS, the City of Oakland recognizes that manufactured houses on permanent foundations in the City would provide many Oakland residents, who are priced out of the conventional housing market, with decent, safe and affordable housing; and

WHEREAS, the National Mobile Home Construction and Safety Standards Act of 1974, 42 U.S.C. et. seq. establishes federal mobile home construction and safety standards and requires all mobile homes produced after June 15, 1976, to have federal certification. Said Act preempts any stated regulations regarding the manufacture of mobile homes unless the state regulations are identical to federal regulations; and

WHEREAS, State Senate Bill 1004 amends the Revenue and Taxation Code to provide for local property taxation of all new mobile homes built on permanent foundations; and

WHEREAS, improved construction techniques and materials have made manufactured houses on permanent foundations virtually indistinguishable from conventionally constructed houses and have decreased the cost of said manufactured homes to up to 50 percent less than conventionally constructed houses; now, therefore,

The City Council of the City of Oakland does ordain as follows:

SECTION 1. The City of Oakland hereby allows the placement of manufactured housing on permanent foundations throughout the City under the following conditions:

SECTION 2. DEFINITIONS

(a) A manufactured house is a structure transportable in two or more modules which is built on a permanent chassis and designed to be used as a dwelling with a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning and electrical systems contained therein.

(b) A module is a unit of a manufactured house not less than ten body feet in width and not less than thirty-two body feet in length.

(c) A manufactured house is synonomous with mobile home as defined in S5402(6) of the National Mobile Home Construction and Safety Standards Act of 1974 except that for the purposes of this Ordinance a manufactured house shall only be a mobile home which is attached to a permanent foundation and is at least twenty feet in body width, and consists of two or more modules.

SECTION 3. CODE COMPLIANCE

(a) Codes: All manufactured houses shall possess necessary building permits as required by the Oakland Building, Plumbing, Electrical, and Mechanical Codes and this Ordinance, including those required for site preparation, provision of utilities and the construction of accessory structures.

(b) Foundations: All manufactured houses to be developed on City lots shall be placed on permanent foundations, as approved by the City.

SECTION 4. DEVELOPMENT STANDARDS

Prior to the issuance of a building permit for placement of a manufactured house on a permanent foundation, all such houses subject to this Ordinance must meet the following development standards:

(a) Have exterior siding extending to within six inches of dirt or two inches of concrete and consisting of a conventional dwelling type exterior material;

(b) Have a shingled, pitched roof with eaves;

(c) Have an enclosed garage or a minimum 100 square foot storage shed, the exterior materials of which shall be the same as the house; and

(d) Have a fenced backyard and a landscaped front yard installed prior to the issuance of Certificate of Occupancy.

SECTION 5. ENFORCEMENT

The enforcement provisions of the Oakland Planning Code shall be applicable to zoning and design violations under this Ordinance.

IN COUNCIL, OAKLAND, CALIF., DEC 9 1980, 19____

PASSED BY THE FOLLOWING VOTE:

AYES — ENG, GIBSON, GILMORE, MOORE, OGAWA, RILES, SPEES, SUTTER AND PRESIDENT WILSON - 9

NOES — NONE

ABSENT — NONE

ABSTENTION — NONE

ATTEST: Arrece Jameson
ARRECE JAMESON
City Clerk and Clerk of the Council
of the City of Oakland, California

Appendix B–1.2: Oakland, California, City Ordinance 10092

APPROVED AS TO FORM AND LEGALITY

DEPUTY CITY ATTORNEY

JMH:pl

INTRODUCED BY COUNCILMEMBER_____

ORDINANCE No. 10092 C. M. S.

AN ORDINANCE AMENDING, ORDINANCE NO. 10004 C.M.S. DELETING CERTAIN ARCHITECTURAL STANDARDS FOR MANUFACTURED HOUSING.

WHEREAS, the City of Oakland authorized development of manufactured housing and residential zones and set certain architectural standards for said manufactured housing pursuant to Ordinance No. 10004 C.M.S.; and

WHEREAS, Senate Bill No. 1960 operative July 1, 1981 among other things, limits the imposition of architectural requirements exclusive to manufactured housing by municipalities to roof overhang, roofing material and siding material; and

WHEREAS, Ordinance No. 10004 C.M.S. in Subsections (c) and (d) of Section 4, Development Standards, imposes architectural standards exclusive to manufactured housing pertaining to garages, enclosures and front and back yards; now, therefore, be it

RESOLVED: Subsections (c) and (d) of Section 4, Development Standards, of City of Oakland Ordinance No. 10004 C.M.S., passed by the City Council on December 9, 1980 be deleted.

IN COUNCIL, OAKLAND, CALIF. JUL 7 1981, 19____

PASSED BY THE FOLLOWING VOTE:

AYES—ENG, GIBSON, GILMORE, MOORE, OGAWA, RILES, SPEES, SUTTER AND VICE-PRESIDENT MOORE - 7

NOES— NONE

ABSENT— PRESIDENT WILSON - 1

ABSTENTION— none

ATTEST: _____

ARRECE JAMESON

City Clerk and Clerk of the Council of the City of Oakland, California

1338
10894

Appendix B–2: Washington Manufactured Housing Association Brochure

WASHINGTON STATE MANUFACTURED HOUSING ZONING LAW

Legislative Intent

The language of this new Washington State law sums up the legislature's mood with the following sentence: "The legislature intends to protect the consumers' right to choose among a number of housing construction alternatives without restraint of trade or discrimination by local governments."

A clear signal in its own right, the intent is complemented by additional language citing Congressional action, including:

"Manufactured housing plays a vital role in meeting the housing needs of the nation, and manufactured homes provide a significant resource for affordable homeownership and rental housing available to all Americans."

Performance Building Code

This law recognizes that Congress has mandated uniform, inter-state construction standards for manufactured housing. This federal regulation is equivalent to the state's building code. These federal standards assure the quality and safety in the construction of manufactured homes that buyers expect.

Placement of Homes

Jurisdictions are prohibited from enacting any statute or ordinance that directly or indirectly discriminates against consumers' choices in the placement or use of a home that is not equally applicable to all homes.

Permissible Requirements

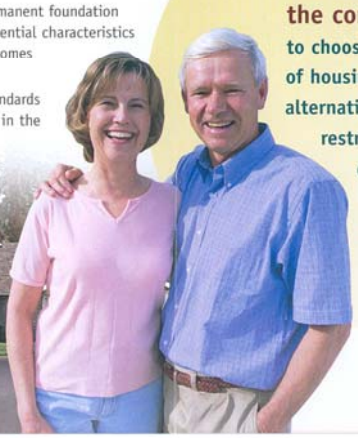
Local governments may require manufactured homes to:

- be new construction;
- be set on an enclosed permanent foundation and constructed with residential characteristics similar to those of other homes in the community;
- comply with all design standards applicable to other homes in the same neighborhood; and
- be equivalent to the state energy code.

Assistance Available

The manufactured housing industry is committed to helping both consumers and local governments take advantage of this new state law. **Consumers can contact the Washington Manufactured Housing Association (WMHA) at 360-357-5650 to see if their desired home site is in a community that already follows state law. Government officials may also contact WMHA for help in drafting model ordinances** that will bring their existing laws into full compliance with minimal disruption to their already busy schedules.

"The legislature intends to protect the consumers' right to choose among a number of housing construction alternatives without restraint of trade or discrimination by local governments."



Appendix B–3: Pima County, Arizona: Ordinance 9443, City of Tucson

An information bulletin dated January 8, 2001, issued by the city of Tucson Planning Department, encapsulates the current status of manufactured homes within the city:

> On November 27, 2000, Mayor and Council adopted Ordinance #9443, which became effective on December 27, 2000. The ordinance sets forth certain criteria for installation of a manufactured housing unit on a site. The restrictions and design criteria do not apply to development in the mobile home zones, MH–1 or MH–2.
>
> Prior to the adoption of this ordinance, the Land Use Code:
>
> - Defined a manufactured housing unit as "A multisectional mobile home dwelling manufactured after June 15, 1976, to standards established by the U. S. Department of Housing and Urban Development which has external dimensions of at least twenty-four (24) feet by forty (40) feet and is installed on a permanent foundation. A manufactured housing unit is considered equivalent to a single-family dwelling. A wall shall be installed continuously, except for ventilation and access, along the entire perimeter of the unit between the unit and the ground to give it the appearance of a site-built house. The wall shall be of masonry construction or similar material. The tongue, axles, transporting lights, and towing apparatus shall be removed before occupancy." (LUC Section 6.2.13).
>
> - Permitted units in all zoning districts where dwellings were permitted, with the exception of the R–1 zone, where they could be placed only in subdivisions recorded after January 1, 1982.
>
> Ordinance #9443:
>
> - Does not change the definition of a manufactured housing unit.
>
> - Adds design criteria for placement of the unit in SR, RX–1, RX–2, R–1, R–2, and R–3 zones.
>
> - Further restricts placement of manufactured homes in the R–1 zone, in that they must be located in a subdivision in the R–1 zone recorded after January 1, 1982, and also may not be located in any resubdivision of a subdivision recorded prior to January 1, 1982.
>
> - Permits the use of manufactured housing units in Residential Cluster Project development (per Section 3.5.7.1.F of the Land Use Code).
>
> - Permits the use of manufactured housing units within a subdivision clearly identified as a manufactured housing subdivision which has been approved and for which permits for manufactured homes for twenty-five (25) percent or more of the lots within the subdivision have been issued prior to November 27, 2000.
>
> - Establishes design criteria which require that the unit be placed on an excavated and backfilled foundation (ground-set).
>
> - If the home is located within a floodplain, the bottom of the lowest floor joist is to be a minimum of one (1) foot above the one-hundred year base flood elevation.
>
> - No more than eight (8) inches of perimeter skirting wall is to be visible from the street frontage of the property.

- The skirting wall must match the exterior color of the home.
- The exterior siding materials are to be either hardboard, vinyl, or stucco.
- Concrete or masonry steps are to be provided for the entry on the street side of the home.
- All entry doors on the street side of the home are to be inward-swinging.

The roofing style and materials are to be either flat roof (Pueblo style), steel rib roof, or a shingle or tile roof, with all roofs other than the flat roof having a minimum pitch of 3:12, and all pitched roofs other than a roof behind a parapet to have a minimum six (6) inch eave on all sides of the home.

Appendix B–4: Owensboro, Kentucky

Appendix B–4.1: Owensboro Messenger Inquirer Article on Doe Ridge

Title: Manufactured housing subdivision in demand.

Date: 06/04/2000.

Byline: Keith Lawrence

Dick Berry wanted to have Deer Haven Drive—his main street—paved and several model homes ready to show customers before he announced plans for his new Doe Ridge Subdivision off Medley Road east of Ben Hawes State Park.

But demand for homes in Daviess County's first manufactured housing subdivision has been so strong that Berry is having trouble keeping up Deer Haven Drive is still covered with white rock. And customers have to visit Home Folks Housing Center on U.S. 60 East to see the model homes.

But people are already moving into the subdivision, and grass is growing on what were bare lots a month ago.

"We've already sold 12 lots," Berry said last week. "And three families have already moved in. If we can keep up with demand, we should have 35 to 40 families living here by fall." Eventually, the subdivision will have between 150 and 200 manufactured homes, and its streets will link with other subdivisions to a second exit on U.S. 60 West near the post office.

"Manufactured housing subdivision" is not a fancy way to say "trailer park," Berry said.

"This is just like any other subdivision," he said. "We build the streets, put in the sidewalks, street lights, curbs, gutters and driveways and sell the lots. The houses are set on concrete foundations. They're just made in a factory."

Gary Adams, associate director of planning for the Owensboro Metropolitan Planning Commission, said Daviess County has two types of mobile home parks. In one type, the owners of the mobile homes also own the land.

"But there, the lots are smaller than the typical subdivision," Adams said. "Doe Ridge is technically a regular subdivision," he said. "The lots are size of other subdivisions, and it's zoned residential."

Class A manufactured houses like those in Doe Ridge could be placed in any subdivision in Owensboro or on any street in town, Adams said. They meet all residential criteria of the planning commission.

The houses being erected in Doe Ridge are manufactured by Fleetwood Homes, a national company that bought Berry's Home Folks Housing two years ago.

He now works as a consultant to Fleetwood and is overseeing development of the subdivision.

Fleetwood says it built more than 65,000 homes in its factories last year. Sales totaled $2 billion.

The homes in Doe Ridge range from 1,100 square feet to around 2,000 square feet. Prices range from $69,900 to $100,000 including land. Payments on a 30-year mortgage will run from $490 to $795 a month, Berry said.

"They're not mobile homes," he said. "We bring them in two sections and assemble them on site. They have a foundation just like a site-built home. They're not to be moved again."

Berry is adding large concrete front porches to the homes with enough space for porch swings.

Thursday, Greg McFarland was watching workers assemble his new home beneath large shade trees near the northern edge of Doe Ridge.

"I've lived on Industrial Drive for the past eight years," he said. "I'm used to this side of town. This is close to work. And it looks like a great place to raise a family. I've got three little girls."

McFarland bought the house a month ago, he said, and should be able to move in within two weeks. "It would have been sooner, but the rain delayed," he said.

McFarland said he was impressed with both the house and the site. "It's nice," he said. "I like the atmosphere here."

Although it's in the woods, Doe Ridge is inside the city limits and has all city services, Berry said. The utilities are underground.

One of the complaints about manufactured housing in the past has been that depreciated in value through the years rather than increasing like site-built homes.

But that's changing, according to Ron Durbin, Daviess County's property valuation administrator.

"For double-wides or larger, my guess is that they will increase in value, but not as fast as conventional homes," he said.

Keith Lawrence, (270) 691–7301, klawrence@messenger-inquirer.com

Appendix B–4.2: Owensboro, Kentucky Metropolitan Zoning Ordinance, Article 8

Following is an excerpt from Owensboro Metropolitan Zoning Ordinance, Article 8, Zones and Uses Table showing where each class of manufactured home is principally or conditionally permitted (highlighted). Note that only Class 1 manufactured homes are principally permitted uses in all Single-Family Residential Zones (R–1A, R–1B, and R–1C), the Townhouse Zone (R–1T) and the Inner-City Residential Zone (R–4DT), that Class 2 manufactured homes are conditionally permitted (with Board of Adjustment approval) in those zones, and that Class 3 is permitted only in Agriculture Zones (A–R and A–U).

8.2 ZONES AND USES TABLE

P = **PRINCIPALLY PERMITTED USES:** Uses listed and other uses (not otherwise listed in table) substantially similar to those listed are deemed permitted.

C = **CONDITIONALLY PERMITTED USES:** Uses which are permitted only with Board of Adjustment approval.

A = **ACCESSORY USES:** Uses and structures permitted which are customarily accessory, clearly incidental and subordinate to permitted uses.

NOTE: Only those uses specifically permitted or substantially similar to permitted uses are permitted in each zone; all uses which lack substantial similarity to permitted uses in each zone are deemed **prohibited** (as per Article 3 of this Zoning Ordinance).
Numbers following the **"P"**, **"C"** or **"A"** in the table refer to special conditions, additional information, or detailed use listings, which follow in numerical order in Section 8.4.

ZONES													
A–R A–U	**R–1A R–1B R–1C**	**R–1T**	**R–2MF**	**R–3MF**	**R–4DT**	**P–1**	**B–1**	**B–2**	**B–3 B–4**	**B–5**	**I–1**	**I–2**	**USES**
C/1	C/1	C/1		C/1									**1A** Bed and breakfast home
				C/6a	C/6a								**1B** Boarding or lodging house
						A/2A	A/2A	A/2A,52	A/2A	A/2B	A/2B	A/2B	**2** Dwelling: Accessory
			P	P	P			P/3,52					**3** Dwelling: Multi-family
P	P	P			P								**4** Dwelling: Single-family detached
		P/4											**5** Dwelling: Townhouse
			P	P	P								**6** Dwelling: Two-family
	P	P	P	P	P								**6A** Residential Care Facilities
				C/6a	C/6a			C/53,6a	C/6a	C/6a			**7** Fraternity or sorority house, dormitory
C/6b				C/6a	C/6a								**7A** Seasonal farm worker housing
	A/5	A/5	A/5	A/5	A/5			A/5,52					**8** Guest quarters
A	A/6	A/6	A/6	A/6	A/6			A/6					**9** Keeping of roomers or boarders by a resident family
P/7	P/7	P/7			P/7								**10A** Manufactured Home, Class 1 (see Section 14.7521)
P/7	C/7	C/7			C/7								**10B** Manufactured Home, Class 2 (see Section 14.7522)
P/7													**10C** Manufactured Home, Class 3 (see Section 14.7523)
								P	P				**11** Motel or hotel
	P/8		P/8	P/8	P/8								**12** Planned residential development project

/7. Conditionally permitted Class 2 Manufactured Homes must meet **all** Class 1 Acceptable Installation Standards of Section 14.75211 and must meet, at a minimum, the Class 1 Similarity Appearance Standard of Section 14.75212(1). Manufactured Homes of Classes 1, 2, and 3 are also permitted in Planned Manufactured Housing Park MHP Zones (see Article 11).

Source: Owensboro Metropolitan Zoning Ordinance, 2003

Appendix B–4.3: Owensboro Metropolitan Zoning Ordinance Article 14

Following are the definitions and descriptions of the installation and appearance standards for each class of manufactured home from Article 14, Definitions of the Owensboro Metropolitan Zoning Ordinance. The Kentucky Manufactured Housing Institute reviewed these regulations prior to their adoption.

14.75 MANUFACTURED BUILDING has the following features or characteristics; it is:

(1) Mass-produced in a factory;

(2) Designed and constructed for transportation to a site for installation and use when connected to required utilities;

(3) Either an independent, individual building or a module for combination with other elements to form a building on the site.

14.751. The term "manufactured building" is not intended to apply to use of prefabricated panels, trusses, plumbing subsystems, or other prefabricated sub elements incorporated in the course of construction of buildings on the site, but only to major elements requiring minor and incidental on-site combination or installation.

14.752 Manufactured Home. A manufactured building or portion of a building built on a chassis designed for long-term single-family residential use with or without a permanent foundation when connected to the required utilities, and which includes the plumbing, heating, air conditioning, and electrical systems contained therein. All manufactured homes shall contain an intact "**HUD seal"** issued by the United States Department of Housing and Urban Development**,** or a **"B1 seal"** issued by the Kentucky Department of Housing, Buildings and Construction, Office of the State Fire Marshall, before an application will be processed for placement. KRS 227.550 defines Class B inspection seals for manufactured homes as follows:

(1) "**B1 seal"** means the unit has been inspected and found to be in compliance with applicable standards for human habitation.

(2) **"B2 seal"** means the unit has been inspected and found not to be in compliance with applicable codes and is unfit for human habitation. Units receiving a "**B2 seal"** are prohibited in all zones.

For the purposes of these zoning regulations, manufactured homes are divided into three (3) classes.

14.7521 Class 1 Manufactured Home. A manufactured home constructed after June 15, 1976, in accordance with the National Manufactured Home Construction and Safety Standards Act of 1974, 42 U.S.C. Section 5401, et seq., as amended, and designed to be used as a single family residential dwelling. This definition includes "qualified manufactured homes" as defined by KRS 100.348(d). The manufactured home shall be approved by the Zoning Administrator as meeting all of the "Acceptable Installation Standards" and all of the "Acceptable Similarity Appearance Standards" herein below.

14.75211 Acceptable Installation Standards. Class 1 Manufactured Homes must meet all of the following standards to achieve acceptable installation in Owensboro-Daviess County:

(1) They shall be permanently installed on a permanent foundation in accordance with KRS 227.550 and KAR 25:090 or American national Standards Institute (ANSI)

A.225.1 (the manufacturer's installation specifications as approved by the U.S. Department of Housing and Urban Development). Permanent foundation means a system of supports that is capable of transferring, without failure, into soil or bedrock, the maximum design load imposed by or upon the structure, constructed of concrete, and placed at a depth below grade adequate of prevent frost damage.

(2) All wheel, trailer-tongue and hitch assemblies shall be removed upon installation.

(3) They shall be permanently connected to an approved water and sewer system when available, and shall comply with all public health requirements governing plumbing installation.

14.75212 Acceptable Similarity Appearance Standards. Class 1 Manufactured Homes must meet all of the following standards to achieve acceptable similarity in appearance between the manufactured home and site-built housing in Owensboro-Daviess County:

(1) A poured concrete or masonry block skirting wall shall be constructed beneath and along the entire perimeter of the manufactured home, compatible in appearance with community site-built housing foundations, even if the wall is not structurally required by the manufacturer's installation specifications.

(2) Minimum width of main body of the manufactured home as assembled on the site shall not be less than twenty (20) feet at its smallest width measurement unless it is two (2) stories in height and oriented on the lot or parcel so that its main entrance door faces the street.

(3) The pitch of the main roof shall be not less than two and one-half (2 1/2) feet of rise for each twelve (12) feet of horizontal run. In general, any roofing material may be used that is generally acceptable for housing built on the site, if applied in such a manner as to be similar in appearance.

(4) Any materials that are generally acceptable for housing built on the site may be used for exterior finish if applied in such a manner as to be similar in appearance, provided, however, that reflections from such exterior shall not be greater than from siding coated with clean, white, gloss, exterior enamel.

(5) The manufactured home shall have a minimum total living area of nine hundred (900) square feet.

14.7522 Class 2 Manufactured Home. A manufactured home constructed after June 15, 1976, in accordance with the National Manufactured Home Construction and Safety Standards Act of 1974, and which **does not meet** all of the "Acceptable Installation Standards" and "Acceptable Similarity Appearance Standards" hereinabove. Class 2 Manufactured Homes may include manufactured homes that have received a "B1 seal" provided the date of manufacture is June 15, 1976 or later. All Class 2 Manufactured Homes must meet installation standards described in 14.75211 (1) and (3).

14.7523 Class 3 Manufactured Home. A manufactured home constructed prior to June 15, 1976 and commonly referred to as a "mobile home", and which **does not meet** all "Acceptable Installation Standards" or "Acceptable Similarity Appearance Standards", but is found upon inspection to be safe and fit for residential occupancy. Class 3 manufactured homes shall include manufactured homes that have received a "B1 seal", but does not include those units inspected and receiving a "B2 seal". All Class 3 Manufactured Homes must meet installation standards described in 14.75211 (1) and (3).

14.76 MANUFACTURED HOUSING PARK. A planned development in an MHP Zone of ten (10) acres or more in area, designed for the siting of ten (10) or more manufactured homes.

14.761 Manufactured Housing Park Complex. A manufactured housing park held under single ownership or control.

14.762 Manufactured Housing Park Subdivision. A manufactured housing park in which individuals may own their own lots and share in the use and maintenance of common areas and facilities.

Source: Owensboro Metropolitan Zoning Ordinance, 2003

Appendix B–4.4: Kentucky Legislation: KRS 100.348

100.348 Compatibility standards for manufactured homes—Definitions—Adoption of standards by local governments.

(1) The Kentucky General Assembly hereby recognizes and affirms that the protection of property values is a legitimate issue to local governments and the enactment of regulations designed to protect property values is a proper exercise of local government legislative power.

(2) As used in this section, unless the context requires otherwise:

(a) "Compatibility standards" means standards that have been enacted by a local government under the authority of this section for the purpose of protecting and preserving the monetary value of real property located within the local government's jurisdiction;

(b) "Local government" means a city, county, urban-county government, charter county government, or consolidated local government that is engaged in planning and zoning under KRS Chapter 100;

(c) "Manufactured home" means a single-family residential dwelling constructed after June 15, 1976, in accordance with the National Manufactured Home Construction and Safety Standards Act of 1974, 42 U.S.C. Section 5401, et seq., as amended, and designed to be used as a single-family residential dwelling with or without permanent foundation when connected to the required utilities, and which includes the plumbing, heating, air conditioning, and electrical systems contained therein;

(d) "Qualified manufactured home" means a manufactured home that meets all of the following criteria:

1. Is manufactured on or after July 15, 2002;
2. Is affixed to a permanent foundation and is connected to the appropriate facilities and is installed in compliance with KRS 227.570;
3. Has a width of at least twenty (20) feet at its smallest width measurement or is two (2) stories in height and oriented on the lot or parcel so that its main entrance door faces the street;
4. Has a minimum total living area of nine hundred (900) square feet; and
5. Is not located in a manufactured home land-lease community; and

(e) "Permanent foundation" means a system of supports that is:

1. Capable of transferring, without failure, into soil or bedrock, the maximum design load imposed by or upon the structure;
2. Constructed of concrete; and
3. Placed at a depth below grade adequate to prevent frost damage.

(3) Any local government may adopt and enforce, as a part of its zoning regulations, compatibility standards governing the placement of qualified manufactured homes in residential zones within the local government's jurisdiction. Compatibility standards shall be adopted, amended, and enforced in the same manner as other zoning regulations and shall be in addition to any zoning regulations that are generally applicable to single-family residences. The compatibility standards shall

be designed to ensure that when a qualified manufactured home is placed in a residential zone it is compatible, in terms of assessed value, with existing housing located with a one-eighth (1/8) mile or less radius from the proposed location of the qualified manufactured home. The compatibility standards adopted by a local government shall relate to architectural features that have a significant impact on the overall assessed value of the structure, including, for example, but not limited to features such as:

(a) Roof pitch;

(b) Square footage of livable space;

(c) Type and quality of exterior finishing materials;

(d) Foundation skirting; and

(e) Existence and type of attached structures.

(4) Nothing in this section shall be construed to affect, modify, or abolish restrictions contained in recorded deeds, covenants, or developers' subdivision restrictions.

(5) Nothing in this section shall be construed as limiting in any way the authority of local governments to adopt regulations designed to protect historic properties or historic districts.

Effective: July 1, 2003
History: Created 2002 Ky. Acts ch. 337, sec. 1, effective July 1, 2003.

Source: www.lrc.ky.gov/KRS/100–00/348.PDF

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