

**Structure, Operation, Performance,
and Development Trends
of the Mobile Home**

HUD-0001557

NOTE TO READER

FILE COPY

This report is organized into five volumes, with each volume containing several sections. Following is a complete listing of all volumes and sections, with asterisks in the left-hand column identifying the volume you are now reading:

- VOLUME I:** THE BUILDING INDUSTRY TOMORROW:
THE CASE OF THE MOBILE HOME INDUSTRY
 Sections: Introduction
 The Mobile Home Industry: An Overview
 The Mobile Home Industry's Product:
 Today and Tomorrow
- VOLUME II:** THE MOBILE HOME PRODUCTION SYSTEM
 Sections: Supply Sector Influence
 Industrial Organization
 Manufacturing
 Cost/Price Analysis
 Manufacturer Financing
 Appendix
- VOLUME III:** THE MOBILE HOME DISTRIBUTION SYSTEM
 Sections: Industrial Organization
 Distribution
 Cost/Price Analysis
 Dealer Financing
 Consumer Financing
 Appendix
- VOLUME IV:** THE MOBILE HOME PARK SYSTEM
 Sections: Industrial Organization
 Park Development and Operation
 Cost/Price Analysis
 Park Financing
 Appendix
- ***** **VOLUME V:** PUBLIC REGULATION
 Sections: Land Use Controls
 Taxation
 Building Code Regulation
 Highway Regulation
 Appendix

In each volume, roman numerals are used to designate the title page and the subsequent pages before the beginning of the first section. Each section is organized

as an independent entity, and has its own page numbering system and its own Table of Contents. Each section starts with page number 1 and ends with a page number determined by the section's length. All pages of each section show the title of that section in the upper left-hand corner of the page, so the reader can quickly find the first page of each section by flipping the pages of the volume.

Therefore, bibliographical references need list only report authors and report title, volume number, section title, and page number: i.e., Bernhardt, Arthur D., et. al., Structure, Operation, Performance and Development Trends of the Mobile Home Industry, Volume II, Section "Manufacturing," page 19 (or, Volume II, page vii).

Acknowledgements for Volume V

From 1969 through 1976, as my staff and I sought to include in this volume the most complete data on public regulation of the mobile home system, M.I.T.'s Project Mobile Home Industry (PMHI) received invaluable assistance from hundreds of people in hundreds of firms and agencies in both the private and public sectors.

I offer sincere thanks to the governors of all 50 states, who in 1973 either personally, or by assigning key state officials, helped us to conduct the first national survey of land use control practices and taxation methods at the local level as they pertained to mobile homes. In gathering information on all of the aspects of public regulation that we deal with in this volume (land use controls, taxation, building code and highway regulation), we could not have done a complete national analysis without the total cooperation of federal, state, and local officials all over the country. (I should take this opportunity to express my firm belief in "home rule" -- after having worked so closely with these state and local officials, I have nothing but the greatest admiration for their competence and efficiency.)

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In order to round out the information on the more aggregate experiences of the associations, we also obtained direct feedback on the impact of public regulation on individual firms. To this end, hundreds of suppliers, mobile home manufacturers, dealers, and park owners and operators related their experiences in their individual states through answering our surveys and in personal interviews.

On behalf of myself, and, I am sure, the U.S. Department of Housing and Urban Development, I express my deepest gratitude to all of the above, as well as to the many other people and organizations who have so generously given of their time and expertise in assisting us with this report.

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LAND USE CONTROLS

TABLE OF CONTENTS

A.	<u>INTRODUCTION</u>	4
B.	<u>ANALYSIS OF THE PRESENT SITUATION</u>	7
1.	Development of Land Use Controls.....	8
1.1	Historical Sketch.....	10
1.2	Allocation of the Power to Control Land Use.....	17
1.3	Components of Local Land Use Control Systems....	20
2.	Application of the Land Use Control System to Mobile Homes.....	23
2.1	Exclusions of Mobile Homes.....	26
2.1.1	Complete Exclusion.....	26
2.1.2	Exclusion from Residential Districts.....	28
2.1.3	Constructive Exclusions.....	30
2.2	Restrictions on Mobile Homes.....	33
2.2.1	Restricting Mobile Homes to Mobile Home Parks.....	33
2.2.2	Restricting Mobile Homes to Industrial and/or Commercial Districts	36
2.2.3	Restricting Number of Mobile Homes and Mobile Home Parks in a Municipality.....	38
2.2.4	Limitations of Stay.....	39
2.2.5	Frontage Consents.....	41
2.3	Availability of Procedures for Alteration of Ordinances.....	43
3.	Analysis of Frequency of Use of Various Legal Bases for Mobile Home Placement or Restriction.....	48
3.1	Frequency of Use.....	49
3.1.1	Complete Exclusion.....	50
3.1.2	Restriction to Mobile Home Parks.....	50
3.1.3	Exclusion from Residential Areas.....	57
3.1.4	Limitation of Stay.....	57
3.1.5	Other Restrictions.....	57
3.2	Analysis of Zoning Preferences.....	61
3.2.1	Formulation of Municipal Preferences.....	61
3.2.2	Data and Methodology.....	67
3.2.3	Crosstabulation with Exclusion.....	69
3.2.4	Crosstabulation - Restriction and Exclusion	74
3.2.5	Linear Probability Model.....	83
3.2.6	Summary.....	86
3.3	Trends in Frequency of Use.....	90

3.4	Intrastate Distribution of Frequency.....	94
4.	Impact of Land Use Controls on the Performance of the Industry.....	99
4.1	Impact on Land Supply	101
4.2	Impact on Cost of Product	104
4.3	Impact on Location and Design of Mobile Home Parks.....	109
4.4	Impact on The Consumer	112
4.5	Other Impacts on the Industry	115
C.	<u>TRENDS IN LAND USE AND THEIR EFFECT ON INDUSTRY PERFORMANCE</u>	118
1.	Subdivision Controls.....	120
2.	Judicial Supervision of Local Zoning Restrictions....	123
3.	State and Federal Assumption of Land Use Policy.....	131
D.	<u>POTENTIALS</u>	139
1.	Increased Availability of Low Cost Housing by Reduction of Exclusionary Zoning Practices.....	141
2.	Increased Integration with Conventional Housing.....	144
3.	Development of the Mobile Home Park Concept.....	149
E.	<u>SUMMARY</u>	152
F.	<u>FOOTNOTES</u>	160

A.

INTRODUCTION

The land use control system has been an important determinant of the characteristics of housing built in America. It has, historically, protected the single family residential community in the face of rapid urbanization and change. The system has isolated residential districts from those land uses--commercial or industrial--whose presence is considered detrimental to chosen styles of living. By controlling the areas available for development and, indirectly, the cost of development in those areas, the land use control system has had a pre-emptive influence on the built environment.

Major subsystems of the land use control system include zoning, subdivision and planned unit development controls, and mapping. In addition, a large number of other devices not explicitly aimed at land use control can restrict development. These range from sewer load limits to state wetlands protection acts. Governments at all levels--state, county, and municipal--can be actors in this system, with different methods available to each of them.

Mobile homes, as an identifiable and separate component of the housing stock, have a unique relationship with the land use control system. This section explores that relationship. In order to aid the industry in improving its social and economic performance, specific areas of impact of the land use control system on the performance of the mobile home industry are examined, and the potential of changes in the land use control system for improving the performance of the industry is explored. As just one of many institutions affecting the building industry, the

system's effects on performance and potentials for improving it cannot be viewed in isolation from the industry as a whole and the institutions related to it. Rather, its many interrelationships with other sectors are explored.

This section traces the development of the land use control system from its early origins to its present state and from its early application to the mobile home industry to the present application. Frequency of use analyses reveal some possible reasons for municipal zoning practices. Continuing and emerging trends in the development of the land use control system and in its application to the mobile home industry are identified and latent potentials for improvement of the land use control system evaluated.

PMHI's qualitative analysis is based on a search of the relevant legal and academic literature; a thorough study of judicial opinion and legal precedent. Interview and correspondence with appropriate individuals in government and in trade associations in every state and an original study of municipal zoning practices were used to develop a comprehensive data base on the relationship of the land use control system to mobile homes. Several types of quantitative analysis were performed on this data.

B.

ANALYSIS OF THE
PRESENT SITUATION

1.

Development of the Land
Use Control System

Three types of land use control have evolved as the major instruments of development control and planning implementation. Zoning is the oldest and most widely used. Subdivision controls developed more slowly and have only recently become widespread. Mapping is a recent variant of zoning with the same function and impact. It is used less widely than either of the previous types of control.

1.1 HISTORICAL SKETCH

Our land use control system is the current stage of a long established process. Land use has been controlled from as early as 1285,¹ and in the Americas from as early as 1573, when edicts issued by King Phillip of Spain helped shape the many American cities founded by the Spanish Empire. While this European tradition of public land acquisition for new cities did profoundly affect nearly every early American city, new traditions in land use control soon overshadowed them as America developed a unique new definition of individual rights regarding ownership and use of property.

After the American Revolution, the new government broke up the vast landholdings of the English aristocracy and distributed the land to individuals. This widespread ownership of land by ordinary freemen, who were often otherwise penniless, was a new phenomenon.

Americans began to regard land not as a shared resource (the native American conception) or as the inherent property of a feudal king or "landlord" (the traditional European conception), but as a kind of property like any other, to be owned outright by free men and used as they saw fit. This conception has been so widely accented that "property" is now synonymous with land.

After the Revolution, the rights accorded property owners became important. In 1776, the Declaration of Independence included only "Life, Liberty, and the Pursuit of Happiness" in its definition of

basic human rights, but by 1780 the State of Massachusetts had added "the right of...acquiring, possessing, and protecting property." Many other states followed Massachusetts' lead in writing their own constitutions.

As new territories were bought or conquered, land became a major resource for the government. John Delafons writes in Land Use Control in America that the "government regarded land as the most readily available source of revenue."^{1a} Though some officials in the federal government tried to slow the rate at which land was distributed by the government, public demand for cheap land overcame all opposition. Finally, even the monetary price was abolished. The Homestead Act of 1862 granted 160 acres to any man who would build a house on his plot and farm it for at least five years. Often land was a man's only possession and his major source of livelihood, so the new definition of "property rights" was important to Americans. Delafons writes, "Americans have interpreted the right of 'protection' of property to mean protection not only (or even primarily) from impingement by government, but also from impingement by competing private interests."² While the right to freedom from government impingement has been a major factor in preventing the widespread use of many land use controls, the right to freedom from competing private interests has largely insured the widespread use of one important land use control--zoning.

Land use was first controlled through zoning in San Francisco in the late 1800's. At that time, the control was not motivated by the desire

to protect property rights but rather by the desire to exclude ethnic minorities. San Franciscan courts had ruled that laws which attempted to exclude Chinese immigrants from the city were discriminatory and thus unconstitutional, so San Franciscans took a new tack. They labeled Chinese laundries (often Chinese social centers as well) "fire hazards" and "public nuisances," and outlawed them in all but certain parts of the city. This tactic was upheld in the courts.^{2a}

Zones were used in New York, Massachusetts, and Washington, D.C. in the late 1880's and the early 1890's to regulate the height and bulk of buildings. In 1909 the Supreme Court upheld the Massachusetts legislation.³ It was in New York City in 1913-16 that property rights began to be the primary motivation for zoning. The city was growing rapidly, not only in size but more importantly in density; new downtown "skyscrapers" were preventing light and air from reaching many streets. The Equitable Building at 120 Broadway, for example, was forty-two stories high and cast a shadow at noon over six times its own area. It cut off direct sunlight from the Broadway fronts of buildings as tall as twenty-one stories.^{3a} Early skyscrapers, themselves highly valuable properties, deflated the property values of surrounding buildings. Property owners in fashionable downtown shopping districts such as Fifth Avenue felt that their businesses were jeopardized by the influx of low-paid workers, often recent immigrants, who worked in the skyscrapers.⁴ When property values at the lower end of Fifth Avenue began to decline, shop owners formed the Fifth Avenue Association, fearing their own property values would. The combined

efforts of this group and various social reformers appalled by the environmental problems created by the skyscrapers led to the establishment of the Advisory Commission on the Height of Buildings in 1913. Three years later, in 1916, New York divided the city into three types of districts: residential, business, and unrestricted; in addition, separate height and bulk districts were established. Amended more than 2,000 times, this comprehensive ordinance was in force until 1961 and served as a model for subsequent zoning ordinances nationwide.

In the 1920's protection of property value began to supercede protection of freedom of use. Delafons observes that the interest protected "...may be that of private property owners against both speculative developers and unwanted newcomers..."^{4a} and further that "it is a very significant fact that the American system of regulating private development--'zoning'--is a legacy of the 1920's, the heyday of private enterprise."⁵ By 1925, 368 municipalities had passed zoning ordinances, and by the end of 1930, more than a thousand had done so.^{5a} State legislation giving the municipalities the authority to zone became common in the 1920's. In 1924, an advisory committee on zoning in the Department of Commerce issued the State Zoning Enabling Act which, if adopted by state legislatures, granted their towns and cities the police power to zone.

The constitutionality of the concept of zoning was unsettled until 1926, when the Supreme Court decided the case of Village of Euclid v. Ambler Realty.⁶ The Court sustained the validity of zoning despite

Ambler's claim that the town's zoning ordinance violated his Fourteenth Amendment rights by depriving him of property without due process. The Court, in a decision written by Justice Sutherland, regarded the intrusion of industry and apartments into single-family zones as analogous to a public nuisance. "A nuisance may merely be the right thing in the wrong place, like a pig in the parlor instead of the barnyard,"^{6a} he wrote. This represented a rather far-reaching extension of the common law nuisance doctrine, for the Court found that the zoning classification of Ambler's land could be used to prohibit uses which might be neither a hazard nor a nuisance. In effect, the Court sanctioned the creation and maintenance of residential neighborhoods and the insulation of the single-family district. The Justices also approved comprehensive zoning, declaring it immune to constitutional attack unless a given ordinance was found to be "clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare."⁷

The constitutionality of zoning was thus firmly established, and apart from Nectow v. City of Cambridge^{7a} in 1928 (the Court, without invalidating the ordinance, refused to support the zoning of a particular lot on due process grounds), the Supreme Court has refused to hear zoning cases.⁸ The Supreme Court has left it to the various states to apply the constitutional principle of reasonableness to individual cases as they arise.

The second major method of land use control, subdivision regulation,

has its origins in the land claim recording system enacted after the Revolution. It dealt only with mechanical and legal aspects of the registering of deeds and surveys, but it was gradually expanded to regulate street widths and other details of layout when the rush of homesteaders caused problems for growing towns in the West. The village of Oak Park, Illinois, required in 1882 that parcels of land, called "plats," be filed in advance of their sale and that they conform to certain standards of layout.^{8a}

These early regulations were not intended to protect property values or limit development, but only to insure orderly street layout and legal documentation.

While zoning controls were coming into widespread use at this time as a means of controlling the type of development in a given area, no control was placed on the size of proposed developments. Many subdivisions were begun and never completed, causing a drain on municipal services. As Delafons says, "...the vast land speculations of the 1920's showed the folly and ruinous expense to local governments of unrestricted subdivision."⁹ When subdivision developments again became economically possible after World War II, many more communities adopted subdivision regulations to prevent a repetition of the mishaps of the 1920's. More recently, subdivision regulations have begun to serve another function. Many regulations now go beyond simply limiting the size of developments and attempt to control the quality of the development in such areas as planning design,

density, engineering, and public facilities.

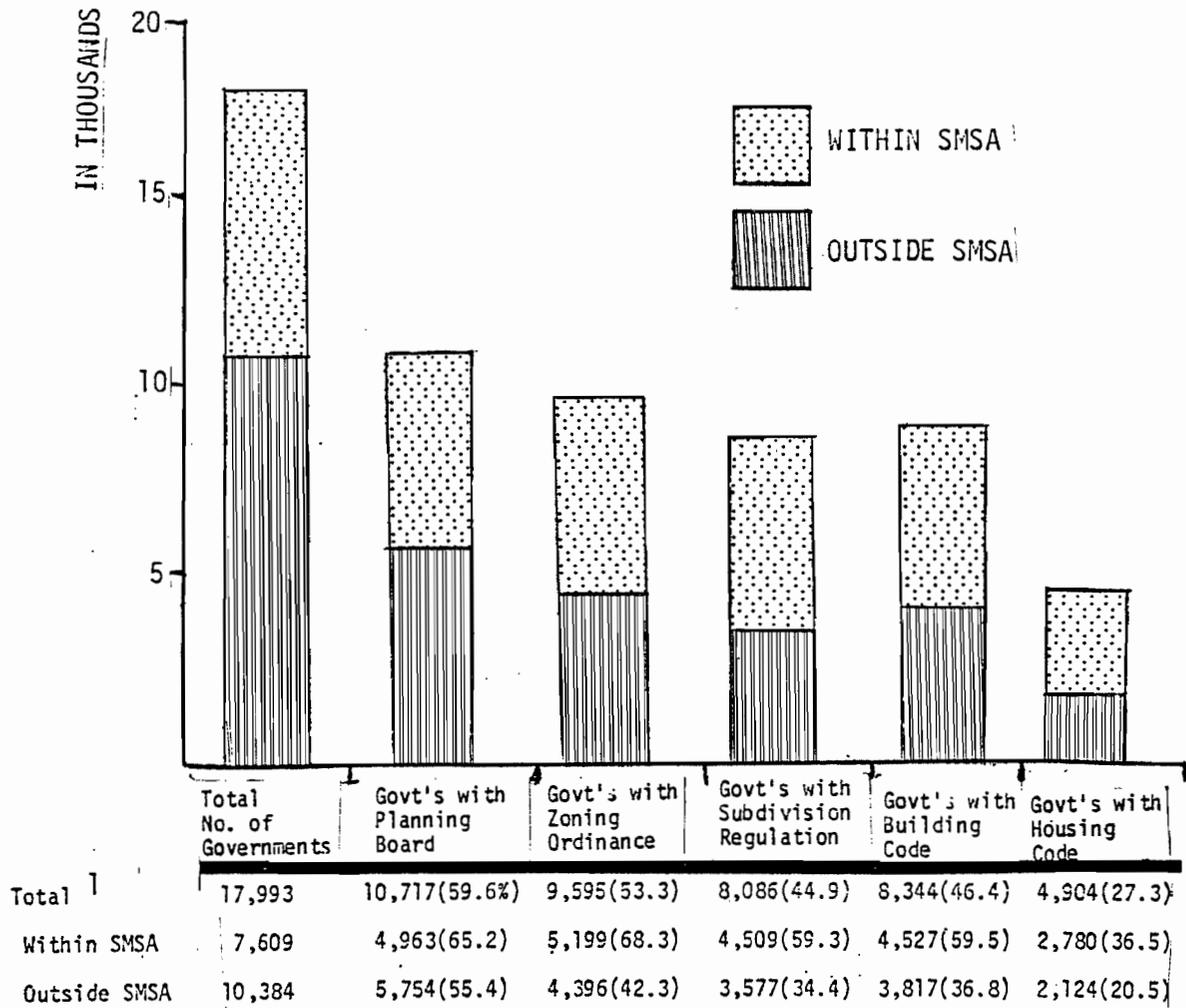
The legal rationale behind subdivision regulation is different from that of zoning, and this may explain why there have been many fewer court challenges. The registration of a subdivision is considered a privilege granted by a municipality--a favor from which the developer will make a profit. In return, he is expected to meet the standards of the community. The standards can go further than zoning, because unlike zoning these regulations confer an advantage.¹⁰

1.2 ALLOCATION OF POWER TO CONTROL LAND USE

The authority to control land use is based on the police power, an inherent prerogative of the state. This power has been delegated by the state to the localities through zoning and planning enabling acts. As a consequence of this delegation of power, local land use control ordinances vary greatly, reflecting differing local community attitudes and needs. The power to control land usage is subject to federal and state constitutional limitations, to the extent of the powers delegated, and to the supremacy of conflicting state or federal statutes. Local land use regulations enjoy the same presumption of validity as other public measures designed to protect the general welfare.

According to the Douglas Commission Reports, some 10,000 governments in the U.S. now exercise regulatory powers. Within Standard Metropolitan Statistical Areas (SMSA's) 5,200 jurisdictions have zoning ordinances.¹¹ The extent to which localities have made use of their authority is shown in Figure 1.

The fragmentation of land use control responsibility is especially important within metropolitan areas, where many land use concerns are properly regional in scope. The degree of decentralization within metropolitan areas becomes apparent when specific areas are examined. For example, in the New York area, as defined by the Regional Plan Association, more than 500 jurisdictions have zoning ordinances; in Chicago's Cook County, more



Total omits a) all municipalities and townships of less than 1,000 population located outside of SMSA's; and
 b) township governments located in states where these governments lack municipal type powers

Source: Adapted from Tables 1 and 2 of the Douglas Commission Report, pp. 208-209.

FIGURE 1: EXTENT OF EXERCISE OF REGULATORY AUTHORITY BY LOCALITIES

than 112 of 129 localities have zoning ordinances, and in the San Francisco area 100 localities have zoning ordinances.¹²

1.3 COMPONENTS OF LOCAL LAND USE CONTROL SYSTEMS

Three types of land use control are used by localities to explicitly restrict development. Zoning is the most common; subdivision controls may be used in conjunction with zoning; mapping, a less common form, may also be used.

Zoning ordinances vary greatly among local governments, but conventional zoning ordinances usually include at least: 1) a designation of permitted uses; most divide uses into at least three basic categories: residential, commercial, and industrial; 2) a limitation of population density (usually accomplished through minimum lot size requirements); and 3) a regulation of building bulk accomplished by limiting building height and lot coverage. Traditional, or Euclidean zoning, (from the historic court case of Euclid vs. Ambler) established a hierarchy of land use categories with the single family residential district at the top. Mutually incompatible uses are thus separated and "less desirable" uses excluded from land use districts considered "harm sensitive". Within each zone or district a uniform set of regulations dealing with uses, bulk, and so on, apply.

Although not as extensively used as zoning, localities may use subdivision regulations to guide and regulate development (see Figure 1). Subdivision regulations govern the creation of housing lots from large land tracts. A subdivision regulation of the conventional form typically regulates:

- 1) site design and relationships - regulations seek to assure that subdivisions are related to their surroundings and their own sites; and
- 2) allocation of facilities: - subdividers are often required to dedicate internal streets and pave them to specification as well as to provide drainage, water, sewerage systems, street lights, etc.

Mapping is a third technique for public land use regulation. An official map designates areas in advance for later public acquisition for use as streets, parks, or other public facilities. Mapping is much less widely used than either zoning or subdivision regulation.

The administrative structure of the land use control system permits adjustments to and departures from the basic scheme. Though there are variations throughout the country, the basic administrative procedures include the following:

1. Appeals: upon a denial of a permit from a building official, a party may appeal on the grounds that the ordinance has been misinterpreted or has been applied arbitrarily. Appeals are usually taken to a local board of zoning appeals.
2. Variances: a variance is designed to rectify problems that arise from the strict application of the ordinance. The granting of a variance is intended to mitigate potential hardship to the property owner. The variance power most often belongs to the board of appeals.
3. Special Exception: this discretionary procedure, also known as "conditional uses" and "special-use" permits, involves an identification of particular uses within a zone that may be permitted by a review body on application of a developer or landowner.

4. Amendments: commonly known as "rezoning", this technique involves a basic alteration of the original ordinance.

To assure that regulatory actions conform to the federal and state constitutions and statutes and to local ordinances, zoning statutes further provide for review by the courts.

2.

Application of the Land Use Control System
to Mobile Homes

Early mobile homes were principally used as vacation trailers but the housing crisis of the Depression forced many impoverished families to use them as permanent residences. As a result, congested, poorly planned trailer camps grew up almost overnight. Hostility towards mobile homes was understandably prevalent. The trailers were viewed by many as a shoddy and unattractive departure from conventional housing. The mobile home dweller was usually considered an undesirable transient. Property owners feared that location of mobile homes near their property would result in depreciation of land values. Regulatory bodies initially reacted in a negative fashion: they prohibited the trailers or forced them into areas where no one else wished to live. The relegation of mobile homes to industrial or commercial areas where amenities were lacking in turn helped to foster the negative image of mobile homes. This cycle perpetuated the animosity to mobile homes which was incorporated into many zoning ordinances in the post World War II era.

Despite radical changes in the appearance of mobile homes and parks during the 1950's, the response of communities and regulatory bodies has remained fundamentally the same. Ordinances enacted in the 1930's and 1940's do not reflect the fact that mobile homes are no longer trailers. Although the trailer became a vestige of the past, most zoning ordinances did not recognize mobile homes as a legitimate element of the housing stock.

The motives for the exclusion or restriction of mobile homes today are

generally not clear cut. To some extent the widespread hostility is still attributable to memories of the shanty towns of the past. In addition, property owners feel mobile homes present many of the same problems as low-income, high-density housing; that property values will be depressed by neighboring mobile home parks; and that the aesthetics of the community will be detrimentally affected. Those concerned with keeping the tax rate down argue that mobile home units will not return in taxes what they add to the municipal budget in terms of cost of education and other governmental services. Whether prejudice, aesthetics, or economics is at the base, the result has been a discriminatory system of public regulation.

The following chapter outlines the major exclusionary and restrictive devices applied by communities to mobile homes. Selected cases are cited to provide an indication of the judicial response to these devices. Although more exhaustive examinations of the case laws can be found elsewhere, the following discussion should illustrate the legal reasoning of state courts. In compiling this chapter, PMHI has found the work of B. Hodes and G. Roberson in The Law of Mobile Homes very helpful.

2.1 EXCLUSIONS OF MOBILE HOMES

The exclusion of mobile homes from a community may be accomplished in a variety of ways. The most direct, as well as the most constitutionally suspect, exclusion is the outright prohibition of mobile homes. Other less direct methods include the exclusion of mobile homes from residential districts through various devices ranging from an explicit ban to the imposition of requirements appropriate only to conventional single family dwellings. Although mobile homes may technically be permitted in these cases, the financial status of the mobile home consumer or the design of the unit makes it impossible to meet the standards. This is referred to as a "constructive" exclusion because it sets performance criteria mobile homes cannot meet.

2.1.1 Complete Exclusion

Complete exclusion is usually accomplished by an outright ban or by a failure to make provision for mobile homes in the local ordinance. Courts have disagreed over the validity of local regulations which effectively exclude mobile homes or mobile home parks from the locality, but in a majority of the states in which this approach has been challenged the courts have ruled that the total exclusion of mobile homes from a political unit is unconstitutional. One rationale adopted

by the courts is that mobile homes do not constitute a nuisance and that therefore their complete exclusion is an abuse of the police power.

The Michigan Supreme Court stated:

[Since] the trailer camps are not, as a matter of law, nuisances per se or detrimental to public health, safety, morals or general welfare, it could not be said that their complete prohibition in Plymouth Township bears a real and substantial relationship to the promotion of public health, safety, morals or general welfare.¹⁵

Courts have invalidated ordinances which completely exclude mobile homes for another reason. The state legislature in each state has provided for the regulation of mobile homes in the state enabling act. The concept of regulation implies the promulgation of reasonable rules, not an outright prohibition.¹⁶

Nonetheless, a few states, most notably New Jersey and Ohio¹⁷, have sustained the total prohibition of mobile homes from the community. As recently as 1962, the New Jersey Supreme Court sanctioned the complete exclusion of mobile homes. The court's response indicates an unquestioning acceptance of the old stereotypes of a shantytown on wheels, despite the transformations that had occurred in mobile home living in the 1950's.

It cannot be said that every municipality must provide for every use somewhere within its borders...Trailer Camps... present a municipality with a host of problems, and these problems persist wherever such camps are located.¹⁸

This opinion was not unanimous, and the dissent of Justice Hall addressed

the fundamental issues involved:

In my opinion legitimate use of the zoning power by such municipalities does not encompass the right to erect barricades on their boundaries through exclusion or too tight restriction of uses where the real purpose is to prevent feared disruption with a so-called chosen way of life. Nor does it encompass provisions designed to let in as new residents only certain kinds of people, or those who can afford to live in favored kinds of housing, or to keep down tax bills of present property owners. When one of the above is the true situation deeper considerations intrinsic in a free society gain the ascendancy and courts must not be hesitant to strike down purely selfish and undemocratic enactments. I am not suggesting that every such municipality must endure a plague of locusts or suffer transition to a metropolis overnight. I suggest only that regulation rather than prohibition is the appropriate technique for attaining a balanced and attractive community...¹⁹

The promulgation of regulations for mobile homes rather than their outright prohibition has been the overriding trend in judicial opinion.

2.1.2 Exclusion from Residential Districts

The majority of municipal ordinances, though not explicitly prohibiting mobile homes and mobile home parks, do restrict their location. Mobile homes are typically excluded from residential districts, the desirable

locations for homes of any sort, in three ways: an ordinance may expressly exclude mobile homes from residential districts; an ordinance may permit mobile homes only in non-residential areas (see 2.2.2), or an ordinance providing for dwellings or residences can be interpreted as barring mobile homes.

Most litigation concerns the third category. Although the wording of the ordinances varies, the question before the court is whether or not a mobile home deposited on a permanent foundation fits with the provisions of the local ordinance limiting an area to single family dwellings. In the past, this problem was treated as one of semantics- is a mobile home a vehicle or a residence? The most extreme position excluding mobile homes from single-family districts has been taken by the Massachusetts courts.²⁰ This line of cases reflects the attitude that "once a trailer always a trailer" even if the structure is permanently attached to a foundation, landscaped, and in compliance with local codes. The Massachusetts courts have insisted that trailers do not constitute a one-family residence within the meaning and intent of the various ordinances and thus are properly excluded. Courts in other states have also held, with varying degrees of emphasis and under different factual situations, that mobile homes, even if immobilized, remain trailers and thus within the prohibition of the ordinance.²¹ Once the courts identify the structure as a trailer, they disregard the proposed use of the unit as a permanent residence.

A growing trend away from this quibbling over semantics and towards

the consideration of the more fundamental issue--to what extent may a municipality make arbitrary distinctions between various modes of construction and living?--is emerging.²² A Vermont court, in the case In re Wiley,²³ considered the owner's intent and found that he clearly intended to make his mobile home a permanent residence. They noted that structures, including prefabricated houses, brought to a site either whole or in sections do not thereby become vehicles. The court in State of Washington v. Work²⁴ went further than any previous court and held that the mobile home was never a vehicle, but always a home. The court was more concerned with the principal characteristics of the structure than with the wording of the ordinances which provided for the exclusion from residential districts of "all forms of vehicles even though immobilized."²⁵ As long as the structure meets the applicable code regulations, even if it is not constructed in a conventional way, it should not be prohibited.

These cases indicate a growing awareness that the essential difference between mobile homes and other housing units is the manner in which they are produced and distributed and not necessarily the manner in which they are used. With greater emphasis on "home" rather than "mobile" the courts will increasingly look to the actual use of the mobile home before deciding whether or not it violates the homogeneity of the residential district.

2.1.3 Constructive Exclusions

Indirect exclusion of mobile homes is more common than direct prohibi-

tion and is more likely to withstand constitutional challenges. For the purposes of this study, indirect devices for exclusion have been grouped under the heading "Constructive Exclusions".

Political units may indirectly exclude mobile homes by classifying them as residential dwellings but requiring them to conform to ordinances applicable only to conventional dwellings. For example, a provision requiring a minimum amount of floorspace,²⁶ minimum lot size,²⁷ side yard footage, etc., may have the practical effect of excluding mobile homes. In Ostek vs. Barone,²⁸ the court upheld an ordinance requiring a minimum floor area of at least 900 square feet. In its opinion, the court commented that the ordinance did not constitute a practical exclusion of mobile homes or mobile home parks, although testimony indicated that only about 6 percent of the mobile homes in 1967 had 900 or more square feet of floor space. Testimony also maintained that the lot size requirement, 10,000 square feet, was inconsistent with mobile home park design needs. However, the court rejected the contention that the ordinance operated as an arbitrary or discriminatory exclusion of mobile homes, since it had equal application to mobile homes and conventional homes. The court reasoned that legitimate planning regulations should not be invalidated merely because an indirect consequence is the exclusion of mobile homes.

Communities may also exclude mobile homes by providing for mobile homes in specified districts but failing to zone any available land for such use²⁹, or by providing land for parks in areas where it would be economically unfeasible to run a park due to the lack of adequate space,

an unsuitable topography, or a lack of access³⁰. In Rottman v. Waterford Township,³¹ for example, the ordinance provided a small amount of land for mobile homes and had a provision for further allotment later. When the designated land was entirely consumed, no more land was allotted. Even though in these instances no land is available for mobile homes, the courts uphold the validity of the ordinance on the basis that it is not a complete ban. The courts focused on the formal qualities of the ordinance and ignored its practical effect, thus allowing communities to completely exclude mobile homes without an explicit ordinance against them.

Third, communities exclude mobile homes by allowing them as special exceptions but in practice denying the mobile home owner's application for a permit.³² This is undoubtedly a common occurrence but is infrequently litigated since there are few standards by which to judge the review body's decision. The zoning body which considers special permit applications may have general guidelines to abide by, but by and large the process is a discretionary one.

In brief, courts have been reluctant to critically examine zoning ordinances but have instead accepted them at their face value. Frequently, the reasoning of the courts supports the practice of excluding mobile homes simply by authorizing their location in areas where no land is available or by forcing them to comply with inappropriate code provisions.

2.2 RESTRICTIONS OF MOBILE HOMES

In areas where mobile homes are allowed they are subject to a variety of restrictions that are not applied to conventional housing. These restrictions often seem to reflect community belief that mobile homes are an undesirable mode of housing. The most common type of restriction is to require all mobile homes to be located in parks. Parks, in addition, may be restricted to commercial or industrial zones and limitations placed on size of parks, number of permitted homes, duration of stay, and so on. These limitations reflect the belief that mobile homes do not constitute a legitimate element of the housing stock.

2.2.1 Restricting Mobile Homes to Mobile Home Parks

Either by choice or by necessity, nearly half of all mobile home dwellers reside in mobile home parks.³³ It is often more economical for a mobile home consumer to locate in a park rather than to buy land, but, the degree of consumer choice is limited, for mobile homes are commonly prohibited from locating in any area except a mobile home park. Such confinement is usually justified on the grounds that there are health sanitation problems inherent in mobile home living which require periodic in-

spection, and that government control can be maintained more efficiently if such dwellings are confined to designated areas. Although confinement to parks may have been reasonable in the early days of trailers due to the lack of adequate water and sanitary facilities, it is no longer a necessity, for mobile homes are built and maintained as good quality, low-cost housing.

In addition, it has been argued that the grouping of mobile homes in parks reduces the architectural disharmony which results when mobile homes are scattered throughout residential districts. This reflects an attitude that mobile homes are unlike conventional housing, and that their presence in a residential neighborhood will impair the aesthetics of the area.

Many zoning ordinances restrict mobile homes to parks. Commonly, the validity of such an ordinance is challenged by someone attempting to put a mobile home on a single-family residential lot (see 2.1.2). Provisions restricting mobile homes to established mobile home parks are generally upheld.³⁴ This has been the result even in a case where the statute restricted mobile homes to parks, and there were none. The court held that despite the ordinance, the municipality was under no obligation to provide a mobile home park.³⁵ In People vs. Clute,³⁶ in a jurisdiction which does not permit outright exclusion, the court upheld the park-only designation on the grounds that sewerage, water supply, waste disposal, and other problems it felt were connected with mobile home maintenance require that all units be located in parks where services can be strictly supervised. In following this precedent, the court in Mobile Home Owners

Protective Association vs. Town of Chatham³⁷ upheld the park-only restriction although it felt compelled to state that:

It would appear somewhat anomalous to consider a residence some twelve feet wide by sixty feet in length set upon a permanent foundation to be anything other than an ordinary house...

It is doubtful that when granting power to the towns to regulate house trailers in 1939...the legislature contemplated the construction of residences the size of the structure at issue in the present case and indistinguishable from any other type of residence when mounted on a foundation in the manner of houses constructed upon the premises.³⁸

Nevertheless, there seems to be a general agreement that zoning ordinances restricting mobile homes to mobile home parks are legally justifiable.³⁹

It is one of the most common forms of mobile home regulation and to a large extent, it is consistent with the needs of those mobile home dwellers who are poor or who desire to be mobile.

Subdivision controls also usually restrict mobile homes to parks. The exact details of subdivision controls on mobile home parks varies from municipality to municipality. Many municipalities use the FHA's "Minimum Property Standards for Mobile Home Courts" as a source for their own ordinances.^{39a} Frederick Bair, in "Mobile Homes - A New Challenge", reports seven areas of detail which are characteristic of the "reformed" ordinances:

1. Location of Parks -- in residential districts only; possibility of density bonuses for good design.

2. Minimum Area and Number of Spaces -- to insure the minimum economic base necessary for common facilities and services.
3. Exclusion of Travel Trailers -- the culmination of the need to differentiate between the modern mobile home and its origins.
4. Control of Quality of Units -- construction standards.
5. Nonresidential Uses Permitted -- such as convenience commercial; yet sales lots prohibited.
6. Requirements for Recreational Facilities, Common Open Space.
7. Buffering--typically landscaping^{39b}

These controls have been subject to far less litigation than zoning. They have never been ruled upon by the Supreme Court and have usually been upheld in the lower courts.^{39c} Unlike zoning, they have usually been administered by an appointed planning department rather than by an elected city council.^{39d} As Delafons says:

"Not only does this mean that the regulations are interpreted with an awareness of their planning functions, but it also brings the planning staff into direct contact with the developer and affords ample scope for negotiation and advice."^{39c}

This close relationship between planners and developers may be one reason subdivision controls are so infrequently litigated - even though they are much more specific in their application.

2.2.2 Restricting Mobile Homes to Industrial and/or Commercial Districts

Most zoning ordinances dealing with mobile home parks, or, as they are still

referred to, "trailer parks", treat them as a commercial venture, and draw from this the dubious conclusion that they belong in non-residential areas. As a result, mobile homes and parks have been relegated to commercial areas at best, industrial areas at worst. This classification may be appropriate for vacation trailers, but it is totally unsuitable for permanent housing, for placing residences in such surroundings is a sure way to encourage rapid deterioration and the development of an unattractive mobile home park. In addition, forcing mobile home parks into commercial and industrial zones has fostered and aggravated community animosity directed at mobile homes over the years.

While mobile homes are undeniably a different form of residential use, they nevertheless are residential facilities, not unlike apartments. The forced location of mobile homes in commercial or industrial zones is similar to the forced location of an apartment house in commercial or industrial zones -- the ownership and operation of an apartment house is a business in the same sense that a mobile home park is. To push the analogy further, a subdivision which has single family residences for rent rather than for sale could be considered a business and denied access to residential areas.⁴⁰ Municipalities which relegate mobile homes to commercial and industrial areas mistakenly use the incidental profitability of the park to its owner rather than the primary purpose of its use by the consumer as a basis for its designation.

The usual case involves a mobile home owner or park developer seeking to locate within a residential zone in a community which confines mobile

homes to commercial or industrial areas. As indicated in section 2.1.2, this has generally been viewed as an acceptable zoning technique.⁴¹ The two cases most often cited for the proposition that a commercial classification is legitimate are City of New Orleans v. Louviere⁴² and City of New Orleans v. Lafon.⁴³ In upholding the ordinance, the court focused on the commercial aspects of mobile home parks. On the other hand, a trial court in South Dakota pointed out that the constitutional rights of mobile home occupants would be infringed upon if they were forced to live in areas unsuited for residential living. The case, although reversed on other grounds on appeal,⁴⁴ pointed out that forcing people to live in industrial and commercial districts was arbitrary and unreasonable, hence in contravention of the "due process" and "equal protection" clauses of both state and federal constitutions. If this line of reasoning ever becomes prevalent, it would be impossible for a municipality to discriminate against a mobile home dweller because of his choice of abode and prohibit him from living in areas designated for residences.

2.2.3 Restricting Number of Mobile Homes and Parks in a Municipality

A community can limit the number of mobile homes within its borders through various devices. Most commonly, mobile homes will be restricted to parks (see 2.2.1) and the number of parks, the acreage per park, and the number of homes per park will be explicitly limited.⁴⁵ In addition, park size can be implicitly limited by zoning a limited amount of suitable land or by setting a minimum lot size for each unit within the park. Many of

these restrictions are reasonable land use measures designed to protect the health of the residents and to control the density of the area, but the controls can be unreasonable and overly restrictive. The various limitations on parks may have the effect of creating monopolies in certain areas, which in turn reduces the incentive to establish efficient, high quality developments.⁴⁶

In Town of Yorkville v. Fonk,⁴⁷ an ordinance limiting the number of spaces to twenty-five in a park was upheld on the basis that it bore a direct and substantial relation to the general welfare. The court reasoned that the impact of allowing more units would be to overburden the already crowded schools and deferred to the community's judgement of devising this solution. This type of restriction may be reasonable but it may prevent a developer from achieving the necessary size to provide services, etc. at a price that a mobile home consumer can afford. This restraint can thus operate to effectively prohibit parks.

2.2.4 Limitations of Stay

Ordinances limiting the period during which mobile homes may remain within a municipality take a number of forms, including a prohibition of habitation in excess of a stated time; requirement of a nonrenewable permit to occupy; or imposition of stringent building code provisions upon mobile homes remaining longer than a certain time. This form of regulation clearly dates back to the time of travel trailers when the units were truly mobile and were similar to the vehicles that would now be classi-

fied as vacation trailers.

Today, many communities have repealed or ceased to enforce ordinances placing time restrictions on mobile homes. Nevertheless, as late as the 1960's, courts have upheld this method of regulation as applied both to individual mobile homes⁴⁸ and to mobile home parks⁴⁹. There has been no distinction made between temporary vacation homes and permanent mobile home residences; the regulation has been upheld across the board. Although the common use of mobile homes as permanent residences has now rendered this method of regulation anachronistic, the courts still rest their decision on health and safety grounds⁵⁰ or on the "legitimate" need to promote transiency.⁵¹ The Ohio court saw permanent mobile home residences as a cause of slums, and felt that any method designed to enforce the transiency of mobile home dwellers was in the public interest.⁵²

A time limitation on mobile homes located outside parks or in tourist camps may be reasonably related to health and safety considerations if, after the time has expired, there is a provision allowing the unit to remain if it complies with health and safety regulations.⁵³ This reasoning cannot logically be applied to mobile homes within parks. Neither the health and safety of the occupants nor of the community are helped if a dwelling designed for permanent residence is allowed only a temporary stay. Once a park complies with local code and licensing regulations, individual homes within the park create no additional burdens on the community.

The imposition of time restrictions on mobile homes located in parks

designed for permanent living is inconsistent with the nature and purpose of the product. Modern mobile homes are not mobile. Once sited, they are moved as infrequently as most conventional housing. Time restrictions, even if not uniformly enforced, will discourage potential mobile home occupants who desire permanency. Moreover, due to the inconvenience and cost of moving a modern mobile home, these provisions in most cases constitute a form of indirect exclusion. The courts' reluctance to examine the assumptions underlying the imposition of a nomadic existence on mobile home dwellers is indicative of a failure to recognize the improvements in modern mobile home living.

2.2.5 Frontage Consents

Certain ordinances regulating mobile home parks contain provisions making the right to locate a park contingent upon the consent of nearby property owners or residents. This type of regulation, commonly referred to as a "frontage consent" provision, was upheld in two decisions, Huff vs City of DesMoines and Cady vs. City of Detroit, handed down over twenty years ago.⁵⁴ A contrary result was reached in a recent case, Williams vs. Whilten,⁵⁵ where a more stringent consent requirement was involved. The court found this requirement invalid as an unlawful delegation of legislative power by the state to adjacent property owners.

A possible explanation why frontage consent provisions are rarely employed to restrict or exclude mobile homes is that their constitutionality is suspect. Although the case law on all types of frontage consent ordinances

is far from clear, courts often invalidate them as an unlawful delegation of legislative power if the use involved is not inherently injurious to the general welfare. Nevertheless, in those areas where they are still applied to mobile homes, private citizens may withhold consent at their whim. Again, the single family mobile home dwelling is often accorded different treatment than the single family conventional dwelling.

2.3 AVAILABILITY OF PROCEDURES FOR ALTERATION OF ORDINANCES

Where mobile homes are not allowed by right, the park developer or mobile home owner can theoretically attack the zoning ordinance or a denial of an application for a special permit. The appeal procedure is, however, weighted heavily against the mobile home proponents. The cases cited earlier represent only a small fraction of the situations in which a mobile home developer could challenge arguably unreasonable actions by municipal authorities. The expense, the time, and the low probability of success often deter a developer from appealing even blatantly illegal behavior by local officials.

Developers must overcome many difficulties in appealing an adverse decision by local authorities or in challenging a local ordinance. The burden of proving an ordinance's unreasonableness is on the ordinance's opponent. Further, courts often lack the necessary sophistication to deal with complex planning issues. They have been unwilling to critically examine the underlying basis for restrictive zoning ordinances. Judges, as part of the community, often share the same biases as their neighbors. Thus, for the courts the simplest response is to defer to the local decision-makers, saying it is for them, rather than the courts, to legislate. Judge Hall, in his oft-quoted dissent in the

Vickers case, criticized this approach:

The other foundation stones of the majority's approach are the twin shibboleths of presumption of validity of municipal action and restraint on judicial review if the proofs do not overcome it 'beyond debate.' The trouble is not with the principles...but rather with the perfunctory manner in which they have come to be applied. Undoubtedly influenced at the same time by loose application of the constitutional provision for liberal construction, our courts have in recent years made it virtually impossible for municipal zoning regulations to be successfully attacked. Judicial scrutiny has become too superficial and one-sided. The state of the trend is exemplified in the language of the majority that if the amendment presented a debatable issue we cannot nullify the township's decision that its welfare would be advanced by the action it took.

Proper judicial review to me can be nothing less than an objective, realistic consideration of the setting - the evils or conditions sought to be remedied, a full and comparative appraisal of the public interest involved and the private rights affected, both from the local and broader aspects, and a thorough weighing of all factors, with government entitled to win if the scales are at least
56
balanced or even a little less so.

Often the mobile home developer lacks the financial means to marshal the

detailed evidence needed to meet the heavy burden imposed upon him by the courts.

A reading of the case Lakeland Bluffs, Inc. v. County of Will⁵⁸ indicates the necessity for a thorough, professional presentation including the use of expert testimony, which is often costly. Various expert witnesses testified as to the need for low-cost housing in light of the labor shortage in the area. A professional planner testified as to the best use for the land. The county countered with the testimony of only one planner who proposed one alternative use for the land, a use that was already in ample supply in the immediate vicinity. The presumption of validity was thus overcome, and the court held that the county had not established sufficient cause to deny the mobile home development.

There are several specific procedures for altering zoning ordinances which do not permit mobile homes by right. The most common of these are the variance and the "special" or "conditional" use, both costly procedures. A variance is obtained if it can be demonstrated by the property owner that a hardship will occur under a strict application of the zoning ordinance. The special use is an enumerated use for a particular zone that may be permitted by a review board on application from a developer. Whichever appeal is employed, the developer must purchase the land before commencing his appeal. This puts the mobile home developer at a disadvantage compared to the conventional residential developer.

The mobile home park developer must purchase his land knowing he may never obtain the zoning he desires. On the other hand, the residential developer can purchase land with favorable zoning already in hand and can focus on the other problems of development. This high risk situation has two effects. The monetary return to the successful investor must be higher to balance the higher risk. This return is ultimately translated into higher rents in the mobile home park. Further, the high risks limit the sources of capital for the potential investor, skeptical about investing in such an uncertain venture.

Rather than invest in land before desired zoning changes have been obtained, developers may purchase an option for a year and have the owner of the land seek the change. This allows the developer to avoid investing a large amount of capital in land while trying to change the zoning. This technique is not always feasible and may increase the price of the land. The owner may prefer to sell to developers intending to use the land for permitted purposes rather than tie up the land with an option that may never ripen into a purchase; or he may be unwilling to invest his own time and money in what may be a futile effort.

Even if a developer overcomes these obstacles and is able or willing to proceed through several appellate procedures, this is not necessarily an end to the legal process. For example, if a developer receives a favorable ruling that the exclusion of mobile homes from an area zoned for residential dwellings only is invalid, he can not necessarily go ahead. The municipality may now zone the area for multi-family and allow mobile homes only as a special exception. The

developer then applies for a special exception and is denied. At this point, the developer must challenge the denial, i.e., go through the same procedures with additional expense and time lost. In short, if a municipality wishes to exclude a mobile home development or mobile homes in general, it probably can.

The above problems and obstacles indicate the limited role of the judiciary in devising a broad based solution to exclusionary or restrictive zoning practices. It is rare that a court will order a mobile home park to be built; it will, instead, identify impermissible aspects of a local ordinance. By indicating why a provision is invalid, the court may simply alert the community as to what they can legally do to accomplish their exclusionary goal. In addition, favorable decisions have a limited impact on the problem, for the decisions are limited to specific cases involving specific municipalities and specific parcels of land.

3.

Frequency of Use of Various Legal Bases for
Mobile Home Placement or Restriction

3.1 FREQUENCY OF USE

Control of land usage was originally a power held by the states, but it has largely been delegated to localities through various zoning and planning enabling acts. As a consequence of this delegation of power, information regarding the nearly ten thousand zoning ordinances in the nation is incomplete, unwieldy, and often simply not available. Further, the status of mobile homes in these ordinances is obscured by the manner in which mobile homes are regulated and defined. Only a small number of studies are available on state and regional ordinances -- insufficient for the purposes of this project. To secure the information needed for the objectives of this project, a major study was undertaken. An appropriate official in each state government and state or regional trade association was contacted through correspondence and personal interview and asked to provide any information available concerning the status of land-use controls relevant to mobile homes in each state. The information received on the situation in all fifty states ranges, depending on state, from reliable censuses to knowledgeable estimates by individuals. The data base created by this information is used in many of the analyses carried out in this section.

3.1.1 Complete Exclusion

In some states, none of the municipalities completely exclude mobile homes (though restrictions may exist), while in other states, such as New Jersey, as many as 95% of the municipalities completely ban mobile homes. The frequency of use of complete exclusion is presented in Figures 2 and 3. These figures only reflect the percentage of municipalities with a specific ordinance, they do not reflect the percentage of a state's developable land or population affected by an ordinance. For instance, Colorado has only one percent of its municipalities excluding mobile homes, but this one percent is Denver, which accounts for thirty percent of Colorado's population.

3.1.2 Restriction to Mobile Home Parks

The frequency of the restriction to mobile home parks is summarized in the same manner in Figures 2 and 4. The absolute frequency of this restriction is misleading when compared between states without considering the number of municipalities that do not exclude mobile homes. For example, three to four percent of both New Hampshire's and New Jersey's municipalities require mobile homes to be in parks. Yet this represents 80% of all New Jersey municipalities allowing mobile homes and only 3% of New Hampshire municipalities allowing mobile homes. To compensate for this, the percentage of all municipalities in a state allowing mobile homes which require location in a mobile home park is also shown in Figures 5 and 6. The use of this device displays less of a pattern than does the complete exclusion of mobile homes; however, the densely populated, urbanized states generally do have a higher percentage than other areas. Note that in Figure 6 the Middle Atlantic, South, East, North Central, and Pacific districts have a mean percentage of greater than 40.

	COMPLETE EXCLUSION	RESTRICTION TO MH PARKS
<u>New England</u>		
MAINE	18	4
NEW HAMPSHIRE	2	3
VERMONT	2	12
MASSACHUSETTS	65	28
RHODE ISLAND	51	13
CONNECTICUT	87	12
<u>Middle Atlantic</u>		
NEW YORK	50	11
NEW JERSEY	95	4
PENNSYLVANIA	60	30
<u>East North Central</u>		
OHIO	50	40
INDIANA	10	25
ILLINOIS	3	38
MICHIGAN	15	40
WISCONSIN	10	50
<u>West North Central</u>		
MINNESOTA	15	85
IOWA	2	80
MISSOURI	1	10
NORTH DAKOTA	1	50
SOUTH DAKOTA	1	33
NEBRASKA	1	15
KANSAS	5	-
<u>South Atlantic</u>		
DELAWARE	29	35
MARYLAND	20	80
VIRGINIA	11	55
WEST VIRGINIA	40	60
SOUTH CAROLINA	1	60
NORTH CAROLINA	25	75
GEORGIA	1	30
FLORIDA	5	75
<u>East South Central</u>		
KENTUCKY	10	30
TENNESSEE	1	35
ALABAMA	5	10
MISSISSIPPI	5	13
<u>West South Central</u>		
ARKANSAS	0	5
LOUISIANA	0	25
OKLAHOMA	1	50
TEXAS	1	10
<u>Mountain</u>		
MONTANA	5	5
IDAHO	1	10
WYOMING	1	10
COLORADO	1	40
NEW MEXICO	4	10
ARIZONA	1	65
UTAH	1	63
NEVADA	1	25
<u>Pacific</u>		
WASHINGTON	10	75
OREGON	25	50
CALIFORNIA	40	52
ALASKA	1	2
HAWAII	25	25

Note: All figures in percentages

Source: 50-State PMU Study

FIGURE 2 PERCENTAGE OF ALL MUNICIPALITIES THAT USE A SPECIFIC
LAND USE CONTROL

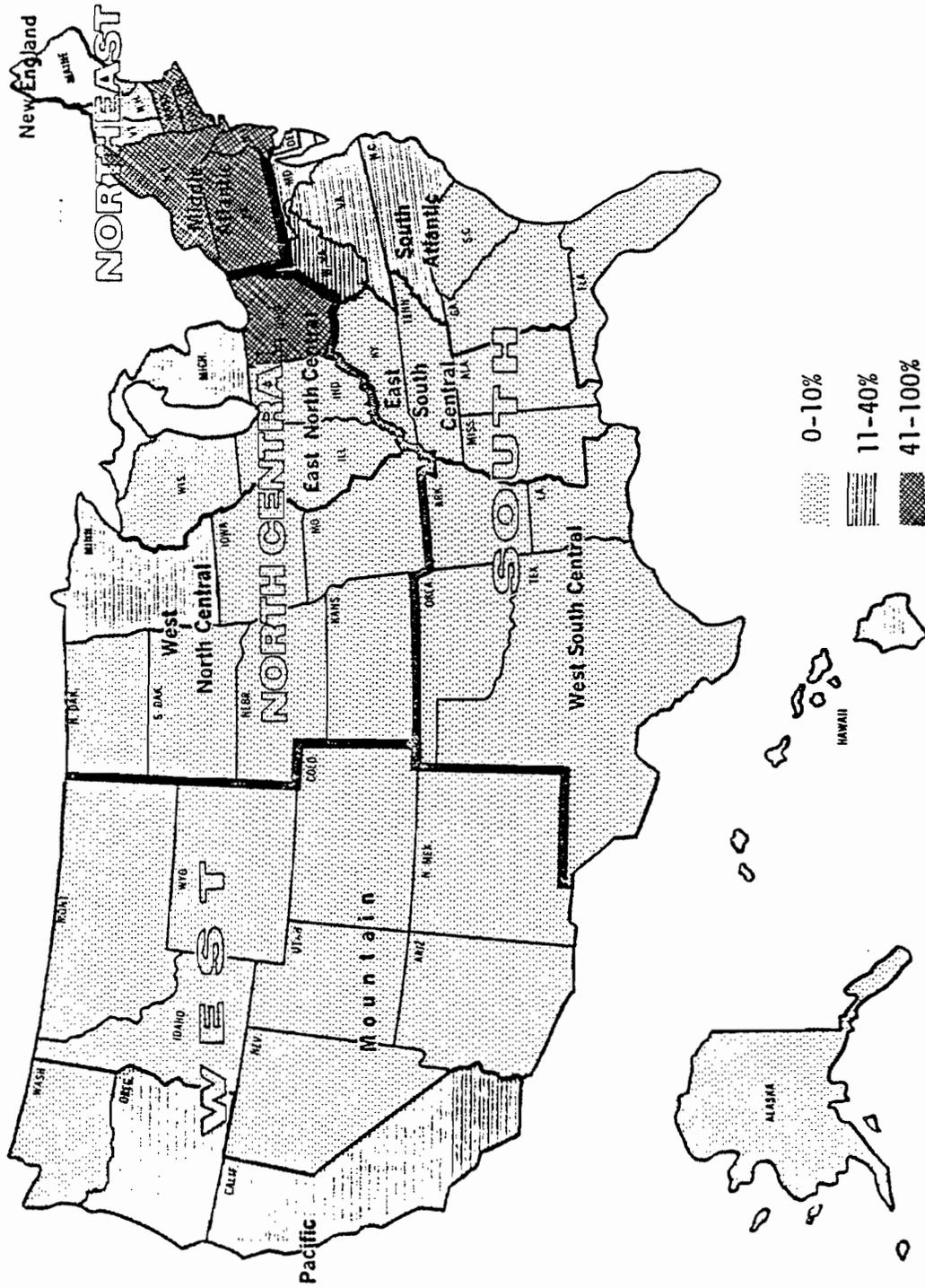


FIGURE 3. PERCENTAGE OF ALL MUNICIPALITIES WHICH EXCLUDE MOBILE HOMES

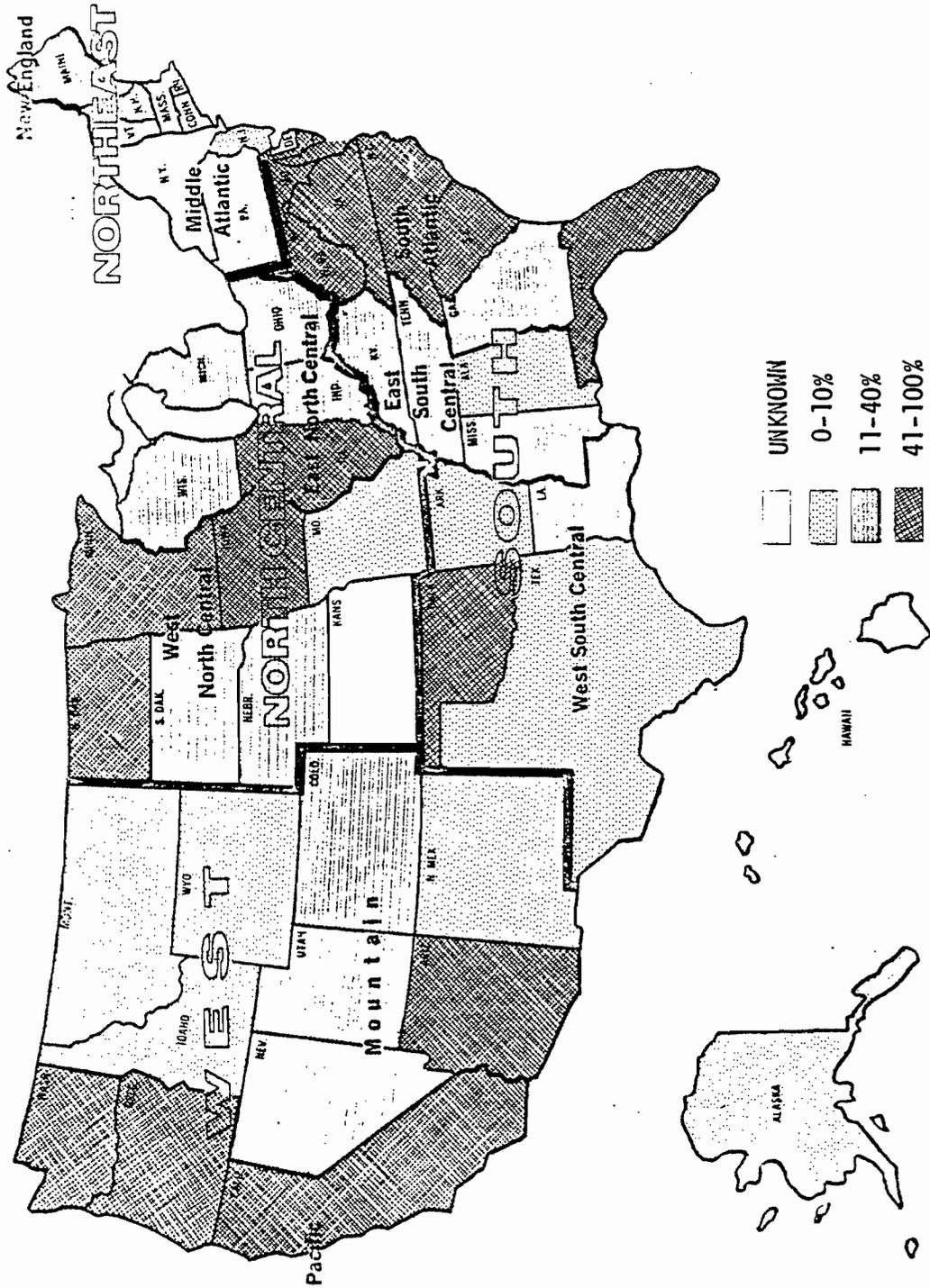


FIGURE 4: PERCENTAGE OF ALL MUNICIPALITIES WHICH REQUIRE LOCATION IN A MOBILE HOME PARK

	RESTRICTION TO MH PARKS	EXCLUSION FROM RESIDENTIAL AREAS
<u>New England</u>		
MAINE	4.9	3
NEW HAMPSHIRE	3.1	11
VERMONT	12.2	0
MASSACHUSETTS	80.0	70
RHODE ISLAND	26.5	3
CONNECTICUT	92.3	0
<u>Middle Atlantic</u>		
NEW YORK	22.0	90
NEW JERSEY	80.0	98
PENNSYLVANIA	80.0	80
<u>East North Central</u>		
OHIO	80.0	95
INDIANA	27.8	20
ILLINOIS	39.2	80
MICHIGAN	47.0	20
WISCONSIN	55.6	0
<u>West North Central</u>		
MINNESOTA	100.0	5
IOWA	81.6	20
MISSOURI	10.1	0
NORTH DAKOTA	50.5	0
SOUTH DAKOTA	33.3	8
NEBRASKA	15.2	0
KANSAS	-	10
<u>South Atlantic</u>		
DELAWARE	49.3	2
MARYLAND	100.0	60
VIRGINIA	61.8	23
WEST VIRGINIA	100.0	20
SOUTH CAROLINA	60.6	15
NORTH CAROLINA	100.0	20
GEORGIA	30.3	20
FLORIDA	79.3	0
<u>East South Central</u>		
KENTUCKY	33.3	5
TENNESSEE	35.4	5
ALABAMA	10.5	25
MISSISSIPPI	13.6	5
<u>West South Central</u>		
ARKANSAS	5.0	0
LOUISIANA	25.0	20
OKLAHOMA	50.5	25
TEXAS	10.1	25
<u>Mountain</u>		
MONTANA	5.3	5
IDAHO	10.1	0
WYOMING	10.1	0
COLORADO	40.4	5
NEW MEXICO	10.4	8
ARIZONA	65.6	0
UTAH	63.6	0
NEVADA	26.3	0
<u>Pacific</u>		
WASHINGTON	83.3	0
OREGON	66.6	10
CALIFORNIA	86.7	40
ALASKA	2.0	0
HAWAII	33.3	33

Note: All figures in percentages

Source: 50-State PMHI Study

FIGURE 5. PERCENTAGE OF MUNICIPALITIES WHICH ALLOW MOBILE HOMES AND WHICH USE A SPECIFIC LAND USE CONTROL

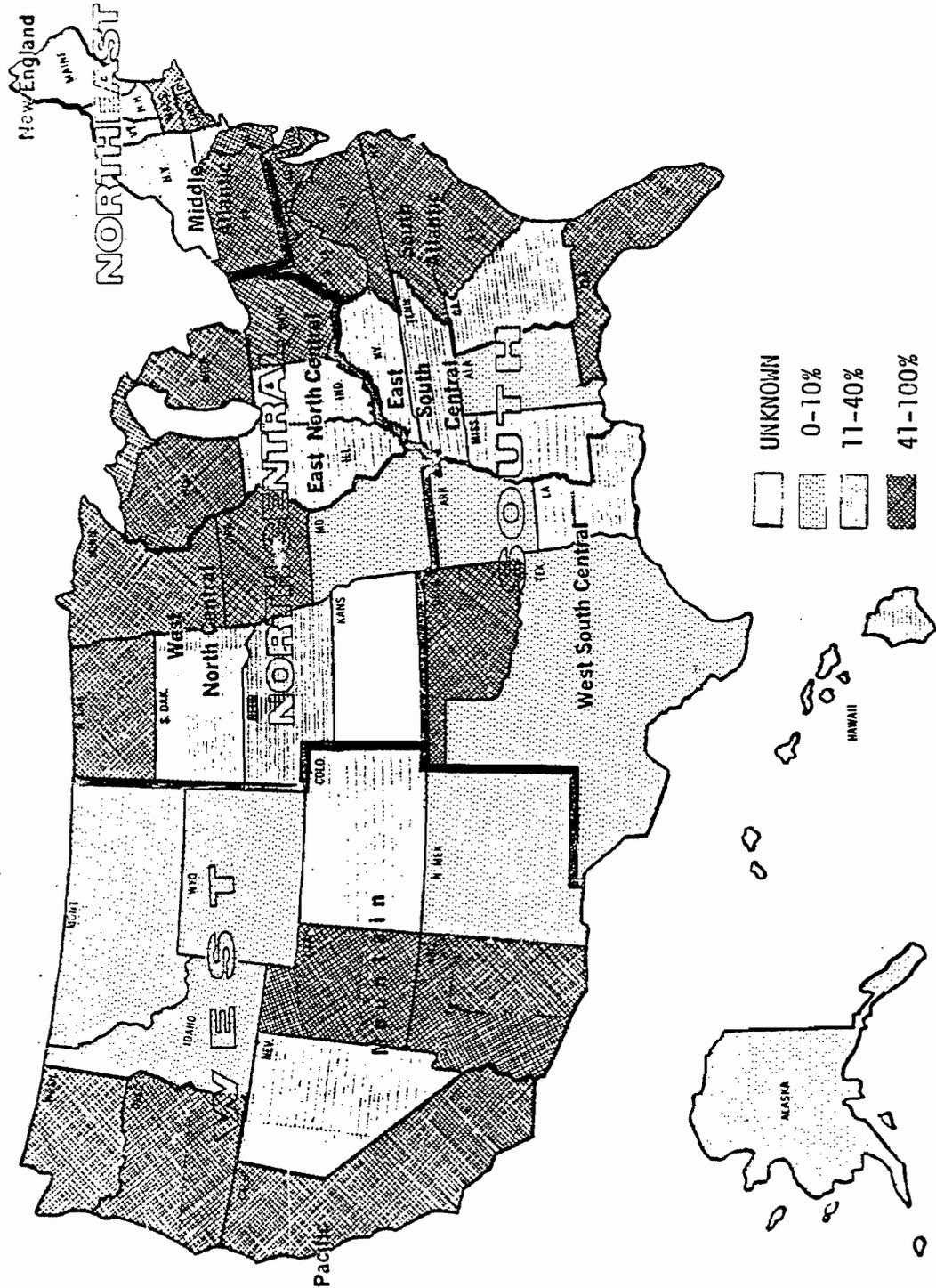


FIGURE 6: PERCENTAGE OF MUNICIPALITIES ALLOWING MOBILE HOMES WHICH REQUIRE LOCATION IN A MOBILE HOME PARK

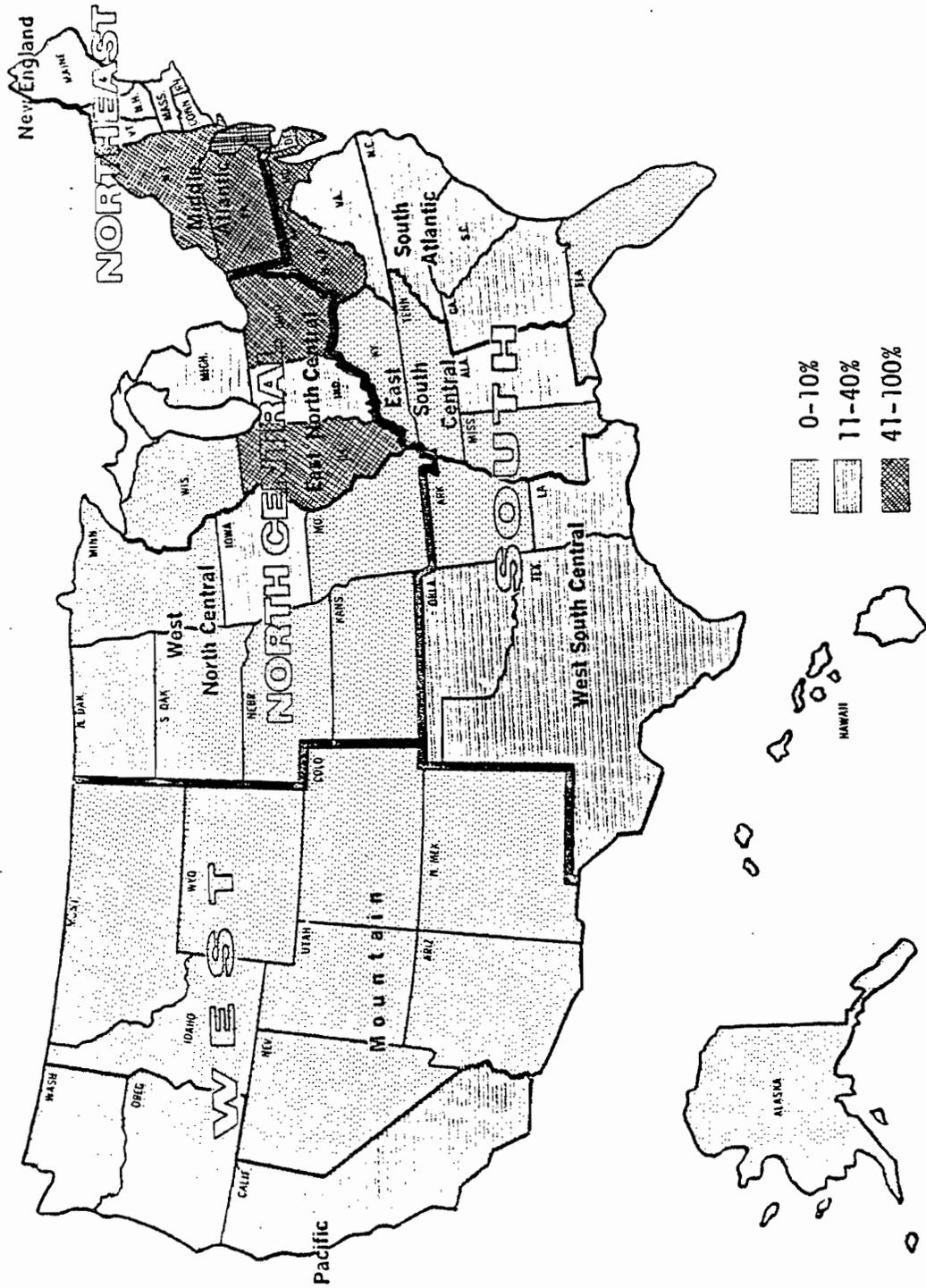


FIGURE 7: PERCENTAGE OF MUNICIPALITIES ALLOWING MOBILE HOMES WHICH EXCLUDE MOBILE HOMES FROM RESIDENTIAL DISTRICTS

3.1.3 Exclusion from Residential Areas

The incidence of exclusion from residential areas or restriction to industrial-commercial areas is summarized in Figure 5 and in Figure 7. Disregarding agricultural areas, these two devices have a similar impact and, for the most part, are indistinguishable.

3.1.4 Limitation of Stay

Limitation of stay (2.2.4) apparently occurs or is enforced very infrequently. It is an anachronism left over from the early days of mobile home development.

3.1.5 Other Restrictions

Information on the frequency of the use of legal devices such as constructive exclusions, restriction of the number of mobile homes and parks in a municipality, or frontage consents is difficult to obtain, partly because they are often implicit attempts at exclusion where explicit bans are impossible.

Some idea of the frequency of their use can be gained by comparing two views of exclusion compiled by this study. In the course of gathering data on the frequency of complete exclusion in each state, a state planning official and the president of the state trade association were both contacted. The planning official quoted the percentage of municipalities in his state which explicitly exclude mobile homes and sometimes added that through other techniques, such as minimum floor area requirements,

quotas, or building code regulations, an additional percentage effectively excluded mobile homes. When given, this additional percentage was usually close to the percentage quoted by the trade association spokesman. The difference between the percentage given by the president of the trade association and the one given by the state planning official can be interpreted as a measure of the frequency at which constructive exclusions (restricting the number of mobile homes and parks in a municipality) and frontage consents occur. The reliability of the figure is, of course, not clear and it is presented only as an indication of the present situation and not as hard data.

The difference between the pair of the percentages was tested statistically with a one tailed t-test. The mean difference was computed to be 3.31 percent. This proved to be insignificant. See Figure 8. The probability of .315 is not nearly low enough to reject a hypothesis that there is no significant difference between the two groups. Nevertheless, the differences between them are presented in Figure 9. Those states where the state claimed a higher exclusion level than the trade association are denoted on the table by a hyphen. States where explicit information on the frequency of the use of the three devices is known are starred. The average use of the devices is shown.

<u>VARIABLE</u>	<u>MEAN</u>	<u>STANDARD DEVIATION</u>	<u>STANDARD ERROR</u>
% of municipalities			
banning MH per state	33.3077	33.611	9.322
banning MH per assn.	36.6154	24.975	6.927

<u>NUMBER OF CASES</u>	<u>CORR.</u>	<u>SIG.</u>	<u>DIFFERENCE MEAN</u>	<u>STANDARD DEVIATION</u>	<u>STANDARD ERROR</u>	<u>T VALUE</u>
13	0.691	0.933	3.3077	24.363	6.757	0.49

<u>DEGREES OF FREEDOM</u>	<u>1 TAIL PROB.</u>
12	0.317

Source: 50 State PMHI Survey

FIGURE 8 T-TEST BETWEEN PAIR OF VARIABLES

<u>STATE</u>	<u>PERCENTAGE OF MUNICIPALITIES</u>
Alabama	11
Alaska	2 *
Connecticut	2
Hawaii	75 *
Kansas	5 *
Indiana	10 *
Kentucky	5
Ohio	-
Massachusetts	3
Minnesota	-
New Hampshire	19
New Jersey	-
Rhode Island	5 *
South Carolina	49
Vermont	40 *
Virginia	0 *
West Virginia	-
 Average of 17 States	 13.3

* Denotes explicit data on frequency as available. See text.

Source: 50 State PMHI Study

FIGURE 9 FREQUENCY OF USE OF CONSTRUCTIVE EXCLUSION, FRONTAGE
CONSENTS, OR RESTRICTION OF NUMBER OF MOBILE HOMES
AND PARKS IN A STATE

3.2 ANALYSIS OF ZONING PREFERENCES

Past studies have explained or justified the legal exclusion of mobile homes. Aesthetic considerations, deflation of property values, preservation of good sanitation and health standards, and exclusion of minorities and the poor have all been cited as possible explanations. Most of these studies were qualitative in analysis. This study, on the other hand, aims to quantify the impact of socio-economic variables on the use of exclusionary devices. Analysis is performed on data generated by this project.

3.2.1 Formulation of Municipal Preferences

Several studies have attempted to explain why municipalities adopt a particular zoning ordinance regulating mobile homes. Their explanations are usually theoretical and often only suppositional. Margaret Drury, in Mobile Homes: The Unrecognized Revolution in American Housing, suggests that

"Usually, the reason for opposition to mobile home parks is grounded in fears that property values in the surrounding areas will decrease. This fear developed, quite understandably, because of the image people held of the first parks....Opposition

also grows out of a fear of increased taxes, because more services will be needed if mobile home parks are allowed."⁵⁹

The Douglas Commission, in Building the American City, presents two slightly different arguments.

"The exclusion of mobile homes in large part reflects a stereotyping of their appearance and of their occupants. Many see mobile homes as unattractive and occupied by people who do not take care of their homes or neighborhood. Such images are often derived from viewing mobile homes in the midst of industrial districts, to which they are so often relegated. Moreover, there are sometimes fiscal reasons for exclusion in addition to those generally applicable to housing which might accommodate low and moderate-income families. In many areas mobile homes are not taxable as real property. And in some states they are not subject to local personal property taxes because of special state levies, the imposition of which may exempt them from local taxes. In New York State, mobile homes are taxable as real property, and the fiscal motive for exclusion is accordingly reduced. The high exclusion rate in New York (over 50%) may thus indicate an even greater amount of exclusion in other states."⁶⁰

Similarly, Robert M. Anderson, in Zoning Law and Practice in New York State, states that

"Mobile homes do not look like conventional dwellings. This difference in appearance is sufficient to persuade many municipalities that a mobile home will depress property values... Because many mobile homes can be sited rapidly and in a rela-

tively small area, they are capable of imposing a sudden and severe load on all municipal facilities....(mobile homes) are regarded as freeloaders and efforts are made to exclude them or to confine them to the least desirable land in the community."⁶¹

These arguments as well as others assume that a rational decision-making process takes place on the part of municipalities, (usually through city councils and planning boards), which reflects the costs and benefits of mobile homes at the municipal level and does not consider the metropolitan and regional impacts of their actions. This process is assumed to be aimed at protecting property values, the level of the property tax, and municipal budget, though sometimes just a maximization of revenues.

However, most arguments make no distinction between the complete exclusion of mobile homes and other restrictive measures such as the exclusion from residential areas and the restriction to mobile home parks. Since all forms of exclusion and restriction are lumped together, none of the arguments can distinguish between what may be different motivations behind the various exclusions and restrictions.

The Douglas Commission excerpt has one of the most explicit arguments: it suggests that municipalities in states which do not tax mobile homes as real estate or personal property will be more likely to exclude mobile homes than those in states which do. There are two possible explanations for this. First, real estate

and personal property taxes are paid directly to the municipality by the mobile home owner while vehicular license fees or special mobile home fees are most often paid to the state or county. They are received by the municipality on paper with other intergovernmental assessments and disbursements of funds. The municipalities, seeing a direct fiscal cost for local services for mobile homes and no direct revenue source, decide to exclude mobile homes. Second, real estate and personal property taxes usually provide more revenue than licenses or fees. While there is argument over whether or not mobile homes when taxed as property are a net fiscal cost or benefit, they more closely approach a net cost when subject only to typically smaller vehicular license fees. If a consideration behind zoning is indeed the fiscal impact of various land uses, then the exclusion of mobile homes in municipalities where mobile homes are not subject to real estate and property taxes is an understandable action.

The last sentence of Drury's reasoning also suggests that mobile homes are excluded as a result of zoning regulations designed to protect the economic well-being of the municipality. Mobile homes do not seem to pay their "fair share" of taxes considering the municipal services they "consume" and are, therefore, excluded to protect the municipal budget and out of fears of rising property taxes. If this is accurate, then it will be true to the extent of a municipality's dependence on the property tax for revenue. In localities where sales, income and other taxes are a significant

portion of its revenue, its motivation to engage in such fiscal zoning is correspondingly reduced.

If the exclusion of mobile homes is the result of fiscal zoning, one other relationship may be observed. While the cost of most municipal services is difficult to assign to specific users, the expenditures on schools can conveniently be broken down in this way. Since this is also a large portion of a community's expenditures, sometimes over half, it is often applied as an easily understood yardstick when a municipality considers the impacts of alternative land uses. Multi-family dwellings are often excluded or restricted to one bedroom units for this reason. Since mobile homes are also seen to be dense land users, the percentage of a municipality's expenditures spent on schools would then be positively correlated with its propensity to ban mobile homes for fiscal concerns. This would be true for two reasons. First, a few municipalities that are predominantly retirement communities (such as those in Florida) would have smaller school budgets and less need to engage in fiscal zoning. Second, municipalities that are not directly responsible for raising money for schools would not be immediately concerned with the school budget. In cases where schools are the responsibility of an autonomous school district with its own powers to raise money, the local governments, while ultimately affected, are not as strongly motivated to concern themselves with the impact of their actions on the school population.

Mobile homes are probably excluded for other reasons besides fiscal ones. Communities fear depressed property values and individuals desire to live in a community of a single socio-economic status. As occupants of

mobile homes are for the most part in low-income brackets, the wealthy communities may be more likely to exclude mobile homes than the less wealthy. Of course, the exclusion of low-income housing may have insured a community's wealth in the first place, but it does provide a test for socio-economic exclusion of lower income groups. When wealth is measured by the median value of single family dwellings in the community, it provides a possible test for the property value argument (if one assumes that any decrease in property value due to mobile homes not being excluded is not extreme -- while not ruling out an individual negative effect, a substantial change in the median value would not be expected).

The Anderson quote presents a reason that often appears in legal arguments justifying restrictions. "Because (mobile homes) can be sited rapidly and in a relatively small area, they are capable of imposing a sudden and severe load on all municipal facilities." This is difficult to test in the scope of PMHI's analysis. Municipalities experiencing rapid growth might be more apt to exclude mobile homes, when each of the previously mentioned reasons would be more immediate and the threat of mobile homes establishing themselves more prominent. This will be true if one assumes that mobile homes are not an important component of growth when an ordinance was passed or amended, as is the case in most municipalities.

There is another possible reason for excluding mobile homes. They may be excluded where they would be unable to compete economically with other land uses, such as dense cities where land values dictate more dwelling units per acre than the traditional mobile home can provide. Though

there may be no need to exclude mobile homes, (since in most cases they will not be able to locate there anyway) they may still be excluded on paper since one view of the purpose of zoning is to correct market imperfections. An area can be zoned for commercial or multi-family uses, excluding mobile homes, to insure the highest and best use of the land and at the same time increase its value.

In summary, six hypotheses have been constructed as indicators to underlying concerns governing municipal action:

- H1: A municipality will have a greater propensity to exclude mobile homes if it is in a state where mobile homes are not subject to the property tax.
- H2: A municipality will have a greater propensity to exclude mobile homes if most of its revenues are dependent on the property tax.
- H3: A municipality will have a greater propensity to exclude mobile homes if a significant amount of its expenditures goes for schools.
- H4: A municipality will have a greater propensity to exclude mobile homes if it has a high per capita wealth.
- H5: A municipality will have a greater propensity to exclude mobile homes if it has a high population density.

3.2.2 Data and Methodology

A sample consisting of 96 cities and towns above 25,000 population was used to test the hypotheses. The sample is rather heavily biased toward the more restrictive East, with observations from Connecticut, Rhode Island, Massachusetts, New Hampshire, New Jersey, Virginia, Vermont,

Oregon, Florida, Maine, and North Carolina predominating.

This is far from an ideal sample and is used by necessity rather than choice. It is derived from PMHI's national survey and the state and regional studies mentioned at the beginning of this chapter, and consists of every city and town whose zoning practices were known and for which observations on the other variables were available.

The names of the cities and towns are listed in Figure 22. An explanation of each variable used and its name follow.

- H1 TAXATION A nominal variable of two categories: property tax, when the mobile homes in a municipality are subject to a real-estate or personal property tax, and license system, when mobile homes in a municipality are subject to a license or special fee.⁶²
- H2 REVENUE The percentage of a municipality's revenue that is a result of the property tax, excluding inter-governmental transfers.⁶³
- H3 SCHOOLEX The percentage of a municipality's expenditures devoted to schools.⁶⁴
- H4 WEALTH The median value of single family dwellings in a municipality.⁶⁵
- H5 GROWTH Population growth, percentage over 1960-1970.⁶⁶
- H6 DENSITY Population density per square mile.⁶⁷

The hypotheses, framed in terms of their complete exclusion from each other, are first tested in two by two tables. Municipal preferences in restricting mobile homes to mobile home parks and to non-residential districts, along with further analysis of complete exclusion, follow in

later sections of this chapter. The variables were first dichotomized and then tabulated against the exclusion or non-exclusion of mobile homes. The results are shown on the following pages.

3.2.3 Crosstabulation with Exclusion

Figure 10 lends little support to the first hypothesis. One cannot reject the null hypothesis of independence between the taxation system and the exclusion or non-exclusion of mobile homes even at the 90% level of confidence. Indeed, there is a slight pattern showing the opposite of what was expected. While the sample is evenly distributed between municipalities excluding or not excluding mobile homes (51%-49%), of those municipalities in a property tax system, more exclude mobile homes than do not (58%-42%); and of those municipalities in a license system, fewer exclude mobile homes than do not exclude them (45%-55%). Dividing the system of taxation into two categories does not directly take into account the varying assessment procedures and tax rates in each category, and may not adequately reflect the per dwelling tax on mobile homes in each municipality. Also, since the license system is assumed to be less expensive to the mobile home dweller than the property tax, occupancy costs would be less in municipalities under such a system.

While it appears that the method by which mobile homes are taxed is not as important as was thought, the extent of municipal dependence on the property tax and level of expenditures on education are both significant determinants of exclusion, (Figures 11 and 12) suggesting that, while there

TAXATION	BAN			
	COUNT	I	EXCLUDE	TOTAL
	RCW PCT	EXCLUDE	EXCLUDE	RCW
	TOT PCT	I	I	I
PROPERTY TAX	18	25	43	
	41.9	58.1	44.6	
	38.3	51.0		
	18.8	26.0		
LICENSE SYSTEM	29	24	53	
	54.7	45.3	55.2	
	61.7	49.0		
	30.2	25.0		
COLUMN TOTAL	47	49	96	
	49.0	51.0	100.0	

CORRECTED CHI SQUARE = 1.09791 WITH 1 DEGREE OF FREEDOM
 PHI = 0.10694
 CONTINGENCY COEFFICIENT = 0.10634

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 10 CROSSTABULATION OF taxation (METHOD BY WHICH MOBILE HOMES ARE TAXED IN A MUNICIPALITY) BY ban (WHETHER OR NOT A MUNICIPALITY EXCLUDES MOBILE HOMES).

REVENUE	BAN			
	COUNT	I	EXCLUDE	TOTAL
	RCW PCT	EXCLUDE	EXCLUDE	RCW
	TOT PCT	I	I	I
BELGW 55%	22	5	27	
	81.5	18.5	28.1	
	46.3	10.2		
	22.9	5.2		
ABOVE 95%	25	44	69	
	26.2	63.8	71.9	
	53.2	89.2		
	26.0	45.6		
COLUMN TOTAL	47	49	96	
	49.0	51.0	100.0	

CORRECTED CHI SQUARE = 14.14160 WITH 1 DEGREE OF FREEDOM
 PHI = 0.38381
 CONTINGENCY COEFFICIENT = 0.35832

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 11 CROSSTABULATION OF revenue (PERCENTAGE OF MUNICIPAL REVENUES DERIVED FROM PROPERTY TAX) BY ban (WHETHER OR NOT A MUNICIPALITY EXCLUDES MOBILE HOMES).

	BAN						
	CCUNT	I	CCESN'T	CCES	ROW		
	ROW PCT	I	EXCLUDE	EXCLUDE	TOTAL		
	COL PCT	I					
SCHOOLEX	TOT PCT	I	I	I			
		I	33	I	15	I	48
BELOW 40%	I	68.8	I	31.3	I	50.0	
	I	70.2	I	30.6	I		
	I	34.4	I	15.6	I		
		I	14	I	34	I	48
ABOVE 40%	I	29.2	I	70.8	I	50.0	
	I	29.8	I	69.4	I		
	I	14.6	I	35.4	I		
		I		I		I	
	COLUMN		47		49		96
	TOTAL		49.0		51.0		100.0

CORRECTED CHI SQUARE = 13.50586 WITH 1 DEGREE OF FREEDOM
 PHI = 0.37503
 CONTINGENCY COEFFICIENT = 0.35119

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 12 CROSSTABULATION OF schoolex (PERCENTAGE OF MUNICIPAL EXPENDITURES SPENT ON SCHOOLS) BY ban (WHETHER OR NOT A MUNICIPALITY EXCLUDES MOBILE HOMES).

	BAN						
	CCUNT	I	CCESN'T	CCES	ROW		
	ROW PCT	I	EXCLUDE	EXCLUDE	TOTAL		
	COL PCT	I					
WEALTH	TOT PCT	I	I	I			
	I	35	I	16	I	51	
BELOW 18,500	I	68.6	I	31.4	I	53.1	
	I	74.5	I	32.7	I		
	I	36.5	I	16.7	I		
		I	12	I	33	I	45
ABOVE 18,500	I	26.7	I	73.3	I	46.9	
	I	25.5	I	67.3	I		
	I	12.5	I	34.4	I		
		I		I		I	
	COLUMN		47		49		96
	TOTAL		49.0		51.0		100.0

CORRECTED CHI SQUARE = 15.20679 WITH 1 DEGREE OF FREEDOM
 PHI = 0.37800
 CONTINGENCY COEFFICIENT = 0.36979

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 13 CROSSTABULATION OF wealth (MEDIAN VALUE OF A SINGLE FAMILY DWELLING IN A MUNICIPALITY) BY ban (WHETHER OR NOT A MUNICIPALITY EXCLUDES MOBILE HOMES).

GROWTH	COUNT		EAN		RCW TOTAL
	ROW PCT	COL PCT	EXCLUDE	EXCLUDE	
	TGT PCT	TGT PCT	I	I	
	I	I	I	I	
BELOW 8%	I	26	I	31	I 51
	I	39.2	I	60.8	I 53.1
	I	42.6	I	63.3	I
ABOVE 8%	I	20.8	I	32.3	I
	I	27	I	18	I 45
	I	60.0	I	40.0	I 46.9
	I	57.4	I	36.7	I
	I	28.1	I	12.8	I
	COLUMN	47		49	96
	TOTAL	49.0		51.0	100.0

CORRECTED CHI SQUARE = 3.34279 WITH 1 DEGREE OF FREEDOM
 PHI = 0.18460
 CONTINGENCY COEFFICIENT = 0.18344

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 14 CROSSTABULATION OF growth (PERCENTAGE GROWTH IN MUNICIPAL POPULATION, 1960 to 1970) BY ban (WHETHER OR NOT A MUNICIPALITY EXCLUDES MOBILE HOMES).

DENSITY	COUNT		EAN		RCW TOTAL
	ROW PCT	COL PCT	EXCLUDE	EXCLUDE	
	TGT PCT	TGT PCT	I	I	
	I	I	I	I	
BELOW 4700	I	39	I	23	I 62
	I	62.9	I	37.1	I 64.6
	I	82.0	I	46.7	I
ABOVE 4700	I	40.6	I	24.0	I
	I	8	I	26	I 34
	I	23.5	I	76.5	I 35.4
	I	17.0	I	53.1	I
	I	8.3	I	27.1	I
	COLUMN	47		49	96
	TOTAL	49.0		51.0	100.0

CORRECTED CHI SQUARE = 12.05261 WITH 1 DEGREE OF FREEDOM
 PHI = 0.35491
 CONTINGENCY COEFFICIENT = 0.33447

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 15 CROSSTABULATION OF density (MUNICIPAL POPULATION DENSITY PER SQUARE MILE) BY ban (WHETHER OR NOT A MUNICIPALITY EXCLUDES MOBILE HOMES).

may not be a direct causal relationship between these variables and exclusion or non-exclusion, fiscal consideration in general may be a cause of municipal preferences regarding the exclusion of mobile homes. In both tables the null hypothesis can be rejected at beyond the 99% level, and while phi does not come close to approaching unity, it is at a level that is not unreasonable for a cross-sectional sample like the present one. Neither table contradicts the validity of hypotheses two and three. In Figure 11, while exclusion and non-exclusion are evenly distributed in the sample, those municipalities depending on the property tax for 95% or more of their revenues exclude mobile homes more often (64% - 36%) than those municipalities with other sources accounting for more than 5% of their revenues exclude mobile homes (18% - 81%). In Figure 12, 71% of the municipalities spending more than 40% of their budget on schools ban mobile homes. Of those with less than forty cents on the dollar going for schools, 68% do not exclude mobile homes while 31% do exclude them.

In a similar manner, Figure 13 lends as strong support to the hypothesis that wealthy communities exclude mobile homes more than less wealthy ones.

Figure 14 displays an unexpected pattern, the opposite of what was predicted. If a community is experiencing rapid growth, it is more likely not to exclude mobile homes than to exclude them as was suggested. It may be that mobile homes are a more significant component of growth than was assumed when the hypothesis was developed, indicating that the hypothesis did not test the consideration contained in the Anderson quote. Further, if the non-exclusion of mobile homes occurs in municipalities

with a general laxness in other development standards, this demonstrates an attitude and regulatory stance that would encourage the growth observed in the table.

The crosstabulation of density and ban, Figure 15, does not contradict the hypothesis it is testing. Denser municipalities do exclude mobile homes more often (76%-23%) than less dense ones (37%-63%).

3.2.4 Crosstabulation - Restriction and Exclusion

As was noted earlier, most authors attribute the same concerns to municipalities in restricting mobile homes, whether these municipalities prefer to restrict mobile homes to mobile home parks or to non-residential areas, or to exclude them altogether. This will be examined below, when each of the motivations are reviewed for their applicability in explaining the various restrictions.

The restriction of mobile homes to non-residentially zoned areas is almost as valid a response to the fiscal considerations inherent in the first three hypotheses as is the complete ban. By restricting mobile homes to industrial or commercial zones, a municipality can produce tax revenues from otherwise vacant land, while holding it open for future more intensive and higher revenue producing industrial and commercial uses that can command higher land prices. A mobile home is one of the most temporary and easily displaced of all land uses. There is still a question of the costs to a municipality in services provided mobile homes, but if a locality cannot or will not completely exclude mobile homes a temporary cost

(real or imaginary) is preferable to the more permanent one that would occur if mobile homes were permitted in residential areas.

The desire to prevent a decline in residential property values, however, seems a more plausible reason. The exclusion of mobile homes from residential areas is as adequate a solution as the complete exclusion of mobile homes, protecting both the investment of adjacent home owners in their property and the tax base of the municipality. The restriction of mobile homes to mobile home parks can be explained by the same reasoning. Likewise, the exclusion of mobile homes from residential areas and the restriction to mobile home parks adequately satisfies the desire to live among individuals of similar socio-economic status. It is unlikely that there are any direct fiscal motivations in the restriction of mobile homes to mobile home parks. However, the restriction insures that the land remains in one unbroken tract, increasing the feasibility of later conversion to industrial and commercial uses. When this restriction is combined with the restriction to industrial and commercial zones, the fiscal reasons for restriction to industrial or commercial zones are enhanced.

Since it was observed that municipalities experiencing rapid growth do not exclude mobile homes (perhaps out of a general laxness in development controls), it is expected by the same reasoning that exclusion from residential areas will not occur in these communities either. It is unclear, however, whether or not the restriction of mobile homes to parks will occur more frequently in fast growing communities, since, while it can be interpreted as a restriction in development, it may also facilitate

development by encouraging the development of mobile home parks. Needless to say, any results of crosstabulation with growth will have little meaning for the hypothesis for which growth was introduced to test.

The density argument still seems plausible for explaining the restriction of mobile home to parks. One would still expect that more heavily populated communities would restrict mobile homes to parks, if not excluding them altogether. This segregation of mobile homes would help insure the best use of other areas while keeping the land used for mobile home development in large tracts facilitating future re-use in the more intensive development that would be likely in dense cities. This also applies to the restriction of mobile homes to industrial and commercial areas when it is used in conjunction with the restriction of mobile homes to mobile home parks.

The same six variables used in the earlier tables (TAXATION, REVENUE, SCHOOLEX, WEALTH, GROWTH, AND DENSITY) are tabulated with both restriction to park and exclusion from residential areas on the following pages. The zoning restrictions are divided into five categories: no restriction, the use of the restriction of mobile homes to parks, the use of an exclusion from residential areas, the concurrent use of the restriction to parks and exclusion from residential areas, and the use of a complete exclusion. These tables are a simple extension of the earlier tables. In this case, the 95% confidence level for chi square is 9.438.

Figure 16 (taxation systems by zoning restrictions) shows that municipalities

TAXATION	COUNT	ZONING					ROW TOTAL	
		RCW PCT	IND RES-	TO PARKS	NONRES	PARKS +		COMPLETE
		CCL PCT	TRITION	ONLY	ONLY	NONRES		BAN
		TCT PCT	:	:	:	:		:
PROPERTY TAX	14	1	1	2	25	43		
	32.6	2.3	2.2	4.7	58.1	44.8		
	82.4	7.7	20.0	16.7	51.0			
	14.6	1.0	1.0	2.1	26.0			
LICENSE SYSTEM	3	12	4	10	24	53		
	5.7	27.6	7.5	13.9	45.3	55.2		
	17.6	92.3	80.0	83.3	49.0			
	3.1	12.5	4.2	10.4	25.0			
COLUMN TOTAL	17	13	5	12	49	96		
	17.7	13.5	5.2	12.5	51.0	100.0		

CHI SQUARE = 22.78459 WITH 4 DEGREES OF FREEDOM
 CAMERON'S V = 0.49717
 CONTINGENCY COEFFICIENT = 0.43797

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 16 CROSSTABULATION OF taxation (METHOD BY WHICH MOBILE HOMES ARE TAXED IN A MUNICIPALITY) BY zoning (WHETHER OR NOT A MUNICIPALITY RESTRICTS MOBILE HOMES TO MOBILE HOME PARKS, TO NON-RESIDENTIAL AREAS, OR BOTH, OR COMPLETELY EXCLUDES THEM).

REVENUE	COUNT	ZONING					ROW TOTAL	
		RCW PCT	IND RES-	TO PARKS	NONRES	PARKS +		COMPLETE
		CCL PCT	TRITION	ONLY	ONLY	NONRES		BAN
		TCT PCT	:	:	:	:		:
BELOW 95%	3	13	2	4	5	27		
	11.1	48.1	7.4	14.8	18.5	28.1		
	17.6	100.0	40.0	33.3	10.2			
	3.1	13.5	2.1	4.2	5.2			
ABOVE 95%	14	0	3	8	44	69		
	20.3	0.0	4.3	11.6	63.8	71.9		
	82.4	0.0	60.0	66.7	89.8			
	14.6	0.0	3.1	9.3	45.8			
COLUMN TOTAL	17	13	5	12	49	96		
	17.7	13.5	5.2	12.5	51.0	100.0		

CHI SQUARE = 42.44013 WITH 4 DEGREES OF FREEDOM
 CAMERON'S V = 0.66409
 CONTINGENCY COEFFICIENT = 0.55168

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 17 CROSSTABULATION OF revenue (PERCENTAGE OF MUNICIPAL REVENUES DERIVED FROM PROPERTY TAX) BY zoning (WHETHER OR NOT A MUNICIPALITY RESTRICTS MOBILE HOMES TO MOBILE HOME PARKS, TO NON-RESIDENTIAL AREAS, OR BOTH, OR COMPLETELY EXCLUDES THEM).

	ZONING						ROW TOTAL
	COUNT	IND RES-	TO PARKS	NONRES	PARKS +	COMPLETE	
	ROW PCT	TRITION ONLY	ONLY	ONLY	NONRES	RAN	
	TOT PCT						
SCHOOLLEX							
	7	13	5	8	15	48	
BELOW 40%	14.6	27.1	10.4	16.7	31.3	50.0	
	41.2	100.0	100.0	66.7	30.6		
	7.3	13.5	5.2	8.3	15.6		
ABOVE 40%	10	0	0	4	34	48	
	20.8	0.0	0.0	8.3	70.8	50.0	
	58.8	0.0	0.0	33.3	69.4		
	10.4	0.0	0.0	4.2	35.4		
COLUMN TOTAL	17	13	5	12	49	96	
	17.7	13.5	5.2	12.5	51.0	100.0	

CHI SQUARE = 27.23007 WITH 4 DEGREES OF FREEDOM
 CRAMER'S V = 0.53258
 CONTINGENCY COEFFICIENT = 0.47007

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 18 CROSSTABULATION OF schoollex (PERCENTAGE OF MUNICIPAL EXPENDITURES SPENT ON SCHOOLS) BY zoning (WHETHER OR NOT A MUNICIPALITY RESTRICTS MOBILE HOMES TO MOBILE HOME PARKS, TO NON-RESIDENTIAL AREAS, OR BOTH, OR COMPLETELY EXCLUDES THEM).

	ZONING						ROW TOTAL
	COUNT	IND RES-	TO PARKS	NONRES	PARKS +	COMPLETE	
	ROW PCT	TRITION ONLY	ONLY	ONLY	NONRES	RAN	
	TOT PCT						
WEALTH							
	12	10	4	9	16	51	
BELOW 18,500	23.5	19.6	7.8	17.6	31.4	53.1	
	70.6	76.9	80.0	75.0	32.7		
	12.5	10.4	4.2	9.4	16.7		
ABOVE 18,500	5	3	1	3	33	45	
	11.1	6.7	2.2	6.7	73.3	46.9	
	29.4	23.1	20.0	25.0	67.3		
	5.2	3.1	1.0	3.1	34.4		
COLUMN TOTAL	17	13	5	12	49	96	
	17.7	13.5	5.2	12.5	51.0	100.0	

CHI SQUARE = 17.04109 WITH 4 DEGREES OF FREEDOM
 CRAMER'S V = 0.42182
 CONTINGENCY COEFFICIENT = 0.38827

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 19 CROSSTABULATION OF wealth (MEDIAN VALUE OF A SINGLE FAMILY DWELLING IN A MUNICIPALITY) BY zoning (WHETHER OR NOT A MUNICIPALITY RESTRICTS MOBILE HOMES TO MOBILE HOME PARKS, TO NON-RESIDENTIAL AREAS, OR BOTH, OR COMPLETELY EXCLUDES THEM).

	ZONING						ROW TOTAL
	COUNT	IND RES-	TO PARKS	NONRES	PARKS +	COMPLETE	
	ROW PCT	TRITION ONLY	ONLY	ONLY	NONRES	BAN	
	TOT PCT						
GROWTH							
BELOW 8%	7	3	3	7	31	51	
	13.7	5.9	5.9	13.7	60.8	53.1	
	41.2	23.1	60.0	58.3	63.3		
	7.3	3.1	3.1	7.3	32.3		
ABOVE 8%	10	10	2	5	18	45	
	22.2	22.2	4.4	11.1	40.0	46.9	
	58.8	76.9	40.0	41.7	36.7		
	10.4	10.4	2.1	5.2	18.8		
COLUMN TOTAL	17	13	5	12	49	96	
	17.7	13.5	5.2	12.5	51.0	100.0	

CHI SQUARE = 7.93695 WITH 4 DEGREES OF FREEDOM
 CRAMER'S V = 0.28754
 CONTINGENCY COEFFICIENT = 0.27634

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 20 CROSSTABULATION OF growth (PERCENTAGE GROWTH IN MUNICIPAL POPULATION 1960 TO 1970) BY zoning (WHETHER OR NOT A MUNICIPALITY RESTRICTS MOBILE HOMES TO MOBILE HOME PARKS, TO NON-RESIDENTIAL AREAS, OR BOTH, OR COMPLETELY EXCLUDES THEM).

	ZONING						ROW TOTAL
	COUNT	IND RES-	TO PARKS	NONRES	PARKS +	COMPLETE	
	ROW PCT	TRITION ONLY	ONLY	ONLY	NONRES	BAN	
	TOT PCT						
DENSITY							
BELOW 4700	15	13	3	8	23	62	
	24.2	21.0	4.8	12.9	37.1	64.6	
	88.2	100.0	60.0	66.7	46.9		
	15.6	13.5	3.1	8.3	24.0		
ABOVE 4700	2	0	2	4	26	34	
	5.9	0.0	5.9	11.8	76.5	35.4	
	11.8	0.0	40.0	33.3	53.1		
	2.1	0.0	2.1	4.2	27.1		
COLUMN TOTAL	17	13	5	12	49	96	
	17.7	13.5	5.2	12.5	51.0	100.0	

CHI SQUARE = 18.02487 WITH 4 DEGREES OF FREEDOM
 CRAMER'S V = 0.43331
 CONTINGENCY COEFFICIENT = 0.39759

Source: PMHI study of 96 cities and towns with population over 25,000

FIGURE 21 CROSSTABULATION OF density (MUNICIPAL POPULATION DENSITY PER SQUARE MILE) BY zoning (WHETHER OR NOT A MUNICIPALITY RESTRICTS MOBILE HOMES TO MOBILE HOME PARKS, TO NON-RESIDENTIAL AREAS, OR BOTH, OR COMPLETELY EXCLUDES THEM).

operating under a property tax system restrict or exclude mobile homes less often than those operating under a license system. 17.7% of the municipalities in the sample place none of the restrictions on exclusions of mobile homes. 32.6% of those municipalities under a property tax system have no restrictions or exclusions while 5.7% of those under a license system place no restrictions or exclusions. As was true in the earlier Figure 10, municipalities in a property tax system exclude mobile homes slightly more often than those in a license system. The interesting observation in this table is the frequency with which municipalities employing one or both restrictions are found to be in a license system. 92% of those municipalities restricting mobile homes to parks are in a license system, 80% of those municipalities restricting municipalities to non-residential areas are in a license system, and 83% of those municipalities using both restrictions are in a license system. This is compared with the 55% of all municipalities in the sample under a license system. While the system of taxation appears to have little impact on a municipality excluding mobile homes, it seems to matter greatly in the decision to restrict mobile homes. In a property tax system, if a municipality does not exclude mobile homes, it is not likely to use either of the two restrictions, restriction to parks or restriction to non-residential areas. On the other hand, a municipality in a license system, if it does not exclude mobile home, will be likely to use one of the restrictions.

Figure 17 tabulates the municipalities' dependence on the property tax by the use of zoning. The percentage of municipalities restricting mobile

homes to non-residential areas and those employing both restrictions, when separated by their dependence on the property tax, differ little from the sample. Of the entire sample, 5.2% use a restriction to non-residential areas. Of the municipalities with less than 95% of their revenues from the property tax, 7.4% employ this restriction, while 4.3% of those with more than 95% of their revenues employ it. The same percentages for those municipalities using both restrictions are: sample: 12.5%, below 95%: 14.8%, above 95%: 11.6%. Unlike these two categories, nearly half (48.1%) of the municipalities whose revenue from the property tax is less than 95% of their total revenues restrict mobile homes to parks, while none of the municipalities with property tax revenue accounting for more than 95% of total revenues restrict mobile homes to parks. This does not contradict the argument that there are few fiscal motivations for restricting mobile homes to mobile home parks. The fiscal reasons for restricting mobile homes to industrial and commercial areas may not be as great as was thought.

Figure 18 (school expenditures by zoning) has a distribution similar to Figure 17 and supports the same conclusions. The principal difference between the tables is the percentage of municipalities with school expenditures less than 40% of their budget that restrict mobile homes to non-residential areas. It is 10.4% compared with a sample percentage of 5.2%. None of the municipalities with school expenditures over 40% restrict mobile homes to non-residential areas.

Figure 19 tabulates wealth by zoning restrictions. The wealthier communities

Land Use Controls

more frequently restrict or exclude mobile homes than the less wealthy (88.9% to 76.5%). 73.3% of the wealthy municipalities exclude mobile homes while 31.4% of the less wealthy ones do. However, continuing the pattern of the previous two tables, 15.6% of the wealthy municipalities employ one of the restrictions and 35.0% of the less wealthy communities do. One may conclude that while most municipalities exclude or restrict mobile homes, those with the strongest reasons exclude mobile homes while others generally restrict or control them in some fashion.

Figure 20 tabulates growth by zoning restrictions. Of the municipalities in the sample, 13.5% restrict mobile homes to parks. Of the municipalities with a growth rate of less than 8%, 5.9% so restrict mobile homes, while 22.2% of those municipalities with a growth rate of greater than 8% employ this restriction. This supports the contention that a restriction to parks is less of a development control than was thought while the other restrictions are effective.

Figure 21 shows the opposite of what was expected in the relationship between density and the use of the restriction to parks. Instead of the denser municipalities using the restriction to parks more often, communities below 4700 population per square mile are the exclusive users of this restriction. Municipalities above 4700 do use one or more of the restrictions or exclusions more often though (94.1% - 75.8%). This is almost entirely due to their frequent use of the complete exclusion of mobile homes.

In summary, most municipalities either exclude or place a restriction on mobile homes. Not surprisingly, communities with more incentive, fiscal or otherwise, do so more often. These communities, however, are much more likely to completely exclude mobile homes, while others, with less incentive, restrict them to mobile home parks and nonresidential areas. However, the pattern in this second set of tables does not conclusively show that the restrictions are not a result of the same motivations that cause a municipality to exclude mobile homes. The method of taxation is associated with the decision to restrict but not significantly with the decision to exclude. Dependence on the property tax, school expenditures, and wealth are associated with the decision to exclude. A municipality with over a 95% dependence on the property tax or with school expenditures over 40%, if it does not exclude mobile homes, is more likely to place no restriction on mobile homes than to restrict them.

3.2.5. Linear Probability Model

The crosstabulation on the preceding pages considers the simple relationship between two variables and ignores the possible influence of other variables on this relationship. While it is possible to construct tables that hold the other variables constant, this is a tedious process. Rather than do this, it was decided to set up a regression⁶⁸ where the left hand dependent variable could be considered the conditional probability of an event occurring, given the right hand dependent variables.

Essentially, this is simply performing ordinary least squares where the left hand variable takes on only two values, so that one may use unity to indicate the occurrence of an event and zero to indicate its non-occurrence. By running a multiple regression on such a dependent variable Y on several explanatory variables X , one can then interpret the calculated value of Y , for any given X , as an estimate of the conditional probability of Y , given X .⁶⁹ The linear probability model allows only two values for the left hand variable. This permits only one restriction or exclusion to be tested at a time. Complete exclusion of mobile homes is considered below. It was decided that to do the same for the other two restrictions would be misleading since they often occur simultaneously and since a municipality does not make a simple decision to restrict mobile homes; it is part of a larger decision about both controls.

A linear probability model was formulated using the same variables that were examined in the preceding section. See page 68 for a list of these variables and an explanation of their meaning. BAN is a dummy variable; it has the value '1' when a municipality excludes mobile homes and '0' when it does not. Taxation is included as a dummy variable. This yields:

$$\text{BAN} = C + a_1 \text{WEALTH} + a_2 \text{SCHOOLEX} + a_3 \text{REVENUE} + a_4 \text{DENSITY} + a_5 \text{GROWTH} + a_6 \text{TAXATION}$$

Using ordinary least squares with t-statistics in parenthesis:

$$\begin{aligned} \text{BAN} = & -0.61 + 0.000017 \text{WEALTH} + 0.0064 \text{SCHOOLEX} + 0.0043 \text{REVENUE} \\ & (-2.47) \quad (1.73) \quad (2.31) \quad (1.58) \\ & + 0.000049 \text{DENSITY} + 0.000054 \text{GROWTH} + 0.025 \text{TAXATION} \\ & (4.26) \quad (1.27) \quad (0.29) \end{aligned}$$

$$\text{SSR} = 14.259, \text{ Std. Error} = 0.398$$

Dropping TAXATION since it is insignificant here and also in the cross-tabulation; and dropping GROWTH since it is also insignificant and has a small contribution to the fitted value of BAN (note that GROWTH is positive, opposite if what would be expected from the crosstabulation results):

$$\text{BAN} = -0.54 + 0.000017 \text{ WEALTH} + 0.0070 \text{ SCHOOLEX} + 0.0034 \text{ REVENUE} +$$

(-2.30) (1.77) (2.70) (1.29)

$$0.000048 \text{ DENSITY}$$

$$(4.28)$$

$$\text{SSR} = 14.512, \text{ Std. Error} = 0.399$$

Each coefficient has the expected sign; though one cannot reject a null hypothesis that the coefficient of PCTTAX is zero or of the opposite sign at the 95% level. The others are significant at a 95% one-tailed level. The importance of each variable is demonstrated by its effect in ban over its range in the sample. WEALTH ranges from 33,000 to 11,000, which can produce a difference of as much as .37 in BAN. Similarly, SCHOOLEX varies from 64 to 0, or a difference of .45 in BAN. REVENUE varies from 99 to 21 or a difference of .34; DENSITY from 16,000 to 782 or a difference of .77 in BAN. This gives some feeling for the importance of density, but to be rigorous, the standard error of each coefficient must be considered. For example, 90% confidence interval for REVENUE includes zero, at which point a municipality's dependence on the property tax does not affect complete exclusion at all.

A plot of the actual and fitted values (which can be interpreted as conditional probabilities) is shown in Figure 22. One additional way

of evaluating this model is to tabulate the number of times it fails to discriminate between the occurrence of ban and the non-occurrence of ban. Since the sample is roughly evenly divided between occurrence and non-occurrence, a probability of .5 is an adequate dividing point. The failures are indicated by a 'F' on the plot and tabulated below.

		<u>ACTUAL</u>	
		BAN	no BAN
<u>PREDICTED</u>	BAN	47	14
	no BAN	5	30

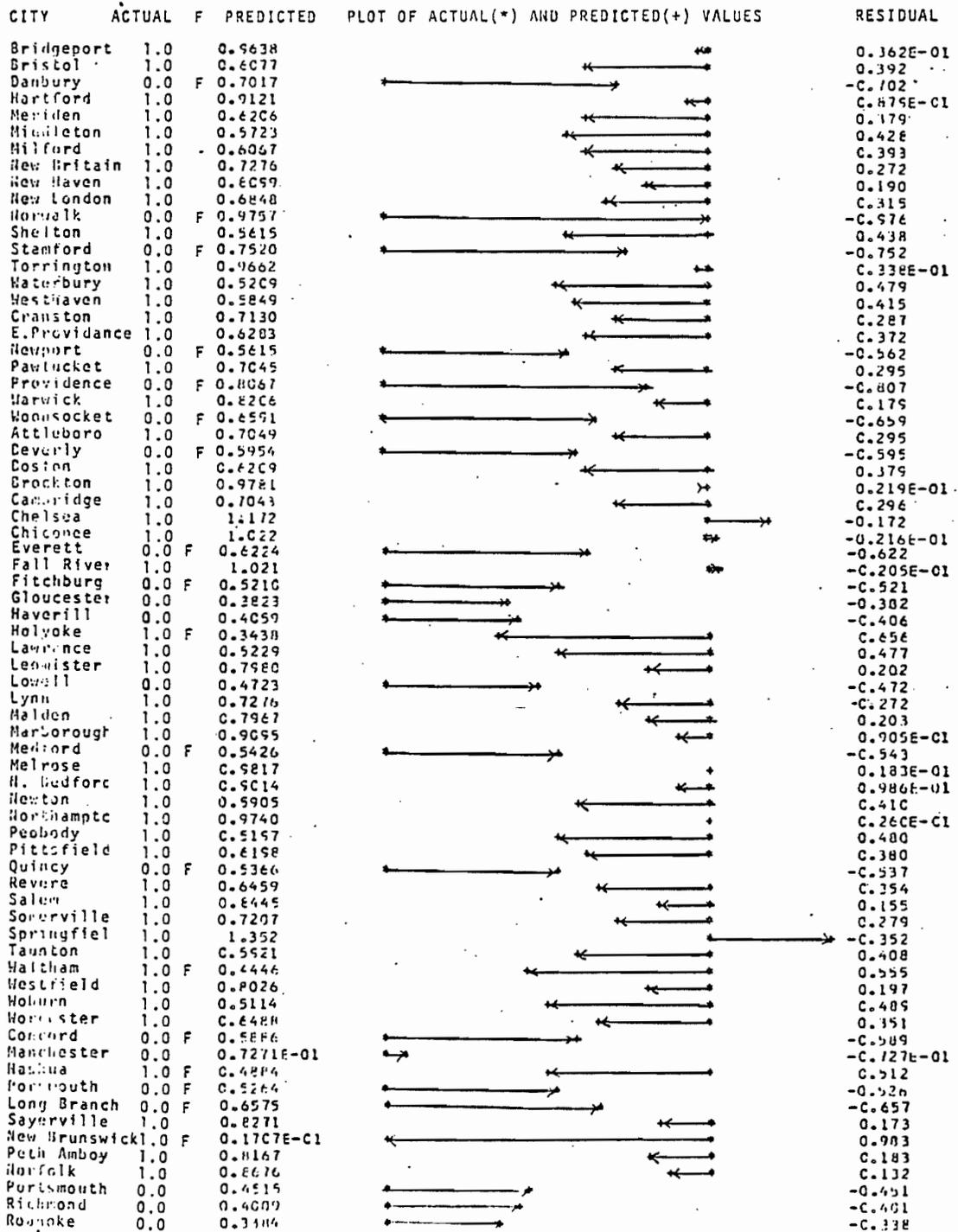
19 failures, 77 successes, out of 96 cases

3.2.6 Summary

In terms of this analysis, the six tested hypotheses can be evaluated in the following manner:

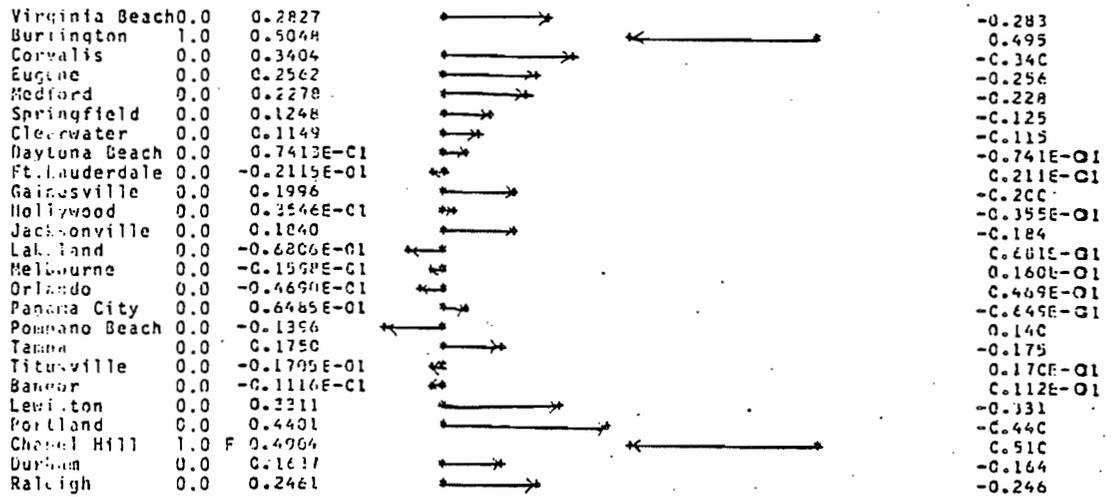
A wealthier municipality, all else being equal, has a greater propensity to exclude mobile homes than does one with less wealth.

Fiscal considerations are important. The more a municipality must directly spend on schools, all else being equal, the greater its propensity to exclude mobile homes. In a simple two way relationship the same holds true for a municipality's dependence on the property tax for revenue, though when considering the other variables the effect of a community's dependence on the property tax is not significant in



Source: PMHI Survey of 96 Cities and Towns Over 25,000 Population

FIGURE 22 CONDITIONAL PROBABILITIES OF COMPLETE EXCLUSION: ACTUAL AND PREDICTED VALUES



Source: PMHI Survey of 96 Cities and Towns Over 25,000 Population
 FIGURE 22 CONDITIONAL PROBABILITIES OF COMPLETE EXCLUSION: ACTUAL AND PREDICTED VALUES (cont.)

predicting whether or not it will exclude mobile homes.

The way mobile homes are taxed in a state bears no relationship to the propensity of a municipality in that state to exclude mobile homes; it is, however, a significant determinant of restrictions to parks and non-residential areas.

Denser municipalities, everything else being equal, have a greater propensity to exclude mobile homes.

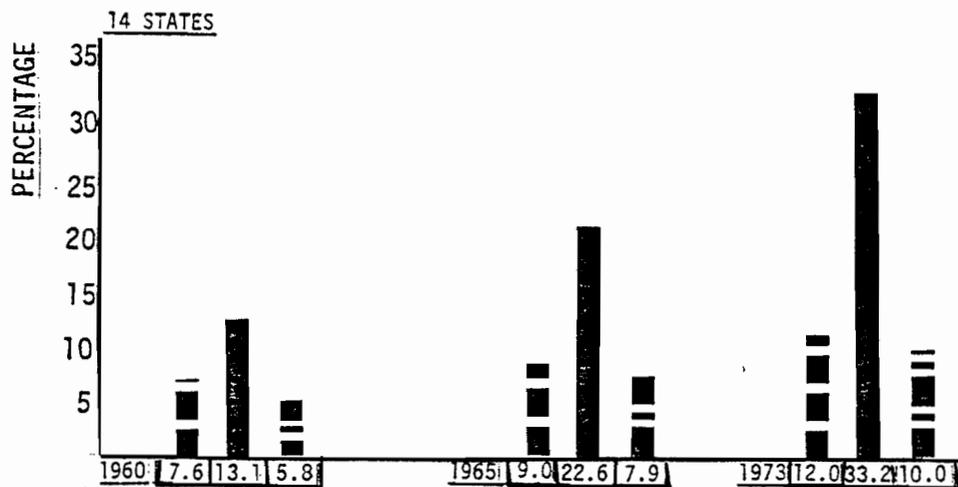
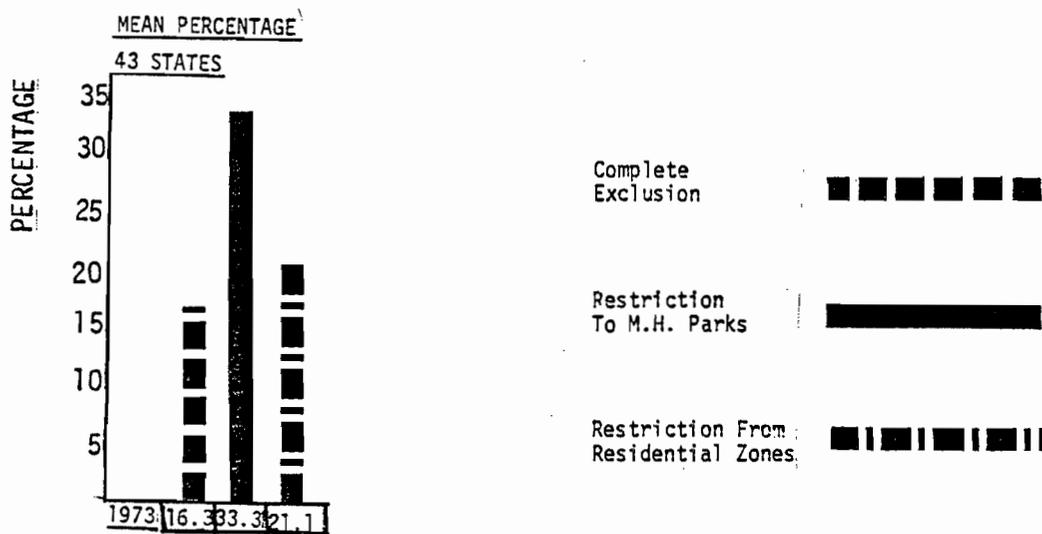
The effect of the rate of population growth is not conclusive. Communities with high population growth exclude mobile homes less than slower growing communities; however, all else being equal, the effect is positive though small and only 90% significant.

3.3 TRENDS IN FREQUENCY OF USE

In the process of surveying the frequency of restrictive and exclusionary devices elaborated in Chapter 3.1, information on the past use and estimated future use was obtained from fourteen states. This information is displayed in Figures 23 and 24. Use of each of the three major devices has steadily increased over the past thirteen years; only restriction to parks is projected to increase over the next five to ten years. Use of the other devices will remain constant or drop slightly. The increases in the use of complete exclusion represent large increments in the two east coast states while the other twelve states did not change at all.

Figures 23 and 24 also contain information on restrictions to mobile home parks and from residential zones. The frequency of use of exclusion from residential zones has followed the same trend as complete exclusion. The overwhelming expectation for the future is for no significant change. The restriction to mobile home parks, which has experienced a greater rate of growth in the past than complete exclusion from residential areas, is presently at a higher absolute level. Further increase is expected.

While restriction to parks has frequently been used in the past when



CHANGE IN MEAN PERCENTAGE

60-65 1.4 9.5 2.1

65-73 3.0 10.6 2.1

ANNUAL .34 1.55 .32

Source: PMHI Survey

FIGURE 23: FREQUENCY OF USE, 1960, 1965, 1973

	<u>NUMBER OF STATES EXPECTING:</u>			
	<u>INCREASE</u>	<u>DECREASE</u>	<u>NO CHANGE</u>	<u>UNKNOWN</u>
Complete Exclusion	1	1	9	3
Restriction To Mobile Home Parks	9	0	2	3
Restriction From Residential Zones	0	1	10	3

Source: PMHI Survey

FIGURE 24: FUTURE EXPECTATIONS OF CHANGE

localities were unable to unwilling to completely exclude mobile homes, it has recently been used as an instrument to improve the quality of life in mobile homes. A state building codes official comments:

(The) Planning and Zoning Commissions are now requiring that all mobile homes be confined to mobile home parks with all proper sanitary facilities, electrical underground lines, beautification programs such as a certain number of trees per acre, separate laundry facilities for homes that do not contain washers and dryers, separate enclosed storage areas, etc.⁷⁰

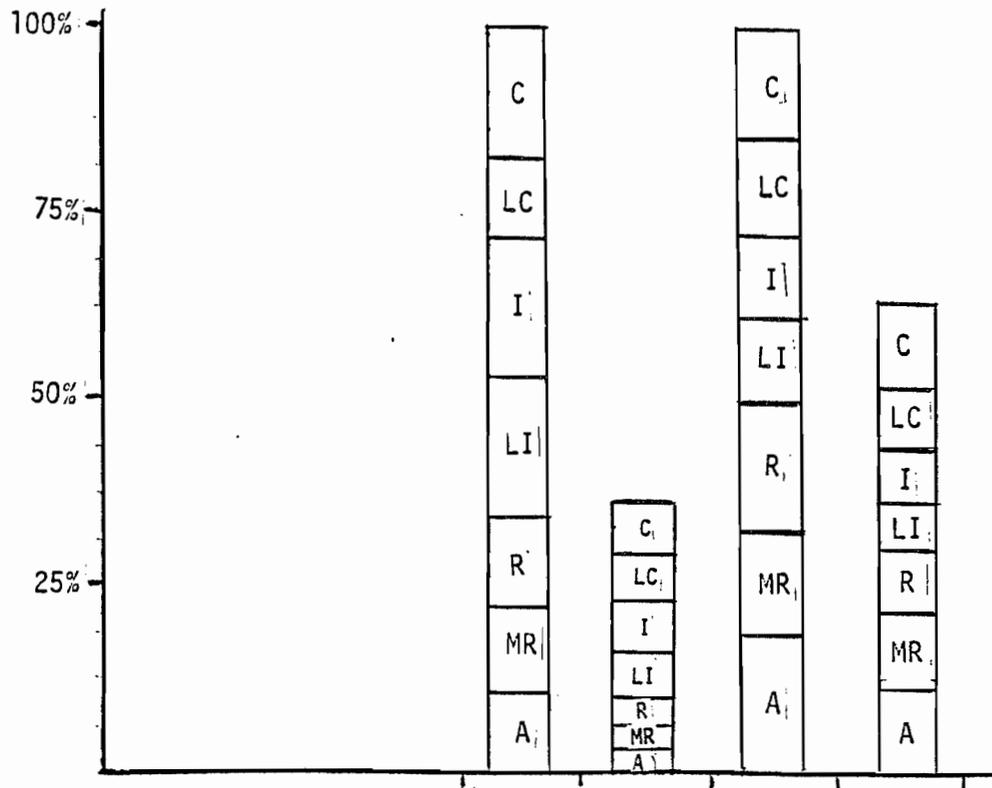
Concern for the quality of life in mobile homes is not new, but the use of this restriction to improve the quality of that life is. Yet the desire to restrict and control mobile homes, if not exclude them, remains and restriction to parks will continue to increase as a factor in mobile home life as it becomes more difficult to completely exclude mobile homes from the community due to judicial review or demand for housing.

3.4 INTRASTATE DISTRIBUTION OF FREQUENCY

Mobile homes and mobile home parks in urban areas are generally restricted more often than those in rural areas. A variety of factors, but especially land economics and the mobile home's inherent low density configuration are responsible.

To determine the pattern of restriction and non-restriction to different zones in one state, a survey of officials and lawyers involved in zoning was conducted in Illinois by the Illinois Zoning Law Study Commission. The results of this survey are shown in Figure 24. The base for this table is the respondents to the survey; however, the table can be interpreted in the same manner as those in which the base was the number of municipalities in the state, as used in Section 3.1, 3.2, and 3.3. The Study Commission's conclusions follow.

What would appear of most interest in Table 6 is the difference between urban and rural with respect of residential and multi-family residential zones. First, comparing on the basis of total cases (612), rural respondents were twice as likely to report mobile homes in residential areas (4.2% urban, 10.9% rural). The same held true for multi-family dwellings (4.7% urban, 10% rural). Urban area respondents indicated mobile homes were most pre-



Type of Zone Permitted In	of Col. of Total Urban (%)	of Total Suburban (%)	of Col. of Total Rural (%)	of Total (%)
Commercial	17.3	6.4	15.8	10.0
Light Commercial	11.1	4.1	11.7	7.4
Industrial	16.8	6.2	11.1	7.0
Light Industrial	20.4	7.5	11.1	7.0
Residential	11.5	4.2	17.4	10.9
Multi-family residential	12.7	4.7	15.8	10.0
Agricultural	10.2	3.8	17.1	10.8
	100%	36.9%	100%	63.1%

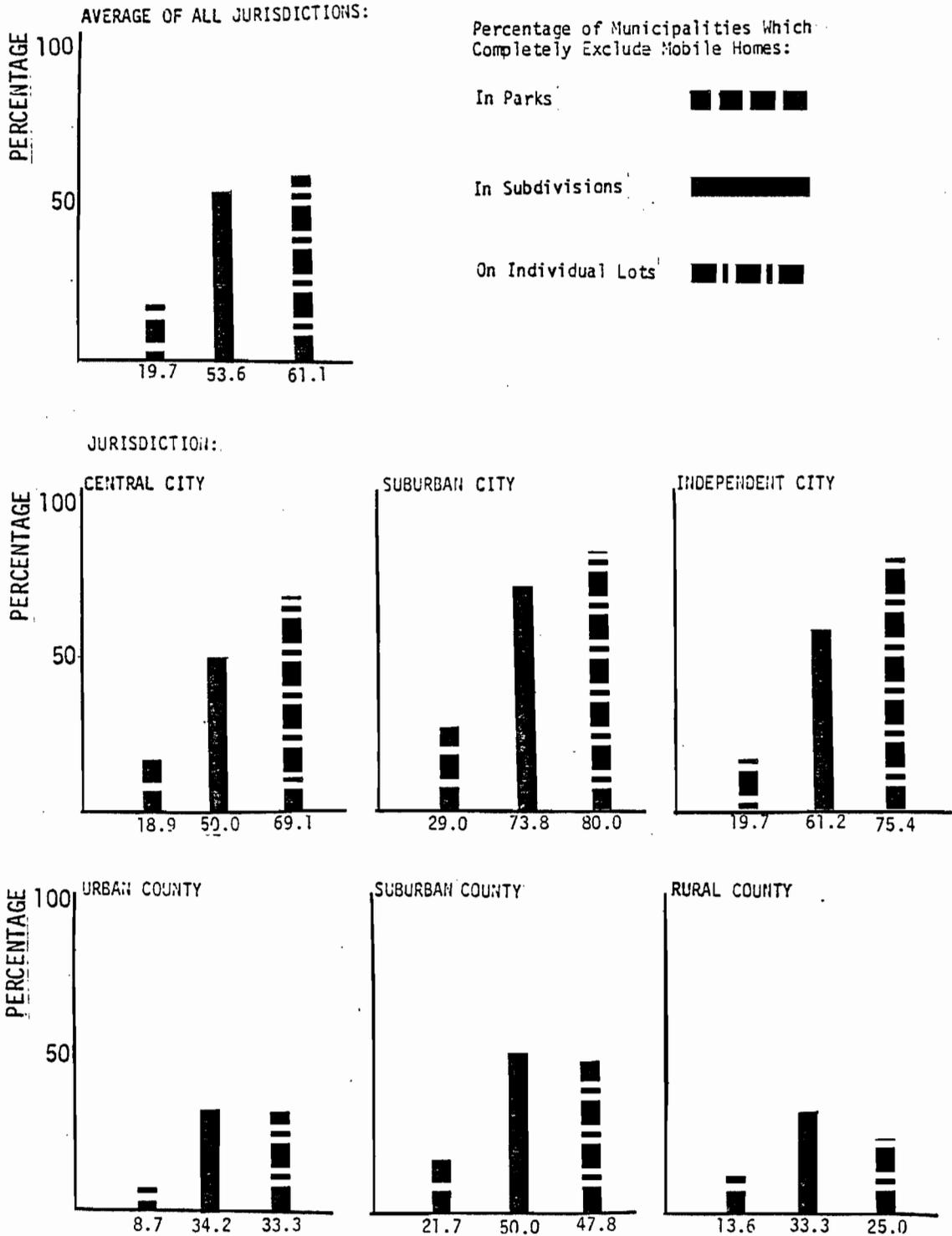
Source: Illinois Zoning Laws Study Commission

FIGURE 25: LOCATION BY TYPE OF ZONE IN WHICH A MOBILE HOME IS PERMITTED

valent in light industrial districts (20.4%), commercial (17.3%) and industrial (16.8%). Rural area respondents overall were more evenly spread between residential (17.4%), agricultural (17.1%), multi-family residential (15.8%) and commercial (15.8%).

Thus, from figures based on both column and totals, it appears that urban areas are more exclusive where mobile homes are permitted, if permitted at all. Commercial districts for both urban and rural respondents seem to be a compromise district.⁷¹

The results from a survey of 287 jurisdictions, conducted by Fredrick Bair for the American Society of Planning Officials Planning Advisory Service, presents the pattern of exclusion of mobile homes very clearly. Mobile homes on individual lots, in mobile home parks, and in mobile home subdivisions (where one owns a lot instead of renting), are distinguished. The distinction between urban and rural is disaggregated to central city, urban county, suburban city, rural county, suburban county and independent city. See Figure 26. It is interesting to note similarities between the regulation of individual lots and subdivisions. Mobile home subdivisions are excluded almost as often as mobile homes on individual lots. The county is less restrictive than the adjacent city in urban, suburban and rural situations for all three forms of mobile home siting configurations. Also, the suburban city and county are much more exclusionary than their urban and rural counterparts. The independent city is more restrictive than the central city, while the rural county about equals the urban county. However, rural counties often restrict parks



Source: Adapted from A.S.P.O. Planning Advisory Service Report #265
 FIGURE 26: MOBILE HOMES EXCLUDED IN PARKS, IN SUBDIVISIONS, AND ON INDIVIDUAL LOTS BY TYPE OF JURISDICTION

while urban counties do not, and urban counties are more likely to restrict mobile homes on individual lots than rural counties.

4.

Impact of Land Use Controls on
Performance of the Industry

Land use controls are just one of the many forces--financing, production techniques, and different legal constraints are others--that affect the performance of the mobile home industry. The nature and extent of the impact of land use controls, particularly in comparison with the impacts of other forces, must be determined. Data in the previous section was analyzed to determine how often certain restrictions were used and to what extent. The impact of their use is, generally speaking, negative on all actors in the industry. In only three instances do zoning regulations have positive impact on any industry actors: 1) subdivision controls, sometimes linked with a restriction to parks, can insure an attractive environment for the consumer (though this will add cost); 2) requirements that mobile homes be in parks support the mobile home park system, and 3) constructive exclusions can give monopoly status to any existing park owner--a positive impact, of course, only from the owner's perspective, and likely to negatively affect the consumer. Otherwise, the results of land use controls, as described below, have negative effects on all actors of the mobile home industry.

4.1 IMPACT ON LAND SUPPLY

The land use control system's most obvious effect has been the limitation of the supply of land available for location of a mobile home. Where controls are tightest, the limitation is most severe.

The most severe limitation occurs in areas of complete exclusion. Many other land use controls, while appearing less severe, can have the same affect on land supply: municipalities may zone only miniscule portions of land for mobile homes or mobile home parks; the land that is legally available may be unsuitable for development because of topography or surrounding environment; competition from other permitted uses may make a park infeasible; or limitations on length of stay, inconsistent with modern mobile home living, may prevent development.

The limitation on land supply is manifested most clearly in the continuing shortage of park spaces available for mobile homes. A 1970 Fortune Magazine study reported that while 400,000 new mobile homes "came on the scene" that year only 118,000 new park spaces were developed. "If it continues on the present scale, the shortage of sites is bound to impede the growth of mobile home sales."⁷³ The Detroit News surveyed 22 parks in its area and found waiting lists of three years in a majority of them.⁷⁴ The shortage of land which is 1) presently zoned to permit mobile home parks, 2) without constructive exclusions, 3) priced at and developable

at a feasible cost, and 4) in a marketable location, is one major reason for the lack of park space.

This shortage of land affects the park developer the most, for his primary interest is in developing land for mobile homes. Due to the direct relationships within the industry, however, the land shortage affects all actors. Consumers cannot and/or will not buy a mobile home if they have no space to put it, at an acceptable cost, in an acceptable location. Dealers, therefore, cannot sell mobile homes for which there are no spaces. The land shortage affects the original actor in the industry--the manufacturer--by limiting his orders from dealers and thus his production.

In a 1971 survey of dealers, 59 percent identified lack of "park space" and 55 percent identified "local zoning" as "the major problems facing your business." These figures rose, respectively, to 79 percent and 70 percent among dealers in the generally more restrictive North.⁷⁵ These problems have resulted in lost sales. The same 1971 survey reported that 24 percent of all dealers had from 81 to 100 percent of their retail sales "dependent on your ability to provide an adequate park site."⁷⁶ Forty-two percent of the dealers in the North and 5 percent in the South responded in this manner. The 1973 national survey of dealers done by PMHI investigated sales lost due to lack of land (i.e., park space). While one respondent claimed he could have sold 700 percent more mobile homes had he had space available, the average claim among respondents was 49 percent. Responses from dealers in both Florida and California (with the largest

number of respondents had an average of 42 percent.⁷⁷

Not only the amount of land available for mobile homes and parks but also the quality of the land available is adversely affected by land use controls. Where mobile home parks are restricted to industrial, commercial, or equally unattractive (for permanent residence) environments, developers are understandably pessimistic of the space rentals that can be demanded from such sites. The present land use control system and the economics of competing uses relegate mobile home parks to the most marginal quality land. Consumers quickly realize that they are buying not just a home, but a living environment, and while choice may well be available in the unit itself, little choice may be available in the environment. The prevalence of restrictions to mobile home parks excludes from the market those consumers who, for a variety of reasons, are uninterested in living in a park. The potential market for mobile homes is limited to those customers willing to live in the limited range of environments actually available.

4.2 IMPACT ON COST OF PRODUCT

Land use controls affect the final consumer occupancy cost of a mobile home in several ways.

Simple economics argue that when the supply of suitable land is limited, competing demand will drive the price up. An increased cost of raw land for the park developer is subsequently translated into an increased final occupancy cost. Land use controls have a similar effect on any land thus limited, of course. The legal constraints on a piece of land are as much a factor in its value or cost as any physical assets. A great deal of public action--zoning, property taxation, public works--directly affects the price of an individual site by affecting its opportunity value.⁷⁸ What a developer can do with a piece of land determines what he will pay for it. The land use control system has a greater impact on the price of "mobile home land," however, because mobile homes and parks are more severely restricted than other uses.

Further, when a site only marginally attractive for residences (and thus presumably priced low) is the only site in the area where mobile homes are legally permitted, the local government conveys, in effect, a monopoly status upon the buyer. This adds to the present value of the land and increases the cost to the potential consumer. Furthermore, land zoned for industrial or commercial or high density use is generally more expensive on a per square foot basis than residential land because of its higher

income producing potential or opportunity value. Mobile home parks which are restricted to such zones must compete for the higher cost land.

Land costs are a significant part of final costs. The value of an improved urban lot typically makes up 20 percent of the total value of a conventional single family dwelling on that lot.⁷⁹ The typical mobile home owner's park space rental constitutes a significantly higher percent of his total housing bill.⁸⁰ Land costs, therefore, have a disproportionately greater impact on the mobile home owner than on his conventional home neighbor. The direct relationship between high raw land costs and final occupancy costs is somewhat obscured because the space is rented, but basically the developer must charge rents that will repay his investment in the land, pay for his improvements, and still yield a profit. The current low density nature of mobile home parks (6 to 8 homes per acre) emphasizes the land cost component. In apartment development, for example, the cost of expensive land (appropriately zoned) can be divided among a flexible number of units; the more apartments there are, the smaller will be the fixed land cost per unit. In mobile home parks the per acre carrying costs of land can only be divided among an upward limit of about eight spaces. The developer cannot afford to buy and improve land whose carrying charges per space will require unmarketably high rentals. The consumer, with no cheaper alternatives available, however, continuously drives up the price ceiling, or "marketable space rental".

Two other elements of the present land use control system affect mobile

home occupancy costs: costs are associated with litigation and costs are associated with subdivision controls. Special zoning costs can occur in any district which does not permit mobile homes "by right". Costs may include filing fees, special permit fees, and legal counsel fees. Appeals to local zoning Boards of Appeal involve similar costs. In any situation where the developer feels he must seek judicial review of the local decisions or statutes, he must bear the costs of litigation. PMHI's national survey on park owners found that the average amount spent "obtaining the desired zoning" was \$785, while the maximum spent was \$8,000.⁸¹ Figures 27, 28, and 29 summarize the information collected pertaining to zoning: the type of appeal process, to whom the appeal was directed, and the mean amount of time spent acquiring approval.

Whatever extra time is added to the development period by any of these processes adds to the ultimate cost to the developer. Developers in turn pass the additional cost on to the consumer in the form of higher park space rentals. Nevertheless, these added costs act as deterrents to potential park developers.

Subdivision controls are a new and more sophisticated trend in land use regulation. These controls frequently restrict mobile homes to parks, allowing construction of parks in certain districts only if the developer agrees to provide improvements as specified by the municipality. Subdivision controls typically regulate park density and design and

<u>PROCESS</u>	<u>FREQUENCY (percentage)</u>
Variance	7 %
Special Permit	19
Zoning Admendment	17
Other Appeal Process	7
No Appeal Necessary	39
Don't Know	11

Source: PMHI National Survey on Park Owners

FIGURE 27: APPEAL PROCESS UTILIZED TO OBTAIN FAVORABLE ZONING FOR MOBILE HOME PARK

<u>AUTHORITY</u>	<u>FREQUENCY (percentage)</u>
Building Inspector	5 %
Board of Appeals	45
Municipal Court	2
Superior Court	2
Appelate Court	2
Other Appeal Invoement	17
Don't Know	24

Source: PMHI National Survey on Park Owners

FIGURE 28: AUTHORITIES TO WHICH APPEAL WAS MADE TO OBTAIN DESIRED ZONING FOR MOBILE HOME PARK

<u>AUTHORITY</u>	<u>MONTHS</u>	<u>NUMBER OF RESPONDENTS</u>
Financing Sources	4.7	20
Building Inspector	4.7	12
Zoning officials	4.7	29
Planning Officials	4.5	8
Municipal Court	36.0	1
Superior Court	1.0	1
Appelate Court	20.0	2
Other	7.4	8
<u>TOTAL LENGTH OF TIME.</u>		
	Mean 6.3	58
	Standard Deviation 12.5	
	Minimum 0.0	
	Maximum 84.0	

Source: PMHI National Survey on Park Owners

FIGURE 29: MEAN LENGTH OF TIME REQUIRED TO ACQUIRE APPROVAL BY SPECIFIC AUTHORITY FOR MOBILE HOME PARK

insure the provision of certain amenities and the existence of a good residential environment. These controls may be, in effect, constructive exclusions of mobile homes, and, whatever the effect, they do cost money. In George Sternlieb's 1972 study of zoning and housing costs in New Jersey, he found subdivision requirements in general a highly significant determinant of final selling price, but one that could not be adequately measured "given the present uniformity of a high level of standards."⁸² The costs necessitated by subdivision controls are passed on to the consumer.

According to Sternlieb, "public policy decisions pertaining to minimum zoning requirements are significant factors explaining selling price variation."⁸³ Where restrictions are most severe, as with mobile homes in many municipalities, the impact on costs will be similarly severe, given a constant demand.

4.3 IMPACT ON LOCATION AND DESIGN OF MOBILE HOME PARKS

The impact of the present land use control system on the location and design of mobile home parks is--with the exception of subdivision controls --essentially negative. Local zoning ordinances generally relegate mobile home parks to the least desirable sites. The best residential sites are reserved for conventional single family housing. Sites reserved for mobile home parks may have topographic or environmental problems. As the United States Court of Appeals found in a 1972 decision, some towns are determined "that there be metaphorical tracks for a mobile home park to be on the other side of."⁸⁴

Mobile home parks are often restricted to industrial or commercial districts. This is a clear example of forced location of mobile home parks in unsuitable areas. Originally such restrictions seemed justified because trailer parks were deemed businesses, but now that mobile homes are full time stationary residential units, many municipalities--20 percent of all municipalities⁸⁵ still force mobile homes into non-residential areas, which the community, presumably for good reasons, judged best suited for industry or commerce and inappropriate for residential use. Location in industrial or commercial zones adds to the impermanence of a mobile home

park as well. Chances for redevelopment in such zones are greater, as more intensive and more economical users of the land bid to replace the low-density mobile home park. While this impermanence could be an advantage if properly planned for, it now functions as a restriction.

In some cases, the land use control system is not the primary cause of poor location. In many cases economics is. A great deal of land in high-density urban areas is priced so high that a low density mobile home park cannot support the cost.⁸⁶ In such cases, removal of the legal restrictions would have no impact on location; legally permitting mobile homes on Park Avenue is a meaningless gesture.⁸⁷ Technological changes that make higher-density mobile home development possible could change the economic factor.

While park location may suffer through overly severe local zoning restrictions, park design may suffer through lack of proper regulation. Conventional single family detached dwellings have typically been subject to various density, set-back, and other requirements that reflect a concern for quality of housing; mobile home parks have not. Developers may create crowded densities (particularly if they must pay off high priced land) and ignore design amenities--layout, landscaping, roadways, and services--if these requirements do not apply. What may be short-term savings to the developer (and initially, perhaps, to the consumer) are long term losses to the consumer and the community.

The locational consequences of zoning have their effect on park design in

any case. Where sites are restricted in size, or parks in number of spaces, the developer may not be able to achieve the scale necessary to support or justify many amenities. Recreation centers and pools, for example, are typical only in the largest mobile home parks. Provision of more basic amenities such as landscaping and community facilities are discouraged by two other factors: impermanence and the original undesirable location. Owners will be unwilling to invest in greenbelts or quality roadways, for example, when they are under economic pressure to relocate or when the park is located in a thoroughly undesirable environment. Expert landscaping can not overcome the odor of the factory next door. Recreational areas will not cover the noise from the adjacent freeway. Parks classified as "non-conforming uses" may have design problems caused by legal restrictions. Improvements and alterations to such parks have sometimes been banned, and expansion, sometimes necessary for improvements, prohibited.

The negative locational and design impact of the present land use control system creates a vicious circle. Ordinances that relegate mobile home parks to the least desirable locations and fail to assure design standards contribute to the general low quality of parks. Inferior parks are unattractive to live in and to look at, and understandably feed a community's desire to discourage them and to keep them on the "other side of the tracks."

4.4 IMPACT ON THE CONSUMER

An important measure of the performance of the mobile home industry is the extent to which it satisfies user needs. The present land use control system has produced a lack of responsiveness and flexibility in the park system. Mobile home parks, when relegated to undesirable areas, cannot provide the kind of living environment the consumer desires. The land use control system can effectively deter high quality park development.

The consumer has very little choice in location or style of his home where land use controls are most strict. Local land use controls, first of all, may have effectively excluded lower cost conventional housing units (possibly in the form of multiple family dwellings) in the community and pushed a segment of the population or potential population into the mobile home market. Local controls may further limit the consumer by allowing his mobile home only in a park. The more strict the local regulations and the less land zoned for parks the less choice the consumer has in deciding which park to locate his mobile home in. The consumer may have to accept a living environment he finds undesirable. Space shortages and waiting lists are evidence of this situation.²⁸

Local restrictions may be so severe that a parks monopoly is created. Existing parks that are deemed "non-conforming uses" are almost invariably

secured from new competition. The United States Court of Appeals was so convinced of a municipality's complicity in creating a monopoly situation that it overturned an eviction case within a park on the grounds that "state action" was adequately demonstrated, and not a purely private action.⁸⁹ Of course, in some municipalities the limitation of choice problem is avoided because the municipality excludes mobile homes or mobile home parks altogether.⁹⁰

The monopoly or near monopoly situation has worse consequences than lengthy waiting lists. Monopoly status alters the fundamental landlord/tenant relationship by conferring considerable dominance on the park owner.⁹¹ This puts the consumer in a very weak bargaining position; he may be subject to many park owner excesses: entrance fees, exit fees, sales fees, services fees, association fees, guest fees, lack of a lease, eviction without cause, and park rules and regulations (no children, no pets, no noise, no "improper conduct," who can sell milk, who can make deliveries, and so on) which may be unreasonable. Such intimidation can be fought--in the case referred to above, Lavoie v. Bigwood, a park owner tried to evict a tenant, allegedly because he complained about the park and was active in a tenants' association. The United States Court of Appeals held that "an ejectment action instituted to punish the exercise of a tenant's constitutional rights of speech and association, by a mobile home park owner whose monopoly has been created by zoning" was invalid.⁹²

Little data is available on the frequency of such intimidation,

but the occurrences are probably not rare. Basically, a landlord is restrained in his dealings with tenants by: 1) the law; 2) what the market will bear; and 3) his own ethics and conscience. State law dealing with tenant-landlord relations generally ignores mobile home parks. Currently only a very few states--Delaware, California, Florida, and Michigan, to name a few--have laws which to some degree protect the mobile home park tenant.⁹³ With a national occupancy rate in mobile home parks of 95.8 percent,⁹⁴ park owners are generally unconcerned about filling the space of an evicted tenant. That leaves the mobile home consumer with only the park owner's ethics and conscience. These, of course, may suffice, but are hardly a substitute for institutionalized protection of park tenants.

A final, less identifiable but perhaps more severe, negative impact of the present land use control system on the consumer segment of the mobile home industry is sociological. Where mobile homes are forced into parks and parks are forced into isolated and/or unattractive sites, it may be assumed that mobile homes are inferior housing and that differential treatment and segregation are justified and should continue. A psychological ghetto may be formed: park tenants feel isolated from the outside community and keep to themselves,⁹⁵ the surrounding community, already prejudiced, becomes more and more suspicious of the segregated enclave, and another circle is created.

4.5 OTHER IMPACTS ON THE INDUSTRY

The land use control system affects the industry in at least three other ways. It is largely responsible for the fractionalized nature of the industry; it fosters uncertainty and thus may inhibit investment in the industry; and it prevents full realization of the industry's potential.

The fractionalized nature of the present land use control system, where some 10,000 local governments have the power to regulate land use, heightens the fractionalization of the mobile home industry. In order to deal with the particular problems of each locality's zoning, the park industry must operate on a small geographic scale. The mobile home manufacturer, on the other hand, cannot justify the initial costs of manufacturing facilities unless he works in a very large geographic market--he cannot deal with the hundreds of separate zoning jurisdictions that impinge on park development. These two subsectors of the industry --the production system and the park system--must deal with very different market sizes due to the fractionalization of the land use control system. A third subsector, the distribution system, must bridge the gap between the production and parks system. This fractionalization has inhibited consolidation within the industry.

While consolidation is not necessarily the ultimate goal of a "rationalized"

industry, a lack of consolidation can foster uncertainty within the industry. Any industry is limited by the most severely restricted facet of its production and delivery process. The mobile home industry is limited by land supply in its production of a total housing environment. The manufacturer and dealer must be able to place their product onto a park space if they are to market their goods (thus the great overlap between dealer and park owner). The localized land use control system makes the manufacturer and dealer uncertain of their future market. The local park developer/owner is not certain of his success in changing restrictive regulations and overcoming other constraints to provide new park spaces. Uncertainty is thus apparent throughout the industry. Uncertainty, almost by definition, means higher risk. Higher risk dampens investment--investors are less likely to invest in a manufacturer's expansion of capacity if the uncertain land factor must shape the market's growth. The relative impermanence of a mobile home park may also discourage any considerable investment. New York City's proposed mobile home ordinance, for example, anticipated the redevelopment of mobile home parks and offered special permits with a period of only ten years.⁹⁹ Whether impermanence stems from legal or economic pressure, no industry can expand to its fullest without a relatively stable and coherent environment.

The land use control system inhibits the full realization of the industry's potential. Typical local restrictions still reflect prejudices formed in the days of the nomadic trailer, and are highly resistant to change. Land use controls have not been upgraded to reflect the improvements

which have made mobile homes so like conventional homes. This basic inflexibility hinders the entire industry. The industry is encouraged to take the cynic's view that as long as it is treated as a second class citizen it might as well act like one.

In addition to the impacts already cited in this part, PMHI attempted to quantify part of the economic impact of the land use control system on the mobile home industry. Mathematical models were set up to test the effects of income, housing cost, age of household heads, change in numbers of households, type of taxation applied to mobile homes, conventional building costs, restriction to parks, exclusion from residential districts, and complete exclusion of mobile homes (data gathered by the PMHI National Survey) on the supply of and demand for mobile homes in the rental and purchase markets. While this model was not completely successful, and is therefore not included in the main body of this report, it remains an example of a potentially powerful analytical tool; it is hoped that its inclusion in Appendix A. will prove helpful to others.

C.

TRENDS IN LAND USE CONTROLS
AND THEIR EFFECT ON INDUSTRY PERFORMANCE

Our present land use control system is undergoing considerable change in its content and source of authority. Many of these trends relate to mobile homes and parks, and with few exceptions, will have a positive impact on the performance of the industry.

1.

Subdivision Controls

The increased useage of subdivision controls has a direct affects on the mobile home industry. Subdivision controls and Planned Unit Development (PUD) codes, which allow densities to be moved around large sites, and Special Districts, which offer bonuses in return for specified developer performance, are part of a new genre of land use controls involving negotiations and bonuses to achieve highest quality development. These more flexible regulatory devices typically require some form of decision or approval (except special permit) from a local administrative body. Subdivision control legislation must be carefully detailed to insure against capricious or arbitrary decisions, and to insure that once a certain specified level of performance is achieved, the zoning benefits do become, in effect, "as of right." Similarly, subdivision controls could be written so strictly as to be, in reality, constructive exclusions. Mobile home expert Frederick Bair warns against these problems: "Details of regulatory provisions indicate many cases where applicants might be subjected to arbitrary and capricious decisions depending more on the reactions of the neighbors than on compliance with detailed standards."¹²¹ Fortunately municipalities usually do not go to such effort in developing new codes.

It is difficult to measure the degree that communities are turning to the new regulatory devices, but planning literature makes clear that it is a continuing trend. The impact of this trend is generally favorable. The developed under subdivision controls will cost more, and those costs will be passed on to the consumer. Whether or not this effects sales

will be a function of the consumer's willingness and ability to pay for a better designed and located mobile home environment. On the other hand the total sales market might be expanded by the consumer segment previously unwilling to live in parks.

The clearly positive aspect of this trend is the more widespread acceptance of mobile homes in the community. Local citizens have objected to mobile home parks, saying that they are unpleasant to look at and that the costs to the municipality will be too severe. The low quality of parks is the result of various factors, including the lack of regulation and planning on the part of the municipality.

In order to defeat this historical image, municipalities could use subdivision controls to bring to the planning of mobile home parks a concern for design and aesthetics. While the developer may object to these added costs and interference with his development plans, the fact that he is required to provide these services could mean the difference between being able to build or not.

Mobile home park development has been seriously hampered by land use controls. Subdivision controls, however, by addressing the root causes of hostility to mobile homes and by requiring the developer to create a park aesthetically and economically acceptable to the community, could positively affect the industry.

2.

Judicial Supervision of
Local Zoning Restrictions

Restrictive or exclusionary land use controls have been used by communities not only to exclude mobile homes but also to impede or absolutely prevent the construction of any other form of low-cost housing. For reasons similar to those that motivate restrictions on mobile homes, suburban communities have enacted zoning regulations which have the effect of barring prospective lower-income residents, many of whom are members of minority groups. These exclusionary or "snob" ordinances take several forms.

Commonly a suburb will set a minimum on the size of lots for single-family residences within the community. This form of regulation has become pervasive. Currently, fifty percent of the vacant land zoned for residential use within fifty miles of Times Square is burdened by a minimum lot size requirement of at least one-half acre.¹²⁷ It has been found that large lot zoning can have a significant impact on the cost of housing as well as distort the housing market for the entire metropolitan area, for 1) it has the effect of reducing the total amount of developable land for housing, 2) it usually results in added costs for land improvements, and 3) entry costs are raised by requiring people to buy lots much larger than they would otherwise need.

A second common type of zoning ordinance prescribes minimum floor space requirements for residential housing. The minimum size is often considerably larger than is necessary. Since there is a direct correlation between house size and house cost, such requirements effectively put homes beyond the financial reach of most families.¹²⁸

A third variety of restriction prohibits the construction of multiple family dwellings. This has the effect of zoning out people who cannot afford their own home. For example, of the undeveloped land zoned for residential purposes in the New York metropolitan area, 99.2% is restricted to single-family residence.¹²⁹

A number of other regulations tend to exclude the poor from communities. Unduly expensive subdivision requirements can effectively increase the cost of housing by increasing the cost of land improvements. Strict building codes may require high-cost construction processes or zoning may prohibit two-bedroom or larger apartments.

Until recently, courts have been reluctant to critically examine the problem. Traditionally, zoning cases have been represented in terms of the police power versus private property rights. The developer or landowner has initiated the challenge and the judicial analysis has focused on the extent to which the ordinances impair the interest of property owners in free use of their land. Generally, the courts have considered zoning as having only a local impact and have ignored the interest of the region as well as the rights and interests of the low or moderate-income households whose access to the community is banned by the zoning ordinance in question. Also, courts have frequently been unwilling to limit the discretion of local municipalities. They have not insisted that the community point to a precise legitimate purpose for its ordinance, but instead have been reluctant to consider the motivations of public

officials or to question the assumption that each municipality is the repository of the general welfare (see 2.3).¹³⁰

Nevertheless, there is a growing body of judicial opinion which reflects a different view on exclusionary zoning regulations. These courts are looking beyond the zoning municipality to determine the area-wide impact of local land use restrictions, and they are requiring that the zoning power be exercised in terms of the general welfare of the broader community. Although these cases do not include mobile homes, their reasoning is applicable to the problem of exclusion or restriction of mobile homes.

Even though the law on exclusionary land-use controls is evolving rapidly, two different lines of argument are emerging. The first, referred to as the "Pennsylvania rationale,"¹³¹ uses the Fourteenth Amendment due process clause as the basis for striking down an exclusionary zoning scheme. The Pennsylvania Supreme Court in National Land & Investment Co. v. Easttown Township Board of Adjustment¹³² struck down a four-acre minimum lot requirement as an unreasonable use of the police power. The court examined the implications of the ordinance in terms of the regional needs of Philadelphia. The court stressed "the town's responsibility to those who do not yet live in the township but who are part, or may become part of the population expansion of the suburbs."¹³³ The court concluded that a zoning ordinance is not in the general welfare if its "primary purpose is to prevent the entrance of newcomers in order to

avoid future burdens, economic or otherwise, upon the administration of public services and facilities..."¹³⁴

The Pennsylvania court followed this decision in two recent cases. In Appeal of Girsh,¹³⁵ the court invalidated a local ordinance excluding all apartment houses from the town. In Appeal of Kit-Mar Builders,¹³⁶ the same court invalidated a two-acre minimum lot size requirement, declaring that "an exclusionary purpose or result is not acceptable in Pennsylvania."¹³⁷ In both cases the court stressed the town's responsibility to bear the burden of development and population growth. Preservation of aesthetic character, lack of public services, and fiscal prudence were rejected as justifications for exclusionary practices.

Nevertheless, it should be noted that although the rhetoric in these opinions is excellent, the court also emphasized the property owner's rights to use his property as he sees fit. The court mistakenly assumed an identity of interest between developers and those who are excluded from access to housing.¹³⁸ Due to the weight accorded by the court to the property owner's interests, the precedent value of these decisions is questionable.

A second and perhaps more significant development may be the court cases that are being initiated on the basis of the social implications of exclusion rather than the restriction on a builder's right to develop

his land more intensively. These cases usually involve a "third party," not a developer. The third party represents the low-income and/or minority persons who are claimed to be excluded from the area.

In these cases, it is argued that zoning practices which have a discriminatory effect on low income and minority groups violate the equal protection clause of the Fourteenth Amendment. This argument, to date, has been most successful when racial discrimination is evident. For example, in Dailey v. City of Lawton,¹³⁹ the court invalidated the city council's denial of a rezoning request for a federally subsidized low-income housing project in a predominantly white area. The suit was brought by a group of blacks. The court found the council's action to be racially motivated and thereby, a violation of the Fourteenth Amendment and the Civil Rights Act of 1866, 42 U.S.C. 1983.

Going further, authority has begun to accumulate which at least recognizes that under the equal protection clause a local government is under an affirmative duty to plan for all groups in the population, and specifically for low- and moderate-cost housing. Two Federal court decisions - the lower court in Kennedy Park Homes Association v. City of Lackawanna¹⁴⁰ (invalidating a refusal to give subdivision approval) and Sasso v. City of Union City¹⁴¹ (invalidating the annulment by referendum of a rezoning permit for a low-income project) - have made fairly explicit statements on point. The court in Sasso stated:

Given the recognized importance of equal opportunities in housing, it may well be, as a matter of law, that it is the responsibility of a city and its planning

officials to see that the city's plan as initiated or as it develops, accomodates the needs of its low-income families, who usually - if not always - are members of minority groups.¹⁴²

Nevertheless, the equal protection argument may have limitations in the courts, for exclusionary zoning does not merely exclude racial minorities; it excludes low and middle income whites.¹⁴³ Although courts will not theoretically tolerate racial discrimination, economic or wealth discrimination has yet to be declared a suspect classification¹⁴⁴ nor has housing been held to be a fundamental right by the Supreme Court.¹⁴⁵

In fact, in James v. Valtierra¹⁴⁶ the Supreme Court held that Article XXXIV of the California State Constitution, which required a referendum before public housing could be built in a community, did not violate the equal protection clause, because it applied to "any low-rent public housing project, not only (to) projects which will be occupied by a racial minority". Although this case has been interpreted by some as an indication that the Court will not expand the equal protection doctrine to reach exclusionary zoning, there is ample support for the contention that James should be narrowly construed¹⁴⁷ and that there are still satisfactory constitutional rationales for overturning exclusionary zoning ordinances left unaffected by the decision.¹⁴⁸

These cases, despite the setback in James, indicate a general rethinking of the proper function of zoning and a new realization that zoning should not be used as a means of shifting economic burdens from the suburb to

the city. There is no reason why the same kind of approach should not be applied to mobile homes. As yet, no challenge to a zoning ordinance as applied to mobile homes has been brought by a "third party" - the racially and economically disadvantaged - but it is clear that the time is not too distant when a court will be asked to invalidate a restrictive ordinance on the ground that it constitutes a denial of equal protection. It will be argued that the low-income and racial minorities are effectively precluded from seeking improved or different housing opportunities and having access to educational and job opportunities by the unavailability of mobile home sites. The likelihood of this argument succeeding grows as mobile homes play an increasingly important role in the housing crisis in this country. It is apparent that the importance and use of mobile homes as a source of low-cost quality housing will continue to accelerate,¹⁴⁹ thus increasing the pressure on the courts to reevaluate their thinking. The probable success of zoning challenges in the future should help to reduce the negative impact of land-use controls on the mobile home industry.

3.

State and Federal Assumption of Land Use Policy

As noted earlier in Part B (see 2.3), the case-by-case approach to challenging local control devices is at best fragmented. The court cases indicate little possibility for a broad-based attack on exclusionary zoning, for each case is limited to the factual situation presented. A favorable court decision will essentially prevent exclusion in one case involving one municipality and one parcel of land. If the court challenges prove successful, these efforts will lower some barriers, but will barely begin to affect the housing problem. As a result, a more direct approach is now being considered by some states and has been adopted by some which involves the preemption by the state of a municipality's power to control land development. This recent state legislation shows that there is a definite trend toward the states becoming more deeply involved in local planning decisions and assuming planning powers themselves or assigning them to designated regional agencies.

The legislation reviewed varies widely in kind and scope, reflecting the nature of the problems and the political climate of the state. In all cases, regardless of the specifics, local governments have lost some of their autonomy in favor of promoting regional interests. Most of the laws are relatively new and reflect a growing concern with social and/or environmental issues. No effort has been made to

comprehensively review all state legislation related to this topic, but the examples cited provide some indication of the extent and nature of the trend.¹⁵⁰ Basically two types of legislation can be identified. Both involve changing the level at which land use decisions are made. One type transfers the power to regulate or to review local regulations to the state. The second involves shifting responsibility upward to a regional authority.

In the first category, several states have enacted legislation that enables the state to assert strong planning authority to directly control land development. Hawaii's State Zoning Act, passed in 1961, gives the state zoning power. The act established a land-use commission and divided all land on each of the four islands into four separate land use districts. The act also empowers the commission to set standards for determining the boundaries of each district, and it establishes some generalized criteria for defining land uses appropriate for each of the districts. All local land use control powers must be consistent with the guidelines provided by the act and the commission.

In addition, both Vermont in 1970 and Florida in 1972 enacted comprehensive state land use laws. Vermont's Land Use and Development Act designates specific spheres of state jurisdiction (commercial, industrial, and residential development larger than 10 acres in size or subdivision developments of ten or more lots), calls for the development of a state wide land use plan, and establishes an Environmental Board and nine District Environmental Commissions. The act establishes specific

environmental, social, and economic criteria which a development must meet before receiving the required permit from a district commission. The Florida Environment Land and Water Management Act empowers the state to designate "critical areas" and to establish principles to guide the development of those areas. Secondly, the act empowers the state to adopt guidelines and standards to be used in determining "developments of regional impact (DRI's)."

In other states, legislation has been enacted to preempt local zoning power in designated areas. For instance, California and Wisconsin have legislation that gives the state power over coastal development.¹⁵¹

In 1970, Maine passed an act¹⁵² which gives a state agency some control over the location of industrial and commercial development that may substantially affect the environment.

In 1968 New York created the Urban Development Corporation (U.D.C.), which is essentially a state housing authority with the power to raise funds to build low- and moderate-income housing throughout New York. Originally the U.D.C. was the only authority in the country with a total range of powers, including the authority to plan, regulate, and develop, as well as override local zoning ordinances. In 1973, however, its decision to build low cost housing in Westchester County against the will of the county government lead to state legislation removing its power to do this. Despite this and its recent financial difficulties, the model it was created from remains a viable one.¹⁵³

Lastly, Massachusetts has created a Housing Appeals Committee which has been given the power to override local zoning decisions in those cases

where local zoning boards have denied permits for subsidized low- and moderate-income housing, where the town has not met an established quota for subsidized housing. The bill, referred to as the "anti-snob zoning act", has recently been upheld by the courts.¹⁵⁴ Due to lengthy court appeals, the statute has had relatively little impact to date.¹⁵⁵ In addition, it only requires that a small percentage of vacant residential land in each community be available to non-profit or limited-profit housing sponsors for development.¹⁵⁶ Nevertheless, the legislation is expected to discourage communities from being overly protective by allowing the state to supervise the activities of local zoning boards and to facilitate low-income housing construction starts.

In some states, the power to review, overrule, or regulate the development decisions of local governments has been given to the counties or regional planning development agencies. For example, in 1968 the New Jersey legislature created the Hackensack Meadowlands Development Commission to exercise zoning and taxing powers and to control the use and development of land in an area of meadows (21,000 acres) located within the boundaries of fourteen separate local governments. The commission has the power to undertake development projects and to regulate all subdivisions in the district. The property taxes from any new development, regardless of the city in which it is located, go into an intra-municipal fund. This tax-sharing device is designed to remove a major obstacle to rational planning for metropolitan areas - competition among local governments for new developments.

Other examples include the San Francisco Bay Conservation and Development Commission which was created in 1965 and designed to control and monitor the development of the bay. The act ¹⁵⁷ gives the Commission the authority to deny or approve all building permits that request permission to fill or extract from the bay. The Minnesota legislature created the Twin Cities Metropolitan Council with extensive review authority over the plans of local governments within the metropolitan area. Ohio recently designated fifteen official planning regions that cover the whole state, and are charged with developing "coordinated solutions to problems that overlap local jurisdictions."¹⁵⁸

In summary, these various state legislative enactments reflect the current widespread thinking that state and regional agencies must assume a greater responsibility in land use planning and policy formulation. Viewed as a whole, this legislative record signifies a trend in which states are breaking with traditional practices by taking back or modifying zoning powers that were delegated to local municipalities through early state zoning enabling acts. The basis for preemption is that state or regional land use and control will optimize the utilization and preservation of land resources and/or insure equal protection and due process in the placement of low-income housing in all communities. The examples provided by New York and Massachusetts are especially significant in terms of mobile homes. If similar legislation becomes prevalent, local communities may be forced to respond to the needs of the low-income families.

Much of this activity for state land use policy and control has been boosted directly or indirectly by increasing Federal involvement in land use. As President Nixon stated in February, 1973, "our greatest need is for comprehensive new legislation to stimulate state land use controls."

This legislation may be coming in the form of the Land-Use Policy and Planning Assistance Act, introduced by Senator Henry Jackson as far back as January 1970. Jackson's bill has consistently passed in the Senate, but support in the House has waivered at just below the level required to pass. In 1974, the Nixon Administration abruptly removed its support of the bill, and chances for passage receded. The Ford Administration backs this bill in principle, but opposes the spending it mandates as inflationary. The bill seeks to establish a national land use policy that favors social and environmental goals. It would provide \$1 billion over eight years to states to aid them in the development of state land use policies and controls. One of the most controversial amendments to the bill would withhold certain federal aid from states which failed to perform state-wide land use planning.

This bill is only the latest effort in a trend towards Federal action in land use. Most important have been the recent environmental bills -- the National Environmental Policy Act of 1969, the Environmental Quality Improvement Act of 1970, the Clean Air Act of 1970, etc.-- all of which have the effect of controlling how local land-users can depreciate environmental resources. Additionally OMB Circular A-95 stimulates regional control over land use policy by requiring review by regional bodies of the environmental impact of Federal programs, projects, and grants.

Whether the motivations have been the environment or social justice, the new state and Federal activity in this area is based on the realization that "local control has failed to deal with land use problems of more than local significance."¹⁵⁹ As Business Week reports, "through all these examples of new land-use activism runs a common effort: to wrest some control over the land from local governments."¹⁶⁰ These movements have definite implications for the mobile home industry.

Local government decisions in the land-use area are generally made by lay people who do not have the time or resources to acquire sophistication in housing policy and the role that contemporary mobile homes are capable of playing. Should the sanctity of local zoning be further eroded it will become more difficult for a municipality to shift what it sees as a "problem" or potential problem to other municipalities and other decision-makers. The mobile home industry has no reason to believe it will be the favored step-child of future state or Federal land-use controls, but it can expect to receive more sophisticated and less fractionalized regulation.

D.

POTENTIALS

Exclusionary zoning practices help prevent the mobile home industry's production of a greater amount of higher quality housing at a lower cost. The location and quality of the mobile home site or the mobile home park is closely tied to the final product capabilities of the industry. Rigid land use control reduces the industry's responsiveness to user needs and limits the consumer's choices. The mobile home industry could, potentially, provide good low-cost shelter for a large portion of the population if the land use control system--as well as other systems--were geared for it. This industry can provide low cost housing without the amount of subsidization necessary in the on-site building industry and should be encouraged to do so.

1.

**Increased Availability of Low Cost Housing
by Reduction of Exclusionary Zoning Restrictions**

The impact analysis of Chapter 4 showed the land use control system to be a major factor in restricting the industry and limiting the choice of the consumer.

Nowhere is this limitation of the choice of living environment more severe than in this nation's suburban areas. Large segments of our population are barred by economic constraints from living in conventional suburban housing. Exclusionary zoning of mobile homes is also greatest in suburban areas (see Chapter B.3.4). Thus, even if one purchased a mobile home, he would be unable, because of exclusionary zoning, to locate his home in suburbia. Recently, however, judicial and legislative action on this matter has been increasing (see Chapters C.2 and C.3). For example, the Massachusetts Zoning Appeals Law requires that every city and town permit construction of its "fair" share of low-income housing. The problem of insuring equal opportunity in housing is by no means confined to the mobile home industry, but the potential of this industry to provide low-cost housing more efficiently than the conventional housing industry is not being developed. Low-cost housing can be built with less subsidization by the government than is now being provided for the conventional housing industry if the production advantages of the mobile home industry are exploited.

The need for low-cost housing is not confined exclusively to the suburbs. While reduction of exclusionary zoning practices would unquestionably improve the overall performance of the industry, there are areas

where this would have little effect. Where mobile homes are not now economically feasible because of the low-density nature of their present application, reduction of exclusionary zoning, while necessary, would not be enough. However, the mobile home industry has the technological capability to efficiently utilize the building materials necessary in higher density construction. It proved this in the past when it relied extensively on aluminum and steel frame construction. Technological capabilities for efficient utilization of concrete and stacking of three-dimensional modules based on materials other than wood are economically feasible means of providing low-income housing in urban areas. Constructive, supportive changes in land use controls are one of the most important prerequisites for realizing this potential.

2.

Increased Integration with Conventional Housing

The restriction of mobile homes to mobile home parks segregates the mobile home dweller from the rest of his community. Further, it restricts the industry to the production of a product with only a single, limited application. Such restriction is present more often than complete exclusion, and is expected to increase in the next five to ten years. Together with exclusion from residential districts, it is the land use control most responsible for the separation of mobile homes from the conventional housing stock. Simply increasing the availability (both in terms of quantity and location) of mobile home parks will not adequately improve the responsiveness of the industry to user needs.

Differences in financing, taxation, purchase and sales agreements, etc., contribute in various ways to the difference between mobile homes and conventional homes. The major impact of the land use control system is in its spatial segregation of the mobile home component from the conventional housing stock. The segregation of individuals living in mobile homes may reinforce an economic difference already present and give it social dimensions as well. In municipalities where mobile homes are forced into parks and parks are forced into isolated or unattractive areas, mobile homes may be seen as inferior housing that must be treated differently and isolated from the rest of the community. To some extent, the stigma of the location must rub off on the tenants, regardless of the quality of the park. Park tenants may feel isolated and cut off. A recent

article conveys this eloquently:

The Wall.

Five feet high, concrete block masked with textured, tannish plaster--mock adobe. Riding another five feet of the level on a sparsely planted earth berm, a sort of landlocked dike against the world without. Shutting off the encircling orange groves, the stucco houses peering from their camouflage of shrubs and flowers, the small corrals with pairs of browsing horses, the monotonous, bird-like pecking of the oil rigs that disturbs the near distance before it fades into smog-enshrouded foothills.

The wall is somehow important. To understand the most recent of the mobile home developments, and the middle Americans who dwell in them, you must understand the wall--from both sides.

At hand is the wall surrounding the 252 residents of Lake Park, a grassy mobile home community tucked away in a corner of this sun-baked Orange County city. . .

"I kid them; we call them 'the people inside the wall', and we're the 'people outside the wall'."

"It's kind of like a little city up there by itself. . ."

The Wall serves its purposes.

"This is a community within itself. . . but we love the surroundings. Still, as far as the community of Yorba Linda goes you don't have much sense it's there."

The notion is somewhat mutual. . .

"They've been occupied almost a year now, and we don't even know they're there. No problem."¹⁶¹

This situation is reminiscent of the attitude toward travel trailers in the thirties and forties. An important potential step toward correcting the separation of the two estates is the reversal of the present trend to restrict mobile homes to mobile home parks.

The land use control system contributes to the stigma surrounding mobile home parks by neglecting their quality, after requiring their existence. The design of mobile home parks is only seldom regulated to the same extent that is true of conventional single family housing. The lack of concern for the quality of mobile home parks and their not infrequent exclusion from residential areas contributes to the existence of shoddy parks in poor locations. While the industry has improved its product in the direction of conventional housing, the land use control system has not kept pace and now only reinforces the problems it was to solve.

By isolating mobile home parks from conventional housing, the restriction

to parks fragments the housing market and prevents direct competition between mobile housing and conventional housing industries. The industry is confined to the production of a product with only one major application, limiting its further development to minor refinements. Public regulation determines and is largely responsible for the nature and character of the present product.

Upon elimination of the restriction to parks the expanded market would compel the industry to produce a physical environment more responsive to user needs. The industry would no longer be required to produce a product for the traditional mobile home park, but could develop a product different from today's mobile home and better able to fulfill the new demands placed on it.

3.

Development of the Mobile Home Park Concept

Though the restriction to parks at present fosters inertia in product development, the existence of segregation could be used to the industry's advantage. Compared to conventional housing developments, the regulatory environment of the mobile home park can be described as a legal vacuum: building codes are simpler and less stringent; siting requirements are not restrictive, if they exist at all. Innovation that would be difficult under conventional public regulation can be accomplished more easily in the mobile home park. The concept of the mobile home park as a planned development of exclusively (or primarily) mobile home components can encompass mobile home products vastly different from those employed today.

Innovative site design could utilize a mixture of single family, townhouse, and multi-family housing. These would be impossible in conventional housing developments except under the most flexible Planned Unit Development ordinance. A new town could be constructed using production efficiencies unrealizable by the conventional housing industry.

The mobile home industry has long been a testing ground for new and better products not yet accepted by the conventional housing industry. This laboratory concept can be extended to the mobile home park. New technical systems for things such as vacuum sewage disposal and solar energy systems could be perfected. Innovative social service delivery

systems could be set up.

By expanding past its present application, the mobile home park concept could become an area of progress in the development of new urban technologies and services.

E.

SUMMARY

The land use control system is a collection of legal techniques used by local, state, and federal governments to implement planning decisions. Zoning was the original method of development limitation. More recently, other techniques have come into use--these include mapping, subdivision regulations and planned unit development codes. In addition, the land use control system includes many ordinances which implicitly limit development, such as sewer load limits and state wetlands protection acts. In spite of this, zoning remains a mainstay of the land use control system.

Most developed communities use zoning restrictions as a means of protecting and strengthening the single family residential district in the face of rapid urbanization and change.

Land use controls, as first applied to the mobile home industry, were the response of municipalities to the early travel trailers of the Depression era. Intended for short term vacation use, these trailers were usually parked in dense, unsanitary camps and used as permanent residences by people unable to afford other housing. Not surprisingly, the initial community reaction was decidedly negative. Camps were prohibited or forced into undesirable areas where no one else wished to live. Although the mobile home of today is designed for permanent residence, land use regulations still have much the same effect.

Three methods of exclusion and one of restriction are practiced today:

1. Complete Exclusion--an explicit ban or a lack of provision ✓
for mobile homes;
2. Exclusion from residential districts--explicit exclusion,
restriction to non-residential areas, or the ordinance providing
for dwellings may be interpreted as barring mobile homes;
3. Constructive Exclusions--indirect exclusions of mobile
homes, for example through minimum floor area requirements
or sanitation ordinances. (Such exclusions need not be explicitly
intended as land use controls);
4. Restriction to Parks--explicit ordinance.

In addition, parks themselves are sometimes restricted: the acreage per park may be limited, a maximum number of spaces per park may be stipulated, the maximum number of spaces per park may be limited, and the amount of land zoned for parks may be set.

To understand the current effects of the land use control system on the mobile home industry, a complete picture of the motivations for the institution of specific restrictions and how frequently they occur was developed by this project through extensive field interviews, research, and surveys on the status of zoning relative to mobile homes in all fifty states.

It was found that a wide range of intensity of use of the zoning prac- ✓
tices exists today, both from state to state and from rural to suburban to urban areas. In some states as many as 95 percent of all municipalities completely excluded mobile homes while in other states no municipalities

did. This variation was found to be a consequence of several factors: 1) states with a higher density of population generally have a greater amount of exclusion; 2) method of taxation of mobile homes was found to coincide with certain land use restrictions--states with a fee or license system of taxation rather than a real estate or personal property system have 8 to 18 percent more of their municipalities restricting mobile homes to non-residential areas; and 3) suburban areas are more restrictive than urban or rural areas. These restrictions are expected to remain unchanged in the next five to ten years, but restriction to parks is expected to increase.

The impact of the land use control system on the performance of the mobile home industry is serious and far reaching. The system severely restricts the supply and quality of land available for mobile home developments and thus restricts the market for the entire industry. Restriction of the land supply can implicitly confer monopolies on park owners and may increase the cost and reduce the quality of life in a mobile park. Where the park owner operates in a legal vacuum, parks without competition may be shoddy, poorly designed, rife with hidden charges and unreasonable rules, and still be profitable. Land use restrictions which relegate mobile homes to the least desirable land in a locality insure the continuance of the image of "travel trailers" which originally provoked the restriction--thus both the restriction and the social stigma associated with the park are fed by their own existence. Further, the land restrictions limit the market

for mobile homes, and so decrease the variety of products the industry can produce--in terms of both homes and sites.

The fractionalized nature of the control system also affects the industry.✓ The multiplicity of regulatory agencies discourages large organizations at the park development level and increases "uncertainty" throughout the industry. Such instability discourages investment at every level.

Faced with such stringent restrictions, the mobile home industry has explored legal avenues for easing them. Channels by which restrictive or exclusionary land use controls can be challenged are heavily weighted towards existing regulations. Historically, the legal presumption has been that an ordinance is valid and reasonable and therefore the judiciary has been unwilling to take a stronger role in altering unreasonable restrictions, choosing to comment only on impermissible aspects of specific local ordinances. Often the result has been that municipalities have learned how better to exclude mobile homes.

Not all aspects of the land use control system are unfavorable to the✓ mobile home industry; three trends in land use controls promise to amplify the mobile home industry's ability to supply better quality housing to more people:

First, subdivision regulations are increasingly being applied to mobile homes in a more constructive way than simple restriction to parks. Subdivision controls provide more detailed guidelines for large scale pro-

jects than conventional zoning regulations. They have recently been applied to mobile home developments in the same way as to conventional developments. These controls can be expected to induce better planning of parks. Greater acceptance of parks by the surrounding community would be a natural outgrowth of this. In addition, subdivision regulations provide a more sophisticated regulatory environment than is present with conventional zoning.

Second, the courts are now beginning to rethink the function of zoning, and more and more are applying the equal protection clause of the constitution to mandate changes in zoning ordinances. This promises to reduce restrictive and exclusionary zoning and increase chances for adoption of more sophisticated methods of control.

Third, the state governments are beginning to play a more active role in land use control, and the federal government may be moving in this direction. Recent state legislation has put some planning decisions in the hands of regional authorities or allowed state officials to regulate and/or review local ordinances. These authorities can be expected to be more responsive to regional housing needs and be better acquainted with the role mobile homes can now play in meeting housing needs.

Looking beyond these immediate trends, the mobile home industry could be stimulated to provide more shelter, of higher quality, more variety, and at lower cost for all segments of the population through the use

of alternative land use controls. With a lessening of restrictions the market could expand; manufacturers could respond to user needs and tastes with more flexibility: floor plans, exterior treatments, and interior design could all involve more choice for the consumer. The cost savings inherent in mobile home construction could be available to many more people. This potential can be reached in either of two ways, both desirable and neither mutually exclusive. First, the mobile home industry could produce housing fully compatible in appearance and quality with conventionally built single family housing. With the easing of land use restrictions mobile homes could be integrated into existing single family neighborhoods. Second, the concept of a mobile home park as a planned development of exclusively mobile home components could be developed far beyond its present application. While restriction to parks limits product development at present, an advantage exists in developing mobile homes in parks in that building codes, siting requirements, and other guides to development are much less strict for mobile home developments than for conventional developments. Innovations in design, planning, or technology are therefore easier to accomplish. Medium and even high density projects can be built with mobile home components (see "the Product Tomorrow"). Until land use controls allow mobile homes in areas where such projects are economically feasible the savings in cost and the wider range of design possibilities will not be available.

Updating the land use control system to reflect changes made in "mobile" homes over the years could be a powerful stimulant to the industry to

produce housing of greater variety, higher quality, and lower cost for all portions of the population.

F.

FOOTNOTES

1. A decree issued by King Edward I of Great Britan 1285 A.D. establishing a right-of-way along roads is one of the earliest land use control measures. The King directed that land along highways be cleared "so that there be neither dyke, tree, nor bush whereby a man may lurk to do hurt, within two hundred feet of the one side, and two hundred feet of the other side of the way, . . ." Exceptions were made for ashes and "great trees" and penalties set for lords who did not properly execute the decree. (see, J.H. Beuscher, Land Use Controls: Cases and Materials, 1964, at 1)
- 1A. John Delafons, Land Use Controls in America, 1962, at 17.
2. Ibid. at 18.
- 2A. Barbier v. Connolly, 113 U.S. 27 (1885); Soon Hing v. Crowley, 113 U.S. 703 (1885).
3. Welch v. Swasey, 214 U.S. 91 (1909).
- 3A. S. Toll, Zoned American, 1969, at 71.
4. Delafons, op. cit. at 20
- 4A. Ibid. at 18
5. Ibid.
- 5A. Douglas Commission Report, 1968, at 200.
6. 276 U.S. 365 (1926).
- 6A. Id., at 388.
7. Id., at 395.
- 7A. 277 U.S. 183 (1928).
8. The Supreme Court in both People v. Stover, 12 N.Y. 2d 462, 191 N.E. 2d 272 (1963) and Lionshead Lake, Inc. v. Township of Wayne, 10 N.J. 165, 89 A. 2d 693 (1952), appeal dismissed, 344 U.S. 919 (1953), dismissed the appeals for want of a substantial federal question

- 8A. Delafons, *op. cit.*, at 25.
9. Ibid., at 26.
10. Ibid., at 61.
11. Douglas Commission, at 209.
12. Idem.
13. Deleted.
14. See, B. Hodes and G. Roberson, The Law of Mobile Homes (2d ed. 1964); Annot., 42 A.L.R. 3d 601 (1972); and Annot., 96 A.L.R. 2d 232 (1964).
15. *Smith v. Building Inspector for Plymouth Township*, 346 Mich. at 60, 77 N.W. 2d at 335 (1956). Accord, *Commonwealth v. Amos*, 44 Pa. D. & C. 125 (1941); *Gust v. Township of Canton* 342 Mich. 436, 70 N.W. 2d 772 (1955); *Koston v. Newburgh*, 45 Misc. 2d 382, 256 N.Y.S. 2d 837 (Sup. Ct. 1965); *Conover v. Jolly*, 277 N.C. 439, 177 S.E. 2d 879 (1970).
16. *Gust v. Township of Canton*, 342 Mich. 436, 70 N.W. 2d 772 (1955); *Koston v. Town of Newburgh*, 45 Misc. 2d 382, 256 N.Y.S. 2d 837 (1965); *Conover v. Jolly*, 277 N.C. 439, 177 S.E. 2d 879 (1970); *High Meadows Park, Inc. v. City of Aurora*, 112 Ill. App. 2d 220, 250 N.E. 2d 517 (1969).
17. *Davis v. McPherson*, 132 N.E. 2d 626 (Ohio App. 1955); *Vickers v. Township Committee of Gloucester Township*, 37 N.J. 232, 181 A. 2d 129 (1962).
18. *Vickers*, 37 N.J. at 242, 246, 181 A. 2d at 134, 136-137. Although *Vickers* is still law, there is some indication that the court is willing to modify its position. See, *Oakwood at Madison, Inc. v. Township of Madison*, 117 N.J. Super 11, 283 A. 2d 353 (1971).
19. Id., at 264-65, 181 A. 2d at 147.

20. *Town of Brewster v. Sherman*, 343 Mass. 598, 180 N.E. 2d 338 (1962);
Town of Manchester v. Phillips, 343 Mass. 591, 180 N.E. 2d 333
(1962); *Town of Marblehead v. Gilbert*, 334 Mass. 602, 137 N.E.
2d 921 (1956).
21. *City of New Orleans v. Louviere*, 52 So. 2d 751 (La. 1951);
People v. Clute, 278 N.Y. S. 2d 231, 18 N.Y. 2d 999 (1966);
Bixler v. Pierson, 188 So. 2d 681 (Fla. App. 1966).
22. See, *In re Willey*, 120 Vt. 359, 140 A. 2d 11 (1958); *Lescault*
v. Zoning Board of Cumberland, 91 R.I. 277, 162 A. 2d 807
(1960); *Douglass Township v. Badman*, 206 Pa. Super 390, 213
A. 2d 88 (1965); *State v. Work*, 77 Wash. 2d 212, 449 P. 2d
806 (1969). See also, Bartke and Gage, "Mobile Homes: Zoning
and Taxation," 55 Cornell L. Rev. 491 (1970).
23. 120 Vt. at 364, 140 A. 2d at 14.
24. 75 Wash. 2d 212, 449 P. 2d 806 (1969).
25. Idem.
26. *Town of Huntington v. Transon*, 43 Misc. 2d 912, 252 N.Y.S. 2d
576 (Sup. Ct. 1964); *Kimsey v. City of Rome*, 84 Ga. App. 671,
67 S.E. 2d 206 (1951); *Corning v. Town of Ontario*, 204 Misc.
38, 121 N.Y.S. 2d 288 (Sup. Ct. 1953).
27. *County of Will v. Stanfill*, 7 Ill. App. 2d 52, 129 N.E. 2d
46 (1955) (minimum lot requirement of 7,260 square feet).
28. 60 Misc. 980, 304 N.Y.S. 2d 350 (Sup. Ct. 1968).
29. *Napierkowski v. Gloucester Township*, 29 N.J. 481, 150 A. 2d 481
(1950); *June v. City of Lincoln Park*, 361 Mich. 95, 104 N.W. 2d
792 (1960). Contra, *Anderson v. Township of Highland*, 21 Mich.
App. 64, 174 N.W. 2d 909 (1970).
30. *Greenland v. Hussey*, 266 A. 2d 122 (N.H. 1970).

31. 13 Mich. App. 271, 164 N.W. 2d 409 (1968). Accord, Appeal of Groff, 1 Pa. Cmwlth 439, 274 A. 2d 574 (1971).
32. Wright v. Michaud, 160 Me. 164, 200 A. 2d 543 (1964); Township of Honey Brook v. Alenovitz, 430 Pa. 614, 243 A. 2d 330 (1963). Contra, Zoning Board of Adjustment v. Dragon Run Terrace, 222 A. 2d 315 (Del. 1966).
33. A recent study indicates that approximately 75% of the mobile homes in use throughout the country are located in mobile home parks. Mobile Home Parks, Macomb County, Michigan, 1969 at 6.
34. Davis v. City of Mobile, 245 Ala. 80, 16 So. 2d 1 (1943); Town of Granby v. Landry, 170 N.E. 2d 364 (Mass. 1960).
35. Napierkowski v. Township of Gloucester, 29 N.J. 481, 150 A. 2d 481 (1950).
36. 278 N.Y.S. 2d 231, 18 N.Y. 2d 999 (1966).
37. 305 N.Y.S. 2d 334 (1969).
38. Id., at 335-336.
39. The only cases to hold otherwise really deal with the validity of the exclusion of mobile homes from residential areas, not the park-only restriction. See, City of Sparta v. Brenning, 45 Ill. 2d 359, 259 N.E. 2d 30 (1970). Anstine v. Zoning Board of Adjustment of York Township, 411 Pa. 33, 190 A. 2d 712 (1963).
- 39A. Bair, "Mobile Homes - A New Challenge," Law and Contemporary Problems, at 112.
- 39B. Ibid.,
- 39C. Delafons, op.cit., at 63.
- 39D. ibid.
- 39E. Ibid.

40. See, E. Bartley and F. Bair, Mobile Home Parks and Comprehensive Planning, 1960, at 499.
41. Township of Honey Brook v. Alenovitz, 430 Pa. 614, 243 A. 2d 330 (1968); Camboni's, Inc. v. County of Du Page, 26 Ill. 2d 427, 187 N.E. 2d 212 (1962).
42. 52 Co. 2d 751 (La. App. 1951).
43. 61 So. 2d 270 (La. App. 1953); see also, Appeal of Groff, 1 Pa. Cmwlth 439, 274 A. 2d 574 (1971).
44. Sioux Falls v. Cleveland, 75 S.D. 548, 70 N.W. 2d 62 (1955). See also, City of Aurora v. Burns, 319 Ill. 84, 149 N.E. 784 (1925) (An ordinance confining parks to industrial districts was held unconstitutional primarily because of the incompatibility of uses).
45. In Town of Plainfield v. Hood, 108 N.H. 502, 240 A. 2d 60 (1968) (An amendment to an ordinance that restricted the number of mobile home parks to one in addition to those that were in existence at the time the amendment was upheld. The court concluded that such a restriction was a reasonable exercise of the police power).
46. 45a - see, Lavoie v. Bigwood, 457 F. 2d 7(1st Cir. 1972).
47. 3 Wis. 2d 371, 88 N.W. 2d 319, appeal dismissed. 358 U.S. 58 (1958).
48. Town of Southport v. Ross, 132 N.Y.S. 2d 340, 284 A.D. 598 (1954) (4-week limit within a twelve-month period upheld).
49. Karen v. Town of East Haddam, 146 Conn. 720, 155 A. 2d 921 (1959) (70-day limitation on the stay of mobile homes in trailer parks not unreasonable); Rezler v. Village of Riverside, 28 Ill. 2d 142, 190 N.E. 2d 706 (1963) (limitation to two consecutive days

in any calendar month with a cumulative limitation of 30 days a year not unreasonable); *Cady v. Detroit*, 289 Mich. 499, 286 N.W. 805 (1939), appeal dismissed, 309 U.S. 620 (1940) (city ordinance prohibiting parking of occupied trailers in trailer parks for periods longer than 90 days in any 12 months upheld); *Renker v. Village of Brooklyn*, 139 Ohio St. 484, 40 N.E. 2d 925 (1942) (length of stay of trailers in parks within the village limited to 60 days).

50. *Town of Hartland v. Hensen's, Inc.*, 146 Conn. 697, 155 A. 2d 754 (1960) (60-day limit upheld).
51. *Gilliam v. Board of Health of Sangers*, 327 Mass. 621, 100 N.E. 2d 687 (1951).
52. *Stary v. City of Brooklyn*, 162 Ohio St. 120, 121 N.E. 2d 11 (1954), appeal dismissed, 348 U.S. 923.
53. *People v. Peck*, 112 N.Y.S. 2d 379 (1952).
54. *Huff v. City of Des Moines*, 244 Iowa 89, 56 N.W. 2d 54 (1952) (the boundary of a mobile home park when located in a multiple dwelling district was required to be at least 200 feet from a permanent residential building located outside the park unless 1) separated therefrom by a natural or artificial barrier, and 2) 60% of the property owners within 200 feet consented in writing to the establishment of the park); *Cady v. City of Detroit*, 289 Mich. 499, 286 N.W. 805, appeal dismissed, 309 U.S. 620 (1939) (ordinance required consent of 65% of the property owners within 600 feet of the park before a license could be issued).
55. *Williams vs Whilten*, 451 S.W. 2d 535 (Texas Cir. App. 1970), the ordinance required the consent of all property owners within two hundred feet of the proposed mobile home park.

56. Vickers, 37 N.J. at 258-260.
57. Deleted
58. 114 [1]. App. 2d 267, 252 N.E. 2d 765 (1969).
59. Drury, Margaret J. Mobile Homes: The Unrecognized Revolution in American Housing. (1972) at 134
60. Douglas Commission, Building the American City. (1968) at 216
61. Robert M. Anderson, Zoning Law and Practice in New York State (1963)
62. unpublished data, M.I.T. Industrialized Housing Program.
63. U. S. Bureau of the Census, Series GF&O, No.4 City Government Finances
64. Ibid.
65. U.S. Bureau of the Census, Census of Housing: 1970 Vol. 1, "Housing Characteristics for States, Cities, and Counties."
66. U.S. Bureau of the Census, Census of Population Vol. 1, "Characteristics of the population."
67. Ibid.
68. An explanation of regression can be found in most standard statistics or econometrics texts, such as Wonnacott and Wonnacot Econometrics or Johnston, op. cit.
69. J. Johnston, Econometric Methods, (1972) at 183.
70. Erik Thorne, Director, Division of Building Codes, State of Arizona.
71. Illinois Zoning Law Study Commission, 1971.
72. Deleted.
73. Lawrence Mayer, "Mobile Homes into the Breach," Fortune (1970)
74. Robert Hegel, "Mobile Home Zoning... for Michigan Municipalities," Michigan Municipal League (1970).

75. Survey by Market Facts Inc., Washington, D.C. (1971).
76. Ibid.
77. Dealer's survey by Program Industrialization (Summer 1973).
78. Mason Goffney and Richard F. Muth, "Land as an element of Housing Costs," Institute for Defense Analysis (Oct., 1968).
79. Ibid.
80. Industry interviews by Program Industrialization
81. Survey by Program Industrialization (Summer 1973).
82. Lynne Sagalyn and George Sternlieb, Zoning and Housing Costs, Center for Urban Policy Research, Rutgers Univ., at 15,52 (Jan. 1973).
83. Ibid., at 48.
84. Lavoie v. Bigwood, 457 F. 2d 7 (1st Cir. 1972).
85. Survey by Program Industrialization, (Summer 1973).
86. NYC Planning Commission study, 1970
87. Data compiled by Program Industrialization (Summer 1973).
88. L. Mayer, "Mobile Homes into the Breach," Fortune (1970); 54 B.U. Law Rev. at 812 n.27 (1973).
89. Lavoie v. Bigwood, 457 F. 2d 7 (1st. Cir. 1972)
90. Survey of states by Program Industrialization (Summer 1973). See Chapter B.3.1 of Land Use Section.
91. 54 B.U. Law Rev. 810 (1973).
92. Lavoie v. Bigwood, 457 F. 2d. 7 (1st Cir. 1972).
93. "Tyranny in Mobile-Home Land," 38 Consumer Reports 442 (July 1973); 54 B.U. Law Rev. 810 (1973).
94. 54 B.U. Law Rev. at 812 n.27. (1973)
95. Douglas E. Kneeland, "From 'Tin Can on Wheels' to the 'Mobile Home'", New York Times Magazine, May 9, 1971.

96 through 99 deleted .

99. "Mobile Homes in NYC: A Case Study," Con Howe (Jan. 1972).
and Calendar of the NYC Planning Commission, March 17, 1971.

100 through 120 deleted.

121. Bair, "The Revolution in Housing," in Mobile Homes: Legal and Business Problems - 2d; Practising Law Institute, NYC, 1971.

122 through 126 deleted.

127. Note, Large Lot Zoning, 78 Yale L.J. 1418 (1969). See also, Douglas Commission Report, p. 214. It was found that 25% of metropolitan area municipalities of 5,000 plus permit no single-family houses on lots of less than one-half acre. Of these same governments, 10% have some two-acre zoning, 20% have some one and a half acre zoning, 33% have one half to one acre zoning, and more than 50% have one quarter to one half acre zoning.

128. An extreme example of this is Bloomington, Minnesota, a suburb of the Twin Cities. Bloomington imposes a 1700 square foot minimum floor area. At a square foot construction cost of \$15.82, the average for FHA Section 203 housing in the Minneapolis area in 1966, the smallest house permitted would require \$26,894.00 in construction costs alone. Douglas Commission Report, p. 215.

129. Idem.

130. See, e.g., *Simon v. Needham*, 311 Mass. 560, 42 N.E. 2d 516 (1942) (one acre minimum lot size); *Lionshead Lake, Inc. v. Township of Wayne*, 10 N.J. 165, 89 A 2d 693 (1952), appeal dism'd., 344 U.S. 919 (1953) (upheld minimum floor space for homes in an area of 25 1/3 square miles); *Fischer v. Bedminster Township*, 11 N.J. 194,

93 A. 2d 378 (1952) (five acre lot minimum was considered reasonable); Valley View Village v. Proffett, 221 f. 2d 412 (6th Cir. 1955) (zoning of an entire village for single-family use was upheld).

131. Note, "Exclusionary Land-Use Control," 22 Syracuse L. Rev. 465 (1971)
132. 419 Pa. 504, 215 A. 2d 597 (1965)
133. Id., at 532, 215 A. 2d at 612
134. Idem.
135. 437 Pa. 237, 263 A. 2d 395 (1970)
136. 439 Pa. 466, 268 A. 2d 765 (1970)
137. Id., at 470, 268 A. 2d at 768
138. 22 Syracuse L. Rev., at 499 (1971)
139. 425 F. 2d 1037 (10th Cir. 1970). See also, Kennedy Park Homes Association v. City of Lackawanna, 318 F. Supp. 669 (W.D.N.Y. 1970), aft'd, 436 F. 2d 108 (2d Cir. 1970), Cert. denied, 401 U.S. 1010 (1971); Crow v. Brown, 332 F. Supp. 382 (N.D. Geo. 1971), aft'd 457 F. 2d 788 (5th Cir. 1972)
140. 318 F. Supp. 669 (W.D.N.Y. 1970)
141. 424 F. 2d 291 (9th Cir. 1970). See also, Oakwood at Madison, Inc. v. Township of Madison 117 N.J. Super. 11, 283 A. 2d 353 (1971)
142. Sasso, 424 F. 2d at 245-296.
143. See, Sager, "Tight Little Islands," 21 Stan. L. Rev. 767 (1970)
144. See, Dandridge v. Williams, 397 U.S. 471 (1970)
145. Lindsey v. Normet
146. 402 U.S. at 141 (1971)

Taxation

173

TAXATION

TABLE OF CONTENTS

A.	<u>INTRODUCTION</u>	176
B.	<u>ANALYSIS OF THE PRESENT SITUATION AND EMERGING TRENDS</u>	179
	1. Organizational Basis for Taxation of Mobile Homes	180
	2. Taxation Methods	184
	2.1 Introduction	185
	2.2 State Taxation of Mobile Homes	188
	2.3 Emerging Trends	194
	2.4 Advantages/Disadvantages of Each Type of Taxation.	227
	3. Comparison of the Types of Land Use Controls and Taxation Methods Employed by Each State	245
C.	<u>THE FAIR SHARE CONTROVERSY</u>	249
	1. Introduction	250
	2. Demographic Characteristics of Mobile Home Population..	254
	3. Services Provided by Mobile Home Parks to Residents ...	257
	4. Fees and Taxes Paid by Mobile Home Park Operators	260
	5. Comparison of Indirect Taxes Paid by the Mobile Home Population and Indirect Taxes Paid by the Conventional Housing Population	263
	6. Cost-Revenue Studies	266
D.	<u>THE IMPACT OF STATE TAXATION ON THE MOBILE HOME INDUSTRY</u> ...	270
	1. Introduction	271
	2. Social and Psychological Impact on Consumer	277
	3. Economic Impacts on Consumer and Producer	281
	4. Impact on Industry Development	285
	5. Summary of Impact	288

E.	<u>POTENTIALS FOR IMPROVING INDUSTRY PERFORMANCE</u>	291
	1. Potential Definition	292
	2. Towards a Realty Tax	297
F.	<u>SUMMARY</u>	306
G.	<u>FOOTNOTES</u>	309

A.

INTRODUCTION

The mobile home is taxed in a variety of ways. In all states, units must be registered and licensed while moving on the highways. Some states require registration as a motor vehicle even after the unit has been attached to the ground. In the 30's this method of taxation was predominant; now most states have abandoned it for more sophisticated methods. In some states, however, motor vehicle registration is still used as a method to ensure that the other state or local taxes have been paid. In twelve states (see Figure 11) some sort of fee is imposed on mobile homes in lieu of property taxation. In an increasing number of states the mobile home is taxed as personal or real property. In the majority of states, two or more of these methods are employed.

The reason for this bewildering variety of taxation methods is the difficulty in categorizing mobile homes. Mass produced in only a few hours, it may sit for weeks in a factory lot as inventory. While being delivered to dealers, it may be moved hundreds of miles over highways as a motor vehicle. Upon delivery to the dealer's lot, it again may become inventory. Once sold to the consumer, it may find its way to a rented space at a mobile home park or at a mobile home subdivision on a privately owned lot. It may even come to rest on an isolated, privately owned plot. After passing through these stages, it is primarily used as housing. But it may be put to a number of other uses, even after many years as a house. It might serve as an office, a semi-mobile workshop, or merely as a storage facility. Each situation and each use may call for a different tax treatment.

This section is not concerned with the tax considerations involved in either the production or distribution of mobile homes. Its only concern

is the tax treatment of the mobile home which is functioning as housing. The discussion begins with an analysis of the taxation methods employed. Many states have changed their tax treatment of mobile homes within the past ten years. Included in this analysis is a study of the emerging trends demonstrated by such change and a detailed description of the taxation of mobile homes in each of the states -- largely based on extensive fifty-state surveys conducted by Project Mobile Home Industry between 1969 and 1975. Advantages and disadvantages of each type of taxation are discussed.

A study was made comparing the states' taxation methods with the land use controls employed. Although the results of this comparison were inconclusive, the study did suggest certain conclusions and is therefore included in this report.

A crucial question relating to the community's attitude towards mobile homes is whether the mobile home population pays its fair share of the community expenses. A community's answer to this question helps explain its acceptance or non-acceptance of mobile homes within its midst. Because of its importance, a part of this section is devoted to the so-called "fair share controversy."

This section concludes with an analysis of the impact of the different taxation methods on the mobile home industry and with an outline of potentials for improving industry performance through modifications of present taxation practices. A separate treatment is devoted to each of these topics.

B.

ANALYSIS OF PRESENT SITUATION AND
EMERGING TRENDS

1.

Organizational Basis for Taxation of Mobile Homes

The federal government derives the power to collect income and other taxes from the federal constitution.¹ While federal income taxation significantly affects housing consumption, investment in rental housing, and home ownership practices, the central government has not levied a direct tax upon conventional housing, or mobile homes. The state and local governments, on the other hand, have subjected mobile homes to an array of tax measures, including motor vehicle taxes, real and personal property taxes and in lieu fees.

The state governments derive the power to tax mobile homes from state constitutional provisions. Revenues so raised may be used to defray the costs of governmental services provided to mobile homes. The power of state legislatures to raise funds by statute, however, is subject to the due process limitations of the federal constitution. State constitutions further limit this power by requiring that taxes be proportional and reasonable.² This has been interpreted to mean that general taxes must be in proportion to the value of the property and special taxes must be in proportion to benefits received.³

Local governments are creatures of the state, and as such possess only those powers to tax mobile and other homes that have been delegated to them by the state.⁴ Grant of such power to municipalities may be contained in general "home rule enabling statutes" and also in state statutes concerning health and welfare of the local units.

Local tax ordinances are subject to the same federal and state constitutional limitations but enjoy a presumption of validity. When litigated, they

have been attacked as violative of the due process clause of the fourteenth amendment. In Hoffman V. Borough of Neptune City, 137 N.J. 485, 60 A2d 798 (1948), the plaintiff had been forced to pay 43% of his gross revenues to the city coffers and operate his mobile home park at a deficit. Even though he could have passed these costs on to the owners renting spaces in his park, the court upheld his claim that the tax was oppressive, confiscatory, and unreasonable. This type of attack will be successful only in extreme cases such as Hoffman. In Konya v. Readington, 54 N.J. Super 363, 148 A2d 868 (1959), the court upheld the constitutionality of a local revenue measure even though the amount collected exceeded administrative and regulatory costs. The court concluded that the reasonableness of the amount collected could be determined only through comparison with other similar fees.

In addition to constitutional constraints, municipal governments must act within the bounds of the power delegated to them. Therefore, local governments may be unable to tax individual mobile homes on private lots, to enact tax ordinances which operate as revenue measures or to levy charges not specifically provided for by the state enabling statute.⁵

A further problem arises when a local government enacts a revenue measure under a general grant of power from the state, when the state has its own taxation legislation applicable to mobile homes. In such cases it must be decided whether the state legislature intended to preempt local measures, and whether the local tax measure is void as conflicting with state statutory provisions, or whether the state legislature intended to allow the municipalities concurrent power to tax with ordinances

not inconsistent with state statutes and not repugnant to state public policy.⁶

This section is not concerned with the sales tax or other indirect forms of taxation; rather it is concerned with the various types of direct fees and taxes imposed on the mobile home owner by the different states. These direct levies can be grouped into four basic categories: motor vehicle taxes, real property taxation, personal property taxation, and tax measures falling under the heading of "fees in lieu" of property taxation.

2.

Taxation Methods

2.1 INTRODUCTION

It is perhaps obvious that before a fair comparison can be drawn of the various taxation methods employed by the fifty states, a definition of "mobile home" should be decided upon. The states differ widely in the details included in their definitional schemes. Three states do not define mobile home at all; others use a generic definition of "house trailer"; still others have one definition for tax purposes, another for other statutory chapters; finally, some states have no definition for tax purposes but a detailed definition for other purposes. The state by state taxation of mobile homes is found in FIGURE 11; included in this figure is the state definition of mobile home if available. Where more than one definition was found, the definition for tax purposes was included; where there were multiple definitions, but no specific definition for tax purposes, the most complete was included.

Although the definitions vary greatly in details, in substance they generally reflect one or more of the following models. According to the MHI, a mobile home is "a structure transportable in one or more sections which exceeds either 8 body feet in width or 32 body feet in length, built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air conditioning, and electrical systems contained therein."⁷

This definition is identical to the one contained in the federal building code for manufactured housing, the National Mobile Home Construction and Safety Standards Act, a part of Title VI of the Housing and Community Development Act of 1974, to take effect in June, 1976.

Finally, the American National Standards Institute defines mobile home as:

"Mobile Home. A factory-assembled structure or structures equipped with the necessary service connections and made so as to be readily moveable as a unit or units on its (their) own running gear and designed to be used as a dwelling unit(s) without a permanent foundation."

("The phrase 'without a permanent foundation' indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time at the convenience of the owner.") (ANSI A119.1 - 1974)

The single greatest variance from these norms is the distinction 18 states make between structures which exceed certain dimensions (usually 32 feet long, eight feet wide) and those which do not.⁸ The former are generally called mobile homes; the latter, travel trailers. Since what the industry is now producing and labelling as a mobile home exceeds these dimensions, and since few old-style eight foot-wide trailer coaches of less than 32 feet length are still being used for housing purposes, such differentiation makes little analytic dif-

ference for the purpose of this report.

2.2 STATE TAXATION OF MOBILE HOMES

The taxation of mobile homes has not remained static since their full-scale introduction in the 1930's. In part, the method by which states have taxed mobile homes reflects the historic societal attitude towards this hybrid product. Thus, at first the mobile home was considered a "travel trailer" and was subject to a moderate annual state motor vehicle fee. There were different methods for determining the amount of this fee. In some states a flat fee was charged; in others, the fee was dependent upon length, age, gross weight, chassis weight, or factory price. In 1936, only 20 states imposed additional personal property taxes on travel trailers.⁹

The use of "travel trailers" as permanent housing increased during the 1940's and 1950's. In most cases this meant that the travel trailer population was enjoying municipal services without contributing to the local coffers. To alleviate this situation, many states adopted additional taxes. By 1958 the most common taxation method employed was the taxing of mobile homes as personal property. By this date, 30 states provided for this type of taxation.¹⁰ This method, however, remained an ineffective means of insuring that mobile home owners paid their

share of municipal revenues: of these 30 states, 16 provided that, should the owner register his mobile home as a motor vehicle, he would be exempt from personal property taxation.¹¹ The idea of taxing mobile homes as realty had been introduced by this time but had not been widely accepted; only Michigan, New York, Wisconsin, and Pennsylvania allowed the taxation of mobile homes as real property.¹²

During the last 15 years, more and more states adopted either or both forms of property taxation of mobile homes; by 1974 all 50 states provided for such taxation if certain conditions were met. What these conditions are varies widely from state to state. Forty-one states provide that in given circumstances the mobile home is to be taxed as realty. The states differ greatly in the conditions imposed to warrant such taxation. Thus, New York levies a realty tax on the mobile home unless it has been within the boundaries of the assessing unit for less than 60 days; California permits a mobile home to be taxed as realty only if it is altered to meet the building code requirements for improved property. Perhaps the most common criteria for real property taxation of mobile homes are the requirements that it be permanently affixed to the land, have its wheels removed, and be on owner-occupied land. The remaining nine states either treat the mobile home uniformly as personalty or apply this tax only if certain conditions are met.

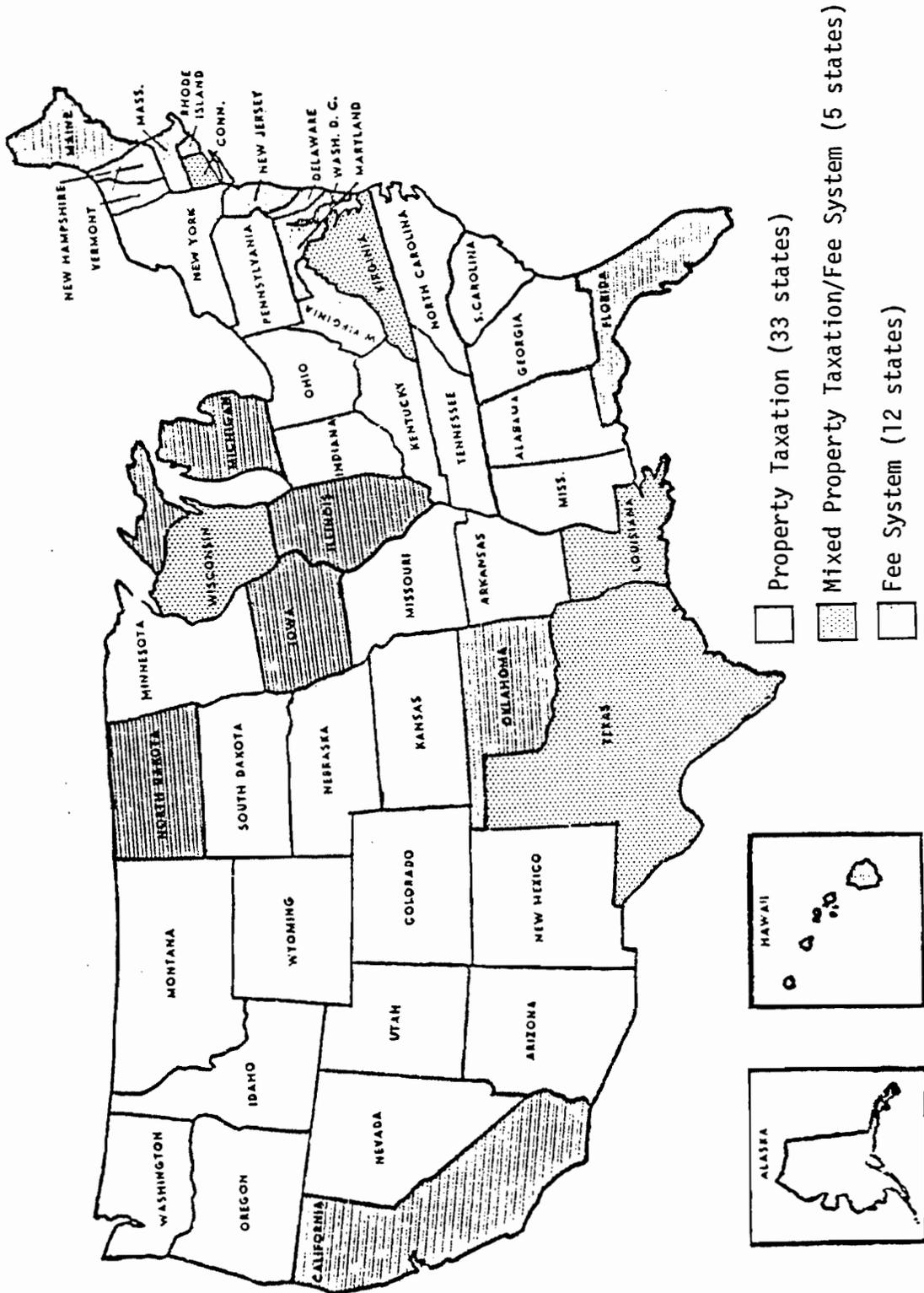
As can be seen from Figure 11, generalizations about the taxation of mobile homes in the U.S. are difficult to make. Since the purpose of

this report is not primarily descriptive, only the most important observations are described.

As was mentioned earlier, there are four basic types of taxation of mobile homes employed in the United States: motor vehicle registration and licensing, in lieu fees, and property (either personalty or realty) taxation. Only five states employ one method exclusively (Alaska, Delaware, New Mexico, Pennsylvania, and Rhode Island); the others use a combination of two or three methods. Many states tax the mobile home as realty if affixed to owner-occupied land and as personalty if not; others impose a fee dependent upon the length or weight of the mobile home. The owner can avoid the latter by affixing his unit to the ground and removing the wheels. Some states employ three methods of taxation: Colorado taxes all units under eight feet wide and 32 feet long by imposing a special ownership tax; if the unit exceeds these dimensions, it is taxed as realty (if it is permanently affixed to the ground and its wheels removed) or personalty.

The predominant taxation method of each state is shown on Figure 1. The categorization of many of the state systems proved to be somewhat complex and therefore a few words of explanation are in order.

As was noted earlier, most states do not employ a unitary tax applicable to all mobile homes. As can be seen from the description of the different state methods found in Figure 11, the most common form of taxation was dual: real property tax imposed in certain circumstances,



Source: PMHI National Surveys

FIGURE 1: STATE TAXATION OF MOBILE HOMES: 1974

personal property tax imposed in all the rest. States of this type were given a property tax label.

More difficulty was encountered with those states which employed a realty tax in some circumstances and imposed a fee in others. The system adopted here was to categorize a state according to how it taxed mobile homes located in parks. Thus, if the state taxed mobile homes located on owner-occupied land and permanent foundations as realty, but imposed a fee on all other units, the state was classified as "fee."

Three other factors should be mentioned in reference to the fee classification. First, the fact that the mobile home owner must pay nominal registration and/or licensing fees in addition to property taxes does not change the categorization of such states as a "property" state. Second, the fact that mobile homes everywhere must pay highway registration fees for the privilege of moving on the highways was disregarded for categorization purposes. Third, if the state differentiated between larger and smaller mobile homes, imposing a tax on the former but a fee on the latter, the method employed vis a vis the larger mobile home determined the categorization of the state.

The "mixed" classification was used to categorize a relatively rare taxation method: in five states, the state imposes one sort of tax but gives the local taxing unit the choice of whether to use the state system or employ its own (see Figure 11).

New Jersey and Tennessee demand arbitrary placement. New Jersey (see Figure 11) employs a realty tax at the discretion of the county assessor; otherwise a monthly fee for each unit is charged to the mobile park owner. This seems to be the method most employed there and it was therefore classified as "fee."

Tennessee (see Figure 11) is categorized as "property" because the vast majority of mobile home owners use them as permanent residences; for other uses, a fee system applies.

Finally, it should be noted that here, as in other areas of public regulation, the statutory norm does not always coincide with the actual practice. In Ohio, for instance, a personalty tax is imposed on all mobile homes; a conversation with a mobile home dealer in that state indicated that this tax is seldom if ever collected as long as the wheels and license plate remain on the mobile home.

2.3 EMERGING TRENDS

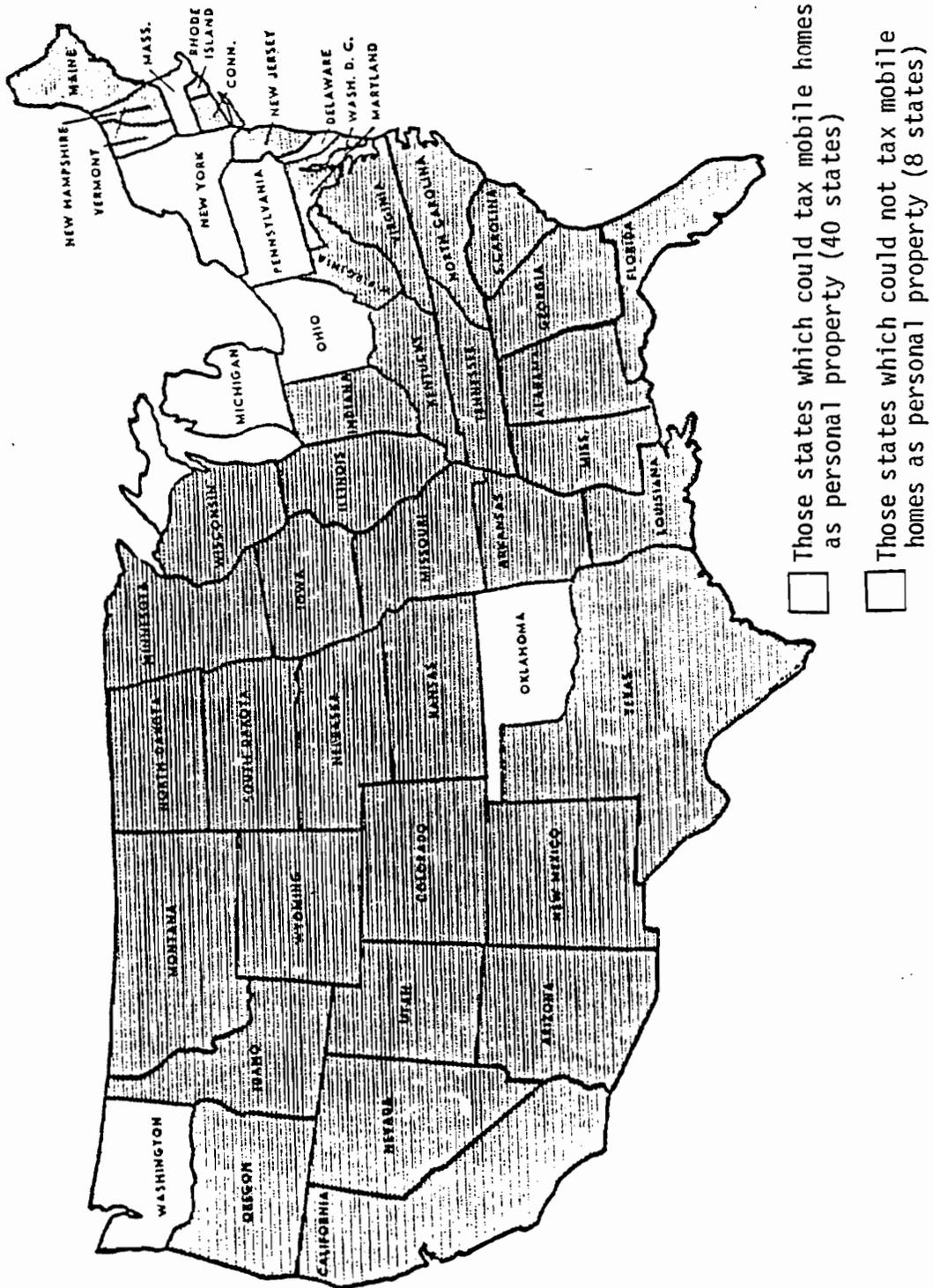
The taxation of mobile homes is in a state of flux and several states, including Nebraska, North Carolina, New Jersey, Georgia, Hawaii, Michigan, and Nevada, are considering changes.¹³ As can be seen from Figures 2-10, many changes have occurred since the 1950's. These changes have not been entirely random but instead show three discernible trends.

The least dramatic of these is the decrease in the number of states which tax certain mobile homes (generally those in mobile home parks) as personal property (see Fig. 2-4); in 1956, 40 states imposed such a tax,¹⁴ in 1968, 35; and by 1974, 33.¹⁵ A second discernible trend is the decrease in the number of states which impose fees on mobile homes in certain circumstances. The number of such states was 24 in 1956, 22 in 1968, and 17 in 1974 (see Fig. 5-7). Finally, the most significant trend has been the dramatic increase in the number of states which tax certain mobile homes as real property. In 1956 only 4 states provided for such taxation; by 1968 this number had increased to 20 and by 1974 had jumped to 44. Furthermore, all of the states mentioned earlier as considering change are contemplating either the introduction of real property taxation of mobile homes or the expansion of the present systems to include more mobile homes as realty. One can say with

some assurance that in the future, more and more mobile homes will be subject to real property taxation (see Figures 8-10).

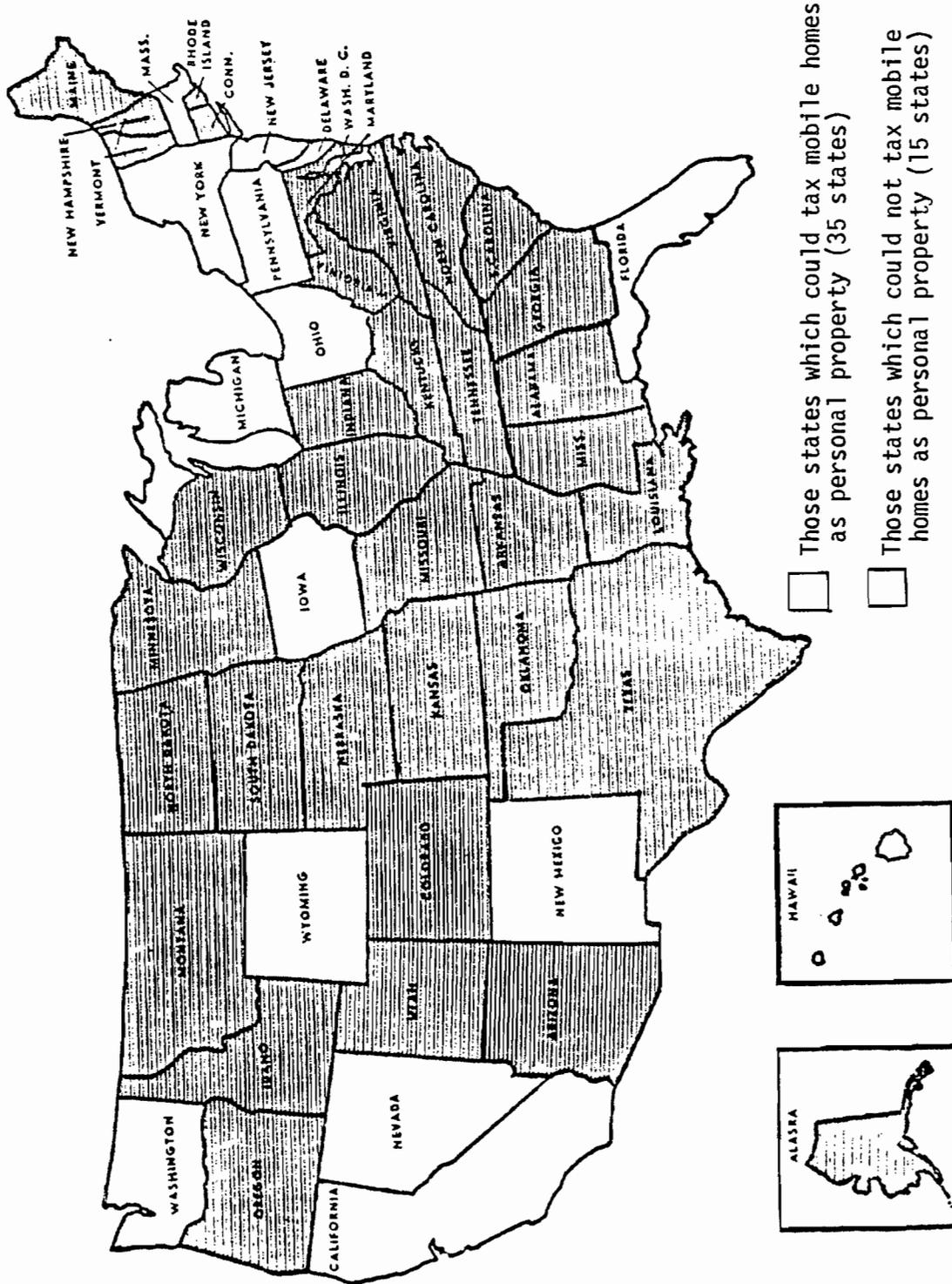
Figure 11 presents a detailed analysis of the situation today in all fifty states. This Figure has been constructed by PMHI during the years 1969-1975. These state by state tables have been continuously revised over the years and the final version reflects the most recent revisions made in early 1975.

This work has drawn on very extensive research and several national surveys covering all 50 states. For example, in 1973 PMHI canvassed taxation departments in all 50 states and all state and regional trade associations. Selected follow-up surveys for several states were conducted in 1974 and 1975.



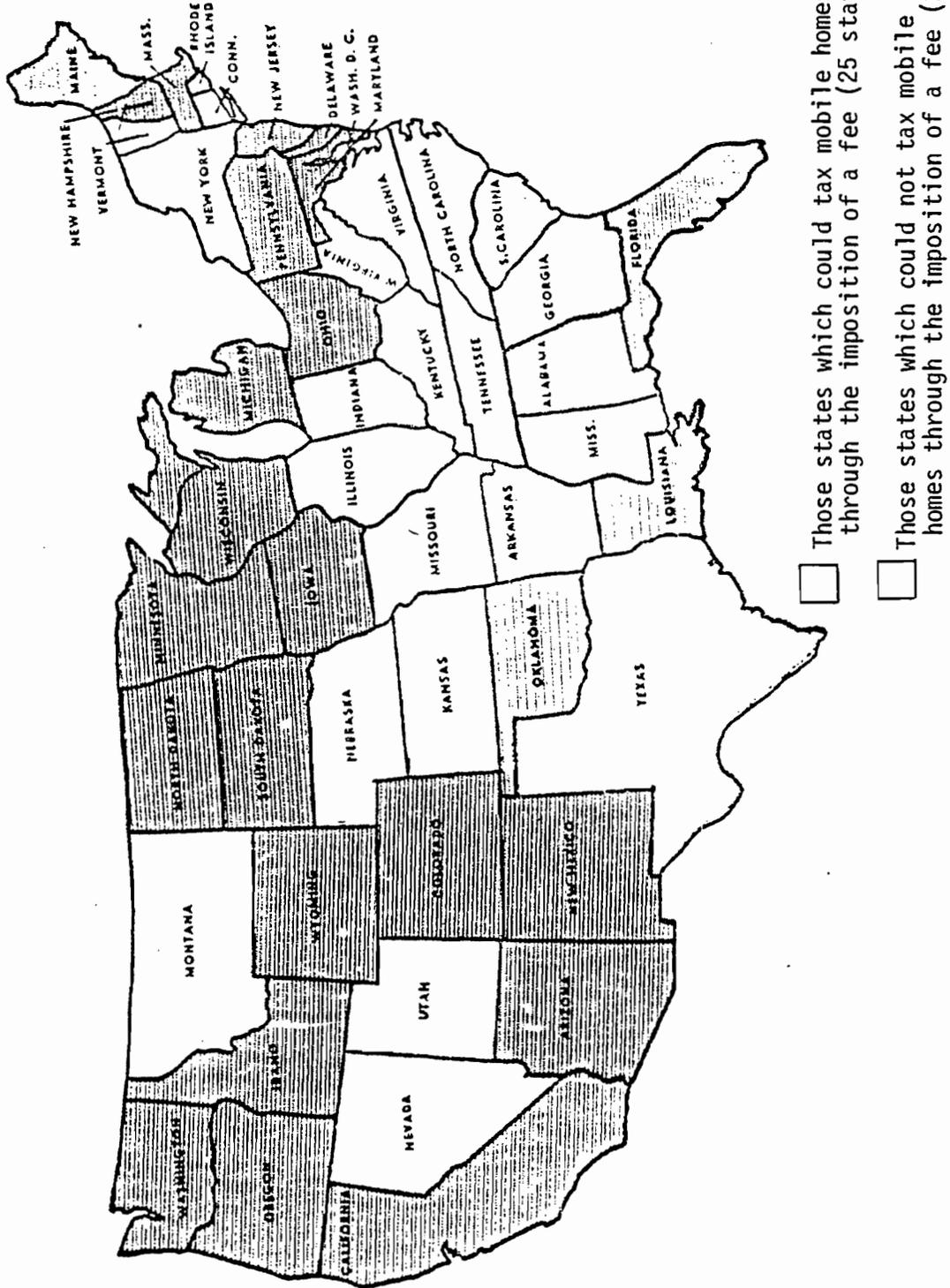
Source: see Footnote 10

FIGURE 2: STATES WHICH COULD TAX MOBILE HOMES AS PERSONAL PROPERTY: 1956



Source: PMHI National Surveys

FIGURE 3: STATES WHICH COULD TAX MOBILE HOMES AS PERSONAL PROPERTY: 1968



Source: see Footnote 10

FIGURE 5: STATES WHICH COULD IMPOSE FEES ON MOBILE HOMES: 1956

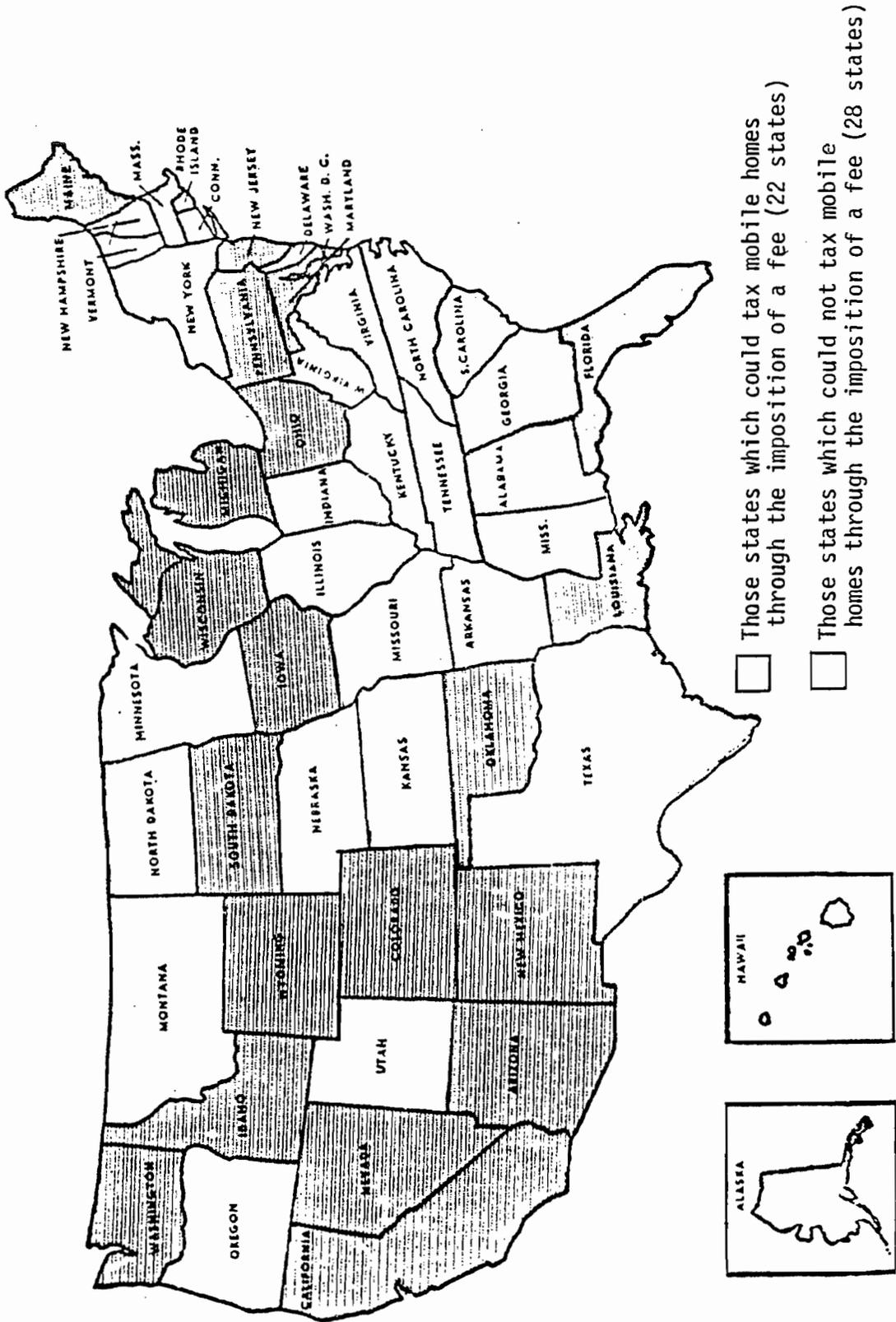
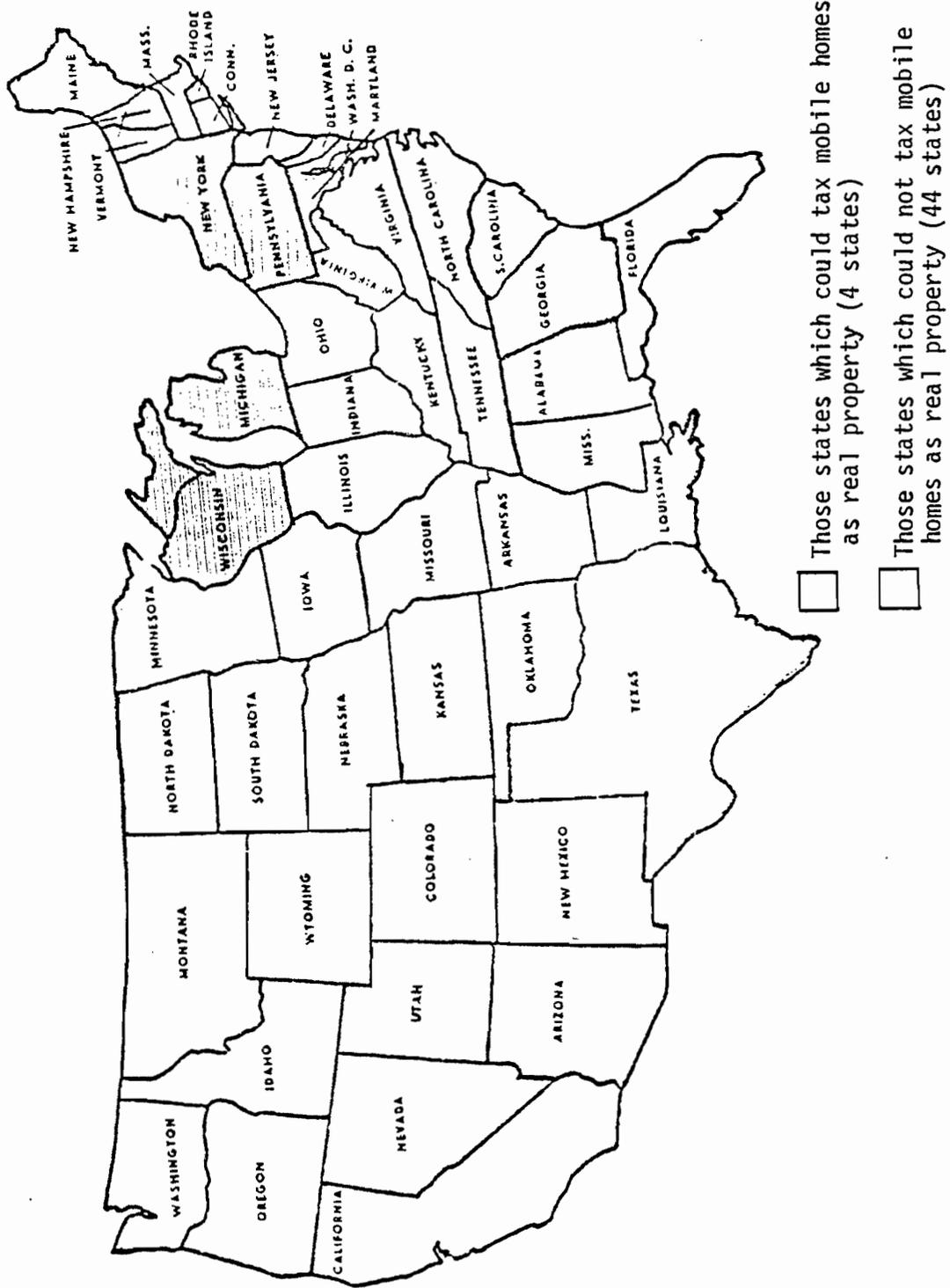
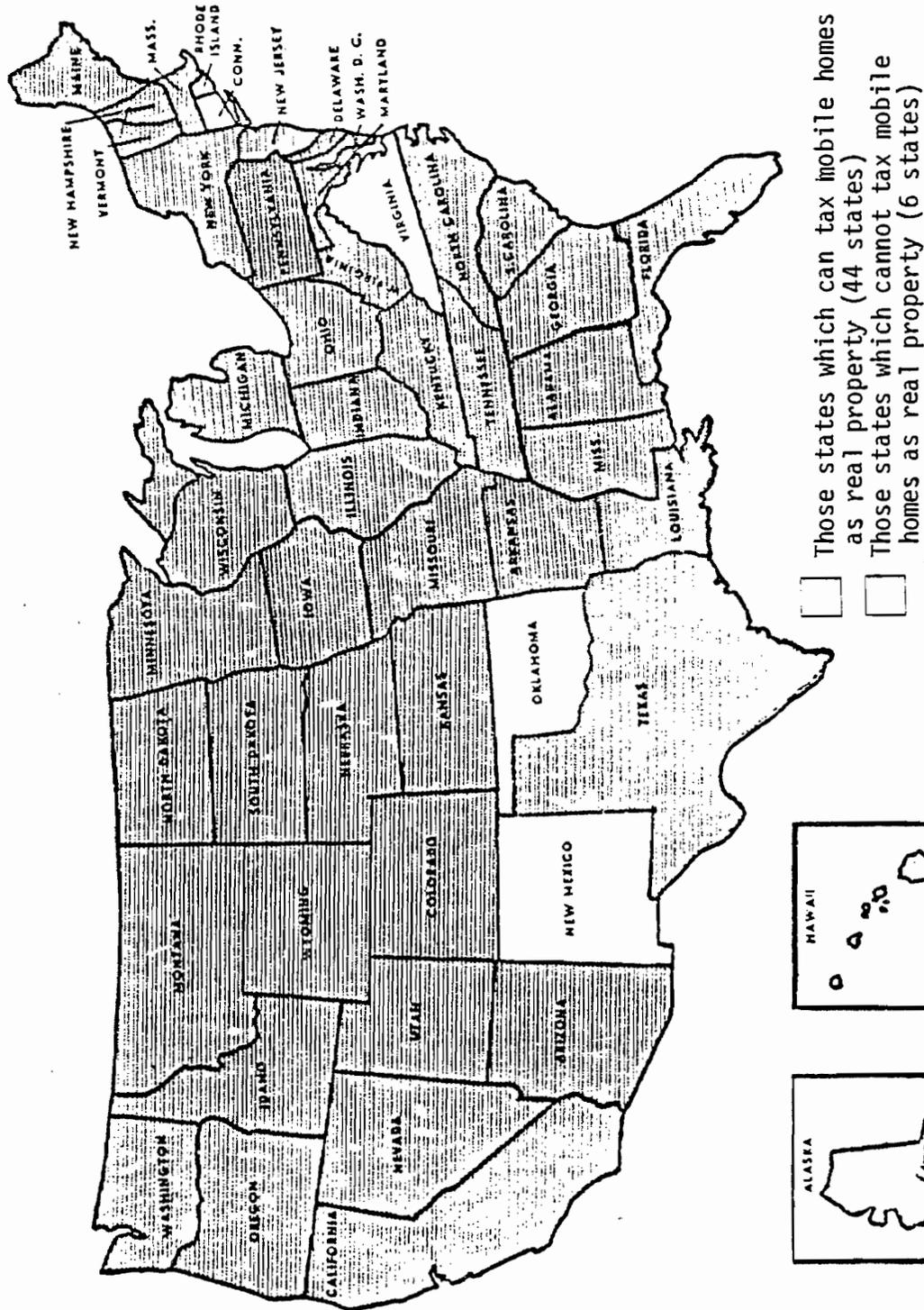


FIGURE 6: STATES WHICH COULD IMPOSE FEES ON MOBILE HOMES: 1968



Source: see Footnote 10

FIGURE 8: STATES WHICH COULD TAX MOBILE HOMES AS REAL PROPERTY: 1956



Source: PMII National Surveys

FIGURE 10: STATES WHICH CAN TAX MOBILE HOMES AS REAL PROPERTY: 1974

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
ALABAMA	"Mobile home" means a moveable or portable dwelling over 32 ft. in length and/or 8 ft. or more in width constructed to be towed on its own chassis, connected to utilities and designed without a permanent foundation for year-round living. It can consist of one or more units that can be telescoped when towed and expanded later for additional capacity, or of two or more units, separately towable but designed to be joined into an integral unit.	PROPERTY	If the unit is located on owner-occupied land, it is taxed as realty. In this case, the homestead exemption would apply. Otherwise it is taxed as personalty and a registration tag must be obtained. Those units classified as personalty pay higher taxes than those classified as realty.	5	10
ALASKA	NO STATUTORY DEFINITION	PROPERTY	Mobile homes used or intended to be used for residential, office, or commercial purposes and attached to the land or connected to water, gas, electric or sewerage facilities are classed as real property except where expressly classified as personal property by ordinance. If the mobile home is used as the actual abode of the family, the homestead exemption applies.	1	2
ARIZONA	A moveable or portable dwelling over 32 ft. in length or over 8 ft. wide, constructed to be towed on its own chassis and designed so as to be installed with or without a permanent foundation for human occupancy as a residence or as a temporary or permanent office which may include one	PROPERTY	Ad valorem tax is imposed on personally and realty. There are 5 statutory classes of property. The rate of valuation for tax purposes depends upon the statutory class. Generally, personal property used for residential purposes is placed in the same	9	65

Source: PMII National Surveys

FIGURE 11: STATE BY STATE TAXATION OF MOBILE HOMES

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
ARIZONA (cont.)	or more components that can be retracted for towing purposes and subsequently expanded for additional capacity, or two or more units separably towable but designed to be joined into one integral unit.... except that it does not include recreational vehicles...		class as improved real estate. If the mobile home is under the dimensional limits of the definition, it is classed as a travel trailer and an "in lieu" fee is imposed. The homestead exemption applies to mobile homes used as the personal residence of the owner.		
ARKANSAS	Every house trailer or other vehicle with or without wheels designed for use as living quarters, either permanent or temporary, and, at the time of manufacture, capable of being towed or otherwise transported or drawn upon a highway.	PROPERTY	Taxed as personal property unless it can be determined that the owner intends his mobile home to be a permanent dwelling, in which case it is taxed as realty. Factors relevant to the determination of this intent are 1) whether the mobile home is on a permanent foundation; 2) whether the wheels are removed; 3) whether permanent-type additional rooms have been installed; 4) whether public utilities have been attached.		N.A.
CALIFORNIA	"Mobile home is a vehicle designed and equipped for human habitation and for being drawn by a motor vehicle."	FEE SYSTEM	In addition to a registration fee, mobile home owners must pay an in lieu tax based on 2% of the market value. If the unit has been modified to meet building code requirements for conventional housing, it can be taxed as real property. Movement afloat to alter the law so as to tax mobile homes as real property.	40	52

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
COLORADO	Colorado differentiates between mobile homes less than 8 ft. wide, 32 ft. long, and those greater than these dimensions. The former is termed a "trailer coach" or "mobile home," the latter a "moveable structure."	PROPERTY	If wheels and axle are removed and unit is placed on a permanent foundation, it is classified as realty; otherwise the mobile home is considered personal property. If the dimensional requirements are not met, the mobile home owner must pay a specific ownership tax.	1	40
CONNECTICUT	"A detached residential unit designed 1) for long-term occupancy and containing sleeping accommodations, a flush toilet, and a tub or shower bath and kitchen facilities and having both plumbing and electrical connections for attachment to outside systems; 2) to be transported on its own wheels or on flatbed or other trailer or detachable wheels; and 3) to be placed on rigid supports at the site where it is to be occupied as a residence complete and ready for occupancy, except for minor and incidental unpacking and assembly operations and connection to utilities systems..."	MIXED	Classified and taxed as personally at local mill rates. Any municipality by ordinance can adopt a monthly fee in lieu of this property tax.	87	12
DELAWARE	"Mobile home means a moveable or portable unit, designed and constructed to be towed on its own chassis (comprised of frame and wheels), and designed to be connected to utilities for year-round occupancy. The term shall include: 1) units containing parts that may be folded, collapsed, or telescoped when being towed and that may be expanded to provide	PROPERTY	Ad valorem property tax which is calculated at the same rate as the real property tax of the county and school district in which the mobile home is located.	29	35

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
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DELAWARE (cont.)
 additional cubic capacity and 2) units composed of two or more separately towable components designed to be joined into one integral unit capable of being separated again into the components for repeated towing. The term shall include units designed to be used for residential, commercial, educational, or industrial purposes, excluding, however, recreational vehicles, defined in this Act: 'Recreational Vehicle' means a vehicular portable structure built on a chassis designed to be used as a temporary dwelling for travel, recreational and vacation uses, permanently identified "travel trailer" by the manufacturer of the trailer and when factory equipped for the road, having a body width not exceeding 8 ft. and a body length not exceeding 32 ft."

FLORIDA
 "Mobile home" includes: any type of trailer or vehicle body (regardless of any appurtenances, additions, or other modification thereto) without independent motive power, manufactured upon an integral chassis or undercarriage and designed either for travel over the highways or for housing accommodations or both."

FEE
 A license fee is imposed unless the mobile home is classified as realty. The license fee is determined by the length of the unit and varies from \$20 to \$80. A mobile home is classified as realty if it is permanently attached to owner-occupied land.

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
GEORGIA	"Mobile home" means a moveable or portable dwelling over 32 ft. in length and over 8 ft. wide, constructed to be towed on its own chassis, connected to utilities and designed without a permanent foundation for year-round occupancy, which can consist of one or more components that can be retracted for towing purposes and subsequently expanded for additional capacity, or of two or more units separately towable but designed to be joined into one integral unit."	PROPERTY	If the unit is on owner-occupied land and is used as a residence, it is taxed as realty and is eligible for a homestead exemption. If the unit is on leased land, it is subject to an ad valorem personalty tax with no homestead exemption allowed.	1	30
HAWAII	NO STATUTORY DEFINITION	FEE	If the unit is permanently attached to utilities, it is taxed as real property; otherwise it must pay a nominal registration fee plus a certain amount per pound which varies from county to county.	25	25
IDAHO	"The director [of the Idaho Department of Labor and Industrial Services] shall by rule: define the term 'mobile homes' and 'recreational vehicles' to be consistent with national standards and the use of such terms in industry."	PROPERTY	Mobile homes are classified as personalty and subject to an ad valorem tax. Present means of assessing is based on the retail price; the county assessors, however, favor assessing mobile homes in a manner similar to that used in assessing improved realty. If the mobile home is on permanent foundations, it is generally taxed as realty.	Not available	

Source: PMHI National Surveys

FIGURE 10: cont'd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

Percentage of municipalities which restrict entirely 3

Percentage of municipalities which restrict MH to MH parks 38

DESCRIPTION OF THE TAXATION METHOD EMPLOYED

TYPE OF TAXATION METHOD EMPLOYED

STATUTORY DEFINITION OF MOBILE HOME

ILLINOIS

"(M)obile home" means a structure designed for permanent habitation and so constructed as to permit its transport on wheels, temporarily or permanently attached to its frame, from the place of its construction to the location or subsequent locations at which it is intended to be a permanent home and designed to permit the occupancy thereof as a dwelling place for one or more persons, provided that any such structure resting in whole on a permanent foundation shall not be construed as a "mobile home."

FEE

If the unit is on permanent foundations, it is taxed as real property at local mill rates; if not, the owner must pay a special privilege tax in lieu of the ad valorem tax. This fee is based on 15¢ per square foot.

INDIANA

A "mobile home" means a transportable, factory-assembled dwelling intended for a year-round occupancy, exceeding thirty-five feet in overall length and designed for transportation on its own chassis or placement on a temporary foundation.

PROPERTY

Generally, taxed as personalty; a county assessor may classify as realty if he finds that the owner intends to make the unit his permanent home. In such cases the unit becomes eligible for the homestead exemption. Otherwise it is taxed at the rate uniformly imposed whether realty or personalty is involved.

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
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IOWA	Mobile home means any vehicle without motive power used or so manufactured as to permit its being used as a conveyance upon the public streets and highways and so designed, constructed, or reconstructed as will permit the vehicle to be used as a place for human habitation by one or more persons; but shall also include any such vehicle with motive power not registered as a motor vehicle in Iowa.	FEE	An annual license fee is levied on mobile homes in lieu of a property tax. The amount of this tax is dependent upon the square footage of the unit and declines with age. A mobile home can be taxed as realty if: 1) it is unencumbered; 2) it is on owner-occupied land; 3) on a permanent foundation; and 4) impossible to reconvert to mobility.	2	80
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KANSAS	"Mobile home" means a factory built structure or structures more than eight (8) feet in width or more than thirty-six (36) feet in length, equipped with the necessary service connections and made so as to be readily moveable as a unit or units on its or their own running gear and designed to be used as a dwelling unit or units without a permanent foundation. The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon may be moved from time to time at the convenience of the owner.	PROPERTY	Mobile homes are normally considered to be personalty and taxed as such. It may be classified as real property if certain criteria are met. These criteria include owner's intention, physical signs of permanence, and the presence of amenities such as awnings and patios. A nominal registration fee is required of owners whose mobile homes are classified as personal property.	5	N.A.
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Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
KENTUCKY	"Mobile home" means a moveable or portable unit constructed to be moved from place to place on the public streets or highways and designed to permit the permanent or temporary occupancy therein for the purpose of use as a place of residence, business, profession, or trade by the owner, lessee or their assigns and which can be connected to electric, water, gas, sewage, and telephone facilities. It may consist of one or more units that can be attached or joined together to comprise an integral unit and condominium structure."	PROPERTY	Generally classified and taxed as personal property. If the wheels are removed and the unit is on permanent foundations, the mobile home is taxed as real estate. In Kentucky, it makes a real difference how mobile homes are classified: personalty is taxed upon 15% of the fair cash value whereas realty is taxed upon 1.5% of the fair cash value. Furthermore, realty is eligible for the homestead exemption.	10	30
LOUISIANA	"Mobile home" means a moveable or portable dwelling constructed to be towed by a motor vehicle on its own chassis, over Louisiana roads and highways under special permit, connected to utilities, and designed without a permanent foundation for year-round living. It may consist of one or more units which can be telescoped when towed and expanded later for additional capacity, or of two or more units, separately towable but designed to be joined into one integral unit."	MIXED	A \$35 per year registration fee is charged to mobile home owners. Parishes are allowed to tax mobile homes as realty; they further can allow a homestead exemption to be taken.	Not available	

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD USED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
MARYLAND	<p>Mobile home means an industrialized house which is equipped with the necessary service connections and made so as to be readily moveable as a unit on its own running gear and designed to be used as a dwelling unit without permanent foundations but capable of being permanently plumbed. The term includes:</p> <p>A. Units containing parts that may be folded, collapsed, or telescoped when being towed and that may be expanded to provide additional cubic capacity; and</p> <p>B. Units composed of two or more separably movable components designed to be joined into one integral unit capable of being separated again into the components for repeated towing.</p>	FEE	A state excise tax is levied on all mobile homes. This tax declines according to the age of the unit. If the mobile home is affixed to the ground, a real estate tax is imposed. If this tax is levied, the state excise tax acts as a tax credit.	18	4
MARYLAND	<p>"Mobile home" means an industrialized building unit designed for continuous year-round occupancy as a dwelling which is constructed on a single chassis for towing to the point of use and which is originally designed to be used without a permanent foundation and to be readily removeable from its original site. "Mobile home" does not include any industrialized building unit of which the floor</p>	FEE	If the unit is on leased land, it is subject to a locally imposed excise tax; if the unit is used and is either permanently attached to the land or connected to water, gas, electric, or sewage facilities, it is taxed as real property.	20	80

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
MARYLAND (cont.)	space is designed to be expanded on site by more than one-third its unexpanded floor area.				
MASSACHUSETTS	"Mobile home" shall mean a dwelling unit built on a chassis and containing complete electrical, plumbing and sanitary facilities, and designed to be installed on a temporary or a permanent foundation for permanent living quarters."	FEE	The state imposes a \$6 a month fee on all mobile homes located on leased land; localities are permitted to levy up to \$6 per month additional on such units. If the unit is placed on privately owned land, it is taxed as realty.	65	28
MICHIGAN	"Mobile home" means a vehicular, portable structure built on a chassis and designed to be used without a permanent foundation as a dwelling when connected to required utilities and which is, or is intended to be attached, to the ground, to another structure, or to a utility system on the same premises for more than 30 consecutive days."	FEE	If the mobile home is located in a park, a \$3 per month fee is charged; if not, real property taxation is imposed. Legislation has been proposed to tax mobile homes on leased land as personal property.		Not available
MINNESOTA	"Mobile home" means any trailer or semi-trailer which is designed, constructed, and equipped for use as a human dwelling place, living abode, or living quarters except house trailers. "House trailer" means any trailer	PROPERTY	If on permanent foundations on owner-occupied land and permanently attached to utilities, the mobile home is classified as real property, there-by making it eligible for the homestead exemption. In practice the assessor	15	85

Source: PMII National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
MINNESOTA (cont.)	or semi-trailer which is not more than eight feet in width and not more than 35 feet in length and which is designed, constructed, and equipped for use as a human dwelling place, living abode, or living quarters."		determines what is real property and the issue turns upon whether the unit has lost its mobility. If not, the mobile home is taxed as personalty.		
MISSISSIPPI	"mobile home" -- any house trailer or trailer-type vehicle designed and constructed so as to be suitable for use for domestic, commercial, or industrial purposes when such trailer is detached from a motor vehicle and parked on real estate as opposed to being towed by a self-propelled vehicle on the highways of this state."	PROPERTY	If the mobile home is on owner-occupied land with the wheels removed, it can be taxed as real property at the option of the owner. Otherwise an ad valorem personalty tax is imposed.	5	13
MISSOURI	"mobile home" means a factory built structure or structures more than eight feet in width, equipped with the necessary service connections and made so as to be readily moveable as a unit or units on its or their own running gear and designed to be used as a dwelling unit or units without a permanent foundation. The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon may be moved from time to time at the convenience of the owner.	PROPERTY	If on owner-occupied land and on permanent foundations, the mobile home is taxed as realty. Otherwise it is taxed as personalty. A bill in under consideration which would subject all mobile homes having no hitch wheels or axles and situated on permanent foundations to a real property tax.	1	10

Source: PMHI. National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
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MONTANA	"Mobile home" means forms of housing known as "trailers," "house trailers," or "trailer coaches" exceeding eight (8) feet in width or thirty-two (32) feet in length designed to be moved from one place to another by an independent power connected thereto.	PROPERTY	Ad valorem personalty tax which decreases automatically with age is imposed. The county auditor has the power to tax the house trailer as realty if he determines that it has lost its character as a house trailer. This determination is based on the permanency of the foundation upon which the unit rests and upon whether the unit is still fit for use as a conveyance.	5	5
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NEBRASKA	"Mobile home" shall mean every transportable or relocatable device of any description designed for living quarters which is more than twelve feet wide or which is two or more stories in height when in place for use as living quarters but shall not include a mobile home which is permanently attached to the real estate which it is situated."	PROPERTY	If the mobile home is on permanent foundations, it is taxed as realty; otherwise it is treated as personalty. Legislation has been proposed making all mobile home owners pay realty taxes. In light of the opinion of the Attorney General that such classification would be in derogation of the state constitution, the bill is given little chance of success. Mobile home owners also have to pay a \$20 registration fee each year.	1	15
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NEVADA	Mobile home means a vehicular structure built on a chassis or frame which is designed to be used with or without a permanent foundation and is capable of being drawn by a motor vehicle. It may be used as a dwelling when connected with utilities or may be used permanently or temporarily for the advertising, sales, display or promotion of merchandise or services.	PROPERTY	If the mobile home is on owner-occupied land it is taxed as realty; otherwise it is taxed as personal property.		Not available
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Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
NEW HAMPSHIRE	<p>"Mobile home" or "Trailer" means a prefabricated dwelling unit which:</p> <ol style="list-style-type: none"> 1. Is designed for long term and continuous residential occupancy as a whole or in sections 2. Is designed to be moved on wheels, 3. On arrival on the site, is complete and ready for occupancy, except for incidental unpacking, assembly, connection with utilities, and placing on support or permanent structure." 	PROPERTY	If the mobile home is permanently affixed to owner-occupied land, it is taxed as realty; otherwise an ad valorem personalty tax is imposed. The mill rate varies with locality.	2	3
NEW JERSEY	<p>"Mobile home" means a home, excluding travel trailers, which is a moveable or portable unit, designed and constructed to be towed on its own chassis (comprised of frame and wheels), and designed to be connected to utilities for year-round occupancy. The term shall include: (1) units containing parts that may be folded, collapsed or telescoped when being towed and that may be expanded to provide additional cubic capacity; and (2) units composed of two or more separately towable components designed to be joined into one integral unit capable of being again separated into the components for repeated towing."</p>	FEE	If the mobile home has been located on owner-occupied land for longer than one year, it can be treated as real property. Otherwise a locally imposed monthly fee is charged to the mobile home park operator who is then permitted to pass the fee on to the individual owners.	95	4

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
NEW MEXICO	"(H)obile home" means a house trailer, other than one held as inventory for sale or resale, that exceeds either a width of eight (8) feet or a length of forty (40) feet when equipped for the road.	PROPERTY	The mobile home is classified as tangible personal property and is assessed according to its value minus a depreciation allowance.	4	10
NEW YORK	"Mobile home" means a moveable or portable unit designed and constructed to be towed on its own chassis, comprised of frame and wheels, connected to utilities, and designed and constructed without a permanent foundation for year-round living. A unit may contain parts that may be folded, collapsed, or telescoped when being towed and expanded later to provide additional cubic capacity as well as two or more separately towable components designed to be joined into one integral unit capable of being again separated into the components for repeated towing. "Mobile home" shall mean units designed to be used exclusively for residential purposes, excluding travel trailers."	PROPERTY	Unless the unit is within the boundaries of the assessing unit less than 60 days or is for sale and unoccupied, it is taxed as real property.	50	11
NORTH CAROLINA	"Mobile home" means a portable manufactured housing unit designed for transportation on its own chassis and placement on a temporary or semi-permanent foundation (S-) (S-) having a measurement of over thirty-two (32)	PROPERTY	The local taxing unit determines whether the mobile home is realty or personalty. Most counties treat the mobile home as tangible personal property. The homestead exemption for low income elderly persons was	25	75

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
NORTH CAROLINA (cont.)	feet in length and over eight (8) feet in width). As used in this Article, mobile home also means a double wide mobile home which is two or more portable manufactured housing units designed for transportation on their own chassis, which connect on site for placement on a temporary or semi-permanent foundation (S-) (S- having a measurement of over thirty-two (32) feet in length and over eight (8) feet in width).		extended in 1973 to apply to those living in mobile homes. Mobile homes classified as personalty are assessed differently from those classified as realty and this difference is reflected in a generally lower actual tax. Legislation has been proposed which would classify all mobile homes on foundations without their wheels as real property.		
NORTH DAKOTA	"(i)mobile home" shall mean any non-self-propelled vehicular structure built on a chassis, ordinarily designed for human living quarters, either on a temporary or permanent basis, and used as the residence or place of business of the owner or occupant.	FEE	A "Mobile Home Decal Tax" is levied on mobile home owners. This tax is determined by taking into account the unit's age, square footage, and the local mill rate where it is located. If permanently attached to owner-occupied land and assessed as real property, it is exempt from this tax.	1	50
OHIO	"house trailer" means any self-propelled and non-self-propelled vehicle so designed, constructed, reconstructed, or added to by means of accessories in such manner as will permit the use and occupancy thereof for human habitation when connected to indicated utilities whether resting	PROPERTY	If the mobile home is on owner-occupied land, the county assessor may tax it as real property. Otherwise a personalty tax, calculated according to the value of the unit, is imposed.	50	40

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
OHIO (cont.)	on wheels, jacks, or other temporary foundation and used or so constructed as to permit its being used as a conveyance upon the public streets or highways.				
OKLAHOMA	The term "house trailer" means and includes every vehicle of the trailer or semi-trailer type used solely as living quarters provided that trailers or semi-trailers used for the transportation of goods or property other than the personal belongings of the operator of such vehicle shall not be included in this definition.	FEE	The mobile home is subject to motor vehicle licensing fees in lieu of ad valorem taxation. If the unit is permanently attached to owner-occupied land, it is classified as personal property and subject to ad valorem taxation. In this latter case, it is exempt from the motor vehicle licensing fee and is eligible for the homestead exemption.	1	50
OREGON	"Mobile home" (excluding modular home, prefabricated home and tent trailer) means a trailer or structure that: a) Is designed to be transported or used upon the highways; b) Is capable of being used for human habitation or for business, commercial, or office purposes; and c) Is not a travel trailer	PROPERTY	If the mobile home is located on owner-occupied land it is taxed as real property; otherwise it is classified and taxed as personalty. If the unit is less than 8 feet wide and 40 feet long, it is classified as a motor vehicle and regulated and taxed as such.		Not available

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
PENNSYLVANIA	"Mobile home" means a transportable, single family dwelling intended for permanent occupancy, office or place of assembly contained in one unit, or in two units designed to be joined into one integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations, and constructed so that it may be used without a permanent foundation."	PROPERTY	Mobile homes permanently attached to the land or connected to utilities are considered real estate and taxed as such.	Not available	
RHODE ISLAND	"Trailer" means any portable structure, mobile home, so-called, or vehicle designed to be drawn by vehicles or self-propelled and occupied as a dwelling or used for sleeping purposes, but does not include camping trailers, so-called, while stored in said town."	PROPERTY	Mobile homes are uniformly classified as personal property and subject to county imposed taxation.	51	13
SOUTH CAROLINA	"Mobile home" means a manufactured single family dwelling or an integral part over thirty-five feet in length, or over eight feet in width, so constructed that it may be transported from one site to another, temporarily or permanently affixed to real estate, made up of one or more components, and constructed with the same or similar electrical, plumbing, heating and sanitary facilities as on-site constructed housing."	PROPERTY	As indicated in the statutory definition, South Carolina differentiates between mobile homes of different dimensions. The smaller ones are required to be licensed under motor vehicle laws; the larger are subject to ad valorem property taxation. If the latter is permanently affixed to the ground or foundations it is classified as realty; otherwise it is classified as personalty.	1	60

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
SOUTH DAKOTA	"Mobile home": a moveable or portable unit, designed and constructed to be towed on its own chassis comprised of frame and wheels, and designed to be connected to utilities for year-round occupancy. The term shall include: (a) units containing parts that may be folded, collapsed, or telescoped when being towed and that may be expanded to provide additional cubic capacity; and (b) units capable of being separated again into the components for repeated towing. The term shall include units designed to be used for residential, commercial, educational or industrial purposes, excluding however, recreational vehicles, as defined in this Chapter."	PROPERTY	When the unit is on permanent foundations on owner-occupied land, it is classified and taxed as real property; otherwise mobile homes are taxed as personality.	1	33
TENNESSEE	"Mobile home" means a factory-assembled structure or structures equipped with the necessary service connections and made so as to be readily moveable as a unit or units on its (their) own running gear and designed to be used as a dwelling unit(s) without a permanent foundation, which can consist of one or more components that can be retracted for towing purposes and subsequently expanded for additional capacity, or of two or more units separately towable but designed to be joined into one integral unit.	PROPERTY	If the mobile home is used as a permanent residence it is taxed as real property; if not, its owner must pay a fee based on the length and width of the unit.	1	35

Source: PHHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
TEXAS	"Mobile home" means a moveable or portable dwelling constructed to be towed by a motor vehicle on its own chassis, over Texas roads and highways under special permit, connected to utilities, and designed without a permanent foundation for year-round living. It may consist of one or more units that can be telescoped when towed and expanded later for additional capacity or of two or more units, separately towable but designed to be joined into one integral unit."	MIXED	If the mobile home is located on owner-occupied land, it is classified as realty. Otherwise it is generally considered personalty. Some cities have opted to employ a permit system, in lieu of property taxation, for mobile homes located in mobile home parks.	1	10
UTAH	The words "mobile home" mean a vehicular, portable structure built on a chassis and designed to be used without a permanent foundation as a dwelling when connected to indicated utilities.	PROPERTY	When the unit is attached to owner-occupied land, it is classified as real property. Otherwise it is taxed as personalty.	1	63
VERMONT	(1) A prefabricated dwelling unit which: a. is designed for long term and continuous residential occupancy b. is designed to be moved on wheels, as a whole and not in sections c. on arrival at the site, is complete and ready for occupancy except for incidental unpacking and set up, assembly, connections with utilities,	PROPERTY	If the mobile home is on owner-occupied land and attached to the utilities, it is taxed as real property. Otherwise it is considered as personalty and taxed as such.	2	12

Source: PMHI National Surveys

FIGURE 11: contd.

THE TAXATION OF MOBILE HOMES STATE BY STATE		COMPARISON TO LAND USE CONTROLS EMPLOYED IN THE STATE		
STATE	STATUTORY DEFINITION OF MOBILE HOME	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
VERMONT (cont.)	and placing upon support or a permanent foundation, or installation as a unit in a previously prepared structure; or (2) an unmotorized vehicle designed to be towed and designed or equipped for use as sleeping, eating or living quarters.			
VIRGINIA	"Mobile home" means an industrialized building unit constructed on a chassis for towing to the point of use and designed to be used without a permanent foundation for continuous year-round occupancy as a dwelling; or two or more such units separately towable, but designed to be joined together at the point of use to form a single dwelling and which is designed for removal to and installation or erection on other sites."	MIXED Mobile home owners must pay a nominal registration fee; in addition to this they pay either a property tax (mobile homes being considered a special category of personal property) or a license fee in lieu of the property tax. Some localities impose this license fee in addition to the property tax.	11	55
WASHINGTON	"Mobile Home" means all trailers of the type designed as facilities for human habitation and which are capable of being moved upon the public streets and highways and which are more than 35 feet in length or more than 8 feet in width....	PROPERTY An ad valorem property tax is imposed unless the unit is under 35 feet in length or 8 feet in width in which case an excise tax is levied. If the wheels are removed and the unit is placed on permanent foundations on owner-occupied land, the mobile home in the former class is classified and taxed as realty. Otherwise it is taxed as personalty.	10	75

Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
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WEST VIRGINIA	"Mobile home" means a moveable or portable unit, designed and constructed to be towed on its own chassis (comprised of frame and wheels), and designed to be connected to utilities for year-round occupancy. The term includes: 1) Units containing parts that may be folded, collapsed or telescoped when being towed and that may be expanded to provide additional cubic capacity, and 2) units composed of two or more separately towable components designed to be joined into one integral unit capable of being separated again into the components for repeated towing. The term includes units designed to be used for residential, commercial, educational, or industrial purposes, excluding, however, recreational vehicles, as defined in this article."	PROPERTY	If the mobile home is located on owner-occupied land, it is treated as Class II real property; if it is located on leased land, it is generally classified as Class II personal property. In the latter case, the mobile home may be placed in a higher class and thus be subjected to higher taxes.	40	60
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WISCONSIN	"Mobile home" means a vehicle designed to be towed as a single unit or in sections upon a highway by motor vehicle and equipped and used or intended to be used, primarily for human habitation, with walls of rigid uncollapsible construction, which has an overall length in excess of 45 feet.	MIXED	If the value of annexes, foundations and other additions exceeds 50% of the total assessed value of the mobile home, the unit is classified and taxed as real property. Otherwise it is subject to an in lieu fee which is imposed in the following manner: if the home is in a city or village it is exempt from	Not available	
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Source: PMHI National Surveys

FIGURE 11: contd.

COMPARISON TO LAND USE CONTROLS
EMPLOYED IN THE STATE

THE TAXATION OF MOBILE HOMES STATE BY STATE

STATE	STATUTORY DEFINITION OF MOBILE HOME	TYPE OF TAXATION METHOD EMPLOYED	DESCRIPTION OF THE TAXATION METHOD EMPLOYED	Percentage of municipalities which ban MH entirely	Percentage of municipalities which restrict MH to MH parks
WISCONSIN (cont.)			property taxation but may be subject to an ordinance-imposed monthly fee; if the mobile home is in a town, it must pay state property taxes unless the town has passed an ordinance imposing the monthly fee system.		
WYOMING	NO STATUTORY DEFINITION	PROPERTY	If the unit is over 8 feet wide, it is subject to property taxation. If not, the owner must pay an in lieu registration fee. Mobile homes in the former category which are placed on permanent foundations on owner-occupied land are taxed as real property; otherwise they are placed on the personal property tax rolls.	1	10

Source: PMHI National Surveys

FIGURE 11: contd.

2.4 ADVANTAGES/DISADVANTAGES OF EACH TYPE OF TAXATION

When the mobile home was first introduced in the 1930's, it was considered little more than a motor vehicle equipped for sleeping. Hence, states almost uniformly taxed it as a motor vehicle. As the mobile home became progressively more homelike and less mobile, the tax treatment became more complex and widely diversified. Now, no states simply tax the mobile home under any circumstances as a motor vehicle. Now most states use complex, individualized methods of taxation, tailored to their particular needs. The system that is employed is dependent on many factors, including the state constitution, judicial history, and the strength of the industry lobby. Thus, it would be misleading to categorically declare that one taxation method is better than others. What may work well in one state may not work well at all in another. Nevertheless, the particular advantages and disadvantages inherent in each taxation method can be isolated and discussed.

Motor Vehicle Taxation

When mobile homes were merely travel trailers, there was no practical or theoretical reason against taxing them as motor vehicles. This

method is by far the least expensive to administer: the state simply treats the mobile home, whether it be on the highway or attached to the ground, as if it were a motor vehicle. Since no additional administrative machinery is necessary, the state motor vehicle department licenses the vehicle and collects the fees. Theoretically, this system is better at keeping track of mobile homes: a license is required when the owner moves the mobile home from the dealer's place of business and must remain on the vehicle when it is permanently located.

Despite the simplicity of this system, it has such serious drawbacks that no state presently uses it as the sole means of taxing mobile homes. In theory, the state can impose motor vehicle licensing fees as a function of its police powers. Because of this connection to the police powers, the amount of such fees must be related to the cost of regulating mobile homes. When the fee is in excess of this cost, it runs the risk of being struck down as a revenue measure. Since such regulatory costs do not include the expense of many municipal services (such as hospitals and schools), the license fee cannot reflect the burden which conventional home owners bear. As will be discussed later, the feeling that the mobile home owner is not bearing his fair share of the taxation burden engenders much hostility. Such hostility often leads to exclusionary or lesser forms of discriminatory zoning which may outweigh the initial monetary advantages of lower taxes.

In this regard, the hostility of the rest of the community was magnified by the fact that originally, the mobile home owner paid nothing for municipal services: license fees went directly into the coffers of the state government. This drawback has largely been rectified by redistribution of a large percentage of such fees by the state to municipalities where the mobile home is located.

Even if the regulation /revenue hurdle is overcome, it is not possible for the motor vehicle fee to accurately reflect the taxes that conventional property owners pay; whereas mill rates are determined locally, motor vehicle fees are uniform state-wide.

Furthermore, since the amount of the license fee is dependent upon some sort of blue book value, individual characteristics, which might depress or increase the actual resale value of the mobile home are not considered. A mobile home located in a poorly designed, badly kept up park which is in a deteriorating neighborhood will be worth much less than the same unit found elsewhere. Similarly, if the park is becoming more attractive and the neighborhood improving, the value of the home may actually appreciate. In both cases the blue book value will differ from the true resale value. License fees also fail to reflect improvements such as skirting, porches, and other additions which the owner may have installed. In many states the depreciation allowance for mobile homes presupposes the same useful life as automobiles. This is unrealistic for the reason that the mobility and function of automobiles results in physical deterioration unparalleled by the largely

stationary mobile home. Financial institutions have generally recognized the disparity by allowing seven to 12 year maturity periods for loans to mobile home owners, but limiting automobile loans to 36 months.

The realty tax assessment of conventional homes does not include the value of furnishings. This would appear to give conventional home owners an advantage over the mobile home occupant since the assessment of the mobile home is generally based on the factory price of the unit fully equipped. Because of the much higher cost of the conventional home, this advantage is illusory: conventional home owners pay higher taxes for a standard of living often equalled by the mobile home.

Finally, the rate structure involved in motor vehicle taxation remains fixed for various periods of years; it cannot easily be altered to reflect changing conditions within the state, let alone within particular counties. Conventional homes, on the other hand, are subjected to local mill rates which can be and often are changed yearly.

To retain the motor vehicle classification of mobile homes, certain states have begun to define "mobile home" so as to differentiate clearly between it and "manufactured" housing. This trend is especially unfortunate since it tends to restrict the development of the mobile home industry and slow down the realization of its potentials for evolving products designed for high-density situations.

Thus, in spite of the low cost of implementation and the ease of administration, motor vehicle taxation remains too inflexible to act as the sole means for taxing mobile homes equitably.

Privilege or Excise Tax

In its simplest form, a privilege or excise tax is imposed on mobile homes for the privilege of being allowed to place the unit within the municipality. This fee is in lieu of all other taxes and is calculated in various ways. Illinois, for example, charges mobile home owners a certain amount per square foot of floor space; other states, such as Massachusetts and Wisconsin, impose a flat monthly fee, regardless of the value or size of the mobile home.

There are certain advantages in this type of taxation. Like motor vehicle licensing fees, it is relatively easy and inexpensive to administer; unlike state licensing fees, the in lieu privilege tax is paid directly to the local assessing unit, which is therefore less likely to view the mobile home as a parasite. Fees are often graduated according to the number of spaces in a mobile home park and collected directly from the park operator. This avoids the necessity for local authorities to find the mobile home and tax it. Furthermore, where the fee is graduated according to the number of park spaces, a predictable, collectible minimum contribution from each mobile home owner is insured.

In a number of states, the mobile home is classified as personal property. In some of these states, there is no taxation levied on personal property. In these cases, the in lieu fee is the only mechanism to insure some contribution from each mobile home owner. Because the privilege tax is a tax and not a fee, it does not face¹⁸ the monetary limitations placed on regulatory devices.

Unfortunately the privilege fee system is beset with a number of disadvantages. Uniform fees poorly reflect differences in mobile home values, particularly where the owner has added improvements. Thus, a mobile home in a "one-star" Woodall-rated park pays the same privilege tax as a mobile home owner whose unit is located in a higher quality park. When imposed state-wide, flat fees do not reflect local revenue requirements. As one commentator noted, privilege taxes are often determined on a pro rata, benefits received theory. Why tax mobile home owners on a benefit received basis when conventional home owners are taxed on a straight ad valorem basis? If a special tax is justified on the theory that the mobile home is mobile, should not the owners be¹⁹ exempt from collections for permanent community improvements?

To base mobile home taxation upon a "benefits received" theory introduces the difficult question of valuation of park-provided services which lighten the financial load of the local municipality. The crux of the difficulty here is the difficulty in rationalizing different tax treatment of residents according to whether their home is mobile or not. As the incidence of permanent attachment increases and the standard of living provided by mobile homes approaches the conventional home counterpart, it seems likely that these differences in tax treatment will be challenged as violative of equal protection under the laws.

Personal Property Taxation

In general, "personal" property is that property which is not "real". The term embraces all objects and rights which are capable of ownership except freehold estates in land.²⁰ By definition, mobile homes are personal property, unless otherwise deemed by statutory law. Thus, no theoretical objection can be made against taxing mobile homes as personalty. Since the rate of taxation depends upon the county, taxation as personalty is a much more flexible means of fulfilling county needs. Because the market value of mobile homes is available through various publications (such as the Judy-Berner Blue Book or Unicomp) assessment is not as difficult for mobile homes as it is for real estate. Finally, state property taxes (this includes both real and personal property taxation) can be deducted from gross income in determining the federal taxable income (Internal Revenue Code, sec. 164); this is not true for motor vehicle fees and in lieu fees.

There are, however, serious disadvantages to taxing mobile homes as personalty. The first is that almost no successful methods have been devised for accurately assessing mobile homes. As was pointed out in a letter to the chairman of the Indiana State Board of Tax Commissioners, four of the most commonly used assessment methods are seriously flawed.²¹ For instance, the Judy-Berner Blue Book and the Unicomp publications do not include values for all models, types, and years of mobile homes.

In Unicomp there are several inaccuracies in valuation. The industry depreciation schedule against sale price is accurate but the assessors have difficulty in documenting the original sales price of older homes. The American Appraisal Company formula is unacceptable, the letter goes on to state, because it calls for the assessors to distinguish between standard, deluxe, and custom-made models, a task for which they are untrained. The need for assessor categorization subjects the assessor to pressures to assess all mobile homes at rates applicable to standard models. Finally, when the mobile home is moved to a new assessing jurisdiction, consistency in categorization is difficult to achieve.²²

A separate, though related, problem is encountered when depreciation of the mobile home is calculated according to a state-wide formula. It has been said that depreciation has three causes: functional obsolescence or changes in value caused by change in consumer tastes and preferences; physical deterioration; and economic obsolescence -- the changes in value due to changes in the neighborhood. Depreciation due to the first cause is fairly accurately reflected in blue book values. How much depreciation has been caused by the second two factors can be found only on a case by case determination. It may be true, for instance, that because of improvements made by the owner and because of the upgrading of the neighborhood, the mobile home has actually appreciated in value. All of this points to the need for mobile home assessment on an individualized method similar to real estate assessment procedures.²³

Classification of mobile homes as personalty rather than realty has a number of consequences, most of them negative for the mobile home owner. Since mobile homes are not real property, the owner is unable to get mortgage financing. He is, however, eligible for consumer installment loans. Since the latter provide a greater rate of return for the lender, in times of tight money financing of mobile homes has been available where mortgages on conventional homes were not. When borrowing money on such a basis, the mobile home owner not only faces higher costs but also does not have the legal protection of the mortgagor: in an installment sales agreement the vendor/lender retains the title until successful completion of all vendee obligations. Upon default the lender can repossess, a much simpler legal procedure than foreclosure. Even were the mobile home classified as real property, however, the owner would have difficulty in obtaining a traditional mortgage due to the much higher rate of depreciation and the potential mobility of the unit. The lender would not feel secure in accepting a 20 year mortgage on a unit whose average lifetime is suspected to be only 15 years and which might at any time move out of the jurisdiction.

Other advantages and disadvantages flow from this classification even though the taxation rate in the state may be the same for all property. Mobile homes are popular in areas surrounding military bases. By federal law, personal property of servicemen cannot be taxed by the state in which they are stationed. Thus, military personnel living in mobile homes escape taxation in those states classifying mobile homes as personalty.²⁴ On the other hand, veterans and widows often enjoy statutory exemptions while living in conventional homes which they do not get when living in

mobile homes classified as personal property. California's reluctance to give "homestead" exemptions to mobile home owners was one of the reasons it did not amend its real property tax laws to include mobile homes.

Since classification as personal property can entail both advantages and disadvantages, many factors must be considered before one taxation method is adopted; any change in the method of taxation will have far-reaching and perhaps unexpected results. In Idaho, for example, the across-the-board reclassification of mobile homes as real property would not only necessitate a substantial change in the assessment methods (which would have to be brought in line with those methods used for conventional housing) but also substantially increase the maximum limit for school bonds since such limits are keyed to the amount of real property on the tax rolls.

In the final analysis, the imposition of personal property taxes upon mobile home owners can be criticized as being discriminatory. There seems to be little justification for imposing different rules, different procedures, and different taxes on residents simply because they live in mobile homes rather than in conventional housing. In Georgia, for example, all residents must pay their taxes by January 31; once the mobile home owner has done so, he receives an emblem which he must display on the front door of his home. This is not demanded of conventional home owners. In many states summary proceedings are available

to creditors against the mobile home; distraint and attachment are seldom if ever applied to conventional homes.

Real Property Taxation

In most states (see Figure 11) the mobile home which is located on owner-occupied land and is permanently attached to the ground or utilities is classified and taxed as real property. Based on the percentage of the total national mobile home unit inventory located outside of parks that this project has determined, we estimate that approximately 60% of all mobile homes are already subject to real property taxation. Since in this case the mobile home has become nearly indistinguishable from conventional housing, there is little disagreement among commentators and industry spokesmen that this is the proper treatment. Commentators, however, strongly disagree about the proper classification of units found in mobile home parks. Our research has indicated that slightly over 40% of all mobile homes are found in parks. What are the disadvantages/advantages of taxing such units (i.e., those located in mobile home parks) as real property?

The Disadvantages

Real property has been defined as property which is fixed, permanent, and immovable. Common examples are land and dwellings.²⁷ Simply because

of their mobility, mobile homes do not fit within the confines of this traditional definition. To classify a mobile home as real property, though it is located, perhaps only temporarily, on rented land with its wheels intact, is offensive to theorists. Such individuals feel that legal fictions should be used seldom if at all.²⁸ This is perhaps the greatest disadvantage of real property taxation of mobile homes: it does not in the majority of cases coincide with reality.

A related problem arises from the practicalities of administering the real property tax. For administrative convenience the mobile home being taxed as real property is assessed as part of the rented land upon which it is located. What is to prevent the mobile home owner from simply towing his unit elsewhere, leaving the park operator with a lien on his land? Real property taxation of mobile homes has been attacked as violative of the fourteenth amendment due process guarantees since it entails taxing one individual for property owned by another.²⁹ Such attacks have been unsuccessful.

One argument often made in support of real property taxation of mobile homes is that mobile homes are functional equivalents of conventional homes and should be taxed similarly. One commentator argues that this is fallacious: mobile homes are functionally equivalent to conventional homes simply because they provide shelter for human inhabitants. This equivalence is also found in apartment buildings; yet apartment dwellers do not pay real property taxes.³⁰

An interesting argument against imposing a new taxation method which would result in higher taxation of mobile homes was posited by Robert F. Rooney.³¹ His basic argument is that new taxes on mobile homes, by

increasing their costs relative to conventional housing, will make mobile homes less affordable and attractive for the population and will result in a shift of this population to conventional homes. The long range effect would be a disruption of the housing market equilibrium which could exacerbate rather than ameliorate the present housing shortage.³² Implicit in this argument is the assumption that the price of mobile homes will remain constant. An argument presented in the Land Use Controls section (B.3.2) details how increased use of the realty tax might indirectly lower the cost of mobile homes, perhaps offsetting the increased taxes.

As was pointed out in the previous section, the extension of the burdens of real property classification would necessitate the extension of the benefits of such taxation. Thus, if the state grants homestead exemptions to certain segments of the population who live in conventional homes, equal protection demands that the state afford the same benefits to a now similarly situated (i.e., paying real property taxes) mobile home inhabitant. The cost to the state could be quite significant.³³ If mobile homes were to be classified as real property, assessment would be on an individual basis rather than according to industry blue book figures and state-wide depreciation allowances. There is no doubt that such a system would be more expensive and complex to administer.

Experience in the courts has indicated that efforts by state assessors to tax mobile homes as real property without specific authorization from the state legislature will fail.³⁴ Thus, in order to insure the legality of real property taxation of mobile homes, enabling legislation will have to be passed. In some states, such as Nebraska, the state constitution

would have to be amended before mobile homes could be taxed as real property. Finally, classification of mobile homes as real property would probably lead to much litigation. Unless the state classifies all mobile homes as real property, the intent of the owner to permanently attach his unit will be the sine qua non of real property taxation. Such a determination would be fact-finding and open to dispute in the courts.

The Advantages

As was indicated previously, efforts by assessors to tax mobile homes as real property have failed for lack of statutory authorization. Would such authorization be constitutional? A New York case held that it would.³⁵ Following a repeal of the personalty tax in the 1930's, there seemed to be no way in which the New York municipalities could tax the mobile home. In 1952 the assessors taxed mobile homes in parks as real property. The court held that this was beyond the powers of the assessors.³⁶ In 1954 the state legislature responded by classifying all mobile homes as real property. This legislation was attacked as being unconstitutional in that individuals (park owners) were being taxed for property which was not theirs and thus were being deprived of property (the tax paid) without due process of law. The New York Court of Appeals, in rejecting this argument, held that classification of property as real was a legislative function and was not dependent upon common law definitions.³⁷ As long as there was a rational basis for the classification, the classification would not be judicially invalidated.

Because the mobile home is attached to the ground, there is a rational basis for taxing it as real property. The court pointed out that in fact, the land owners were not being deprived of their property because they were passing on the tax in the form of increased rent.³⁸ Finally, taxing the park owner for mobile homes placed on his land is analogous to taxing a land owner for a building which the lessee constructs on his land, a procedure long accepted by the courts.³⁹ The rationale which the court used has been strongly attacked.⁴⁰ It appears fairly certain, however, that as long as the legislation classifying mobile homes as real property conditions such classification upon attachment of some sort, it will be upheld.⁴¹

Real property taxation provides a more efficient solution for a basic problem of taxing mobile homes. By classifying mobile homes located in parks as real property and leaving it to the park owner to collect pro rata shares by rent increases, it largely solves the problem of getting the unit on the tax rolls and keeping it there. In states classifying mobile homes as personal property, the county assessor has the task of keeping track of mobile homes moving in and out of the area. In some states, such as Arizona, anyone who allows a mobile home unit to be located on his land must report such fact to the county assessor. However, this law is not effectively enforced and thus the county assessor remains heavily burdened.⁴² When the park owners are required to pay the tax, they have a vested interest in seeing that the mobile home owner pays his share in the form of increased rents. Thus, real property taxation carries with it the benefit to the taxing unit that 1) payment of tax is insured and

2) its assessors no longer have to account for mobile homes existing on park land.⁴³

As was shown previously, commentators have argued that to change the tax structure and tax mobile homes as real property would work a hardship on low income residents of mobile homes by increasing the unit's cost.⁴⁴

Three arguments have been made by opponents of this view. First, while the median income of mobile home families is lower than that of the population at large, mobile home owners are not, by and large, poor.⁴⁵ Second, it is debatable whether tax incentives (in the form of lower taxes) are the most economical means of effectuating social ends (here, better housing for all segments of the community).⁴⁶ Third, it is arguable that there is a fallacy in helping low income families by exempting them from real property taxation: to do so may be to shift the burden to the poor living in conventional housing.⁴⁷

As stated earlier, taxation of mobile homes as real property would subject them to the type of appraisal used for conventional homes. This would result in a much more accurate evaluation of the mobile home's worth since it is obvious that not all mobile homes depreciate at the same rate. In most cases, the imposition of real property taxes would increase the total amount of revenues collected in spite of the additional costs of administration and the exemptions (such as homestead rights) which would have to be granted. In addition, as was indicated in the discussion above on personal property taxation, such

imposition would have other beneficial effects such as increasing the maximum amount of possible school bonding.

The last and possibly strongest argument that can be forwarded in support of real property taxation of mobile homes is that it would lead to a greater acceptance of the mobile home population by the rest of the community. According to one commentator, it is universally accepted that horizontal equity should exist in municipal taxation; that is, similarly situated should be similarly taxed.⁴⁸ As long as a special scheme is employed to tax mobile homes, there is no assurance that such horizontal equity will result. If such equity does not exist, hostility is sure to appear: the conventional home owners will view the mobile home owners as parasites who do not pay their share of municipal costs. It is not really relevant that the mobile home owner pays as much (but to the state) or that he does not use municipal services (if he lives in a park). What is relevant is that, like it or not, he is part of a community and bound to suffer from its hostility. Thus, the "lighter taxation" of mobile homes has been frequently used as an excuse to exclude them entirely from a municipality.⁴⁹ By taxing mobile homes on the same basis as conventional homes, it is argued that the population of the municipality would look upon the mobile home with less hostility and would begin to conceive of the mobile home as a type of conventional housing. This in turn could lead to a relaxation of the zoning laws in favor of mobile homes with the ultimate result of allowing mobile homes wherever single family detached homes are found. As the physical separation of the mobile home population from the rest of the community is decreased, the psychological distance would diminish.

Feeling more a part of the community, the mobile home population would be much more likely to become involved in the community's affairs.

The imposition of real property taxes on mobile homes will generally increase the amount of taxes that the mobile home owner must pay. Primarily for this reason, the mobile home industry has vigorously opposed real property taxation. Until the industry and mobile home population realize the indirect benefits accruing from the realty classification, this vigorous opposition will continue.

Classification and taxation of mobile homes as real property would have many ramifications. Although there would be clear disadvantages, in the long run the overall impact would be beneficial.

3.

Comparison of the Types of Land Use Controls
and Taxation Methods Employed by Each State

In the right hand column of the tabulation of the state taxation methods (see Figure 11) are two figures. These two figures indicate the percentage of municipalities within the state that exclude mobile homes entirely, or require them to be in mobile home parks.⁵⁰ No absolute correlation was found between any tax method and high/low exclusionary policies of the various states. A study of Figure 12 leads to qualitative conclusions. This figure consists of four columns. The first column lists the states,⁵¹ arranged in increasing order of density of population. The second is the predominant method of taxation employed by the state vis a vis mobile homes.⁵² The third is a percentage herein referred to as the "exclusion percentage." This percentage is the sum of the two columns found in Figure 11 and roughly represents the state's attitude toward mobile homes: the higher the percentage, the less tolerant. Finally, column four shows the percentage of state housing consisting of mobile homes.⁵³

The first qualitative assessment that can be made is that property taxation of mobile homes is found most frequently in the least densely populated states. Of the first 17 states ranked by density, 14 tax mobile homes as property; three states impose fees. In the second 17 states, 13 states classify mobile homes as property, two impose fees, and two have a mixed system. In the final 16 states, only seven states categorize mobile homes as property, seven impose fees, and two have a mixed system. The reason for this has not been ascertained by this project; perhaps one reason may be that the fee/mixed system of taxation is less expensive to administer and more effective in keeping track of the mobile homes in

the state. (See item 2.4.)

As to land use controls, it appears that the more densely populated the state, the less popular the mobile home (popularity being inversely proportional to the exclusion percentage). Thus, the average exclusion percentage for the first 17 states is 32%; the second 17 states, 47%, and the final 16 states, 74%. These figures are in accord with the qualitative belief that people in larger communities think poorly of mobile homes and tend to try to exclude them entirely or at least confine them to mobile home parks located in less desirable sections of the municipality.

<u>RANK</u>	<u>STATE</u>	<u>METHOD OF TAXATION</u>	<u>"EXCLUSION PERCENTAGE"</u> **	<u>TOTAL MH INVENTORY AS PERCENTAGE OF HOUSING UNITS</u>
1	Alaska	Property	3	11.2
2	Wyoming	Property	11	7.4
3	Nevada	Property	N.A.	10.8
4	Montana	Property	10	6.0
5	New Mexico	Property	14	5.0
6	Idaho	Property	N.A.	5.6
7	South Dakota	Property	34	4.6
8	North Dakota	Fee	51	4.1
9	Utah	Property	64	2.4
10	Arizona	Property	66	4.2
11	Nebraska	Property	16	2.4
12	Colorado	Property	41	3.7
13	Oregon	Property	N.A.	3.8
14	Kansas	Property	N.A.	2.9
15	Maine	Fee	22	4.0
16	Arkansas	Property	N.A.	3.7
17	Oklahoma	Fee	51	2.6
18	Texas	Mixed	11	2.2
19	Mississippi	Property	18	3.8
20	Vermont	Property	14	5.2
21	Minnesota	Property	100	1.9
22	Iowa	Fee	82	2.1
23	Washington	Property	85	3.0
24	Missouri	Property	11	2.6
25	Alabama	Property	15	4.0
26	West Virginia	Property	100	3.8
27	Georgia	Property	31	4.5
28	Louisiana	Mixed	N.A.	2.8
29	Wisconsin	Mixed	N.A.	1.6
30	Kentucky	Property	40	3.4
31	New Hampshire	Property	5	4.1
32	South Carolina	Property	61	5.6
33	Tennessee	Property	36	3.2
34	North Carolina	Property	100	5.2
35	Virginia	Mixed	66	3.0
36	Hawaii	Fee	50	.1
37	Florida	Fee	80	5.7
38	California	Fee	92	2.6
39	Indiana	Property	35	3.9
40	Michigan	Fee	N.A.	2.0
41	Illinois	Fee	41	1.7
42	Ohio	Property	90	2.0
43	Pennsylvania	Property	N.A.	1.8
44	Delaware	Property	64	4.2
45	New York	Property	66	1.3
46	Maryland	Fee	100	1.4
47	Connecticut	Mixed	99	.8
48	Massachusetts	Fee	93	.5
49	Rhode Island	Property	64	.6
50	New Jersey	Fee	99	.6

* As defined on preceding page.

SOURCE: PMHI NATIONAL SURVEYS

FIGURE 12: STATE BY STATE COMPARISON OF TAXATION METHODS, LAND USE CONTROL ATTITUDES, AND CONTRIBUTION OF MOBILE HOMES TO TOTAL HOUSING INVENTORY

C.

THE FAIR SHARE CONTROVERSY

1.
Introduction

Local officials and conventional home owners often try to justify their hostility to mobile homes - hostility which often manifests itself in restrictive and unfavorable zoning regulations vis a vis the mobile home - by alleging that mobile home owners do not pay their fair share of the tax burden. This attitude dates from the early days of mobile home use when, in fact, the mobile home population paid few if any taxes to the municipal coffers. This situation, as we saw in Part B, has greatly changed. Nevertheless, the hostility lingers. Is there any validity to these allegations?

This question can be approached from two angles. One of these is the "horizontal equity" approach. Horizontal equity is achieved when the mobile home owner pays the same tax per dollar of shelter as the conventional home owner. Tax theorists posit this approach as the ideal of municipal taxation. Unfortunately, few states have achieved it in the taxation of mobile homes. As stated earlier in Part B, fee or mixed systems (presently used by 17 states) often lead to inequalities in the tax treatment of mobile home owners vis a vis their conventional home neighbor: fees are set without reference to local mill rates and without regard to the unit's actual value as located. Since fees are imposed state-wide this defect seems irremediable: fees simply can not reflect differences in neighborhoods and variations in local mill rates.

Personal property taxes when keyed to local mill rates more closely approach the ideal of "horizontal equity." In most cases, however, the assessors value the unit without reference to its location, actual physical deterioration, or improvements and additions.

In short, the most practical method of achieving horizontal equity is classifying and assessing all mobile homes as real property.

The other approach depends upon a "benefits received" analysis. Oversimplified, the goal of this approach is to tax the property owner to the extent that he benefits from living in the municipality. There are theoretical objections to this approach and it has not been widely accepted by tax theorists. For one thing, such an approach places the greatest burden on those least able to pay; for another, it is, in practice, very difficult to apply. The benefit received from society varies greatly from person to person and can not be accurately valuated.

This approach, however, is emotionally attractive and can not be deflated by mere theoretical arguments. Various researchers have tried to evaluate the allegation that the mobile home owner does not pay his fair share according to the "benefits received" approach. Unfortunately, most of the work which has been done clearly reflects the bias of the individual researcher. Thus, for example, if the bias is pro mobile home, the measure of amount of taxes paid is per acre. This results in higher tax figures for mobile homes since the average acreage of each unit is much less than that of the conventional home. If the bias is anti-mobile home, the unit of measurement is likely to be per unit; when this is done, mobile home owners pay substantially less because of the lower assessed-value of mobile homes.

This discernable bias throws into question the validity of the findings of these studies; the data so far collected by this project have been inconclusive. Hence, no definitive answer to the question of whether mobile

home owners pay their fair share for benefits received shall be attempted. This chapter instead will concentrate on the elements which are relevant to a successful resolution of this question. In previous volumes the demography of the mobile home population has been studied; here it shall be looked at to suggest what burdens this population places on local governments. It must be remembered that in many instances the mobile home population places less of a burden on the municipal coffers because many otherwise municipal services are in fact provided by the mobile home park operator. A brief discussion of these services will be found in Chapter C.3. In most municipalities, mobile home park operators must pay fees or privilege taxes to the local government in order to stay in business. Since these fees are generally passed on to the mobile home population in the form of increased rents, they should not be disregarded in calculating the total amount contributed by the population. Chapter C.4 contains a discussion of these fees and privilege taxes. In the appendix are three cost revenue studies which were done in California, Georgia, and Connecticut. This Part C will conclude with a brief discussion of these studies as well as other data which this project collected.

2.

Demographic Characteristics
of the Mobile Home Population

Mobile home residents, with the exceptions noted in Chapter C.3, generally place the same demands on the municipalities as do conventional home dwellers. The demographic studies of this project have suggested, however, that the extent of the demand may be less than that of the population at large.⁵⁴

First, the median size of the mobile home family is smaller than that of the total population: 2.3 persons per family versus 2.7 persons. Second, mobile home owners have fewer school age children than conventional home occupants. A majority of mobile home couples have only children who are not old enough for school. Of the married couples living in mobile homes, 39.8% have school age children as contrasted to 44.3% for the population at large. Further, while half of the mobile home families with school age children have only one child of school age, two thirds of the conventionally housed families with school age children have two or more children in school. Since education places the greatest burden on the municipality of all the services provided, such statistics are revealing.

Twenty-three percent of the population in the U.S. is composed of people under 35; 43% of the mobile home population is under this age. This suggests that the mobile home population may be more apt to purchase durable goods (not having purchased them already) and thus stimulate the local economy. Furthermore, the median income of the mobile home population is lower than that of the population at large. It could be argued that this

means the mobile home occupant will be more likely to purchase locally produced or locally sold basic necessities rather than journeying to suburban shopping centers or urban areas, as more affluent people might. This not only stimulates the local economy, but also increases the amount of direct taxes paid (such as sales tax), taxes which will be returned in part to the local coffers.

3.

Services Provided by Mobile
Home Parks to Their Residents

A significant factor to consider when looking at the public services consumed by the mobile home population is the amount of services provided by the mobile home parks themselves. This project estimates that 42% of all mobile homes are located in mobile home parks.⁵⁵ These parks furnish a wide range of facilities and services which would otherwise have to be provided by and at the expense of the local government. Park operators are required to supply water, sewerage treatment, internal walkways and street systems, and to maintain and upgrade these systems. Other "public" services may include garbage collection, first aid, small scale police and fire protection. Many mobile home parks also provide social and recreational facilities such as swimming pools, bowling lanes, and parks for children, etc. In those areas where there is competition among the parks, this competition often takes the form of which park provides the best and most complete services to its residents. Of course, mobile homes placed on isolated lots would use essentially the same services as conventional homes.

Having mobile home parks provide needed public services to their residents realizes an actual savings for the local government and should be considered as a positive contribution to the local budget. For example, if a mobile home park provides \$100 worth of services that the local government would normally have to supply, the local government therefore saves \$100, and can put the money to other uses. Stated another way, the \$100 worth of public services provided by the park operator is equivalent to a contribution by the park operator of \$100 to the local government. When this is seen in the light of the large amount of services provided by the parks, there are substantial savings to the

local government because of public services provided by the mobile home parks to their residents.

4.

Fees and Taxes Paid
By Mobile Home Park Operators

As was demonstrated in Chapter 3 of this part, many services are provided to the mobile home occupant by the park operator. Because the municipality is relieved of the burden of providing such services, such provision effects a savings for the municipality. Since the mobile home park passes the cost of these services to the mobile home owner in the form of increased rents, the amount of money saved by the municipality should be considered as a contribution of the mobile home population.

Similarly, the fees and taxes paid by the park to the municipality should be considered in calculating the amount of money paid by the mobile home dweller located on park land.

States tax mobile home parks as improved realty. The improvements are often extensive and include such things as pipes, streets, sewerage systems, lighting, utilities, and recreational facilities. Hence, the assessed value of the land is greatly enhanced and the tax levied is often considerable.

Many states impose additional fees or excise taxes for the privilege of operating a park. Though these fees/taxes are in theory limited by the costs of regulation, they will not be struck down as excessive except in the most egregious examples (see Chapter 1 of Part B).

These property and excise fees are passed on (like the costs of services) to the mobile home owners in the form of increased rents and are, in fact, a form of hidden tax. Unfortunately, this "tax" is rarely recognized

by local officials or the population at large and is almost never considered in valuating the contribution of the mobile home owner to the municipal coffers.

5.

Comparison of Indirect Taxes Paid by the Mobile
Home Population and Indirect Taxes Paid by the
Conventional Housing Population

As stated above, the mobile home population and the conventional housing population consume the same types of public services, but not necessarily in the same amount. The demographic characteristics of the mobile home population, especially the smaller percentage of school age children and the services provided by the mobile home parks, suggest that the mobile home population, in absolute terms, places a lighter demand on local public services than do their conventional housing counterparts.

Both groups are subject to indirect taxes (e.g., sales taxes, fees, etc.) that are included in the cost of goods and services they buy. These taxes are regressive in nature and weigh more heavily on the lower income groups than on upper income groups. The regressiveness of these taxes, the income levels of the mobile home population, and the local orientation of the mobile home population again suggests that the mobile home owner actually pays more in the form of indirect taxes than does his conventional housing counterpart. This may be offset, however, by the fact that many of the basic items for which the majority of the mobile home owner's budget goes are in some states exempt from indirect taxes⁵⁶ (especially the sales tax which often exempts food and clothing).

As stated above, the mobile home owner that rents a park space is assessed part of the cost of services provided by the park operator and part of the cost of the taxes assessed against the park operator. This is an invisible tax, paid by mobile home owners, often overlooked by public officials. The owner of conventional housing pays his taxes directly and is more visible in his contribution to the local government.

In summary, the mobile home population probably consumes less public services yet contributes more, in indirect taxation, than those persons living in other forms of housing. This difference is likely to be significant enough to merit inclusion or consideration in any serious cost-revenue study of mobile homes.

6.

Cost-Revenue Studies

This project, in an attempt to gather information and to analyze the fair share controversy, canvassed the taxation departments of the fifty states seeking information concerning the relationship, in each state, between mobile homes and other forms of housing as to the amount of taxes and fees each pays to the various levels of government and the cost of public services consumed by each form of housing. The overwhelming response was a willingness to cooperate but an inability to supply the necessary information. The problem is that most states and many municipalities do not compile the needed statistics on the cost of services provided and the revenue collected from the various forms of housing. If the fair share controversy is to be brought beyond the realm of emotionalism, these statistics are needed, for only with them can a rational discussion of the fair share controversy be undertaken.

The limited amount of information received indicates that the fair share conflict is a false one.⁵⁷ Rarely does any form of housing, whether it be a single family, multi-family, or mobile home unit, pay its true share of the community costs. Municipalities all run deficits and are subsidized by taxes paid by industry and contributions from the state and federal government.

The project did, however, receive detailed studies from California, Georgia, and Connecticut (see Appendix B.2). Each of these studies reached similar conclusions: (1) mobile homes do not pay a sufficient amount of taxes to cover the cost to local governments for services

provided to them; (2) all other forms of housing similarly do not pay a sufficient amount in taxes to cover local governmental services provided; (3) mobile homes are undertaxed because of the method of taxation employed, and (4) the method of taxation should be reformed.

Each study had certain faults. The major shortcoming was placing the per capita expenditures for mobile homes and other forms of housing at the same amount. By doing this, the studies failed to take into account the services provided by the parks at no cost to the local government, and hence saving the locality money (see Chapter C.4). Failure to account for this saving to local governments leads to an inflated deficit for mobile homes when cost/revenues were compared.

The Connecticut and Georgia studies failed to take into account the amount of indirect taxes paid by mobile home owners. But since all groups pay these taxes, though in varying amounts, this might balance out. The Georgia study used as its unit of measure dwelling units. This measure tends to be more favorable to conventional housing because it excludes differences in family size. These differences are very important since they reflect educational costs to the community. The Connecticut study also failed to measure per capita revenue received from the mobile home population. This meant that no comparison to the per capita revenue received from the conventional home population could be made.

In conclusion, the data the project has been able to obtain was insufficient to make any definite statement as to mobile homes and the fair

share controversy. The situation found in the three studies is probably indicative of what would be found if a nationwide study were undertaken. The key factor for the local community is not the total amount collected versus the total amount expended but rather the marginal rate of cost expended for each new unit of housing versus the marginal rate of revenue received from each new unit of housing. By this measure, mobile homes are acceptable because they have fewer school-age children, smaller families, etc. (see Chapter C.2). They add less per unit cost than one new unit of conventional housing. This is often overlooked by local officials who are concerned with aggregate amounts.

The real problem lies not so much in some inherent defect in mobile homes, but in the method by which they are taxed. The methods used are simply incapable of collecting sufficient amounts from mobile homes. Local concern should be centered on the method of taxation and not on mobile homes, who often are just taking advantage of failures in the tax structure.

D.

THE IMPACT OF STATE TAXATION
ON THE MOBILE HOME INDUSTRY

1.

Introduction

In an effort to quantify the effects of state taxation on the mobile home industry, two studies were made. The results of the first of these is displayed in Figure 12; the results of the second in Figure 13.

As may be recalled from the discussion in Chapter 3 of Part B, Figure 12 is a comparison of the type of land use controls to the taxation methods employed in each state. It also includes in Column 4 the percentage of the total housing units comprised of mobile homes in 1970. The states are arranged in increasing density of population. Analysis of this figure shows that in the 17 least densely populated states, an average of 5.0% of the total housing units is made up of mobile homes. All but three of these states tax mobile homes as property. In the next 17 states, mobile homes comprise an average of 3.5% of total housing units. Of these states, 13 use property taxation, two employ a fee method, and two impose a mixed form of taxation. In the 16 most densely populated states, an average of 2% of the total housing units is made up of mobile homes. Of these states, six employ property taxation, eight use a fee system, and two impose a mixed form of taxation. The precise meaning of this is unclear. It would certainly be simplistic to claim that property taxation leads to a greater influx of mobile homes in the state. It is more likely that if a single factor were responsible for a greater influx of mobile homes into the state, it would be the prevailing land use control attitude. Perhaps all that can be said at this time is that there seems to be a positive correlation between the type of taxation used and the density of population.

The second study consists of a comparison of the park versus non-park location of mobile homes with the taxation method of each state. Figure 13 is a compilation of the results of this study, arranged by regions. (For an explanation of the categories of taxation, see pp. 16 through 21 of Chapter 2 of Part B.) This project estimates that 58% of the mobile homes in the United States are found on private property. Sixty-nine per cent of the units in the 33 states which tax mobile homes as real or personal property were located on private property. This compares to a figure of 48% for those 17 states using fees or a "mixed" system of taxation.

It would be simplistic to contend that property taxation leads to a greater tendency to place the mobile home on private property; our data does suggest, however, that the method of taxation plays a role in this decision. It is logical to presume, for instance, that if a low fee is levied against a mobile home located in a park, whereas a higher realty tax is imposed on the unit placed on owner-occupied land, there would be an added reason for remaining in the park. Similarly, if all mobile homes were taxed as real property, mobile home owners would probably more seriously consider buying their own plot of land upon which to place their unit.

In examining Figure 13 it is interesting to focus on the three states with the largest number of mobile homes: Florida (almost 360,000 units) and Texas (close to 240,000 units) in the Southern Region, and California (294,000 units) in the Pacific Region. Florida has only 31% of its

mobile home inventory on private property, as compared to 61% for the whole South Atlantic Region. In Texas, 71% of the unit inventory is found on private property as compared to 75% for the South Central Region. Finally, in California, only 18% of the mobile homes are located on private property compared to the 30% for the Pacific Region.

What is interesting about the above observations is that Florida, Texas, and California all impose fees (in Texas, this is at the option of the municipality; see Figure 11) rather than property taxes. We cannot at this time quantitatively conclude that the imposition of fees either invites more mobile homes to the state or discourages placing a unit on private property. Once again, we can only suggest that there is a relation between the three facts.

In the following chapters we will suggest qualitatively other impacts which the various types of mobile home taxation have.

STATE	TYPE OF TAXATION	PERCENT OF MH UNIT INVENTORY LOCATED ON PRIVATE PROPERTY*
<u>NORTHEAST</u>		62
Connecticut	Mixed	31
Maine	Fee	70
Massachusetts	Fee	28
New Hampshire	Property	52
New Jersey	Fee	11
New York	Property	66
Pennsylvania	Property	70
Rhode Island	Property	22
Vermont	Property	70
<u>EAST NORTH CENTRAL</u>		54
Illinois	Fee	52
Indiana	Property	57
Michigan	Fee	50
Ohio	Property	53
Wisconsin	Fee	61
<u>WEST NORTH CENTRAL</u>		57
Iowa	Fee	40
Kansas	Property	62
Minnesota	Property	51
Missouri	Property	64
Nebraska	Property	53
North Dakota	Fee	59
South Dakota	Property	73
<u>SOUTH ATLANTIC</u>		61
Delaware	Property	57
Florida	Fee	31
Georgia	Property	78
Maryland	Fee	52
North Carolina	Property	80
South Carolina	Property	83
Virginia	Mixed	73
West Virginia	Property	82

*For explanation of computation of data, see Volume IV, Section on Industrial Organization, Item 1.2.1.

Source: PMHI National Survey

FIGURE 13: TAXATION AND THE LOCATION OF MOBILE HOMES

STATE	TYPE OF TAXATION	PERCENT OF MH UNIT INVENTORY LOCATED ON PRIVATE PROPERTY*
<u>SOUTH CENTRAL</u>		75
Alabama	Property	78
Arkansas	Property	76
Kentucky	Property	77
Louisiana	Fee	76
Mississippi	Property	80
Oklahoma	Fee	67
Tennessee	Property	82
Texas	Mixed	71
<u>MOUNTAIN</u>		53
Arizona	Property	40
Colorado	Property	55
Idaho	Property	58
Montana	Property	69
Nevada	Property	43
New Mexico	Property	67
Utah	Property	54
Wyoming	Property	74
<u>PACIFIC</u>		30
Alaska	Property	35
California	Fee	18
Hawaii	Fee	Unknown
Oregon	Property	56
Washington	Property	53
<u>UNITED STATES</u> (Total excludes District of Columbia)		58

*For explanation of computation of data, see Volume IV, Section on Industrial Organization, Item 1.2.1.

Source: PMHI National Survey

FIGURE 13: TAXATION AND THE LOCATION OF MOBILE HOMES
(cont.)

2.

Social and Psychological
Impact on the Consumer

This chapter is concerned with the perception of the mobile home by a possible purchaser. Two indices are considered:

- 1) Social effect: What effect does the method of taxation have on the integration of the mobile home population into the community?
- 2) Psychological effect: How does the method of taxation affect the perception of the mobile home population of itself?

The prevalent view of the mobile home in its early years was negative. Parks were inadequately developed and poor sanitary and aesthetic conditions existed. Due to unfavorable zoning which resulted, many parks were located in commercial and industrial areas, a placement which did not enhance the community's perception. The mobile home owner was considered a gypsy who burdened the community without paying his share of taxes.

Today, both the product and the design of the average mobile home park have improved vastly. Nevertheless, the negative perception of the early 1930's persists in many segments of the population. This persistence is due, at least in part, to inadequate and often inequitable tax structures.

As was discussed in Part B, mobile homes located in parks are taxed differently from conventional housing. Because of this difference, the rest of the community often feels that the mobile home owner is not paying his "fair share" of the community tax burden. This feeling often

turns to hostility which manifests itself in exclusionary or at least unfavorable zoning regulations. If mobile homes were taxed in the same manner as conventional housing, less hostility would be generated.

As is detailed in the section on Land Use Controls, mobile homes are often banned from residential zones. This ban forces mobile home parks to locate in commercial or industrial zones. Here, the surroundings are often unpleasant and the mobile home resident feels inferior to his conventional home counterpart. In addition, the non-residential location of the parks increases the isolation of the mobile home dweller. The mobile home park becomes a community in and of itself. This may have been one of the early factors in the development of park recreational and service facilities. This development in turn decreases the interaction of the mobile home population with the rest of the community and increases the isolation felt by the park inhabitants. The lack of contact between the mobile home population and the rest of the community does nothing to decrease the community's negative attitude about parks and mobile homes.

Thus, different tax treatment enhances the feeling of inferiority shared by many mobile home dwellers. Smaller subgroups usually assimilate the attitudes of the dominant subgroup. The classification and taxation of mobile homes as motor vehicles or personal property is a statement by the community that it considers mobile homes as poor substitutes for conventional housing. This attitude is adopted by the mobile home community whose perception of its status, in general, is already less than favorable.

Taxing mobile homes as realty, the same as other forms of housing, may not eliminate the negative attitude towards mobile homes but it would lessen the reasons for it. The taxing of mobile homes as something other than realty has created a conceptual wedge between the mobile home community and other forms of housing, which has helped separate the mobile home population from the rest of the community.

3.

Economic Impacts on
Consumer and Producer

Two types of cost will be looked at in this chapter:

- 1) Production cost: the cost to produce the mobile home from the raw material to the finished product ready for shipment.
- 2) Occupancy cost: the cost to the owner of the mobile home to use the structure.

The type of taxes imposed has an indirect effect on the cost of production and a direct effect on the cost of occupancy.

The characterization and taxation of mobile homes as something other than realty has no direct effect on the cost of producing the unit. It has, however, had a substantial indirect effect. As discussed elsewhere in this report, the mobile home industry enjoys a large advantage over the conventional housing industry: its product is not considered a building and therefore the often strict and anachronistic local building codes do not apply. This means that mobile homes can be mass produced without fear of local requirements for buildings. If mobile homes had been characterized as housing from the start, the industry would have had to build a specialized product for each locality. This of course would have meant that mass production could not be carried out and the industry would have had to forego the substantial cost savings which accompany mass production.

Thus, the failure to classify mobile homes as realty has been a major benefit to the mobile home industry in terms of production costs, because it has allowed the industry to be free of a myriad of local

building codes and ordinances. Any change in the past towards a realty classification might also have brought the mobile home industry under the control of local building codes. This danger, however, does not exist anymore; the new Federal construction and safety standards for mobile homes, to become effective in 1976, promise nationally uniform code regulation, independent of the mobile home's taxation status.

Municipalities depend in large part on realty taxes for their revenues. Increasing demand for services plus inflation has caused frequent increases in the effective mill rates in most communities. When mobile homes are classified as something other than realty, they escape this frequently increasing mill rate and as a result often pay lower taxes. Thus, occupancy costs are generally lower in those states which impose fees or a personalty tax on mobile homes. Lower occupancy costs in turn stimulate sales: everything else held constant, sales increase with the fee system and, at the other extreme, decrease with real property taxation.

As was pointed out earlier (Part B), potential purchasers of mobile homes are generally unable to get mortgage financing. This is due at least in part to the lender's perception of the mobile home as something other than conventional housing. The state can help to change this perception by classifying the mobile home as realty. Financing mobile homes through long-term mortgages would substantially lower the monthly installments due the lender. Hence, realty classification could indirectly decrease the cost of occupancy significantly.

In summary, under present consumer financing practices, the realty tax method has a detrimental effect in that it increases the cost of occupancy. If coupled with mortgage financing, however, real property taxation would positively influence occupancy cost. All other forms of taxation have positive effects in that they decrease the cost of occupancy -- or at least give that impression -- thereby stimulating sales. Historically, the non-realty tax methods have provided the needed characterization to keep mobile homes free from local building codes and thus have had a major positive impact on the industry's cost performance.

4.

Impact on Industry Development

Two aspects of industry development are considered in this chapter:

- 1) Growth of the industry's potential market.
- 2) Evolution of the industry's product mix.

The effect of the differential tax treatment accorded mobile homes has been to reinforce communities' negative attitudes towards mobile homes, which in turn are translated into discriminatory zoning ordinances. Discriminatory zoning retards industry growth in that it limits the available land supply for the placement of mobile homes. These exclusionary policies have had predictable effects on industry development. An example is the more industrialized urban areas of the northeast, where complete exclusion runs from 51% of the communities on Rhode Island to 95% of the communities in New Jersey. At least in part, this explains why only 11% of the mobile homes in the United States are located in the northeast. From the view point of the industry, this is particularly unfortunate: given the high cost of conventional housing in the northeast, there would seem to be a large potential market for mobile homes if it were not for the exclusionary policies of the region.

On the other hand, the different tax treatment accorded mobile homes has helped the industry, particularly during the early years. As mentioned in Chapter 3 of this Part, the classification of mobile homes as something other than realty has permitted the industry to mass produce a standardized product. Finally, it is the cost savings associated with mass production which allows mobile homes to be such a low cost form of housing.

In terms of product mix, the tax treatment accorded mobile homes has had a detrimental effect. To secure the tangible advantages of the personality classification (e.g., exemptions from local building codes and lower taxes), the industry has had to restrict changes in the basic outward appearance of the mobile home. The industry could remove the wheels, which serve no useful purpose, and change the appearance to more closely resemble traditional housing, thus making the product more acceptable to a wider segment of the population. Classification of mobile homes as realty would free the industry from the need to maintain the motor vehicle or personality classification of the mobile home and the industry could change its designs to more closely to those of conventional housing. In addition, once the industry was freed from the restraints dictated by the necessity of keeping the unit mobile, it could experiment with new structural applications of mobile home building components; for example, stack-up configurations for higher-density situations. The section on The Product Today and Tomorrow (Vol.I) explores what these designs might be like. This development would attract a wider market and decrease discriminatory legislation.

5.

Summary of Impact

In summary, the realty tax and classification has a positive influence on intangible measures of performance (effect on consumers and effect on industry development). In the long run, the realty tax and classification may prove the most beneficial. But in the short run, the realty tax and classification has a negative effect on cost and possibly on growth. All other forms of taxation--motor vehicle, fee, personalty--have positive effects on cost and negative effects on the intangible measures, except possibly growth, where they, along with the realty tax, have both positive and negative effects.

Figure 14 gives a complete summary as to the effect of each tax on performance of the industry.

	<u>TYPE OF TAX</u>			
	<u>REALTY</u>	<u>MOTOR VEHICLE</u>	<u>FEE SYSTEM</u>	<u>PERSONAL PROPERTY</u>
<u>MEASURE OF PERFORMANCE</u>				
<u>IMPACT ON CONSUMER</u>				
Social	+	-	-	-
Psychological	+	-	-	-
<u>IMPACT ON COST</u>				
Production	+ -	+	+	+
Occupancy	+ -	+	+	+
<u>IMPACT ON INDUSTRY DEVELOPMENT</u>				
Growth	+ -	+ -	+ -	+ -
Product Mix	+	-	-	-

FIGURE 14: SUMMARY OF IMPACT ON PERFORMANCE

E.

POTENTIALS FOR IMPROVING
INDUSTRY PERFORMANCE

1.

Potential Definition

Although mobile homes evolved from the travel trailer, they have become a generically different unit. Yet this split has not been noted by many public bodies. Mobile homes in the majority of states are still characterized as motor vehicles and regulated as such. Today "mobile" home is increasingly a misnomer. A mobile home is only incidentally a vehicle. In the future the schism will widen much further. Wheels, virtually vestigial remnants today, will disappear completely.

In the past, difficulties have been experienced in trying to classify mobile homes for various purposes. It has been held that a mobile home is a "dwelling-house" within the meaning of the arson statutes and a health ordinance.⁵⁸ It is a building within the double indemnity clause of a life insurance statute,⁵⁹ and a vehicle subject to forfeiture by statute if used to transport contraband.⁶⁰ On the other hand, a mobile home has been held not to be a home within a testamentary directive, nor a "homestead" entitled to exemption from execution.⁶¹ This confusion is particularly evidenced in the realm of taxation, where mobile homes have been characterized as motor vehicles subject to license and registration fees, personal property subject to personal property tax and as real property subject to real property tax.

Such difficulties underscore the desirability of clear and uniform definition of terms. With the traditional units now available and with the development of "stabile" manufactured shelter units on the horizon much confusion would be eliminated by the adoption of a statute distinguishing between full scale residence and temporary portable housing.

Such definitions could carry through taxation and other modes of public regulation and should be broad enough to cover both present and emerging mobile home forms.

The official definition of mobile homes written by the mobile home industry, defining such units as "built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation a dwelling when connected to the indicated utilities," is too narrow to fit the industry's future product: manufactured shelter.⁶² (See The Product Today and Tomorrow, Vol I.) Also, it perpetuates the idea of mobility and the feeling that mobile home owners are gypsies and transients.

A promising legal definition which would cover both today's mobile homes and the future manufactured housing units provided by the mobile home industry could be developed by including the criteria suggested here:

"A dwelling unit with all of the following characteristics:

- a. Designed for primary residential use, functionally equivalent to traditional housing meeting basic housing codes.
- b. Designed for use as a detached single-family home or for assembly into a two-or multi-family structure.
- c. Designed to be essentially completely factory-produced and factory-finished, including all major standard fixtures and appliances and, as an option, all furniture; leaving the factory ready for occupancy except

for on-site utility hook-ups and connection to foundation supports.

d. Designed to withstand the stresses incurred in transportation from the factory to the dealer and/or site; designed to be transported via highways on its own wheels or on detachable wheels, or on flatbed, low-boy or other trailers, and/or by other modes of transportation including rail or waterways.

e. Designed to be ready for occupancy upon arrival at the site, except for minor and incidental unpacking and/or correcting and/or assembling operations, location on foundation supports or integration into an on-site-built supporting structure, and hook-up to on-site-provided utility systems.

f. Designed to meet or exceed the Federal Mobile Home Construction and Safety Standards, Title VI of the Housing and Community Development Act of 1974, becoming effective on June 15, 1976."

A companion statutory provision could clearly distinguish between a "mobile home" and a "recreational unit," for example, by defining the latter as, "A motor-home, travel trailer, pick-up camper, converted bus, tent-trailer, tent, or similar device used for temporary portable housing."⁶³

The benefit of such a definition would be to clearly recognize the distinction between today's mobile home and its ancestor, the travel trailer. It would recognize mobile homes as a form of permanent shelter equivalent to more traditional forms of housing, and thus help eliminate

the anti-mobile home attitude that developed during the depression.

In the area of taxation, the joining together of mobile homes and travel trailers has led to confusion causing mobile homes to be taxed differently from other forms of housing. Only in a small minority of states are all mobile homes taxed in the same manner as real property. Since most states tax mobile homes differently from other types of shelter, the "fair share" controversy discussed earlier arises on the part of owners of traditional housing and public officials and this adds to the anti-trailer attitude and becomes a basis for excluding them.

2.

Towards a Realty Tax

Two hypotheses have been held throughout this study of taxation:

(1) the mobile home industry has the potential to become a major source of high quality, low cost housing, especially for high-density urban areas; and (2) differential tax treatment is detrimental in the long run to development of the mobile home industry. A system of taxation which will aid industry growth while ending differential tax treatment is needed. The real property tax meets this need. Today, the real property tax is the most widely used general method of taxation and most important source of revenue at the local level. Local governments are more likely to extend this tested method than experiment with new and untried ones, especially since an estimated 58% of the mobile home unit inventory in the United States is located on private property and is already taxed as real property. This is not meant to be an endorsement of the real property tax per se as a revenue gathering method. If more equitable non-regressive methods are developed to replace the property tax, they should be applied uniformly to both traditional and mobile housing.

All traditional forms of housing are taxed as real property. Attempts have been made to include mobile homes under this realty tax. Unfortunately, such attempts have always been resisted by mobile home park operators and mobile home dwellers. Their opposition to the real property tax probably is not, in the long run, in the best interest of the industry. An atmosphere of tension and distrust exists between mobile home park operators and residents and the local taxing authorities. This atmosphere was created in the early 1930's and today is perpetuated in some measure by the local tax structure. Antiquated tax laws have allowed

mobile home park operators and mobile home owners to legally secure tax benefits; local officials have retaliated with restrictive zoning and discriminatory ordinances. Much of the tension and distrust is emotionally created and cannot be overcome with rational discussion. But some of the emotionalism can be blunted if mobile homes are treated, for tax purposes, the same as other forms of housing. The mobile home population will always be a minority in any community. It should therefore propose and support legislative measures that will lessen the tension between itself and the majority. This in turn could lead to a decrease in restrictive zoning, a wider availability of land, a larger market, and a product more widely accepted as a legitimate form of housing.

The general feeling of the various state taxing departments canvassed by this study is that if any change in the manner of taxing mobile homes is imminent, it would be towards the realty tax.

Past experience in New York and Pennsylvania indicates that the legal problems of mobile homes permanently attached to the ground can easily be overcome legislatively. Today's mobile homes and tomorrow's three-dimensional housing units for multi-story structures will, as a practical matter, be permanently affixed whether judged by physical integration with the land or by the intent of the owners. Moreover, one suspects that as the product becomes visually indistinguishable from housing constructed on-site, the states will meet little judicial resistance to the imposition of real property taxes on mobile homes.

Three major concerns still exist in relation to the extension of the realty tax. They are: (1) the discovery of the new homes, (2) the valuation of the homes, and (3) against whom to assess the tax.

The first phase of the taxing process, finding the object, still presents certain unique problems in relation to the present mobile home. Unlike on-site constructed homes that take weeks to assemble, mobile homes can be placed on a lot within a day. This creates problems of timely discovery. Added administrative cost will be incurred if more inspectors have to be hired to check for mobile homes entering a new area. A number of possible solutions are available.

The community could require a permit, similar to a building permit, before a mobile home could locate in the community. Any home located without a permit would be subject to fine. Local landlords could be required to report to officials all mobile homes located on their property. Alternatively, the state could require the registration of all mobile homes with the department of motor vehicles before movement on the highway. The state motor vehicle department would determine the destination of the home and whether any taxes were due before it issued a permit to move. This information could be forwarded to the local community. If the mobile home is to move interstate, the information could be forwarded to the state of destination and some type of reciprocal agreement could be developed. A nominal fee could be charged to cover the administrative cost of this program.

The second major concern is with the valuation of mobile homes. Most local assessors may not be sufficiently familiar with mobile homes to accurately compute the assessable value of the home. This problem could be overcome by state issued valuation schedules. These schedules could be based on factory price lists, square feet, or some other acceptable measure of value. If a factory price list is used, the cost of furnishings should be subtracted. Furnishings should be treated in the same manner as those in traditional housing. The valuation schedule should be developed at the state level to insure fairness and uniformity. Additions to the home as well as other tangible and intangible factors increasing or decreasing the value of the unit could be determined at the local level.

A related issue is depreciation. The traditional home often appreciates in value over time; mobile homes often depreciate, sometimes at a technically unrealistic rate. Three factors seem to be at work here: (1) alleged lighter construction material and obsolescence of built-in, non-replaceable parts, (2) subjective taste factors, and (3) forced location in undesirable areas. Furthermore, unlike buildings whose values rise with the rise in land values, mobile homes remain separate for valuation purposes and do not benefit from an appreciation of the value of land. Improvement in quality control and code enforcement can overcome the first factor; better marketing techniques plus the realization that mobile homes are legitimate alternatives to conventional housing should lessen the impact of subjective taste factors. Finally, as discussed in the section on land use controls, the end of discrimination in zoning will greatly reduce the depreciation caused by unfavorable zoning.

A third major concern is whom to assess, the owner of the home or the owner of the land upon which the home is located. Obviously, when they are one and the same person there is no conflict. But when the homes are placed in mobile home parks or on rented spaces outside of parks, a conflict does exist.

Assessing the land owner (park operator) for this tax has administrative advantages. The park operator becomes the tax collector and acts for the city. The land serves as security for unpaid taxes if the home owner should depart. There is no need to take into account the various types of people in the park, since the only person eligible to claim exemptions or deductions would be the land owner. This would eliminate a quantity of paperwork and also increase the amount of revenue collected.

There are two disadvantages to this method of collection. The park operator passes on the tax by increasing the rents pro rata, without consideration for the varying values of the different units within the park. Thus, the owner of an inexpensive model pays the same share of the tax as the occupant of the deluxe model home. Secondly, the tax is often calculated according to the number of spaces in the park. The fact that the park has fallen into disrepair or that vacancies have occurred is not taken into account. This leads to an increased rent burden on those occupants remaining, which in turn may cause additional departures. The park operator could guard against this by requiring larger security deposits and higher income standards for acceptance into a park. This, however, would result in the exclusion of those people most likely to

want and need mobile homes and a lessening of the demand for the product.

An alternative would be to levy one tax on the land and improvements thereto (roads, lighting, utilities, etc.) and another on each mobile home located in the park. Each owner could then take advantage of any special exemptions or deductions available. Furthermore, each individual would be able to deduct those property taxes paid from his gross income for federal tax purposes; when only one tax is imposed, the operator is allowed a deduction for a tax which he in fact did not pay but passed on to his tenants. Although this method would be more burdensome and expensive to administer, it would be more equitable for the mobile home owner.

Commentators have criticized the above collection method because the municipality is not protected against those mobile home owners who move out of the jurisdiction rather than pay the tax. In reality, however, this is unlikely to happen since the cost of moving would usually exceed the taxes due.

The pressure on the local taxing authorities to find more revenue has led many of them to tax the mobile home as real property. This raises the possibility of double taxation: property taxation at the local level, fees at the state level. Furthermore, given the result in Stewart v. Carrington, 203 Misc 543, 119 N.Y.S. 2d 778 (1952), there is no assurance that the state judiciary would uphold an extension of the realty tax to mobile homes without legislative authorization. Hence, to avoid lack of

uniformity and insure success, a realty tax should be imposed by the state legislature.

Throughout this chapter it has been the hypothesis that the adoption of the realty tax would be beneficial not only to the mobile home owners but also to the industry as a whole.

The industry must realize that wide-scale acceptance of the mobile home will only come about when the community begins to perceive the mobile home as merely an alternative form of housing. Financial demands on municipalities are greatly increasing and tax officials are searching for new sources of revenue. The 1.6 million mobile homes located in mobile home parks provide an attractive target. As stated earlier in this section, many communities feel that mobile home owners are not paying their fair share of the fiscal burden. Whether they are or not is rather immaterial; what is important is the community's attitude. When the mobile home is viewed as a parasite living on the host of the community, it is likely to be excluded by zoning from the attractive residential areas. Unpleasant surroundings in non-residential areas enhance the negative impression of mobile homes and increase the isolation of the mobile home population. A first step in breaking this vicious cycle would be to tax all mobile homes as realty.

The mobile home is fast becoming nearly indistinguishable from conventional housing. As this process continues, the courts will become increasingly sympathetic to the local assessors' efforts to tax them as real property. Thus, in a recent Massachusetts case, the court ruled that

double-wide trailers and modular homes placed on permanent foundations are subject to the realty tax instead of the monthly parking fee. The court held that with the increased size and immobility of mobile homes there was no real distinguishing feature between them and conventional housing.⁶⁴

The major resistance to the imposition of the realty tax comes from mobile home owners and park operators. The basis for their opposition is economic: real property tax is believed to represent a greater tax burden. Although in the short run this is undoubtedly true, the indirect benefits of the real property tax outweigh the fiscal disadvantages. The continued opposition should be seriously reconsidered.

F.
SUMMARY

The impact of state taxation of mobile homes is hard to quantify. The impacts tend to be indirect and supportive rather than direct and primary.

Thus, the decision to exclude mobile homes from the community is primarily based on such considerations as density of population, demography, and the degree of urbanization. Taxes play a minor role until the decision is made; then local officials are likely to defend their exclusionary policies with the argument that mobile home owners do not pay their fair share of taxes.

There does seem to be a correlation between the restriction of mobile homes to non-residential areas and the type of state taxation. States having a fee system have a higher incidence of restriction to parks and non-residential areas than do states having a property tax.

Although the annual tax bite is a remote motivational factor in the decision to buy a mobile home, the type of taxes does play some role in the volume of sales. Thus, if persons believe that the annual taxes imposed on mobile home owners are substantially less than those on conventional homes, they are likely to consider mobile home ownership more seriously.

The type of tax is very important as to the way mobile homes are viewed by the local officials and the general public. The recognition of mobile homes as personalty has allowed the industry to avoid archaic local building codes but it has also denied the mobile home owner tax

exemptions and deductions associated with the realty tax. The personality characterization has probably led to lower direct taxes on mobile homes but has made the homes subject to attachment and forced sales. Furthermore, differential tax treatment reinforces negative attitudes of the community towards mobile homes and leads to discrimination and community exclusion.

The most dramatic trend in mobile home taxation is the increasing use of realty taxation. (See Figures 8 through 10). As mobile homes become less and less distinguishable from conventional housing, realty taxation will become the norm. Already, an estimated 60% of the entire mobile home unit inventory in the United States is subject to real property taxation. The taxation of mobile homes as realty, though bitterly opposed by a large segment of the mobile home population presently, will in the long run have beneficial effects on the mobile home owner as well as on the industry at large and should be encouraged.

Tied to change in land use controls, which often restrict mobile homes to parks and/or to less desirable land, realty taxation and classification offers the potential of expanding the mobile home market to attract everyone who desires housing, implying stimuli for increased product innovation and differentiation, increased sales volume, and decreased unit cost for the industry as a whole. Such changes would go far toward making the mobile home in its various forms a viable, high quality, low cost alternative for people in any area--rural, suburban or urban.

G.

FOOTNOTES

FOOTNOTES

- 1 U.S. Constitution, Art. I, Sec. 8, Cl. 1; U.S. Constitution, Amendment XVI.
- 2 Massachusetts Constitution, Art. 4, Sec. 1, Cl. 1.
- 3 In re Opinion of the Justices, 220 Mass 613, 108 N.E. 570 (1915).
- 4 Zullo v. Bd. of Health of Woodbridge Township, 9 N.J. 431, 88 A2d 625 (1952); Edwards v. Mayor and Council of the Borough of Moonachie, 3 N.J. 17, 68 A2d 744 (1949).
- 5 Compare Devine v. Mantua Township, 28 N.J. Super 299, 100 A2d 563 (1953), Crawford v. Wesleyville, 68 PA D&C 215 (1949) with City of Chicago v. Schall, 2 Ill, 2d 90, 11 NE 2d 872 (1954), Bellington v. Township of East Windsor, 17 N.J. 558, 112 A2d 268 (1955); also see Morris v. Township of Elk, 40 N.J. Super 34; 122 A2d 15 (1956).
- 6 Stary v. City of Brooklyn, 162 Ohio St 120, 121 NE 2d 11 (1954), Town of Cicero v. Weiland, 35 Ill App. 2d 456, 183 NE 2d 40 (1962).
- 7 These definitions were found in the State Legislative Roundup, State Legislative Affairs Department, MHMA (Chantilly, Virginia, June 14, 1974).
- 8 Alabama, Arizona, Colorado, Delaware, Georgia, Indiana, Kansas, Minnesota, Mississippi, Montana, Nebraska, New Mexico, North Carolina, Oregon, South Carolina, Washington, Wisconsin, Wyoming.

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Ohio Department of Taxation, Taxation of House Trailers in Ohio and Other States (July 3, 1958), pp. 14-15.
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The information for 1956 was drawn exclusively from the report compiled by the Ohio Department of Taxation, op. cit.
- 15
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- 17
See "The Search for an Equitable Approach to Mobile Home Taxation," 21 De Paul L. Rev. 1008 (1972).
- 18
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- 19
"Toward an Equitable and Workable Program of Mobile Home Taxation," 71 Yale L.J. 702, 710 (1962).
- 20
63 Am. Jur. 2d, PROPERTY, 22.
- 21
Letter from Indiana Manufactured Housing Association located in PMHI files.

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_____, Mobile Homes in Idaho, Boise, Idaho: Center for Business and Economic Research, School of Business, Boise State University, 1974 , pp. 95-102. (Hereafter referred to as "Boise Report.")

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Carol S. Greenwald, "Mobile Homes in New England," New England Economic Review, Boston: Federal Reserve Bank, 1970 .

25

August 8, 1973, letter from the California State Board of Equalization to the Director of PMHI. In spite of this disadvantage, the letter predicts that it is just a matter of time until mobile homes are treated as real property.

26

Boise Report, p. 87.

27

42 Am. Jur. PROPERTY, Section 13 (1942).

28

"The Search for an Equitable Approach to Mobile Home Taxation," 21 De Paul L. Rev. 1008 (1972).

29

R.W. Bartle and H.R. Gage, "Mobile Homes: Zoning and Taxation," 55 Cornell L. Rev. 524 (1970).

30

21 De Paul L. Rev. 1008, at 1024 (1972).

31

Robert F. Rooney, "Micro Analysis of Mobile Home Characteristics with Implications for Tax Policy: A Reply," 44 Land Economics 414 (August, 1968).

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N.Y. Trailer Coach Association v. Steckel, 9 N.Y. 2d 533, 175 N.E.

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Coyle Assessment, 17 Pa. D&C 2d 149 (1958).

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43

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(November, 1966). (Hereafter referred to as "Berney and Larson.")

44

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45

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- 48
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U.S. Bureau of the Census, Statistical Abstract of the U.S., 94 Edition, Washington, D.C.: The Department of Commerce, 1973.
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- 58
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- 61 In re Foley, 97 F Supp. 843 (Neb. D. Ct. 1951); Clark v. Vitz, 190 SW 2d 736 (1945); compare to Gann v. Montgomery, 210 SW 2d 255 (1948).
- 62 Standards for Mobile Homes, American National Standards Institute, A 119.1, p.10 (1974).
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- 64 Ellis v. Bd. of Assessors of Acushnet, 265 N.E. 2d 491 (1970).

BUILDING CODE REGULATION

9/1/50 - 1557

pt. 2

TABLE OF CONTENTS

A.	<u>INTRODUCTION</u>	319
B.	<u>BACKGROUND INFORMATION</u>	323
	1. Legal Source of and Limits to the Power to Regulate.....	324
	2. The Evolution of Building Code Regulation in the Mobile Home and the Manufactured Building Industry.....	330
	2.1 The Evolution of Manufactured Building Codes.....	332
	2.2 The Evolution of Mobile Home Codes.....	340
C.	<u>TECHNICAL CONTENT OF MOBILE HOME CODE ANSI A119.1 AND ITS EFFECT ON LABOR PRODUCTIVITY</u>	348
	1. Introduction	349
	2. Improvement in the Engineering of the Body and Frame	352
	3. Improvement in the Mechanical System.....	359
	3.1 Overview.....	360
	3.2 Electrical System.....	363
	3.3 Plumbing System.....	369
	3.4 Heating System.....	375
	4. Conclusion	382
D.	<u>THE SYSTEM OF MOBILE HOME CODE REGULATION PRIOR TO JUNE, 1976--DESCRIPTION, ANALYSIS, IMPACT AND POTENTIALS</u>	403
	1. General Description of State Adoption and Implementation of ANSI A119.1.....	406
	1.1 Passage of Enabling Legislation.....	407
	1.2 Establishing Administrative Machinery.....	409
	1.3 Effecting Compliance with Code Requirements.....	411
	2. Rationale for Selecting Key Factors in Code Regulation Influencing Industry Performance.....	420

- 3. Analysis of Key Factors..... 423
 - 3.1 Intrastate Key Factors..... 425
 - 3.1.1 State Adoption of Mobile Home Code 425
 - 3.1.2 Key Factors of Enabling Legislation..... 429
 - 3.1.3 Establishment of Administrative Machinery..... 432
 - 3.1.4 Functions of the Administrative Machinery..... 446
 - 3.2 Interstate Key Factors..... 463
 - 3.2.1 Mutual Recognition Programs and Reciprocity... 463
 - 3.2.2 Out-of-State Approval and Inspection Systems... 468
- 4. Summary of Impacts and Potentials..... 475
 - 4.1 Summary of Impacts..... 476
 - 4.2 Summary of Potentials..... 481
- E. MOBILE HOME CODE REGULATION TOMORROW--FEDERAL MOBILE HOME CONSTRUCTION AND SAFETY STANDARDS..... 489
 - 1. Introduction..... 490
 - 2. The Federal Standards: Technical Content..... 493
 - Fire Safety Requirements 494
 - Energy Conservation Requirements..... 495
 - Summary..... 496
 - 3. The Federal Standards: Enforcement..... 497
 - Procedures and Rule Making..... 499
 - Hearings and Investigations 499
 - Primary Inspection Agencies 501
 - State Administrative Agencies..... 502
 - Interstate Monitoring Teams..... 503
 - Summary..... 504
 - 4. Implications of the Federal Mobile Home Standard for Future Code Regulation of the Building Industry..... 505
- F. SUMMARY..... 507
- G. FOOTNOTES..... 518

A.

INTRODUCTION

Construction and safety codes shepherd the mobile home through manufacture, distribution and final placement on the site. Our primary objective is to estimate the impact of these public regulatory measures on the mobile home industry's economic and social performance; the following pages, therefore, investigate building code regulation of the mobile home industry. But because we contend that code regulation of mobile homes and of manufactured housing should ultimately merge into one unified, efficient process at the statewide level (or higher), we also include comparisons with the manufactured building industry.

First, we provide the reader with a historical perspective on code regulation, both of the mobile home and of the closely-related manufactured building industry.

Next, we perform a technical analysis of the most widely-used mobile home code, ANSI A119.1. Since the new federal code is based largely on ANSI A119.1, a thorough understanding of the older code facilitates evaluation of the new code's technical content and enforcement characteristics.

Thirdly, in an effort to isolate factors in code regulation which either upgrade or undermine the mobile home industry's performance, we investigate the spectrum of actual state code implementation. Wherever necessary, we draw comparisons with state-wide manufactured housing codes.

Finally, we describe the technical content and enforcement procedures written into the HUD-sponsored federal mobile home code--a sneak preview of the new code's potential effect.

In order to obtain as complete and thorough a primary data-base as possible, we consulted a large number of informational sources. Several of these deserve singling out. First, in 1972 the National Bureau of Standards (NBS) collected data on state code regulation of mobile homes, factory-built housing and traditional building, in an extensive field survey covering 28 states. This survey, in which Project Mobile Home Industry (PMHI) participated by working in six of the 28 states, is known as the Coordinated Evaluation System Project (CES). NBS has continued, however, to update its survey, and is so far as we know the most complete source of information on the subject. We used the latest information from NBS in our report, received as of July 1976.

In order to supplement CES data and to pinpoint the industry's pulse-points, we conducted numerous field and phone interviews with state building code officials, national, state and regional industry representatives, and with the presidents of many large companies producing mobile homes. In particular we solicited feedback on potential alterations in building code regulation best suited to further develop the mobile home industry. These nationwide interviews were conducted continuously throughout a seven-year period, from 1969 to 1976.

Finally, we would like to acknowledge our debt to the many people in both the Washington and the Boston regional offices of the Department of Housing and Urban Development who aided us with extensive information on the new federal mobile home code. We are also indebted to Mr. G. H. Tryon, Administrative Secretary of the National Fire Protection Association, for the generous gifts of his time and his advice during the years from 1970 through 1976. In particular, he provided us with a detailed comparison of the proposed 1976 NFPA/ANSI A119.1 code with the federal mobile home code.

B.

BACKGROUND INFORMATION

1.

Legal Source of and
Limits to the Power
to Regulate

The power to enact, administer and enforce building codes is a part of the police power of sovereign political units and is used to accomplish the promotion and protection of the public's health, safety, and welfare.

This power is derived from the tenth amendment of the United States Constitution which reserves to the states and their citizens "the powers not delegated to the United States by the Constitution, nor prohibited by it to the states." In line with the American tradition of home rule, the federal government had chosen until recently not to assert that the powers delegated to it by the Constitution included building regulation; thus states had assumed the power to regulate building construction. Traditionally, they delegated the authority to develop and administer such codes to local governments -- counties, cities, towns, and villages.

The incorporation of any local political unit within a state generally involves a grant of some part of the state's police powers. Powers not thus granted may be delegated by special state "enabling acts." In turn, local governments can (and in some cases must) further delegate the powers to write, administer, and enforce rules and regulations, just as state governments establish state administrative bodies to implement legislative acts. A local official or board, for example, is usually empowered to handle conventional building code regulation, although such delegated powers may be limited, withdrawn, or preempted by state or federal legislation.

Historically, building construction has been regulated at the local level due to the feeling that municipalities should control their own environments.

States were concerned primarily with regulations dealing with special hazards, such as fires, and with public use buildings (e.g., schools and hospitals). There is also a history of state regulation of the mechanical systems in buildings -- especially plumbing, electrical wiring, elevators, and boilers. However, due to the ever-increasing significance of new, non-traditional methods of construction, an influx of new materials and technologies, and the resultant increasing complexities required of code regulation and enforcement, more states are enacting preemptive legislation which limits or restricts local control over certain forms of building construction in an attempt to unify construction standards and provide more consistent methods of enforcement.

Statewide preemptive building codes presently exist for a) mobile homes only, b) factory-built housing only, c) mobile homes and factory-built housing (separate programs in the same state), d) mobile homes and factory-built housing (combined program in the same state), e) on-site building only and f) all building types, on and off-site. Combined programs (d) are not widespread, having been adopted by only six states. Similarly, preemptive building codes for all building types (f) have not been widely adopted; on-site building has almost entirely remained under the domain of local building code officials. State-wide preemptive building codes have been enacted mostly for mobile homes and factory-built housing programs (a,b, and c).

Historically, the federal government has been very hesitant to impose standards, through federal codes, on states and municipalities. However, the federal government has focused its energies on four areas which relate to building regulation:

- 1) Requirements for Federal Buildings. When constructing new federal buildings, the General Services Administration uses national codes to set minimum standards while also complying with local codes. Some special standards have been developed for specific types of buildings such as public housing projects.

- 2) Requirements for Federally Funded Programs. Requirements are often placed on municipalities if federal funding for their building programs is desired. The city must have a comprehensive system of building and land development ordinances and codes in order to be eligible for financial assistance and strong encouragement is given to adoption of national model codes by the city. In addition, adoption of codes based on a national model has been a prerequisite to receive funding for urban renewal projects.

- 3) Research in Building Technology. The federal government conducts research into building technology largely through the National Bureau of Standards. In addition, many quasi-public and private agencies are funded to do such research. Much of this work provides an important basis for the development of the technical content of building codes.

- 4) Support of National Standards Programs. Several federal agencies are involved in coordinating and developing standards and testing procedures for use in formulating and improving model national codes. The National Bureau of Standards, work-

ing in close cooperation with the National Conference of States on Building Codes and Standards (NCSBCS), has been effective in encouraging the exchange of information between state officials and national code associations to provide a greater technological uniformity and code consistency among the states.

In the future, considering the current trend toward building code uniformity, building construction regulation may well be overseen by the federal government. An indication of this is evident in Title VI of the Housing and Community Development Act of 1974, wherein the federal government initiated its participation in building regulation outside of federally financed housing by establishing federal Mobile Home and Construction Standards. This code which became effective on June 15, 1976, preempts all state and local regulations. In so doing the federal government implicitly withdrew the grant of Constitutional power from the states. The exercise of this police power placed building regulation of mobile homes within the federal realm based upon Article I, section 8 of the Constitution which enables the federal government to "provide for the common defense and general welfare of the United States".

Congress had delegated to the Department of Housing and Urban Development (HUD) the authority to develop and enforce these federal standards. In turn, HUD intends to delegate to states or independent third party agencies the administration of the code on the state level, provided the delegated agency agrees to specified duties although HUD retains the final authority at the administrative level. Therefore, local governments no longer play a role in mobile home regulation.

In sum, it can be seen that the pendulum of regulatory power for manufactured housing and mobile homes has swung from the local to the state level and for mobile homes, from the state to the joint state-federal level, a step which may soon follow for the manufactured building industry.

2.

The Evolution of Building Code Regulation In the Mobile Home
and Manufactured Building Industries

This chapter will give a brief overview of the historical evolution of building code regulation of mobile homes and manufactured shelter and, to the extent relevant, on-site construction. It will describe the forces which brought such regulation from an almost exclusively local level to the state, and, for mobile homes, to the federal level, resulting in a single uniform federal standard for mobile homes and widespread statewide codes for manufactured building.

Tracing the evolution of the regulation of manufactured shelter provides the reader with a reliable perspective on the evolution of building code regulation of mobile housing. There is considerable overlap between the two forms of production; many companies produce both forms of shelter. Sometimes the two forms of codes are actually mandated by the same law; in 10 out of 31 states having statewide codes for both industries the agency which administers the two codes is the same. Finally, the recent acceleration in state adoption of both manufactured housing and mobile housing codes has coincided remarkably.

Manufactured housing and mobile housing have been subjected to considerably different building code pressures. Discussing manufactured building code regulation first will provide background on the inefficiencies that stimulated the mobile home industry to successfully promote a unified national mobile home code.

2.1 THE EVOLUTION OF MANUFACTURED BUILDING CODES

Factory-built shelter has been subjected to much of the same kinds of chaos and multiplicity which have faced traditional building. Since colonial times, local governments have been the architects of building codes. Most codes deal with all types of buildings, although special requirements or standards are applied to special use buildings. Generally, no specific codes for manufactured shelter were found at the local level. The control of such structures was usually left to traditional building codes, housing occupancy codes, or even zoning ordinances.

For the manufactured building industry this has meant that local acceptance of technologically advanced shelter was subjected to the multiplicity of differing traditional codes and, in addition, to the discretion of the local building inspector who occupies a key position within the building code system, for he interprets the code and may even amend it. His interests are often strongly linked with those of local builders and material suppliers. He is therefore often prejudiced against "foreign" housing producers and production methods.

This hostile regulatory environment for the manufactured building industry reflects the fact that states have been slow to eliminate local "home rule" by preempting local codes with a statewide code. A strong force in maintain-

ing this home rule is the power structure at the local level. Municipal code writers and inspectors are closely allied in outlook with local building contractors and material producers.¹ Therefore, as building codes have long been viewed as a local concern, reflecting and favoring local needs and interest, attempts by state officials to preempt local jurisdiction have been regularly opposed by both inspectors and builders.

As an illustration of the problems caused by local rule, the National Commission on Urban Problems, chaired by former U.S. Senator Paul Douglas (D.-Ill.), documented in 1969 an \$1800 increase to the cost of a \$12,000 model factory-built home (without improved lot) due to a total of 21 excessive code requirements.² These items were taken from various codes in an area including 25 jurisdictions in which a manufacturer was marketing. Thus, this manufacturer had the costly and unnecessary job of trying to figure out in what ways his product was acceptable in each of the 25 markets. Typically problematic was the manufacturer having to meet floor span variations ranging from 11 feet 4 inches to 14 feet 4 inches to 17 feet for two-by-tens. The only answer to the problem was to build to meet the most stringent specifications -- many of which were obsolete -- which increased the cost for everyone.

Other problems exist at the local level caused by out-of-state codes, dissimilarity among codes of adjacent communities, differing interpretations of code provisions, political pressure causing administratively unsound decisions, and the exclusion of certain types of construction by local interest groups through zoning and other devices.

Because of the Yankee tradition of local rule, the U. S. has the dubious dis-

tion of standing alone among industrialized nations in its massive proliferation of local codes. It has been estimated that there are between 5500 and 8830 such local codes in existence in the United States.³ In the opinion of many, this proliferation has resulted in a ridiculous conglomeration of often obsolete codes that are unnecessarily costly and time consuming for the building manufacturer.

Several national code associations exist for the purpose of unifying building code regulation. This is done by advancing model building codes that may be adopted as either mandatory or voluntary by states or localities according to their enabling legislation. These codes incorporate current technology while protecting the public safety.

The oldest of these is the National Building Code, sponsored by the American Insurance Association. The Building Officials Conference of America (BOCA) sponsors the Basic Building Code which is most prominent in the East and North Central sections of the country.

The International Conference of Building Officials (ICBO), which sponsors the Uniform Building Code, has its greatest influence in the West. The South is represented by the Southern Building Code Congress (SBCC), which publishes the Southern Standard Building Code. In addition to the fairly complete codes of these four associations, the National Fire Protection Agency (NFPA) publishes the National Electrical Code, the only nationally recognized electrical code. Each organization has representatives from its member states who are usually part of the state government.

While few dispute the technical soundness of the national codes, the problem is that there are four "national" codes. Until recently the content of the four complete codes had sufficient differences that, frequently, new technological materials and methods were acceptable to one and not to another. Furthermore, while these four code associations are widely respected within their member states, approval by one of them is not necessarily sufficient to get approval by the local building inspector. In addition, the model national code adopted may be out-dated or a current code amended by the local inspector, resulting in hundreds of "national" codes per state. Until recently, this problem was compounded by the problem that the four code associations rarely approved complete systems due to the prohibitive testing expenses required of manufacturers. Instead, only separate modules or components of a complete assembly were tested and approved. Thus, many local building inspectors were hesitant to approve an entire system.

In reaction to the previously described inefficiency and added cost, as well as the growing national housing shortage crises, factory-built housing advocates influenced states to pass legislation aimed at greater uniformity in building code regulation. In 1967, the National Conference of States on Building Codes and Standards (NCSBCS) was formed as an official interstate organization; its delegates are appointed by state governors. It lobbied for legislation to establish unified, statewide building regulation for factory-built housing.

Reacting to the potential threat of the NCSBCS, the four national model code publishers consolidated many parts of their codes. ICBO, BOCA, SBCC established the Council of American Building Officials (CABO) to eliminate unneces-

sary differences. Under the CABO agreement, considerable progress was made. For example, any new material or method acceptable to one of the three code associations would also be approved by the other two. These moves, however, did not substantially slow down the push for state enactment of factory-built housing codes.

In 1969, the federal government helped the movement to adopt state-wide factory-built housing codes through its "Operation Breakthrough." Operation Breakthrough, in response to a Congressional mandate to improve the national housing situation was an attempt by the Department of Housing and Urban Development to stimulate improvement of the total housing production and delivery process.

HUD's strong urging of states to adopt statewide factory-built housing codes resulted in one of the most tangible benefits of Operation Breakthrough. Before its inception, no single state had such a code; in 1971, responding to this atmosphere, California passed the California Factory-Built Housing Law. This precedent-setting law established the first complete system of state plan approval and inspection of factory-built housing. By meeting this code, a factory-builder could avoid literally hundreds of different local codes in California. By the summer of 1972, twenty-seven states had enacted mandatory statewide regulations governing and permitting the use of factory built housing in any part of the state.

In 1974 at the request of NCSBCS and as part of HUD's efforts to bring about the passage of such laws, the National Bureau of Standards developed and published a complete set of model documents for the evaluation and testing of

factory-built housing. These documents provided all the states with a complete and authoritative model upon which to base a factory-built housing code. States can adopt such a code in one of two forms. The first type, most common among mobile home codes, is a mandatory, preemptive state code. Any building which meets the minimum requirements of such a state code automatically meets the local code. The second type of model code is not mandatory, it relies on local jurisdictions to adopt the model code. In either case, there may or may not be a provision in the law that the local jurisdiction, once approving the model code, may not amend or otherwise change the code without state approval.

As of September, 1974, 31 states had either enabling legislation or pending legislation for such codes (See Figure 1). Despite the encouraging prospects, an important need still exists to insure that the typically different state codes have a maximum degree of uniformity so that true reciprocity between states can be achieved. Fifty separate codes would be better than a multitude of local codes but would only achieve part of the potential benefit of a fully reciprocal code system for the entire United States.

The federal government has not yet intervened directly in the promulgation of factory-built housing code. However, the Federal Mobile Home Safety and Construction Standards, which took effect in June, 1976, point significantly in that direction. The federal standards preempt all state and local codes for mobile home code enforcement not approved by HUD. If states do not voluntarily adopt either a single factory built housing code or nationwide reciprocity programs, it appears now that the federal government will set up a mandatory, federal code for factory-built housing as it did for mobile homes.

The opinion of an industry expert interviewed by the Manufactured Housing Newsletter reflects the feelings of large segments of the manufactured building industry:

"It is easy to predict that a national building code affecting manufactured housing (packaged and modular) will be achieved in this decade." ⁴

Considering the benefits likely to accrue to the mobile home industry from the federal code, many building manufacturers have become very dissatisfied with the fractionalized regulations imposed upon them by the states. If the situation is not remedied soon, an outcry from the industry to get federal regulation can be anticipated. The same interview concludes that "the future regulatory approaches for manufactured housing are being cast in bronze today as the regulatory aspects of programs applicable to mobile homes are developed." Thus it appears that a uniform national manufactured building code may soon be a reality.

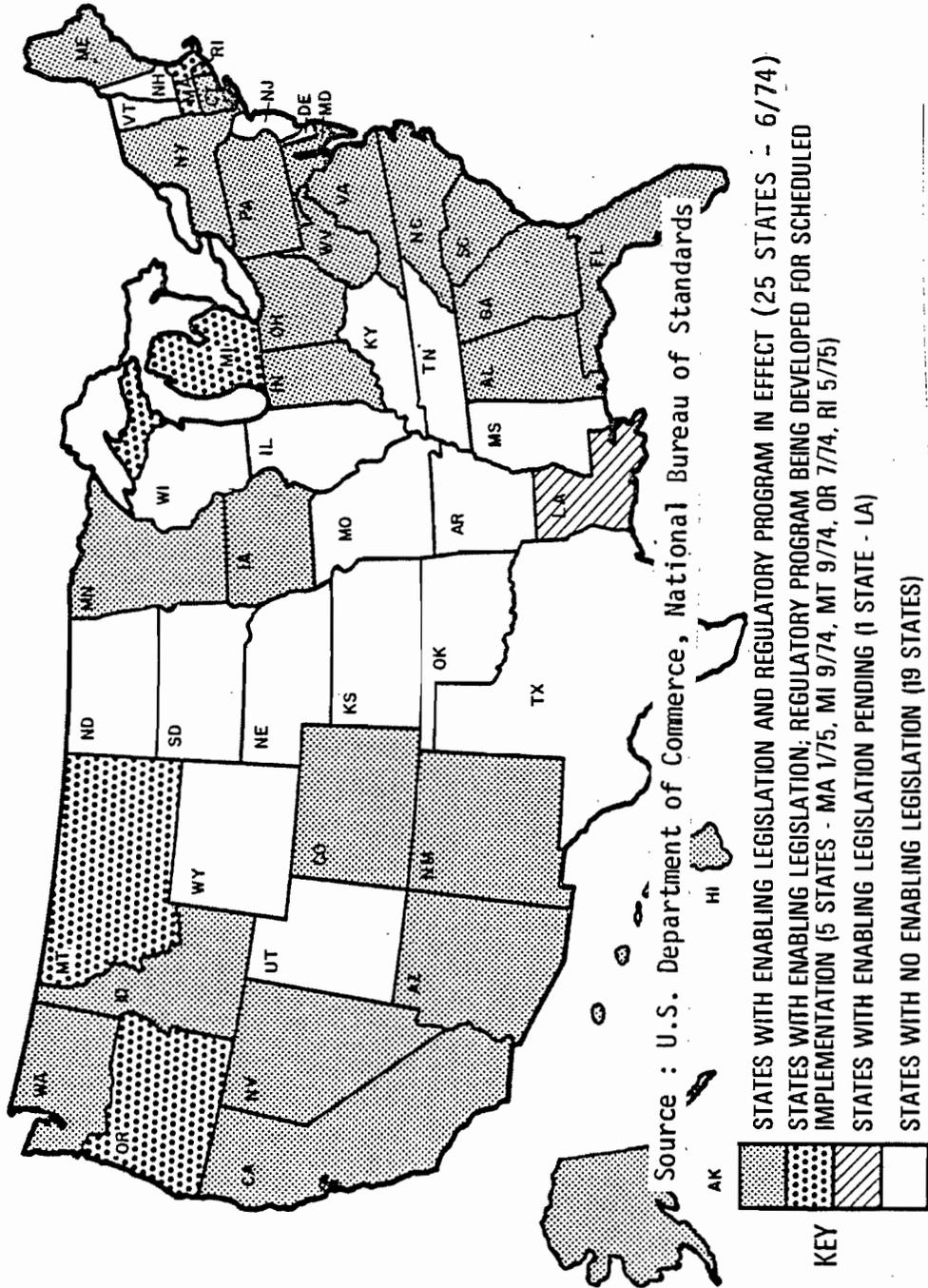


FIGURE 1: MANUFACTURED BUILDING REGULATORY PROGRAMS IN THE U.S.

(Based on Latest Information Received by PMHI as of July, 1976)

2.2 THE EVOLUTION OF MOBILE HOME CODES

Public safety regulations for mobile homes did not exist in the early years of the industry. Because mobile homes were commonly treated as personal property rather than as real estate, manufacturers were not generally required to conform to conventional building code standards. They were able to use technologically advanced materials and construction methods which substantially reduced production costs. This enhanced the market for mobile homes as a form of low-cost housing. At the same time, however, some mobile home manufacturers were marketing poor quality products, and, in some cases, even dangerous products. Since the public strongly identifies any mobile home it sees with all mobile homes, responsible industry leaders saw the need for high standards of quality for the entire industry. This condition, plus the ever increasing size of the mobile home industry led to efforts to fill the legal vacuum.

Recognizing this vacuum and that state and local governments had already begun to legislate local construction standards, the Mobile Home Manufacturers Association (MHMA) undertook the task of developing and promoting its own standards. The association's objective was to avoid industry subjugation to the kind of complex and contradictory standards which face the on-site residential building industry. MHMA members were aware that compliance with provisions of a maze of local codes would result in custom-building units for each code jurisdiction thereby losing much of the price advantage they held in the market.

In the 1950's the MHMA and the Trailer Coach Association first approached the National Fire Protection Association (NFPA) and then the American National Standards Institute (ANSI) to seek their cooperation in developing mobile home standards geared to the special conditions of mobile home production. The resulting code, known as NFPA 501B, was the first set of comprehensive standards published solely for the benefit of the mobile home industry. In 1963, ANSI endorsed NFPA 501B's heating and electrical code and added its own plumbing codes to produce the "American Standard A119.1 -- 1963, for Installation in Mobile Homes of Electrical, Heating and Plumbing Systems." Compliance to this code became a prerequisite to continued membership in the MHMA. By 1967, the MHMA had developed "Minimum Body and Frame Design and Construction Standards." Under ANSI auspices, groups from MHMA and NFPA met to work out a compromise between this construction code of the MHMA and that of the NFPA. The mutually accepted code was incorporated into A119.1 in the 1969 edition. Since then, codes NFPA 501B and ANSI A119.1 have been jointly developed. The Administrative Secretary of NFPA, Mr. G. H. Tryon, characterizes the ANSI code as "the most complete single-package building standard of any available in the U. S."⁵

The American National Standards Institute regularly publishes revised editions of its code after submitting proposed amendments to its members for approval. Revisions are researched and drafted by specialists in each area of regulation, under NFPA coordination. In their effort to produce a code that is complete and flexible, these code drafters use performance requirements rather than specifications whenever possible. A specifications code simply describes current, or historical, building methods and materials and requires that these methods and materials be used on every new structure. It is generally easy to draft and administer, but the disadvantage of such a code is that it freezes techno-

logy; innovation is rejected regardless of its merits. The performance code isolates every critical factor in the construction of a unit and prescribes criteria for evaluating every material and construction method. Such a code is difficult to draft and administer, but gives the widest latitude to innovators.

In the early 1970's, as a result of continued MHMA pressures, states began to recognize ANSI A119.1 as a comprehensive code. By 1973, 34 states had adopted mobile home standards consistent with A119.1. As of June 1974, 45 states had adopted A119.1 or a derivative of that code. (See Figure 2). This achievement is largely due to lobbying activities of the MHMA and state recognition of the need to provide for the public safety and to insure minimal quality standards. In addition, Operation Breakthrough, although it primarily affected the factory-built housing industry, also encouraged states to adopt similar statewide codes for mobile homes.

State acceptance of the American National Standard Institute code ANSI A119.1 has been completely voluntary. As a result, although the codes are based on A119.1, they are not all the same. The National Conference of States on Building Codes and Standards has been striving for states to adopt a single, nationwide standard by consensus. As part of this effort, the NCSBCS requested the National Bureau of Standards (NBS) in 1971 to evaluate programs of state manufactured building and mobile home standards. On the basis of its analysis, the NBS recommended the adoption of uniform interstate regulations for mobile homes and began working on development of a model enforcement program for mobile homes. Agreement was difficult however. Even when a consensus was reached, some NCSBCS delegates would change a few provisions upon returning to their re-

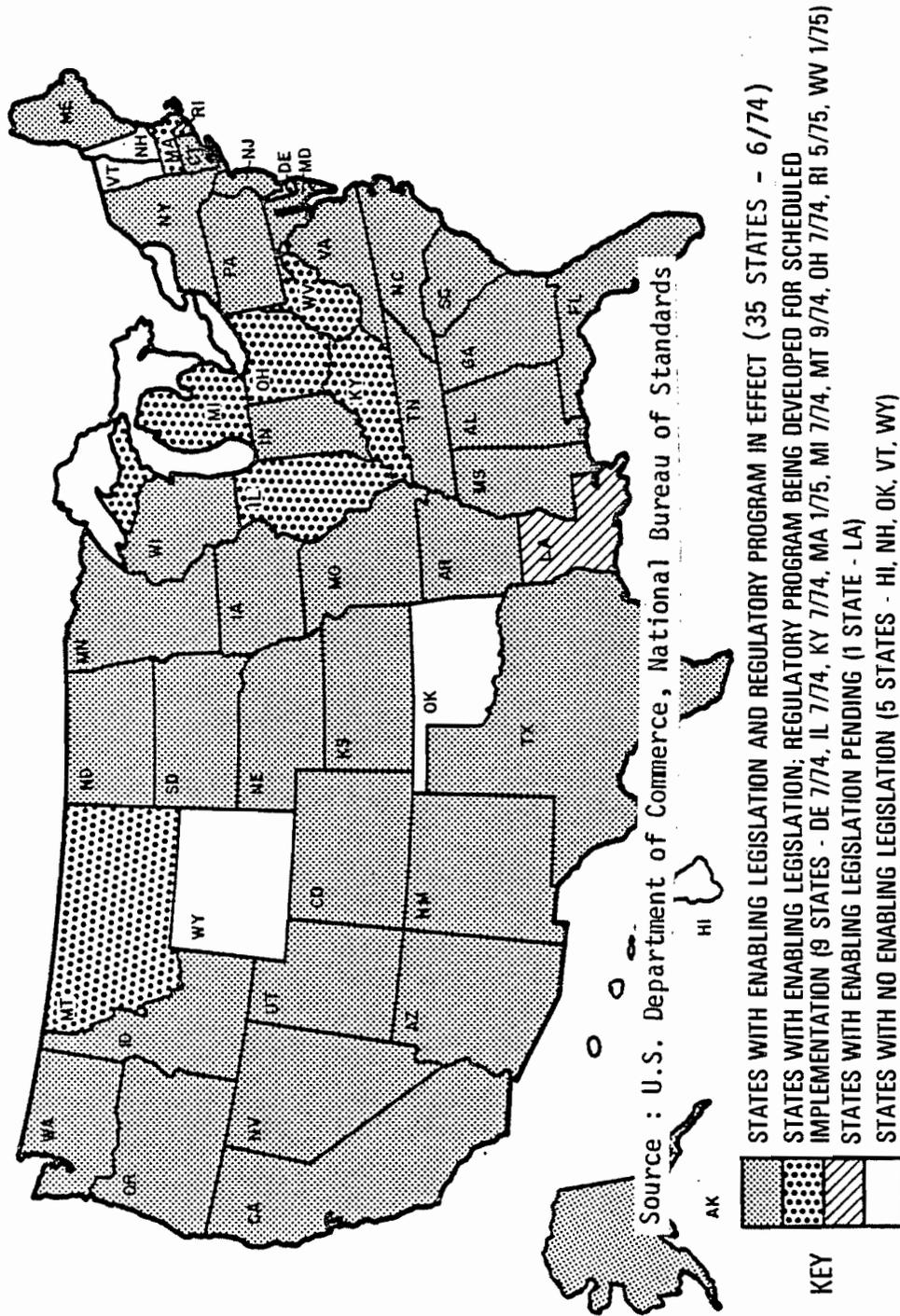


FIGURE 2: MOBILE HOME REGULATORY PROGRAMS IN THE U.S.

(Based on Latest Information Received by PMHI as of July, 1976)

spective states. Thus the agreement became meaningless on the national level. This multiplicity was costly for many mobile home manufacturers, many of whom had markets in ten or more states. Consequently, the consensus approach was not very successful in the mobile home industry. Thus, when a federal mobile home code was proposed to Congress, it was supported by the mobile home industry as well as consumer groups.

In 1972, Representative Louis Frey, Jr. (R.-Fla.) introduced national mobile home standards legislation in Congress. This action was partly prompted by insurance companies, for higher mobile home standards would mean lower insurance costs for them as well as for consumers. Shortly thereafter, Senator William E. Brock III (R.-Tenn.) introduced similar legislation in the Senate, but with a major difference. While Representative Frey's bill provided that states and localities could "equal or better" federal standards, Senator Brock's bill required that state and local codes must equal the federal standards.

The mobile home industry, which had pressed earlier for a single federal standard to allow for total interstate reciprocity, endorsed Senator Brock's bill. Industry spokespeople also stressed the need for state participation in enforcement, which would facilitate existing state enforcement agencies to adjust as rapidly as possible to the federal code while allowing them to remain responsive to states' needs.

The legislation of mobile home standards was a popular subject in Congress from 1972 on. Within a mid-month after the introduction of Representative Frey's bill, thirty co-sponsors had been gathered. At one point, five bills, each with separate sponsors, were pending before Congress on mobile home

safety legislation. Some of these measures, like that introduced by Senator Frank E. Moss (D.-Utah), would have imposed drastic changes. His bill would have lumped mobile homes together with waffle irons and pep pills as "dangerous products" in the Product Safety Bill then before Congress. Senator Moss' bill failed to gain passage.

In 1973, Senator William Proxmire (D.-Wisc.) introduced a bill with stricter measures than Senator Brock's. The Proxmire bill was developed by the Center for Auto Safety, a Nader study group. Proxmire's bill would have allowed higher standards in state codes than those set in the federal code. The Senate Banking Committee approved a compromise bill which prohibited state and local standards not identical to the federal code but mandating that HUD should develop the highest federal standards feasible.

In 1974, legislation was finally passed as a compromise between the Brock-Proxmire bill in the Senate and a nearly identical but less stringent one introduced by Representative Robert G. Stephens (D.-Ga.) in the House. The resulting legislation considerably softened the Proxmire version. For example, provisions for a federally required warranty, for two special HUD secretaries to deal with mobile homes, and for a requirement that manufacturers must submit all plans to HUD for approval were dropped. Instead, manufacturers need only certify their unit's compliance with the federal standards. The industry seemed in agreement with this legislation since both it and the Mobile Home Manufacturers Association had cooperated fully in the drafting of the bill.

The bill as adopted, the "National Mobile Home Construction and Safety Standards Act of 1974", is Title VI of the Housing and Community Development Act

of 1974, in which HUD is directed to establish national construction and safety standards. HUD is also directed to consult the National Mobile Home Advisory Council in developing these standards. This 24-member group consists of eight members from consumer advocate groups, eight from the mobile home industry, and eight from federal, state, or local environmental bodies concerned with mobile homes.

As required by Title VI, HUD published notice of its proposed rule making in the June 25, 1975 Federal Register and solicited public comment on the proposed standards, allowing 30 days for submission. More than 1,000 comments from mobile home manufacturers, suppliers, national code organizations, state and government agencies, consumer organizations, and individual consumers were received.

Of these, 825 urged that ANSI A119.1/NFPA 501B be adopted by reference as the federal mobile home standard. Most of these were from members of the National Fire Protection Association. These comments affirmed the technical soundness of ANSI code and stressed the imminent state and nationwide adoption of ANSI. The adoption of a new set of untested federal standards would perpetuate an already rapid state of change and difficult period of adjustment.

HUD reacted responsively to these recommendations. The federal standards are in substantial measure based on the ANSI/A 119.1-1975/NFPA 501B standard for mobile homes. However, HUD did not simply adopt the complete ANSI/NFPA code by reference. One reason was HUD's concern that outright adoption of the ANSI/NFPA mobile home standard would commit HUD to a de facto delegation of its authority to develop standards for promulgation -- a course of action which HUD felt was neither envisioned nor authorized by the act.

On June 15, 1976, the new federal standards took effect. Perhaps the most significant aspect of Title VI is that the new federal standard preempts all existing state and local regulations affecting mobile homes. States and localities may conduct their own construction and safety standards programs for building code areas not specifically covered by the new federal standard, but only with the approval of HUD. In no case may they amend the federal standards themselves. Another important result of this legislation is that the federal code as developed by HUD is a performance code permitting flexibility and innovation within the performance standards. Furthermore, the federal standards are expected to evolve in an orderly manner in response to further research and experience under the direction of the newly created HUD Office of Mobile Home Standards.

States are encouraged to develop their own enforcement plan with the assistance of HUD. With the enactment of the federal standards in June 1976, states having a HUD-approved and 90%-funded enforcement program must grant reciprocity in their inspections. That is, a mobile home inspected and certified as meeting the federal standards in one state must be accepted for sale in all other states having HUD-approved programs. This reciprocity can help realize the full production and marketing potential of the mobile home industry; and the establishment of federal standards, along with authorized research and development will, hopefully, further improve the safety, quality, and durability of the mobile home industry's product.

C.

TECHNICAL CONTENT OF
MOBILE HOME CODE ANSI A119.1
AND ITS EFFECT ON
LABOR PRODUCTIVITY

1.

Introduction

The mobile home industry is generally still undercapitalized and, as a result, relatively labor-intensive. Because of this, there has been constant concern that improvements of the mobile home code ANSI A119.1 would cause labor productivity to fall, decreasing the relative advantage in terms of labor productivity that the industry has over the on-site building industry. This chapter analyzes key sections of the ANSI A119.1 code, tracing the development of the code over time and the effect of changes in the code on industry practices and labor productivity.

The mobile home has undergone major functional and resulting design changes since its original conception in the twenties. The early functional needs were high mobility, minimum livability, and self-dependence, which the designs reflected by small, automobile-towed units. The present-day mobile home constitutes primary housing, thus functionally calling for maximum livability, minimum mobility and total dependence on utility hookups. The mobile home code ANSI A119.1 has kept pace with these changes, either through periodic revisions or because of the general performance specification orientation of A119.1, which permits innovation.

It should be noted that the material in this chapter on the engineering of body and frame has less emphasis on code development than the analyses of the mechanical systems because ANSI has not dealt with structural requirements for as long a period of time. A more complete analysis of the structural specifications for body and frame design can be found in Volume II, in the section on "Manufacturing." Code and product improvements will be analyzed by dealing separately with the structural and mechanical systems:

- 1) Improved engineering of the body and frame ; and
- 2) Improved mechanical services (electrical, plumbing and heating).

2.

Improvement in the Engineering
of the Body and Frame

The mobile home of today is definitely a better engineered unit than it was twenty years ago. Vigorous upgrading of the product has occurred within the last few years, spurred by the action of most state legislatures to regulate the construction of all types of factory-built housing. Most of the recently instituted legislation require that all mobile home manufacturers conform to : 1) a state-adopted mobile home code (usually ANSI A119.1) and; 2) periodic inspection of the production process by a state inspector or an authorized third party (U.L., U.S. Testing Laboratory, Pittsburgh Testing Laboratory, etc.).

Paradoxically, along with this improvement in construction quality has come an increase in labor productivity. One of the reasons for this increase is that manufacturers have become more efficient in their engineering design methods, thus minimizing the labor installation costs. Designers have been able to utilize material properties and strengths to their fullest potentials. Another reason is that new materials are constantly being experimented with. If a new material is less expensive and more efficient than an older one, it is readily substituted. This is possible, in part, because the ANSI code gives performance criteria for new materials rather than specifying an exact material or method to be used. Thus, through this continuing evolution, a better, more efficient product develops.

At the start, mobile home manufacturing was highly labor-intensive. However, as the operations grew more sophisticated, less labor-intensive procedures were developed and better production organization occurred-- finer labor specialization, more dependence on efficient installation

tools and equipment, and greater dependence on suppliers for pre-assembled or prefinished parts. Today, mobile home manufacturers have evolved into assemblers rather than "builders."

To analyze how better engineering of the mobile home has contributed to the greater labor productivity, the particular changes in product engineering will be discussed. The following is a detailed list of some of the engineering improvements which have contributed to greater labor productivity:

a. Chassis

Because it is better engineered, and material utilization is more efficient, the chassis of today is a stronger and lighter frame than it was in the past.

Manufacturers use lightweight steel channels or joist members for the outriggers and cross-members to form the bracing of the frame, in contrast to the heavy channels, pressed steel, or even wooden chassis that were used formerly. However, to insure strength, lightweight structural steel I beams 8"-12" (known as Junior Beams), are still used for the outer longitudinal members. During fabrication of the frame a camber is built into the portion of the frame that will be over the wheels. A reverse camber is put into the forward end. Thus, much of the load of the home will be compensated for in the cambering.

b. Wheel/Tire Assembly

Because of the increase in size and weight, most units now have a triple or tandem axle rather than the single or tandem axle employed in the older smaller units. For similar reasons, tires used today are 8-12 ply rather than 6-8 ply.

c. Floor

Floor systems in the past varied from manufacturer to manufacturer. Often the floor framing system would be a built-up system consisting of 2x3 or 2x4 longitudinal members with 2x3 or 2x4 crossmembers on top of the longitudinal members. In other cases, manufacturers would build 2x6 longitudinal joist members and insert labor consuming 2x6 cross-blocking about 4' apart to form a structural matrix. To reinforce the subfloor above and act as stabilizers at the top and bottom, the manufacturers might add wood strips cut at 45° angles at the top and bottom of the joists. On top of this whole assembly they would place another 1x2 strip over each cross-block. To guard against warpage and tile cracking, another manufacturer might place a 1x6 or 1x4 plywood reinforcing strip under each floor joist. Today, most manufacturers use 2x6 longitudinal members 16" on center and brace them with dadoed 1x2 crossmembers.

In the past, the subfloor was usually laboriously screwed and glued into the floor joists. Thicknesses of 3/4"-1" of material were used for the longer coaches. However,

because of improvements in the materials, only 5/8" is used today. In addition to the material being lighter and easier to handle, the subfloor is installed faster through the use of pneumatic nailing and more efficient gluing practices.

Like the conventional home builder of today, the mobile home manufacturer in the past used 9"x9" linoleum squares which were laid individually to form the finish flooring. Today huge rolls of linoleum or carpeting 12' or 14' in width, which need only be cut to the determined length and secured to the sanded subfloor, are used.

d. Sidewall Construction

Manufacturers no longer use diagonal wood bracing but instead use diagonal steel straps. These straps are lower in cost, easier to install, and offer added strength.

e. Roof

In order to economically and efficiently meet the 1968 mobile home code requirement for roof loads of 20-30 pounds per square foot, manufacturers generally use a bow string truss. These trusses are lighter, stronger, easier to handle and require less material than the solid, tapered 2x4 or 2x6 wood pieces previously used.

The exterior roofing is formed with pieces of galvanized steel connected together with a Pittsburgh seam and comes

to the manufacturer as a one piece sheet. Such a piece is easier to install than a muslin sheet or a canvas roof. In the past, to protect the roof from leaks, often the manufacturer would coat the entire roof with an aluminum mastic. Today, only the seams where the roof is bent over the sidewall is coated.

f. Ceiling

Like the flooring material, manufacturers are now using large sheets of materials (ceiling planks or large ceiling boards) rather than installing time-consuming individual ceiling tiles.

g. Window Units

Window units come preglazed in aluminum frames. These frames are light in weight compared to the wood or steel frames used in the past. Previously, manufacturers often had to glaze these units themselves, which required an even greater number of manhours.

In summary, because of the efficiency and labor cost conscious organization of the production process, and the efficient installation equipment (such as staple guns and pneumatic nailers), manufacturers are able to offer a better engineered product with minimal added installation costs. Of the items mentioned above, each represents better engineering of the part or component. Where actual size changes occur, such as 2x2 compared to 2x4 wall studding or changes from 2x4 to 2x6 floor joists, labor installation

costs are not greatly affected. Other items, such as metal gusset plates or diagonal steel bracing, can be more easily fastened with pneumatic nailers. It is therefore evident that despite the increase in construction quality, labor installation costs have increased only marginally.

3.

Improvement in the
Mechanical System

3.1 OVERVIEW

Over the last 20 to 30 years, the industry has continuously improved the quality and widened the range of the appliances, equipment and fixtures that go into a mobile home.

Trailer coaches built prior to 1950 had electrical wiring with very limited capacity. It was impossible to have such convenience items as water heaters or large appliances. The dwellers in these homes had to cook their meals on a small gas burner or on an electric hot plate. The inadequate wiring of the trailer parks aggravated the problem even more. The fifties sparked a period in mobile home growth which saw the flourishing of interior gadgets, fixtures, equipment and appliances. The increasing use of television, portable electric toasters, and other electrical appliances often overloaded the circuits causing temporary failure. Special hardware, gas stoves, sinks with faucets, and newly developed heating systems were continually being placed on the market. As early as 1954, airconditioning units for mobile homes were manufactured. During that same period, a combination toilet and garbage disposal was marketed. The standard trailer equipment then included a toilet, septic tank, shower, 3-5 gallon heater, gas refrigerator, and water tank with a pressurized water system. The standard heating system was a butane wall heater with vents in the roof, coal-oil or kerosene heater, or electric

space heater. Even in the late fifties, gas refrigerators were still being offered in some mobile homes. Usually the electrical system provided 110 volts. Some manufacturers, however, were beginning to offer 115/230 volt systems to provide the additional power to operate water heaters, clothes washers, clothes dryers, and other large appliances. By the sixties the mobile home kitchen had become modernized. It was equipped with an electric refrigerator containing a frozen food compartment, a gas range with oven, and a sink with a formica covered counter space. By the seventies, air conditioning had become an almost standard item in the south. Intercom systems could be installed so a mother could monitor her child in the playroom, or stereo music could be piped throughout the house. Many other luxury items were offered-- built-in vacuum cleaners, food mixers, blenders, wall television, sewing machines, dishwashers, clothes washers, driers, large freezers, as well as the all-electric house with a 200-amp power supply. Today, the mobile home offers the consumer equipment and appliances of essentially the same quality as is found in traditional housing. The consumer even has a choice of many luxury conveniences that are not offered in most conventionally built homes.

These changes in equipment and appliances had to be supported by a continuous upgrading of the quality and capacity of the mechanical systems.

The evolution of quality improvements in the mechanical system was studied and the attempt was made to evaluate the effect on overall labor productivity. The mechanical system of the mobile home is comprised of three sub-systems:

electrical, plumbing and heating. Mobile home standard A119.1 has governed the construction of these systems since 1963.

A survey of selected mobile home manufacturers was conducted which indicated that the mechanical system (electrical, plumbing, heating and ventilating) constitutes 10% of the structure cost of a typical medium-priced unit. For the purpose of our survey, structure cost was defined to include materials, direct labor, indirect labor, and delivery costs but to exclude selling, general, administrative and overhead, and set-up costs. This figure of 10% is quite low if compared to other sectors of the housing industry. Mechanical systems in the modular home make up a total of 20-25% of the total structure cost. In a conventionally constructed site-built home the figure is approximately 20%.

In comparison with the rest of the components of the mobile home, the cost of the mechanical components is again quite low. The shell of the mobile home (chassis/wheels, floor, exterior sidewall, roof, interior partition, doors and windows) constitutes most of the cost, 56%; while other costs such as the kitchen and bathroom equipment account for 16%, furnishings 6%, and delivery (assumed 100 miles) at 2%.

However, in spite of their relatively small contribution to total structure costs, it is important that the mechanical systems be discussed because they are highly labor intensive. All types of mechanical systems require numerous special fittings, cuttings, connecting and securing or more intricate wiring. While it is possible to reduce some of the more difficult factory operations by buying components pre-assembled, the majority of the operations must be hand-made for each unit.

3.2 ELECTRICAL SYSTEM

The first step to regulate the electrical system of the mobile home took place in 1952, when a committee organized by the National Fire Protection Association presented a set of regulations governing mobile home electrical construction. However, it was not until the early 1960s that these recommendations began to take effect. In 1963, the Mobile Homes Manufacturers Association made it mandatory for all members to comply with the A119.1 Electrical Code.

Prior to 1960, the electrical system of the mobile home was very primitive, subject to many dangerous money-saving practices. For example, many homes were wired with plastic-coated 18-gauge lampcord not enclosed in nonmetallic sheathing. This practice, in violation of most building codes, subjected the home to possible short circuiting of the electrical system and created the possibility of a fire. Another practice was to use plastic outlets which were not enclosed in a box on the inner side of the wall. As late as 1972, many mobile homes were wired with aluminum wiring rather than copper. This practice was discontinued after an insurance company discovered that a "suspiciously large number" of mobile home fires occurred in homes which were wired with aluminum. In that same year, the Underwriters Laboratory withdrew approval for use of receptacles with aluminum wiring following its own study of wiring and fire risk. The cost dif-

ference between aluminum and copper is relatively small. One manufacturer claimed the cost difference only amounted to \$20 per unit; however, if multiplied by the total number of units produced per year, the difference becomes substantial.

Today the minimum wire size allowed is 14-gauge for 15-amp circuits and 12-gauge for 20-amp circuits. The basic electrical rating in a mobile home before 1960 was no more than 100-volts. Electrical ranges could not be used since most mobile home parks could not furnish 220-volt current. At the start of the 60s, manufacturers began to substitute 115/230 volt systems in order to provide power for better household and living conveniences. Mobile home owners were then able to use clothes washers and dryers, electric ranges, air conditioners, electric water heaters, electric furnaces and other large appliances. Today, the wiring is the same as conventional home wiring, employing fuse or circuit breakers and junction boxes. ANSI A119.1 specifies that every new mobile home built after 1972 be wired for 120/240 volts. In addition to increased power, most manufacturers have added more branch circuits to accommodate the growing needs of the mobile home owner. Today it is common for a 12 x 60 unit to have three 15-amp circuits for lighting and four 20-amp circuits for additional small appliances. This is quite an increase over the two 15-amp circuits and 20-amp circuit found in a 1960 home. The mobile home owner now has the option of using a greater number of luxury items such as air conditioners, electrical furnaces, exhaust fans, hood fans, heat lamps, disposals, dishwashers, electric heaters, clothes washers and dryers, ovens, electric ranges, even built-in electric chimes or hi-fi intercom systems.

An analysis was performed of the 1959 MHMA Mobile-homes Standards, the 1963 ASA A119.1, the 1969 USASI A119.1, and the most current 1972 ANSI A119.1 code to discover major cost differences by the improved code. The reader is referred to Figure 3 (p. 68) for a thorough analysis. The following is a synopsis of what was found:

- a. System Rating: The wiring system rating has been steadily increasing from 110-125/208-250 volts in 1959 to 115/230 in 1963 to 120/240 volts in 1972.
- b. Branch Circuits Requirements: The minimum requirements of two 15-amp circuits have remained the same through the introduction of a formula in the 1963 code which made the number of branch circuits dependent on the size of the mobile home:

$$\frac{3 \text{ watts/sq. ft.} \times \text{length} \times \text{width}}{115 \text{ volts} \times 15 \text{ amps (or 20 amps)}}$$

Since 1963, two 20-amp circuits have been required for small portable appliances (in 1959, only one 20-amp circuit was required). However, in spite of these minimum requirements, most mobile home manufacturers use three 15-amp circuits and four 20-amp circuits in their mobile homes.

- c. Outlets: The minimum number of electrical outlets required has remained unchanged since 1963. However, in 1959 every room was required to have an outlet every 12 linear

feet. Since 1963, requirements have increased further so that there is not a point along the floor that is more than 6' from an outlet.

d. Distribution Panel: Distribution panel minimum ratings have remained constant since 1963. A circuit breaker type is required to have a 50-amp rating while a fuse and disconnect switch type is required to have a 60-amp rating.

e. Power Supply: The power supply equipment has remained unchanged since 1959. The supply cord must be 40-amps for gas/oil and 50-amps for all others. The attachment plug-cap has remained the same as in 1959, requiring 125/250 volts, 50-amps, 3-pole, 4-wire. However, the length of the power supply assembly does vary. In 1959, the length required was 25', in 1963 it increased to 21' - 26 1/2' and in 1969 and 1972, it further increased to 21' - 36 1/2'.

f. Wiring Requirements: These requirements have remained essentially unchanged since 1959, except for minor discrepancies. Since 1963, cables running through wall studs have been protected by #16 (0.060") gauge steel plates if they were less than 1 1/2" from the inside or outside surface. In 1959, these cables were required to be protected by thinner #20 (0.036") gauge steel plates if less than 2" from the surfaces. The minimum cable bend of 5 times the cable diameter has remained unchanged since 1959. Also, the mini-

mum cable support distance of 4 1/2', except within 12" of outlet boxes, service entrances, and splice boxes, has not changed. In 1959, there existed no requirement for chassis and outdoor wiring protection. Since 1963, however, a rigid metal conduit suitable for wet locations has been required.

g. Tests and Inspection: The electric test has remained unchanged since 1959. The test requires that the mobile home be subjected to a one minute, 900-volt dielectric strength test between live parts and the mobile home ground.

In summary, it is obvious that the code requirements for the electrical system of the mobile home have remained relatively unchanged since the code's inception in 1959 and 1963. The survey conducted by this project showed the electrical system cost to be only a small percent of the total cost of the unit. The electrical system in a mobile home constitutes only 2 1/2% of the structure cost. The major electrical cost items can be attributed to the growing luxuries in the mobile home of the '70s with its new kitchen needs, better convenience items, and greater lighting requirements. Such items are usually put in voluntarily by the manufacturer and are more than compensated for by the price charged for the options. The extra power helps to sell the unit by adding a little flash to the product. Usually all the manufacturer has to add is one or two branch circuits plus a few more outlets and switches. The main increase in electrical costs had occurred prior to 1959 when most manufacturers had to switch over from a 110-volt system to a 115/230 volt system. Such

a change amounted to a huge expense because of the multiplier effect throughout the whole system. Bigger distribution panels had to be used. More branch circuits had to be added. A larger power supply had to be compensated for by a larger supply cord and attachment plug-cap. More labor was required to install the additional wiring and more outlets, junction boxes, and light switches had to be added.

3.3 PLUMBING SYSTEM

In our cost survey among selected mobile home manufacturers it was discovered that plumbing costs accounted for only 3% of the total structure cost compared to 2 1/2% for electrical, 5% for heating and ventilating and 56% for the mobile home shell itself.

To assess the effects of plumbing improvements on total labor productivity, past conditions must first be described. There existed no uniform plumbing standard for mobile homes prior to 1959. In 1963, the MHMA revised this code and required that all its members comply with it. Plumbing conditions before the enforcement of A119.1 were grossly inadequate. Living conditions in the trailer coach were minimal. Showers and wash basins were not added until 1950. Toilets followed in 1951. As late as 1954, trailer coaches received their water from 20 - 30 gallon storage tanks. These tanks were often mounted under a bed. The water was drawn to the sink by a pump. Water kept under these conditions became stale and, if not changed frequently, unusable. The tank, because of its inaccessibility, was difficult to clean and drain. If the water did come from a tap in a trailer park, the connection was made with a primitive hose hook-up. A rubber hose might be used, but it was usually avoided because it gave an unpleasant taste to the water. Drain lines were often made of rubber hoses also, rather than of copper or steel pipes.

The kinds of traps used were often unsafe. S traps, unvented P traps, or drum traps were used and allowed sewer gas to flow back into the house.

The mobile home plumbing system has since become substantially improved and correct plumbing installation methods are enforced. These methods do not cost a substantial amount more; manufacturers merely have to correct their joining, fitting or other installation and construction methods. In fact, with the use of ABS or PVC plastic plumbing for drain lines, labor installation time is substantially reduced. In addition, less time and money is invested in labor and equipment. Plastic pipes are light-weight and easier to fabricate and to install than copper, galvanized steel, or corrugated iron pipes. Thus, the use of plastic drain pipes is a factor offsetting the cost of having to conform to A119.1. Today, the standard inlet sizes for water supply piping is 3/4". The largest water supply piping is 7/8". CPVC plastic piping is allowed by the 1972 A119.1 Code but most manufacturers still use copper connectors with a main supply line of galvanized steel. The main drain line is usually 3" ABS plastic lining rather than copper or steel.

The plumbing section of the 1959 MHMA Mobile Home Standards, 1963 ASA A119.1, 1969 USASI A119.1, and 1972 ANSI A119.1 was reviewed to discover code improvements for the period 1959-72. The plumbing distribution system of a mobile home is comprised of three parts: 1) water supply; 2) drainage system (including traps and cleanouts); 3) vents. The following is a synopsis of the detailed findings presented in Figure 4 (p. 74):

a. Water Supply: In 1959 only steel, brass, or seamless copper tubing (Type K,L,M) was allowed as piping material. The 1963 code, however, prohibited Type K and M copper tubing but allowed approved and listed plastic. The 1972 ANSI Code reinstated Type K and M. The maximum outer diameter tubing size allowed in 1959 was 5/8" with the inlet size of 1/2". In 1963, the maximum size of tubing was increased to 7/8" for five or more plumbing fixtures. In addition, the inlet diameter required for a coupling was increased to 3/4". To date, these requirements remain unchanged.

b. Drainage System: Only steel, brass, and copper tubing type DWV was allowed in the 1959 Code. However, material requirements were revised in 1963 to include wrought iron and approved or listed plastic. Since then, the material requirement for the drainage system has remained unchanged. The horizontal pitch of the drain line is still the same as in 1959, 1/4" per foot or 1/8" per foot with cleanout. The minimum size requirement for the main drain outlet is still 3". Other drain line sizes require a minimum of 1 1/2" diameter.

c. Wet-vented Drainage System: (Common Water and Vent Lines)
The 1959 Code had no requirement for wet-vented drainage systems. However, the 1963 Code did include provisions for

it which have since remained unchanged: 1) All parts must be horizontal, except where they terminate at a 1 1/2" continuous vent; 2) the minimum size pipe must be 2" in diameter or at least one pipe size larger than the largest connected trap or fixture drain; 3) there cannot be more than 3 fixtures per 2" wet-vented drain.

d. Vents: Like the drainage system, wrought iron and plastic were not allowed until the 1963 Code, and since then the material requirement has remained unchanged. Minimum size piping is similar from 1959 to 1972, requiring 1 1/2" diameter individual vents and 1 1/4" diameter individual vents. The fixture trap-vent distance was not specified in 1959, but provisions were included in the 1963 Code: 1) 1 1/4" fixture: 4'-6"; 2) 1 1/2" fixture drain: 4' - 6"; 3) 2" fixture drain: 5' - 0"; 4) 3" fixture drain: 6'-0".

e. Traps and Cleanouts: Specifications for traps and cleanouts remain unchanged since 1963. However, the 1959 Code did not specify materials for either the traps or cleanouts.

f. Installation Requirements: Requirements are stated in rather loose terms and remain unchanged since 1963. For example, hangers and supports are specified to be secured at "sufficiently close intervals to keep the pipes in alignment and carry the weight of the pipe and contents" rather than

specifically stating that the distance will be 4'0" as is found in most mobile homes. Other installation requirements state that pipes are used to be secured to the structure to provide protection "against motion, vibration, road shock, torque in the chassis, or other unusual conditions"; exterior pipes are required to be weatherproof and protected against freezing; all pipes must be sealed to prevent rodents from entering; and all joints and connections are required to be gas tight and water tight.

g. Tests and Inspection: Tests are required of the water supply system, drainage/vent system, plumbing fixtures, and shower stalls. These tests have been in effect since 1959.

In summary, the most significant change in the code effecting labor productivity of the plumbing system occurred from 1959 to 1963, when plastic plumbing was allowed in the water supply, drainage system, vent system, as well as traps and cleanout systems. The obvious benefits plastic plumbing had on labor productivity have been discussed earlier in this chapter. Today many manufacturers do not use plastic water supply pipes but do use ABS or PVC plastic pipes for their drainage systems. In terms of labor costs, other changes in the code since 1959 are relatively unimportant. Thus, like the electric system, the major change in the plumbing system occurred in 1963 when manufacturers were required to conform to A119.1. Since then, code changes have been minor. However, at the start of 1972, many state legislatures began to request third party approval, turning the power of in-

spection over from the MHMA to authorized third parties -- e.g., Underwriters Laboratory, Pittsburgh Testing Laboratory, and U.S. Testing Laboratory. Up to 1972, MHMA inspection procedures were rather lax. In 1972, however, third parties began to fully enforce A119.1; manufacturers have indicated that this increased costs by as much as 10%. A main area of increased costs was in the plumbing system.

3.4 HEATING SYSTEM

The heating and ventilating system is the largest expense item in the mobile home mechanical system, amounting to 5% of the structure cost. It amounts to half the cost of the mechanical system. Substantial improvements have occurred over the years which have caused labor costs to rise. However, this rise has been offset somewhat by the use of prefabricated heating ducts and packaged heating equipment.

Before World War II and for some time thereafter, space heating was the only method employed to heat the home. It came from two sources: butane wall heaters or coal-oil heaters. The butane heater was used for moderate temperatures. For extremely cold climates, a coal-oil or kerosene heater was used. However, the coal-oil type was not satisfactory when only a small amount of heat was desired. Unpleasant fumes were produced when the burner was turned low. At this primitive stage of development, labor costs for heating were minimal to the mobile home manufacturer since the only labor needed was connecting the venting to the roof.

When a miniature-sized floor furnace operating from butane was tried, the change failed to produce sufficient heat because of its exposed position under the floor. Models were then tried which experimented with round burners instead of straight-line burners. These worked satisfactorily.

Labor installation costs had increased. Now the furnace had to be built into the floor section. However, costs were still minimal since no air distribution system was yet employed.

By the 1950s, most mobile home heating systems had evolved to oil burners or liquid petroleum gas controlled by house type thermostats. To eliminate constant refilling, a filled barrel of oil or containers of liquid petroleum gas were placed at a higher level than the heater so the fuel would be fed by gravity into the heater. A blower motor was employed to supply warm air to the rear bedrooms through a duct system. Labor costs increased to include the cost of the installation of ductwork and registers.

Today, electrical and natural gas heating is emerging as the heating fuel in mobile homes. In a survey conducted as early as 1968 by the Fuel Oil & Oil Heat Magazine, executive directors of state mobile home dealer associations were asked to give estimates (not from actual records since they are not kept) on types of fuels used. It was discovered that: 1) Oil decreased from 54% in 1964 to 40% in 1967; 2) Natural Gas increased from 24% in 1963 to 39% in 1967; 3) Liquid Petroleum Gas decreased from 20% in 1963 to 14% in 1967; and 4) Electricity increased from 2% in 1963 to 7% in 1967. With the switch to natural gas, mobile home manufacturers can no longer rely on gravity fed systems for fuel supply but must install a gas line system in the home. Such a system adds significantly to the cost of labor, especially since steel or wrought iron must be used. Such materials require special tools and additional labor for cutting, fitting and joining.

Most of the duct systems employed during the early '60s were built up with floor framing. A metal sheet, usually of galvanized steel, was laboriously nailed to two 2x4 longitudinal floor joists to form the duct. Today, aluminum heating ducts are delivered prefabricated to the manufacturer. The manufacturer then need only secure it to the floor joists, cut out the holes for the registers, and connect it to the furnace. From the manufacturer's standpoint, aluminum is far superior to galvanized steel. It is low in cost, lightweight, easily cut and formed to fit into heat duct off-shoots and collars. Galvanized steel, on the other hand, is more expensive, heavier, and more difficult to form.

Labor costs are additionally reduced through the use of pre-packaged furnaces. Most furnaces come from the supplier requiring only installation of the roof jack, base and floor return air duct installation, and electrical wiring for temperature control.

The heating system section of the 1959 MHMA Mobile home Standards, 1963 ASA A119.1, 1969 USASI A119.1 and 1972 ANSI A119.1 was reviewed to discover the effect of code improvements on labor productivity and costs during the period 1959-72. The analysis included: 1) Gas Piping System; 2) Oil Piping System; 3) Heating (Air) Ducts; 4) Mobile Home Construction: Installation and Heat Loss Requirements; and 5) Testing Procedures. The reader is referred to Figure 5 (p. 82) for a detailed analysis. The following is a synopsis of the findings:

a. Gas Piping System: Steel, wrought iron and copper tubing (Types K and L only) are currently allowed by the 1972 ANSI Code. Material requirements have remained relatively unchanged since 1959. A minor exception is brass tubing which was allowed in 1963 and 1959. The minimum supply connection tubing and piping size remains 3/4" in diameter. Size variations remain unchanged since 1959, ranging from 1/4" to 1" depending on the heat requirement (in BTU's) of the system. From 1959-72, the gas piping system was required to be supported or hung at 4' intervals.

b. Oil Piping System: Oil piping system material requirements are similar to the gas system. Steel, wrought iron, or copper (Type K and L only) is required. These requirements have remained unchanged except in 1963 and 1959 when seamless brass tubing was allowed. In 1959 aluminum tubing was allowed everywhere except between the fuel oil tank and heating appliance. Minimum diameter requirements for copper tubing are 3/8", for iron pipes, 1/4"

c. Heating (Air) Ducts: The predominant material used in constructing air ducts today is aluminum, although some manufacturers still use galvanized steel. The code has allowed galvanized steel, tin-plated steel, or aluminum since 1959. The minimum thickness requirement has decreased from 0.016"

- 0.022" in 1959 to 0.013" - 0.019" in 1972. The minimum main duct size is 2 1/2" and branch duct size is 1 1/2".

d. Mobile Home Construction: Insulation and Heat Loss

Requirements: Prior to 1969, A119.1 had no body and frame requirements; thus no heat loss or minimum R values could be specified to control the heating environment. The 1969 Code specified that 50 BTU/hr/sq.ft. or 375 BTU/hr/linear ft. was the maximum heat loss for a gas/oil system. An electrically heated system has a 40 BTU/hr/sq.ft. or 0.185 watts/hr/sq.ft. maximum heat loss requirement. In 1972, the heat loss required for gas/oil remained at 50 BTU/hr/sq. ft. but changed to 333 BTU/hr/ linear ft. The electrical heating requirement remained at 40 BTU/hr/ ft. but 267 BTU/hr/ linear ft. was substituted in place of 0.184 watts/hr/sq. ft.

The minimum total resistance factors (R values) for mobile home insulation remained the same for gas/oil heating from 1969 to 1972: 1) Wall: 5.5; 2) Ceiling: 8.2; and 3) Floor: 5.5 . The R values for an electrically heated home changed as follows:

	<u>1972</u>	<u>1969</u>
Wall	9.0	6.5
Ceiling	12.5	13.0
Floor	12.3	12.0

e. Testing: Two tests are currently performed on gas piping systems. First, before appliances are connected the piping system must service an air pressure of at least 6" mercury or 3" psi gauge for ten minutes without loss of air pressure. After the appliances are connected the system is once again subjected to 10" - 14" water column pressure. The appliance connections are then tested for leakage with soapy water or bubble solution. Before 1963, the gas piping system was subjected to the test for leakage only after the appliance was connected.

The oil piping system is also subjected to a test for leakage. Before setting it into operation, the system is checked with a fuel oil of the same grade that would be burned in the appliance. Any leaks are then corrected. This procedure has been stipulated since 1959.

In summary, the code improvements for heating systems, from 1959 to 1972, have not substantially decreased labor productivity since most improvements were of minor importance. Most of the critical areas affecting labor productivity (change in materials, tubing or pipe size, installation methods, and testing the system) remain relatively unchanged since 1959 or are so small as not to affect labor productivity. Of importance to the mobile home consumer was the 1969 Body and Frame Construction Standards specifying in quantitative terms: 1) the maximum heat loss for both gas/oil and electrically heated

systems: and 2) Minimum R values for mobile home construction. However, the net effects this had on labor productivity were negligible. Manufacturers continued to use 1 1/2 - 2" fiberglass insulation in the walls and floors. Sometimes it would be doubled in the roof. For electrical heating, the insulation was doubled everywhere.

4.

Conclusion

It has been beyond the scope of our study to evaluate in depth the overall technical adequacy of code A119.1. To the extent that we have been able to analyze A119.1, the code has been found sound and adequate while avoiding many of the structural and mechanical over-specifications of the traditional codes governing on-site building. Our main question has not been which specific detailed improvements of the code might be indicated, but rather, whether further improvement, if desirable or necessary, can be accomplished by the industry without sacrificing efficiency, in particular labor productivity.

The analysis of the evolution of ANSI A119.1 has shown that the mobile home industry has been able to substantially improve the technical quality of this code while avoiding major adverse effects on the productivity of labor. The significance of this finding is the following implicit conclusion: The mobile home industry can again, if deemed necessary, achieve further code improvements without jeopardizing its present performance with regard to labor productivity.

It is important to note that since ANSI A119.1 has already been adopted by most states, it is considered to adequately ensure structural and mechanical performance and safety. This can only be interpreted to mean that further improvements of this code are unlikely to be of major dimensions. They will certainly not even approach the degree of code improvement that the industry has accomplished itself. The mobile home industry has developed the relatively simple trailer for temporary accommodation into the technically highly complex mobile home designed exclusively for primary housing. The analysis in this chapter should disprove the assertion that in order to produce shelter comparable in terms of function and safety with housing meeting traditional codes, the industry

would have to upgrade the specifications of its product so drastically that it would lose most, if not all, of its present advantage in terms of efficiency.

In summary, then, ANSI A119.1 can be assumed to be a technically adequate code. As in any other industry, fly-by-night operations are also found in the mobile home industry, and these operations often do produce sub-standard units. This, however, points not to shortcomings in the quality of the code but rather to the quality of enforcement. The remainder of this section on building code regulation of mobile homes, therefore, emphasizes the issue of code enforcement.

FIGURE 3: Code Improvements of the Mobile Home
Electrical System

(An Analysis of 1959 MHMA Mobile Home
Standards, 1963 ASA A119.1, 1969 USASI
A119.1, and 1972 ANSI A119.1)

SUMMARY OF ELECTRICAL CODE EVOLUTION FOR MOBILE HOMES

A. WIRING SYSTEM	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959 MIMA: Mobilehomes Standards
1. Rating	Sect. 4.1 120/240 volts, 3-wire, A.C. grounded with neutral	Sect. 4.1 115/230 volts, 3-wire A.C. grounded with neutral	Sect. 4. same as 1969	Sect. 4. 110-125/208-250 volts, 3 wire, A.C. grounded with neutral
2. Minimum Number of 15 Amp Circuits Required	Sect. 7.1.1 $\frac{3 \text{ watts/sq.ft.} \times \text{length} \times \text{width}}{115 \text{ volts} \times 15 \text{ amp}}$ (or 20 amps) *Mobile home size excluding hitch	Sect. 7.1.1 same as 1972	Sect. 7.1 same as 1972	Sect. 5.2(a) 2-15 amp circuits
3. Minimum Number of 20 Amp Circuits Required	Sect. 7.1.2 2-20 amp circuits	Sect. 7.1.2 same as 1972	Sect. 7.2 same as 1972	Sect. 5.2(b) 1-20 amp circuit

B. LOCATION OF RECEPTACLE OUTLETS

1. General Rule	Sect. 6.1 In wall spaces 2' wide or more; there shall not be a point along the floor line that is more than 6' from an outlet (except in a bathroom or hall)	Sect. 6.1 same as 1972	Sect. 6.1 same as 1972	Sect. 5.3 In every room (except bathroom & toilet compartments) for every 12 linear feet of the total gross distance around the room.
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2.

SUMMARY OF ELECTRICAL CODE EVOLUTION FOR MOBILE HOMES

<p>2. Additional Kitchen Outlets</p>	<p>1972, ANSI A119.1 Sect. 6.1 a) Over countertops (at least one on each side of the sink) b) Adjacent to refrigerator and gas range c) At countertops under wall-mounted cabinets</p>	<p>1969, USASI A119.1 Sect. 6.1 same as 1972</p>	<p>1963, ASA A119.1 Sect. 6.1 same as 1972</p>	<p>1959, MIMA: Mobilehomes Standards Sect. 5.3 Appliance outlet at the location of every range, refrigerator, & washing machine</p>
<p>3. Additional Bathroom Outlets</p>	<p>Sect. 6.1 At countertop spaces for built-in varieties</p>	<p>Sect. 6.1 a) At countertop spaces for built-in varieties b) Adjacent to bathroom lavatories</p>	<p>Sect. 6.1 At countertop spaces for built-in varieties</p>	<p>Sect. 5.3 At least one receptacle outlet in the bathroom or toilet compartments</p>
<p>4. Restricted Areas</p>	<p>Sect. 6.1 Within or immediately adjacent to shower or bath tub</p>	<p>Sect. 6.1 same as 1972</p>	<p>Sect. 6.1 same as 1972</p>	<p>None</p>

C. DISTRIBUTION PANEL

<p>1. Circuit Breaker Type</p>	<p>Sect. 9.5 a) 50 Amp</p>	<p>Sect. 9.5 same as 1972</p>	<p>Sect. 9.5 same as 1972</p>	<p>Sect. 7.1 a) Not in excess of the carrying capacity of the circuit conductor b) Shall not exceed 150% of the rating of the appliance (if the circuit supplies only a single appliance of 10 amp or more rating)</p>
<p>b) Employing</p>	<p>Sect. 9.5 b) 2-pole circuit breaker rated at 40 or 50 amp (depending on supply cord)</p>	<p>Sect. 9.5 same as 1972</p>	<p>Sect. 9.5 same as 1972</p>	<p>Sect. 7.1 a) Not in excess of the carrying capacity of the circuit conductor b) Shall not exceed 150% of the rating of the appliance (if the circuit supplies only a single appliance of 10 amp or more rating)</p>

3.

SUMMARY OF ELECTRICAL CODE EVOLUTION FOR MOBILE HOMES

	1972, ANSI All9.1	1969, USASI All9.1	1963, ASA All9.1	1959, MIMA: Mobilehomes Standards
2. Fuses & Disconnect Switch Type a) Rating b) Employing	Sect. 9.5 a) 60 amp b) Single 2-pole 60-amp fuseholder w/40 or 50 amp (depending on supply cord)	Sect. 9.5 same as 1972	Sect. 9.5 same as 1972	Sect. 7.1 same as circuit breaker type

D. POWER SUPPLY

1. Supply Cord	Sect. 9.5, 10.8 a) 40 amp gas/oil heating & appliances b) 50 amp for all others	Sect. 9.5, 10.8 same as 1972	Sect. 4.2, 11.8, 9.5 same as 1972	Sect. 9.1(a) Not less than 50 amps
2. Attachment Plug-cap (minimum rating)	Sect. 10.6 125/250 volts, 50 amps, 3-pole, 4-wire	Sect. 10.6 same as 1972	Sect. 11.6 same as 1972	Sect. 9.1(a) same as 1972
3. Length of Power Supply Assembly	Sect. 10.7 21'--36½'	Sect. 10.7 same as 1972	Sect. 11.7 21'--26½'	Sect. 9.5(d) 25'

E. SOME SIGNIFICANT WIRING REQUIREMENTS

1. Cable Protection in Wall Studs	Sect. 11.7 a) At centers of 2x4 studs b) Protected by #16 (minimum) gauge steel plates if less than 1½" from inside or outside surface	Sect. 11.7 same as 1972	Sect. 12.7 same as 1972	Sect. 6.7 Protected by #20 gauge steel plate if less than 2" from surface
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4.

SUMMARY OF ELECTRICAL CODE EVOLUTION FOR MOBILE HOMES

	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MHMA: Mobilehomes Standards
2. Minimum Cable Bend	Sect. 11.8 5 times cable diameter	Sect. 11.8 same as 1972	Sect. 12.8 same as 1972	Sect. 6.8 same as 1972
3. Minimum Cable Support Distance	Sect. 11.9 a) Within 12" of outlet boxes, service entrance box, & splice box b) Every 4 1/2' at other places	Sect. 11.9 a) Within 12" of outlet boxes, service entrance, & splice box b) Every 4 1/2' at other places c) A closefitting hole in a stud may be considered as a support for a horizontal run	Sect. 12.9 same as 1972	Sect. 6.7 same as 1972
4. Minimum Cable Support Distance (for non-metallic sheathed cable) from non-metallic outlet box	Sect. 11.10 8"	Sect. 11.10 same as 1972	Sect. 12.10 same as 1972	Sect. 6.7 same as 1972
5. Nonmetallic Cable Protection Requirement: 15" or less above the floor	Sect. 11.12 Covering boards, guard strips, or conduits	Sect. 11.12 same as 1972	Sect. 12.12 same as 1972	None

5.

SUMMARY OF ELECTRICAL CODE EVOLUTION FOR MOBILE HOMES

6. Chassis & Out-door Wiring Protection	<p>1972, ANSI A119.1</p> <p>Sect. 12.1 a) Rigid metal conduit (suitable for wet locations b) Electric metallic tubing when closely routed against frames & equipment enclosures</p>	<p>1969, USASI A119.1</p> <p>Sect. 12.1 a) Rigid metal conduits b) Liquid-tight flexible metal conduit c) Electric metal tubing when closely routed against frames & equipment enclosures</p>	<p>1963, ASA A119.1</p> <p>Sect. 13.1 same as 1969</p>	<p>1959, MIMA: Mobilhome Standards</p> <p>None</p>
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F. TESTS & INSPECTION

1. Dielectric Strength Test	<p>Sect. 24.1 a) 1-minute, 900-volts or b) 1-second, 1,088 volts</p>	<p>Sect. 24.1 same as 1972</p>	<p>Sect. 25.1 same as 1972</p>	<p>Sect. 10.1 a) 1-minute, 900 volts or b) 1-second, 1080 volts</p>
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FIGURE 4: Code Improvements of the Mobile Home
Plumbing System

(An Analysis of 1959 MHMA Mobile Home
Standards, 1963 ASA A119.1, 1969 USASI
A119.1, and 1972 ANSI A119.1)

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

A. WATER DISTRIBUTION SYSTEM	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MHMA: Mobilehomes Standards
1. Piping Material	Sect. 11.4.1 Brass, Galv. wrought iron, galv. steel, Type K, L, or M copper tubing, approved or listed plastic, or other approved or listed material * must be approved or listed for use with hot water.	Sect. 11.4.1 Same as 1972 except only type L copper tubing	Sect. 11.4.1 Same as 1969	Sect. 4.1 Steel, brass, seamless copper tube Type K, L, M
2. Minimum Size Tubing & Piping	Sect. 11.2.1, 11.6.1 Inner Diameter Iron Pipe	Sect. 11.2.1, 11.6.1	Sect. 11.2.1, 11.6.1	Sect. 5.1, 5.2 Iron I.D. O.D. Pipe
a) Inlet size	coupling -- --	same as 1972	same as 1972 except 1/2" or larger pipe connection allowed for inlet connection (in addition to 3/4" inter coupling)	Inlet Size 1/2" -- 1 Fixture 1/2" 3/8 2 Fixtures 3/8 1/2 3 or more 1/2 5/8 * 6' maximum length
b) 1 Fixture	a) 3/4" inter			
c) 2 Fixtures	b) 1/2" *			
d) 3 Fixtures	c) 3/8"			
e) 4 Fixtures	d) 1/2"			
f) 5 or more	e) 3/4"			
3. Inlet Location	Sect. 11.2.1 a) within rear half of the length of the mobile home	Sect. 11.2.1 Rear third of the length of the mobile home	Sect. 11.2.1 Within 25' of the rear corner	Sect. 5.5 Minimum distance of one foot from sewer connection
	* 6' maximum length for 1/2" ID tubing			

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MIMA: Mobilehomes Standards
3. Inlet Location (continued)	b) As near as possible to 30' from front of mobile home c) On road side			

B. DRAINAGE SYSTEM

1. Piping Materials	Sect. 12.1.1 Steel, wrought iron, brass, copper tube, DWV, listed or approved plastic, or other approved or listed materials	Sect. 12.1.1 same as 1972	Sect. 12.1.1 same as 1972	Sect. 4.2 Steel, brass, copper tubing type DWV
2. Pitch	Sect. 12.1.2, 12.7 $\frac{1}{4}$ " per foot	Sect. 12.1.2, 12.7 same as 1972	Sect. 12.1.2 same as 1972	Sect. 6.1, 6.5 $\frac{1}{8}$ "-- $\frac{1}{4}$ " per foot
3. Minimum Size Piping a) Drain outlet b) 1-3 Vented Fixt. c) 4 or more d) Toilet e) Attached drain connectors	Sect. 12.4 a) 3" diameter b) 1 $\frac{1}{2}$ " c) 2" d) 3" e) 3"	Sect. 12.4 same as 1972	Sect. 12.4 same as 1972	Sect. 6.3 a) 3" diameter b) 1 fixture: Not less than diameter of trip c) 2 Fixt.: 1 $\frac{1}{2}$ " d) 3 Fixt.: 2" e) 1 Fixt. & Vent.: 2"
4. Outlet Location	Sect. 12.2.1 Rear half section, 40' from front of mobile home	Sect. 12.2.1 Rear third section on the left side	Sect. 12.2.1 Rear third section, left (road) side, within 18" of outside wall	Location not specified, but must be within 1' from water connection

3.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MHMA: Mobilehomes Standards
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C. WET-VENTED DRAINAGE SYSTEMS (Common Water and Vent Lines)

1. General Rule	Sect. 12.5 All parts must be horizontal except where it terminates at a 1½" continuous vent	Sect. 12.5 same as 1972	Sect. 12.5 same as 1972	Not specified
2. Minimum Size Piping	Sect. 12.5 a) 2" diameter b) At least one pipe size larger than largest connected trap or fixture drain	Sect. 12.5 same as 1972	Sect. 12.5 same as 1972	Not specified
3. Minimum Fixtures per 2" Wet-Vented Drain	Sect. 12.5 Not more than 3	Sect. 12.5 same as 1972	Sect. 12.5 same as 1972	Not specified

D. VENTS

1. Piping Materials	Sect. 13.2.1 Steel, wrought iron, brass, copper tube DWV, approved or listed plastic, or other approved or listed materials	Sect. 13.2.1 same as 1972	Sect. 13.2.1 same as 1972	Sect. 4.2 Steel, brass, copper tubing type DWV
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4.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MIMA: Mobilehomes Standards
2. Minimum Size Piping a) Main Vent b) Individual Vents	Sect. 13.3 a) 1½" diameter b) 1¼" diameter	Sect. 13.3 same as 1972	Sect. 13.2.1, 13.2.3 same as 1972	same as 1972
3. Main Vent Connection (to main drain)	Sect. 13.3.1 a) Connected to toilet drain and extended through roof b) Connected to toilet drain through a 2" wet-vented drain that carries waste not more than one fixture c) If 2 or more drains & at least one is wet-vented, each drain is separately connected to the main drain	Sect. 13.3.1 same as 1972	Sect. 13.2.1 same as 1972	Sect. 6.4.1, 6.4.2 same as 1972
4. Fixture Trap/Vent Distance a) 1¼" Fixt. drain b) 1½" c) 2" d) 3"	Sect. 13.3.5 a) 4'--6" b) 4'--6" c) 5'--0" d) 6'--0"	Sect. 13.3.5 same as 1972	Sect. 13.2.6 same as 1972	not specified

5.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MIMA: Mobilhomes Standards
E. TRAPS				
1. Material	Sect. 8.1.4 Cast iron, cast brass, drawn brass tubing (not less than #20 gage), approved or listed plastic, or other approved or listed material	Sect. 8.1.4 same as 1972	Sect. 8.1.4 same as 1972	Not specified
2. Type of Trap Required	Sect. 8.1.1 Separate "p" traps for each fixture	Sect. 8.1.1 same as 1972	Sect. 8.1.1 same as 1972	Sect. 6.2 same as 1972
3. Prohibited Traps	Sect. 8.1.3 Full "S" traps, bell traps, drum traps, crown-vented traps, running traps, double-trapped	Sect. 8.1.3 same as 1972 except running traps not prohibited	Sect. 8.1.3 same as 1969	same as 1969
F. CLEANOUTS				
1. When Cleanouts Required	Sect. 8.2 a) If installed drainage system cannot be cleaned through fixtures, drains, or vents	Sect. 8.2 same as 1972	Sect. 8.2 same as 1972 except 1(b) is not required	1. If drain line is longer than 8'

6.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

1. When Cleanouts Required (continued)	1972, ANSI A119.1 b) If fittings of more than 45° are used except where long turn ells are used c) Any section of drain without minimum slope of 1/4" per foot	1969, USASI A119.1 same as 1972 same as 1972	1963, ASA A119.1 same as 1972 except 1(b) is not required same as 1972 except 1(b) is not required	1959, MHMA: Mobilehomes Standards
2. Plug & Cap Material	Sect. 8.2.3 Press, approved or listed plastic with screw pipe threads	Sect. 8.2.3 same as 1972	Sect. 8.2.3 same as 1972	Not specified

G. INSTALLATION REQUIREMENTS

1. Joints and Connections	Sect. 7.1 Gas tight and water tight to withstand testing procedures	Sect. 7.1 same as 1972	Sect. 7.1 same as 1972	Not specified
2. Hangers and Supports	Sect. 10 As sufficiently close intervals to provide protection against motion, vibration, road shocks, expansion and contraction, and structural settlement	Sect. 10 same as 1972	same as 1972	Not specified

7.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME PLUMBING SYSTEM

	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MHMA: Mobilehomes Standards
3. Protective Requirements a) Weatherproofing b) Road Damage c) Freezing d) Rodent Resistance	Sect. 5.2 a) Painted, coated, wrapped to protect pipe from deterioration b) Pipes shall not extend or protrude c) All pipes subject to freezing shall be installed or protected d) Seal all exterior openings	Sect. 5.2 same as 1972 same as 1972 same as 1972 same as 1972	Sect. 5.2 same as 1972 same as 1972 same as 1972 same as 1972	Not specified

II. TESTS AND INSPECTION

Tests	Sect. 14.	Sect. 14.	Sect. 14.	Sect. 5.9
a. Water System Test (100 psi, 15 min.) b. Drainage/Vent System, Plumbing Fixture Test c. Fixture Test d. Shower Stall Test	same as 1972 same as 1972 same as 1972 same as 1972	same as 1972 same as 1972 same as 1972 same as 1972	same as 1972 same as 1972 same as 1972 same as 1972	a. Water System Test b. Tank Test (300# hydrostatic test) c. Vent Test d.

FIGURE 5: Code Improvements of the Mobile Home
Heating System

(An Analysis of 1959 MHMA Mobile Home
Standards, 1963 ASA A119.1, 1969, 1969
USASI A119.1, and 1972 ANSI A119.1)

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME HEATING SYSTEM

A. GAS PIPING SYSTEM	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959 NIMMA: Mobilehomes Standards
1. Piping Materials	Sect. 5.1.2 Steel, wrought-iron piping, copper tubing Type K or L	Sect. 5.1.2 same as 1972	Sect. 5.1.2 Same as 1972 except seamless brass tubing included	Sect. 6.4 Wrought iron, steel, brass tubing (not more than 75% copper), tinned copper tubing
2. Minimum Size Tubing & Piping	Sect. 5.1.4 a) See Table D-2, A119.1 70, 1/4"-1" b) Minimum supply connection = 3/4"	Sect. 5.1.4 same as 1972	Sect. 5.1.4 Same as 1972 except no minimum size for supply connection	Sect. 6.5 Same as 1963, but for L.P. gas systems, minimum gas manifold 1/2" minimum iron pipe.
3. Hangers and Supports	Sect. 5.1.18 At 4' intervals	Sect. 5.1.18 same as 1972	Sect. 5.1.18 same as 1972	Sect. 6.6 same as 1972

B. OIL PIPING SYSTEM

1. Piping Materials	Sect. 5.2.2. Steel, wrought-iron pipe, copper tubing Type K or L	Sect. 5.2.2 same as 1972	Sect. 5.2.2 same as 1972 except seamless brass tubing included	Sect. 5.2 Steel, wrought iron, copper tubing, brass & aluminum* * not used between the fuel oil tank & heating appliance
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2.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME HEATING SYSTEM

	1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MHMA: Mobilehome Standards
2. Minimum Size Tubing & Piping	Sect. 5.2.3 a) 3/8" OD copper tubing or 1/4" iron pipe b) For #1 fuel oil, 1/4" OD copper tubing used	Sect. 5.2.3 same as 1972	Sect. 5.2.3 same as 1972	Sect. 5.3 same as 1972
3. Hangers and Supports	Sect. 5.2.9 At 4' intervals	Sect. 5.2.9 same as 1972	Sect. 5.2.9 same as 1972	Sect. 5.5 Not specified ("substantially supported")

C. HEATING DUCTS

1. Material	Sect. 6.10.1 Galvanized Steel, tin-plated steel, or aluminum	Sect. 6.10.1 same as 1972	Sect. 6.11.1 same as 1972	Sect. 8.1 same as 1972
2. Minimum Thickness	Sect. 6.10.1 0.013"--0.019", see Table D-3, A119.1-77	Sect. 6.10.1 same as 1972	Sect. 6.11.1 0.016"--0.022", see Table 2, A119.1-32	Sect. 8.1 same as 1972
3. Minimum size Duct a. Main Duct b. Branch Duct	Sect. 6.10.2 a) 2 1/2" b) 1 1/2"	Sect. 6.10.2 same as 1972	Sect. 6.11.2 same as 1972	Sect. 3.7 a) 2 1/2" b) 2"

3.

SUMMARY OF CODE IMPROVEMENTS OF THE MOBILE HOME HEATING SYSTEM

1972, ANSI A119.1	1969, USASI A119.1	1963, ASA A119.1	1959, MHMA: Mobilehome Standards
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D. MOBILE HOME CONSTRUCTION: INSULATION AND HEAT LOSS REQUIREMENTS

1. Heat Loss a) Gas & Oil Heat b) Electrically heated	Sect. 7.5 a) 50 BTU/hr/ft ² or 333 BTU/hr/linear ft. b) 40 BTU/hr/ft ² or 267 BTU/hr/linear ft.	Sect. 7.5 a) 50 BTU/hr/ft ² or 375 BTU/hr/linear ft. b) 0.184 watt _h /hr/ft ² or 40 BTU/hr/ft ²	No Body & Frame Requirements
	2. Minimum R Value a) Wall b) Ceiling c) Floor	Gas/Oil Electric a) 5.5 9.0 b) 8.2 12.5 c) 5.5 12.3	Gas/Oil Electric a) 5.5 6.5 b) 8.2 13.0 c) 5.5 12.0

E. TESTING

1. Gas Piping a) Before Appliances Connected b) After appliances connected	Sect. 5.1.1.19 a) Piping system stand a pressure of at least 6" Hg or 3 psi gage for 10 minutes without any loss of pressure b) System pressurized to not less than 10" nor more than 14" water column & appliance connections connected with soapy water	Sect. 5.1.1.19 same as 1972	Sect. 5.1.1.19 a) None required b) System air pressurized at 22" pressure of water column for 10 minutes	Sect. 6.10 a) None required b) System air pressurized at 10 psi gage for 10 minutes with no perceptible drop
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D.

THE SYSTEM OF MOBILE HOME CODE REGULATION PRIOR TO JUNE, 1976 --

DESCRIPTION, ANALYSIS, IMPACT AND POTENTIALS

In June, 1976, the Department of Housing and Urban Development began to administer the Federal Construction and Safety Standards Act. While this step establishes a new basis for building code regulation of the mobile home industry for many years to come, the technical content and the enforcement procedures of the federal code will remain based on the mobile home code regulation system of the immediate past. While an analysis of the pre-June-1976 system is crucial for this reason alone, an evaluation of the "old" system can serve another important purpose: many important enforcement features of the federal code have yet to be promulgated and this work can benefit from a better understanding of the "old" system's shortcomings.

This Part D, evaluating the "old" system, is intended to provide a perspective for Part E, which will deal with the "new" system. Throughout Part D, the pre-June-1976 situation is usually referred to as the "present" system -- not only in the interest of avoiding awkward terminology such as "pre-June-1976" but also because of the "old" system's continued de facto, though "illegal", existence.

The numerical data presented in this Part was taken primarily from the Co-ordinated Evaluation System Project (CES), initiated in 1972 and conducted by the National Bureau of Standards. From this survey, the NBS prepared preliminary summary tables on State Manufactured Building Programs in October, 1973 and on State Mobile Home Programs in January, 1974. In September, 1974 the NBS issued updated summaries, based on responses to the preliminary summaries. Most mobile home legislation is very recent; many additional programs and changes have been reported in the time

between 1974 and 1976 -- by NBS as well as many other sources.

Wherever possible, 1976 data or the latest available data is used in this Part. When no date is given it can be assumed that the data is from the September, 1974 NBS Summary reports.

1.

General Description of State Adoption and
Implementation of ANSI A119.1

1.1 PASSAGE OF ENABLING LEGISLATION

Most state statutes regulating mobile home construction are of very recent origin. Before 1969 only California, Georgia, Nevada and New Mexico had enacted mobile home legislation. Although 45 states have since created regulatory laws, over one third of these laws have been passed since 1972.

State mobile home codes are generally initiated by representatives of the mobile home industry, by other special interest groups or by the public sector. While final formal approval rests with the legislature, which often conducts a special investigation into the subject of regulation before drafting the bill, the initiating group proposes the code. The actual provisions in codes vary from state to state. Some states adopt A119.1 in its entirety; most are content to approximate it.

Whatever their wording, however, most statutes contain strict definitional provisions--regarding structural items such as wheels and frame structure, for example--which properly exclude conventional and factory-built housing from the jurisdiction of the mobile home code. Regulatory laws also specify the conditions under which a mobile home can be considered as such. If a mobile home is converted into a conventional house (usually by the removal of wheels and by attachment to a foundation) it may thereby, depending on the particular mobile home code stipulation

enter the province of local building codes. Some states limit application of the code to structures used as dwelling units; others do not.

While all states update their mobile home codes from time to time, only a small minority automatically accept the periodic amendments by ANSI. Most states delegate amending power to an administrative agency which can incorporate selected changes after hearings on the proposed amendments have been held. Such discretionary tactics give states greater flexibility in constructing mobile home codes, but the resulting codes may be antiquated and cannot conform to any uniform nation-wide pattern.

State mobile home laws preempt local jurisdiction in most cases, forcing local authorities to accept any mobile home with a proper state certification sticker as legitimate. In those states which omit preemption clauses--a concession to local interests--each locale is free to adopt the state code or not as it sees fit. Reciprocity agreements between states whose codes and enforcement procedures are equally stringent minimize administrative costs, manufacturer's costs and costs to the public sector. Under such agreements, mobile homes bearing an approval sticker from State A will automatically be accepted by State B. While reciprocity agreements are allowed by almost all mobile home laws, it is usually left to the discretion of the administering agency to actually establish an operational reciprocity program. The result is that few states have viable reciprocity systems which negate the original intent of many legislators to encourage greater interstate code uniformity.

1.2 ESTABLISHING ADMINISTRATIVE MACHINERY

The state must designate a unit in the executive branch to promulgate the rules and regulations and to take responsibility for the enforcement of mobile home regulation. Agency selection seems to depend on the specific jurisdiction of that office and on the way the state views mobile homes (e.g., if viewed as a dwelling, it may be administered by the building code division; if viewed as a vehicle, by the department of motor vehicles).

The state sets qualification criteria for the administrator of the regulatory program similar to the criteria set for other building code administrators. Administrative recruits usually come from within the building industry or from building code administrations. The regulatory program must also either recruit trained inspectors or establish a system of third party inspections. Some states use a formal training program to ensure inspector competency. Those states with more sophisticated programs conduct their own training courses; others use a private training facility.

The administrative staff and salaries come from the state budget. State costs are offset by fees charged against the manufacturers for state approval of plans and inspections. Ideally, the program pays for itself. It appears to do so in most states which have a number of manufacturers and a well-conceived fee schedule.

Apart from promulgating the rules and regulations, the agency administering the code establishes the overall working structure for the program. Procedures are set up for certification of the manufacturer's product and for inspections and other measures designed to ensure code compliance. Penalties for non-compliance and an appeals procedure are established. States usually provide for an advisory council to periodically review the mobile home code and its implementation and to recommend legislative amendments and administrative improvements.

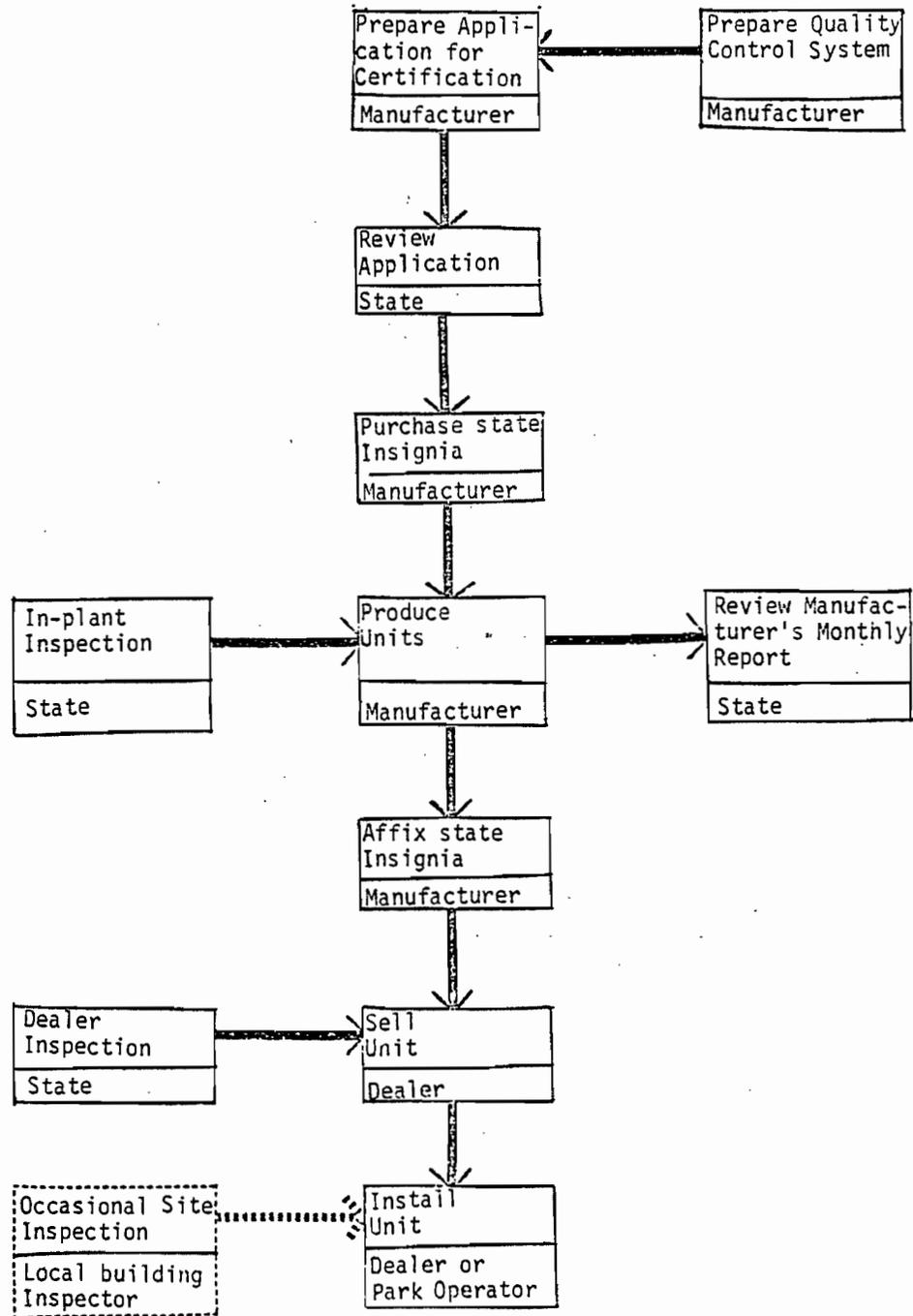
1.3 EFFECTING COMPLIANCE WITH CODE REQUIREMENTS

The methods and procedures for, and the effectiveness of ensuring compliance with, ANSI A119.1 vary widely among states. Figures 6 and 7 compare the compliance systems in two states. The state of Nebraska relies heavily upon factory inspection, while Texas, in addition to factory inspection, requires the manufacturer to submit an affidavit certifying code compliance, and to establish a competent quality control system.

Despite differences among states, however, several key stages can be identified in the assessment of code compliance (see Figure 8). Each stage affects not only the safety and welfare of the mobile home user, but also the cost of the mobile home and the productivity of the mobile home manufacturer. The following description of each stage provides an overview of the processes involved and a general introduction to the analysis that follows in a later chapter.

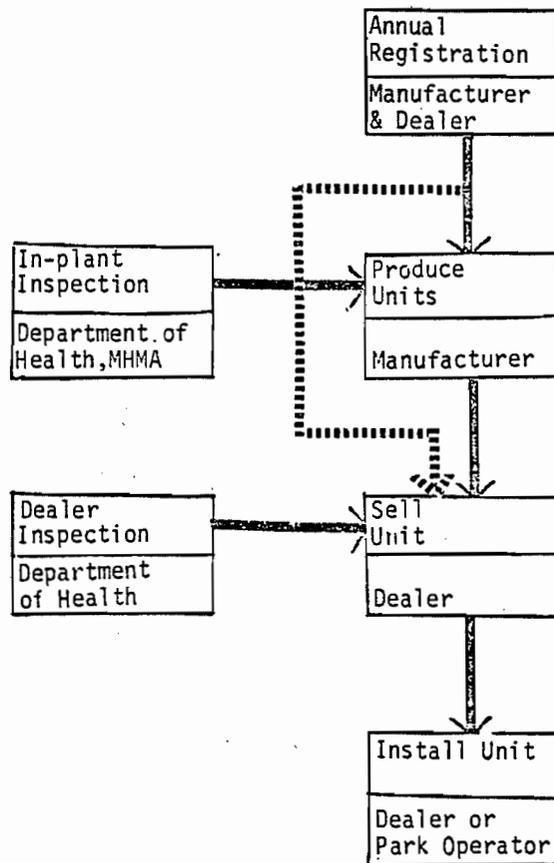
A. Plan and Specifications Preparation

Most states require the manufacturer to develop and submit construction plans to an evaluating agency, although some states rely on the manufacturer's discretion and on subsequent assembly-line spot checks for



Source: U.S. Department of Commerce, National Bureau of Standards, Mobile Home and Factory-Built Housing Code Regulation in Six Selected States, by Arthur D. Bernhardt, Norman Rowland and John Wallach

FIGURE 6: MOBILE HOME CODE REGULATORY SYSTEM - NEBRASKA



Source: U.S. Department of Commerce, National Bureau of Standards, Mobile Home and Factory-Built Housing Code Regulation in Six Selected States, by Arthur D. Bernhardt, Norman Rowland and John Wallach

FIGURE 7: MOBILE HOME CODE REGULATORY SYSTEM - TEXAS

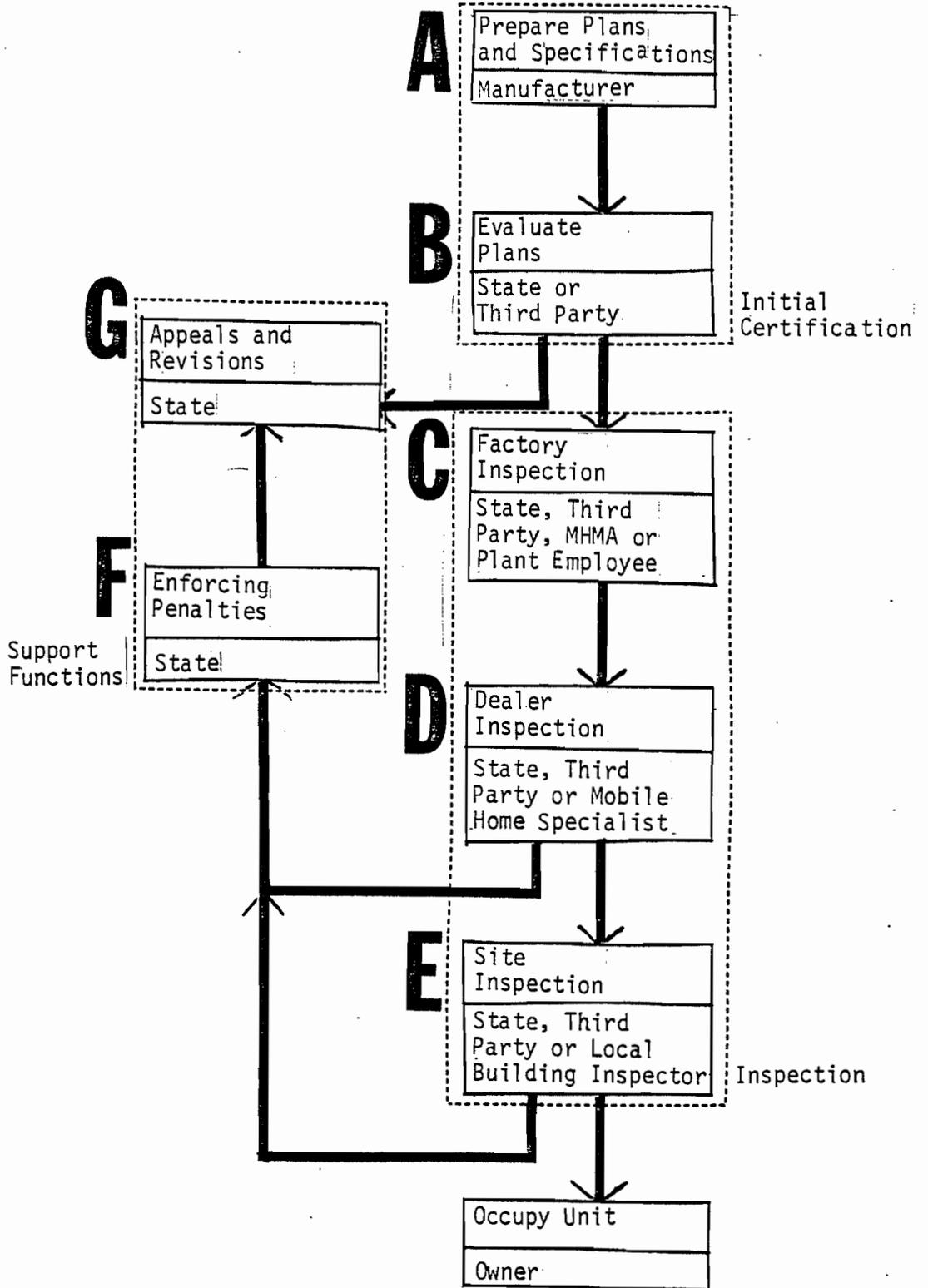


FIGURE 8: MOBILE HOME REGULATORY SYSTEM

quality control. Costs involved in submitting plans vary with the type of data required by the agency. Some states require very detailed plans, including calculations for structural, HVAC, electrical and plumbing systems. Other states require less information; a few require nothing. Conflicting requirements from different states also increase the cost of the mobile home by requiring the manufacturer to draw up different sets of plans for the same model.

B. Plan Evaluation and Approval

The evaluation process, which assesses the manufacturer's plans for compliance with the mobile home code, aims to achieve compliance at a cost reasonable to both the customer and the manufacturer. Evaluation is usually done either by a state agency or by an independent evaluation agency ("third party"). Some states allow the manufacturer a choice between these two agencies. Formal approval, by contrast, is usually a power retained by the state. States do not usually prohibit construction of the mobile home before the plans are approved. But, the units cannot be sold legally without prior approval of plans by the state representative. Therefore, as a practical necessity, manufacturers postpone construction until plans have been approved. Long and drawnout approvals procedures delay the marketing of new mobile home models.

C. Factory Inspection

Following the approval of the manufacturer's plans mobile home production begins. Effective in-plant inspection procedures become crucial at this regulatory stage. In some states, excessive costs of inspection hamper industry performance while boosting the cost of the unit to the consumer.

All states try to require an inspection agency to observe the production process and to guarantee that the mobile homes are being constructed according to approved specifications. Inspections are generally performed by a state official, a state approved mobile home "specialist", a third party agency, a plant employee authorized by the state, or by a registered architect or engineer. States that employ someone other than a state official to inspect usually conduct periodic investigations of inspections -- in order to monitor the outside party's performance.

The detail of production inspections naturally affects the cost and quality of the unit. The scope of the inspection varies in depth from electrical and HVAC systems to a complete inspection of all systems. Most inspectors make periodic unannounced inspections (i.e. once every few days to once every few months). Other states require their inspectors to examine every unit produced at least partially.

A metal label (or adhesive sticker) is attached to the mobile home either by the manufacturer or the inspector to indicate to the consumer that the unit has met or exceeded the requirements of the code. Some states issue

these labels for specific units; other sell the manufacturer a quantity of them to be used as the units are produced. In either case the stickers or tags will be matched up with the serial number of the mobile home and recorded by the state.

D. Dealer Inspection

Most states inspect the units on the dealer's lot in order to screen out illegal, unapproved units, and to detect "illegally imported" units from other states with which no reciprocity agreement exists. Such inspections also identify unsatisfactory but certified units which have either been tampered with or been accidentally damaged during transport to the dealer. Inspection, usually a visual survey of all systems, varies widely in frequency among states. Defective units are either repaired on location or returned to the manufacturer for correction. The agency that performs in-plant inspections usually conducts on-the-lot inspections.

E. Site Inspection

Site inspection is the state's last chance to detect deficiencies in the mobile home. Therefore, it is especially crucial for the inspecting agency to uncover any damages inflicted during transport to the site, and to monitor installation of the unit on the site.

Although most state mobile home codes now preempt local codes, local building inspectors still check new units to see that foundations and utility connections have been installed properly. As was true of previous stages of inspection, however, states differ widely among themselves in frequency of inspection and number of items inspected. Local inspectors may also handle cases of after-certification damage or sabotage, although some states delegate such cases to a state or third party agency.

F. Enforcing Penalties

Manufacturers and inspectors cannot entirely eliminate human error. Even with meticulous quality control and the best of intentions, somewhere during manufacturing, assembly or installation some individual unit defects will inevitably escape detection. Whether invoked by local inspectors, by state agencies or by third party agencies, enforcement rules require these deficiencies to be corrected where discovered. Practically all states with a mobile home regulatory system remove or withhold the certification insignia from offending units. Defective units are impounded until their deficiencies are set right and the seals restored. Some state codes set time limits within which the correction must be made. In some instances the regulatory code includes an additional provision permitting state officials to revoke the manufacturer's plant approval and certification if deficiencies are not correctly prompted. Revocation is an extreme measure however, and rarely used. More commonly, a manufacturer with a poor record of compliance may be subjected to an

increasing frequency of inspection. Frequent inspections slow production and cut profits; they are therefore an effective penalty. Criminal penalties lie in store for repeat offenders who fail to respond to anything else (although it is not clear how often these are invoked).

G. Appeals and Revisions

At any point in the mobile home regulatory network, conflicts concerning the technical content of the code or an interpretation of the code may flare up between the manufacturer and the building code official. Most states have established appeal procedures to mediate disputes. Adjudication begins at the lowest level of appeals, with a board of review appointed by the code's administrating agency. Should the administrative appeal fail to satisfy the manufacturer, most states provide for judicial appeal through the state, county or district court system.

A successful appeal may on occasion force a revision of the code. While code modifications are frequently patterned on the latest edition of a mobile home code (usually ANSI A119.1), state laws do not generally require periodic updating of the code. Sporadic revisions can only provide an outdated and ill-adapted regulatory program. Fortunately, as more states realize the problem, they solve it simply by automatically updating their codes.

2.

Rationale for Selecting Key Factors in Code
Regulation Influencing Industry Performance

Part D is designed primarily to identify the key elements in the ANSI mobile home code, and to evaluate their impact on the mobile home industry. There are many crucial provisions that exert considerable influence on social and economic parameters in mobile home manufacture.

We isolated, first, four general variables in code composition and administration that bear obviously and directly on cost and industry performance. Briefly, the four variables are:

- (1) **Consistency:** the extent to which the mobile home code and its administration are consistent; the degree of program uniformity among states
- (2) **Currency:** the extent to which codes have been amended to keep them technologically current; the differing levels of currency among states
- (3) **Flexibility:** the ability of a code and its administrators to adapt to a wide range of situational and technological change
- (4) **Costs:** the costs enumerated in specific provisions of the code or resulting from the way the code is administered; who must bear these costs

Second, in order to isolate the provisions that those closest to the regulatory process considered crucial, we drew on informal discussions with state officials across the country with representatives from many mobile home producers, with officials from the Mobile Home Manufacturers Association and with a wide sampling of state and regional associations involved in the mo-

bile home industry. From the raw data of discussion we identified a list of crucial factors in code content and enforcement. After eliminating any factors with limited potential for improving industry's performance, the remaining factors were separated into those which could be remedied by individual states (intrastate considerations) and those which required the collaboration of two or more states for resolution (interstate concerns).

Third, we used the four general variables -- consistency, currency, flexibility and costs -- as guiding criteria in analyzing the impact of both intra and interstate factors on industry performance. The next chapter, presenting this analysis, deals with intrastate and interstate factors in sequence.

3.

Analysis of Key Factors

The manufactured building industry shares many frustrations with the mobile home industry; the products are similar in their use, and both industries are subject to similar regulatory procedures. Also, many of the largest and diversified mobile home companies produce both types of shelter. Further, we believe that in the not too distant future, both industries will merge into one homogeneous industry. We agree with many industry spokesmen who argue convincingly that the often separate state agencies regulating mobile homes and manufactured housing should coalesce into one cohesive force. (In fact, at least 25 states now use one agency to regulate both industries). For all these reasons, we include data on code regulation of the manufactured building industry for comparison throughout the remainder of this section.

3.1 INTRASTATE KEY FACTORS

3.1.1 State Adoption of Mobile Home Codes

Efficiency of mobile home manufacture is directly and intimately connected to having a uniform state regulatory code. In the absence of statewide standards for mobile home construction, mobile home manufacturers seeking to market their product become entangled in the web of different regulations established by local governments within the state. Some communities still require their own inspectors to check wiring and plumbing before these internals are hidden by wall coverings. Requirements set by one community may be in direct conflict with those set by others. One can escape the maze while taking advantage of assembly line mass production methods by designing and building all units to meet the strictest code requirements in the market area. Unfortunately, this approach - if at all workable - necessarily increases unit costs throughout the area.

Lack of a local code does not solve the problem. Although some locales use no building codes, such communities are generally small and scattered and hardly provide the kind of mass market necessary to make large scale production and its attendant economies practical. Moreover, codeless communities are likely to attract opportunistic sellers of low-quality units -- a situation which not only reduces the immediate market for quality

mobile homes, but also contributes to the unnecessarily low opinion of the industry that has for so long hindered its growth.

Most manufacturers of mobile homes intend to market quality products and favor state adoption of mobile home construction standards, not merely to simplify their private code problems but also to assure a minimum product quality for the industry as a whole. Industry associations have been among the most influential forces in bringing about state adoption of the industry - initiated ANSI code.

The current edition of the code, ANSI A119.1, which MHMA sponsored in original or modified form, has been adopted as the basis for state regulation in 45 states. As has been noted, state mobile home construction regulation is for the most part a very recent phenomenon. Drafting a code involves analysis of construction types, determination of needs, and setting of appropriate and functional standards. It can be a very expensive undertaking. There are a number of groups (BOCA, SBCC, ICBO, etc.) which supply model code materials in the conventional home-building field, but A119.1 is the only model code directly applicable to mobile homes. A committee or legislature which has agreed upon the need for a statewide mobile home building code has, essentially, only two choices: to adopt A119.1 or to spend the time and money drafting its own code. A proliferation of home-grown codes only creates chaos and waste. Of this, the manufactured building industry offers ample evidence. Although many states have enacted manufactured housing legislation, there is no trend towards adoption of one single model code. (The model for statewide manufactured housing codes developed by NBS in connection with the

CES project has yet to be adopted by any sizable number of states).

Fortunately, for mobile home regulation, states frequently adopt A119.1, an auspicious trend for a number of reasons. First, A119.1 eliminates the wasteful and confusing duplications of efforts in analysis and drafting that characterize conventional building code regulation. The alternative -- widespread independent local code drafting or evaluation and adoption of swarms of different codes can be a harrowing experience for all involved. A few corrections of code flaws may occur, but the costs are surely not worth the effort. While the on-site residential building industry is suffering from technological stagnation and increasing costs, the mobile home industry has been marked by innovation and cost reduction, due largely to the existence and continued acceptance of A110.1 as a model code.

Few states could afford - let alone gather together - the kind of expertise that goes into A119.1's drafting and approval. Industry sponsorship does not, as was feared, imply industry dictation of code provisions. The membership of The National Fire Protection Agency (NFPA), which includes representatives of local, state, and federal agencies as well as manufacturers and suppliers, constitutes a major source of feedback on individual code provisions. The ANSI A119.1 drafting task force is drawn for the most part from NFPA membership. American National Standards Institute (ANSI), a clearinghouse for standardized codes, similar in membership to NFPA, reviews and publishes the code provisions developed through NFPA. All in all the essential integrity of ANSI A119.1 has been vindicated by its almost complete incorporation in the new Federal Mobile Home Construction and Safety Standard.

A119.1 is a comprehensive code. All aspects of mobile home construction are treated as an integrated whole. Most model codes treat potentially hazardous aspects of construction individually--wiring, waste disposal, framing methods--and provisions are not necessarily completely compatible. Such treatments, which demand that safety provisions meet a lowest common denominator applicable to all types of use, may set standards above those necessary for a particular individual use. A119.1 is the only model construction code directly aimed at fitting one whole system.

A119.1, in addition, is a performance-oriented code. In fact, it comes far closer to a performance code than any of the other model codes. While technical and code-administrative limitations make it unlikely that A119.1 will ever develop into a "pure" performance code, in the foreseeable future A119.1 will retain its position as the clear front-runner in the performance code arena. The opportunities for continuous technological innovation that are implied by this characteristic further underline the promise of A119.1 as a model code.

By contrast with conventional building codes where the outlook for real uniformity has been bleak, mobile home codes--thanks to the widespread adoption of A119.1--are fairly uniform. The Census Bureau study of conventional building codes for the Douglas Commission revealed that only 28 percent of model code community governments surveyed had adopted 90 percent or more of the changes recommended nationally during the previous three years.⁶ Only 15 percent of

municipalities and townships above 5000 in population had a conventional model code that was reasonably up-to-date, although 42 percent had originally adopted codes which "substantially incorporated" a national or regional model code.

But the mobile home industry is by no means free of the curse of non-standardization. Out of at least 45 states which, as of 1976, have legislated statewide mobile home construction codes, at least four do not preempt local codes (see Figure 9). (Factory-built housing codes appear to be more progressive with all but two out of 26 states responding having preemption--see Figure 10.) That is, the problem in those four states was seen as one of having standards, not as one of eliminating conflicting code provisions or in any way encouraging the development of low-cost housing. At least some state lawmakers fail to comprehend the side-effects of non-standardized code regulation.

3.1.2 Key Factors of Enabling Legislation

Legislation establishing a state mobile home code based on A119.1 is virtually ineffective without certain key features. Provisions mandating currency are of the utmost importance. While A119.1 is continuously updated and revised by ANSI, NFPA, and MHMA, most states do not automatically update their codes to conform to the latest version of A119.1. This problem applies separately to the construction, mechanical, plumbing and electrical codes within the code package. Counting each of these as a separate code, although

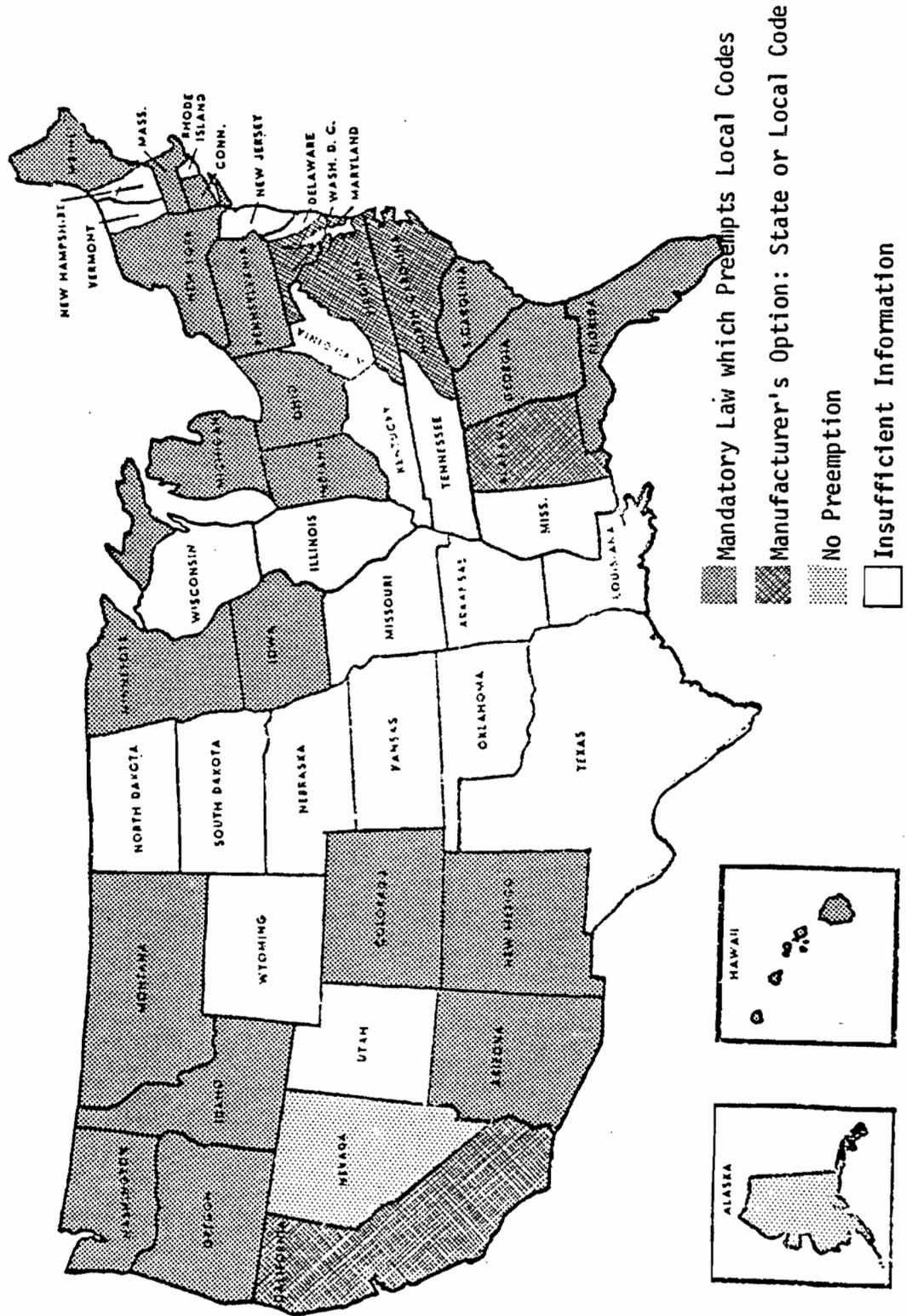


FIGURE 10: PREEMPTION STATUS OF MANUFACTURED HOUSING REGULATION
(Based on Latest Information Received by PMHI as of July, 1976)

code sections are generally of the same year, 3% of the codes were dated 1969, 3% were from 1970, 7.6% were from 1971, 30.3% were from 1972, 38% were from 1973, and 18.7% were from 1974, according to the 1974 CES Survey. Less than a fifth of the states with mobile home legislation use the most current code. Antiquated codes, out of touch with the latest developments in the industry, inhibit technological innovation. Fortunately, with the new federal standards requiring automatic nationwide updates, this current problem will vanish.

Also vital to enabling legislation are the stipulations pertaining to preemption (Refer back to Figures 9 and 10). The state code may either exercise mandatory preemption over local codes or allow the manufacturer to obtain approval from local officials. Of the 42 states reporting preemption for mobile homes, 38 used mandatory preemption. One state, Arkansas, offered the option of local approval; four states lacked any preemption provision.

3.1.3 Establishment of Administrative Machinery

According to the 1974 CES survey, 19 out of 39 reporting states have passed legislation establishing state mobile home advisory committees. Of these, 10 states' committees hand down mandates on rule-making. The other nine committees are strictly advisory. Advisory committees offer policy recommendations on all aspects of mobile home code construction

and administration. In addition, they monitor consumer or industry complaints. In contrast, 22 of 26 reporting states with factory built housing codes had advisory committees by law. In only seven states, however, was mandate power given; 14 states reported advisory power only.

Program Funding and Fee Structure

Most states adopting mobile home codes do so with the understanding that the fees charged to manufacturers and dealers will offset the administrative costs of running the program. In fact, 22 of 23 states responding in 1974 reported that their program costs were covered by their fee schedule.

Fees are comparable between states. Most states charge a sticker fee of \$5 - \$10 per insignia for each unit produced, although, there are usually additional product or plant certification fees that range from a \$20 - \$30 fee for model certification only, to a combination-fee of almost \$1000 for model and plant approval. Inspection fees run about \$25 per unit inspected, equivalent to \$11 per hour. There may also be a manufacturer's license fee, out of state per diem, and other fees.

It is not possible with the data obtained to get absolute standards for funding or to specify an appropriate fee structure. It is clear, however, that insufficient funding will promote poor inspections and bad quality control. The cost impact of an inadequate fee schedule is significant since the public at large, ultimately, will pay for the

"actual consumer" through higher taxes. If the state will adequately fund and staff its inspection and certification departments (or adopt a third party system that could minimize costs to the state), the public can rely more on certification and can be more sure of the quality of the units produced. Adequate funding (pegged against a realistic fee schedule) will, with greater justice, pass the costs on to the user rather than to the public as a whole.

Administrative Agency Enforcing the Mobile Home Code

Among the 45 states with mobile home codes as of June, 1974, there were 30 different agency types administering the codes. These included departments of commerce, industry, labor statistics, insurance, health, fire marshall, public works, architecture, motor vehicles, law enforcement, community affairs development, construction code committee, and many others. The state fire marshall's office is, however, used most frequently (by 4 states), to administer the mobile home code. Figure 11 shows the variety of agencies used by states to administer mobile home programs. Figure 12 indicates that the situation for factory-built housing programs is similar, with a wide variety in the type of agency that enforces the manufactured building code.

It is difficult to determine the effect that the agency used will exercise on the style of mobile home code enforced. Further data is needed before hard conclusions can be drawn. If an agency allows its functional nomenclature to narrow its view of the mobile home either the industry, or the consumer, or both, will suffer. For example, if a

<u>STATE</u>	<u>DEPARTMENT OR AGENCY</u>
ALABAMA	INSURANCE DEPARTMENT
ALASKA	DEPT. OF COMMERCE
ARIZONA	DIVISION OF BUILDING CODES
ARKANSAS	DEPT. OF HEALTH
CALIFORNIA	DIVISION OF CODES AND STANDARDS
COLORADO	DIVISION OF HOUSING
CONNECTICUT	DEPT. OF PUBLIC WORKS
DELAWARE	DIVISION OF CONSUMER AFFAIRS
FLORIDA	DIVISION OF MOTOR VEHICLES
GEORGIA	SAFETY FIRE COMMISSION
HAWAII	DEPT. OF LABOR
IDAHO	DIVISION OF MANUFACTURED HOUSING
ILLINOIS	DIVISION OF GENERAL SANITATION
INDIANA	ADMINISTRATIVE BUILDING COUNCIL
IOWA	DIVISION OF MUNICIPAL AFFAIRS
KANSAS	DIVISION OF ARCHITECTURAL SERVICES
KENTUCKY	STATE FIRE MARSHAL
LOUISIANA	STATE FIRE MARSHAL
MAINE	STATE HOUSING AUTHORITY
MARYLAND	DEPT. OF ECONOMIC AND COMMUNITY DEVELOPMENT
MASSACHUSETTS	STATE BUILDING CODE COMMISSION
MICHIGAN	CONSTRUCTION CODE COMMISSION
MINNESOTA	DEPT. OF ADMINISTRATION
MISSISSIPPI	INSURANCE DEPARTMENT
MISSOURI	DIVISION OF PUBLIC SERVICE
MONTANA	DEPT. OF ADMINISTRATION
NEBRASKA	DEPT. OF HEALTH
NEVADA	STATE FIRE MARSHAL
NEW HAMPSHIRE	OFFICE OF COMPREHENSIVE PLANNING
NEW JERSEY	DIVISION OF HOUSING AND URBAN RENEWAL
NEW MEXICO	CONSTRUCTION INDUSTRY COMMISSION
NEW YORK	HOUSING AND BUILDING CODES BUREAU
NORTH CAROLINA	INSURANCE DEPARTMENT
NORTH DAKOTA	SUPERINTENDANT OF CONSTRUCTION
OHIO	BOARD OF BUILDING STANDARDS
OKLAHOMA	ENGINEERING DEPARTMENT
OREGON	DEPT. OF COMMERCE
PENNSYLVANIA	DIVISION OF INDUSTRIAL HOUSING
RHODE ISLAND	DEPT. OF COMMUNITY AFFAIRS
SOUTH CAROLINA	DIVISION OF INSPECTION SERVICES
SOUTH DAKOTA	DIVISION OF CONSUMER PROTECTION
TENNESSEE	INSURANCE DEPARTMENT
TEXAS	DEPT. OF LABOR
UTAH	DEPT. OF BUSINESS REGULATION
VERMONT	DEVELOPMENT OF COMMUNITY AFFAIRS AGENCY
VIRGINIA	STATE CORPORATION COMMISSION
WASHINGTON	DEPT. OF LABOR AND INDUSTRIES
WEST VIRGINIA	DEPT. OF LABOR
WISCONSIN	DIVISION OF INDUSTRIAL SAFETY AND BUILDINGS
WYOMING	STATE FIRE MARSHAL

FIGURE 11: STATE MOBILE HOME PROGRAMS -- ADMINISTRATION AND ENFORCEMENT
 (Based on Latest Information Received by PMHI as of July, 1976)

<u>STATE</u>	<u>DEPARTMENT OR AGENCY</u>
ALABAMA	STATE HOUSING COMMISSION
ALASKA	STATE FIRE MARSHAL
ARIZONA	DIVISION OF BUILDING CODES
ARKANSAS	DEPT. OF PLANNING
CALIFORNIA	DIVISION OF CODES AND STANDARDS
COLORADO	DIVISION OF HOUSING
CONNECTICUT	DEPT. OF PUBLIC WORKS
DELAWARE	DIVISION OF COMMUNITY AFFAIRS
FLORIDA	BUREAU OF CODES AND STANDARDS
GEORGIA	STATE BUILDING ADMINISTRATIVE BOARD
HAWAII	LABOR AND INDUSTRIAL RELATIONS DEPARTMENT
IDAHO	MANUFACTURED HOUSING DIVISION
ILLINOIS	DEPARTMENT OF LOCAL GOVERNMENT HOUSING OFFICE
INDIANA	ADMINISTRATIVE BUILDING COUNCIL
IOWA	BUILDING CODE COMMISSION
KANSAS	DIVISION OF ARCHITECTURAL SERVICES
KENTUCKY	OFFICE OF LOCAL GOVERNMENT
LOUISIANA	STATE FIRE MARSHAL
MAINE	STATE HOUSING AUTHORITY
MARYLAND	DEPT. OF ECONOMIC AND COMMUNITY DEVELOPMENT
MASSACHUSETTS	STATE BUILDING CODE COMMISSION
MICHIGAN	CONSTRUCTION CODE COMMISSION
MINNESOTA	BUILDING CODE DIVISION
MISSISSIPPI	STATE MUNICIPAL ASSOCIATION
MISSOURI	DIVISION OF DESIGN AND CONSTRUCTION
MONTANA	DEPT. OF ADMINISTRATION
NEBRASKA	STATE HOUSING ADVISORY COUNCIL
NEVADA	STATE FIRE MARSHAL
NEW HAMPSHIRE	OFFICE OF COMPREHENSIVE PLANNING
NEW JERSEY	DEPT. OF COMMUNITY AFFAIRS
NEW MEXICO	GENERAL CONSTRUCTION BOARD
NEW YORK	STATE BUILDING CODE BUREAU
NORTH CAROLINA	INSURANCE DEPARTMENT
NORTH DAKOTA	EXECUTIVE OFFICE
OHIO	BOARD OF BUILDING STANDARDS
OKLAHOMA	ENGINEERING DEPARTMENT
OREGON	DEPT. OF COMMERCE
PENNSYLVANIA	DIVISION OF INDUSTRIAL HOUSING
RHODE ISLAND	DEPT. OF COMMUNITY AFFAIRS
SOUTH CAROLINA	STATE HOUSING AUTHORITY
SOUTH DAKOTA	STATE OFFICE
TENNESSEE	INSURANCE DEPARTMENT
TEXAS	DIVISION OF HOUSING
UTAH	STATE BUILDING BOARD
VERMONT	DEVELOPMENT OF COMMUNITY AFFAIRS AGENCY
VIRGINIA	STATE CORPORATION COMMISSION
WASHINGTON	FACTORY BUILT HOUSING DIVISION
WEST VIRGINIA	STATE FIRE MARSHAL
WISCONSIN	DIVISION OF INDUSTRIAL SAFETY AND BUILDINGS
WYOMING	STATE FIRE MARSHAL

FIGURE 12: STATE MANUFACTURED BUILDING PROGRAMS -- ADMINISTRATION AND ENFORCEMENT
(Based on Latest Information Received by PMHI as of July, 1976)

state fire marshall's office responsible for enforcing the code interprets it primarily in terms of fire prevention and its attendant structural concerns, the mobile homes which have non-fire related defects may be missed when inspected with the agency bias. An effective administrative agency must understand the mobile home and manufactured building industry, and balance the needs of safety and economy for an optimum result.

In-Plant Inspection: State, Third Party, or Local

Those states which have passed mobile home codes employ several different methods of in-plant inspection. Of the 45 states surveyed by the 1974 CES survey which had viable mobile home inspection programs, 28 used state inspection and 17 used a third party; among these, 8 gave the manufacturer a choice between state and third party inspection (see Figure 13). Three states allow the manufacturer to choose between a state and local inspector.

States using inspectors are located primarily in the eastern region of the United States; third party inspection dominates in the West. The type of inspector -- third party or state -- matters more as an interstate concern than as an intrastate concern. Within a particular state, the major inspection concern is for cost and quality of inspection. In a survey conducted by PMHI, most manufacturers and regional or state industry associations agreed that state enforcement of ANSI 119.1 is more effective than MHMA enforcement and that the extra cost of state inspection is justified. There is disagreement between manufacturers,

however, about relative effectiveness and costs of third party inspection and state inspection. In contrast, there is no such regional concentration of state inspection for factory-built housing (see Figure 14).

The type of third party inspector used varies considerably from state to state. Widely recognized testing agencies, particularly Underwriters' Laboratories, are employed most commonly. Other states use a registered architect or engineer, a state approved mobile home specialist, a state "agent" employed by the manufacturer, or the Mobile Home Manufacturer's Association. In comparison, factory-built housing inspection programs reveal a somewhat different pattern. Seventeen out of 24 reporting states used third party inspection, a much higher percentage than for mobile homes. States also tend to allow factory-built housing manufacturers to select local building officials for in-plant inspection. Nine states with factory-built housing programs in 1974 permitted the manufacturer to choose this alternative. Unfortunately, this type of inspection leads to a lack of uniformity in inspection standards.

Manufacturers have not lobbied actively for third party inspection. A collective drive from state legislators to minimize state personnel and budget requirements has promoted the apparent predominance of third party inspection. While some multi-state manufacturers use third party inspections, a sizable number still favor state inspections because state control is more sensitive to manufacturers' needs.

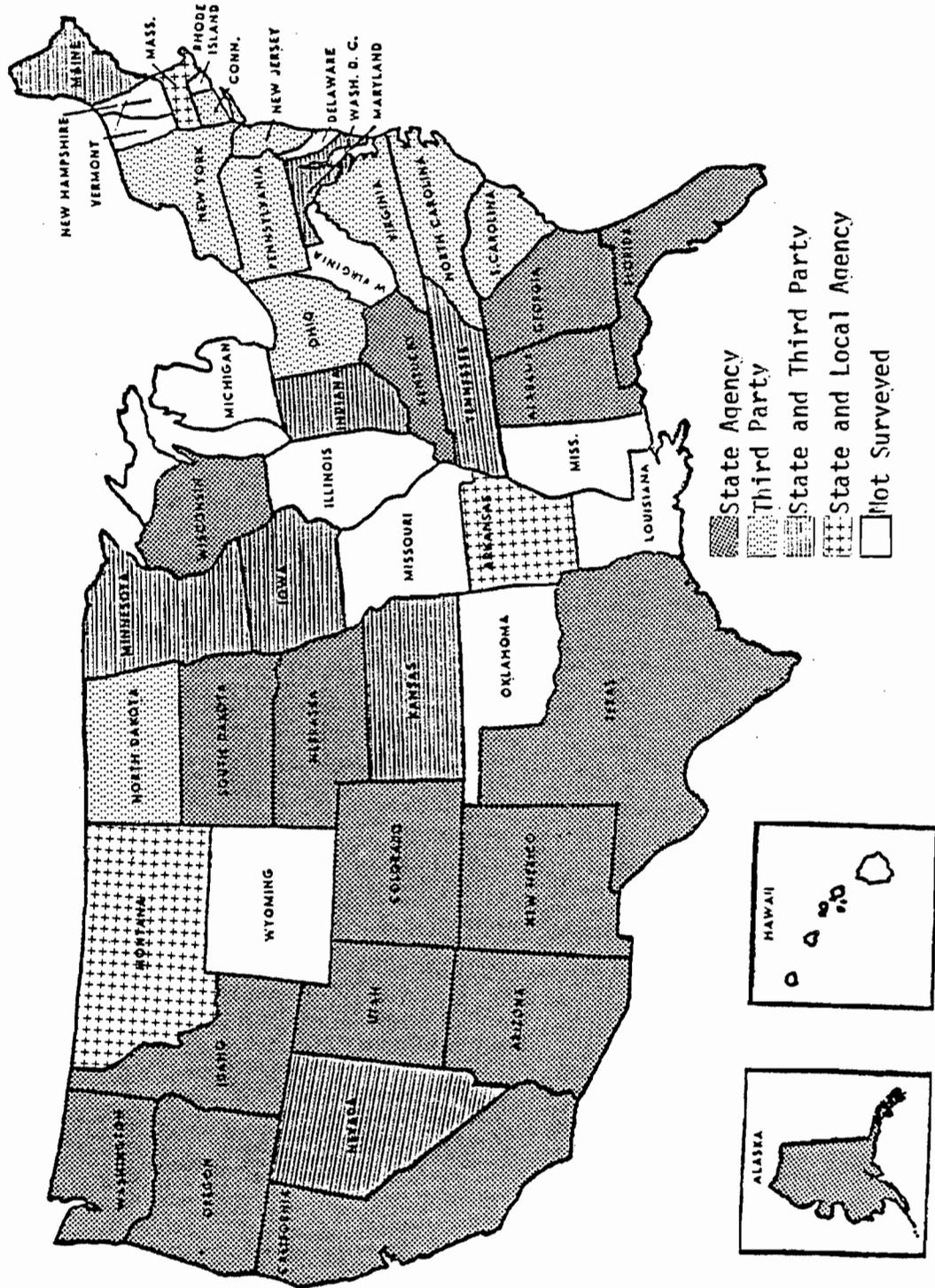


FIGURE 13: TYPE OF IN-PLANT INSPECTION PROGRAMS USED FOR MOBILE HOMES
(Based on Latest Information Received by PMHI as of July, 1976)

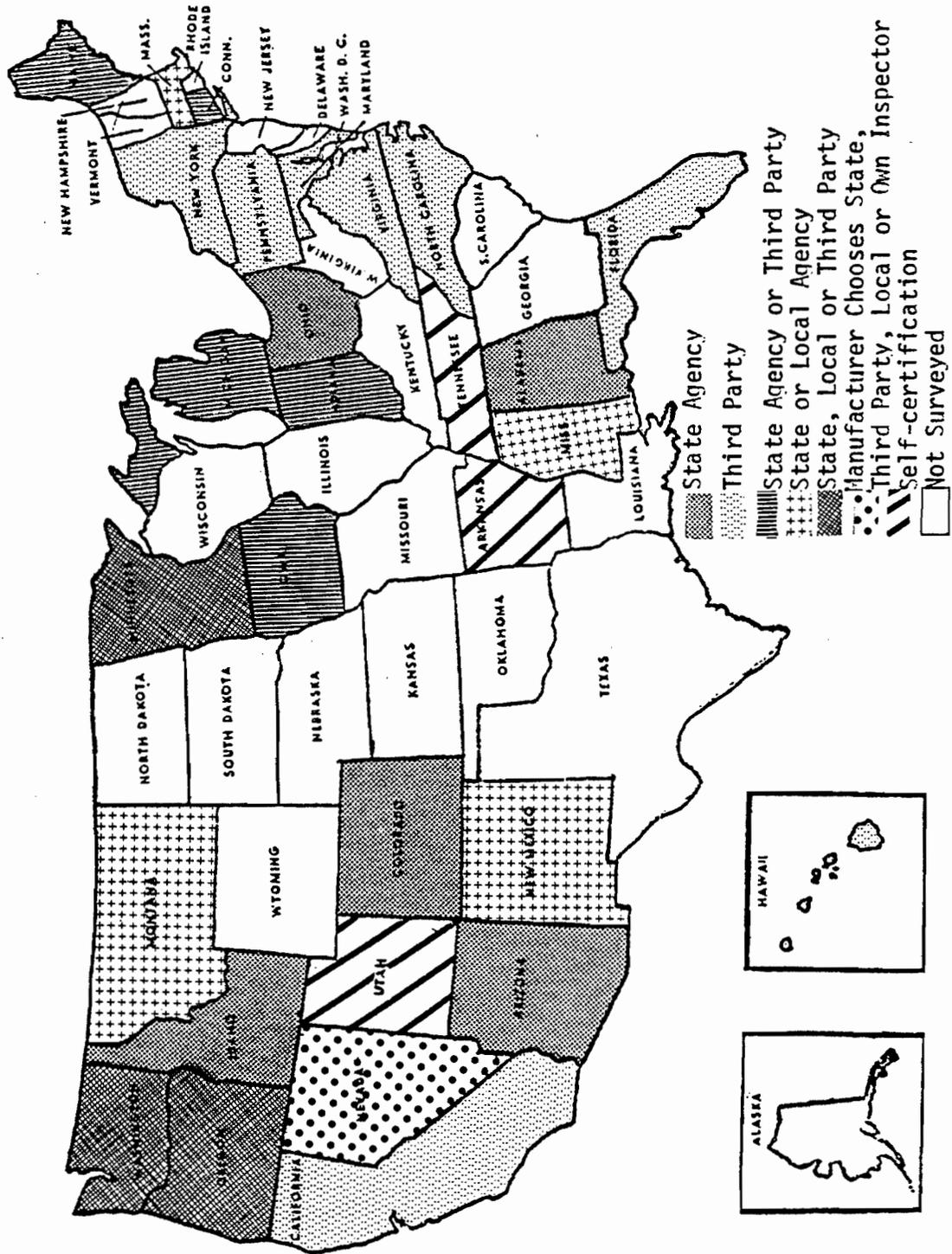


FIGURE 14: TYPE OF IN-PLANT INSPECTION PROGRAMS USED FOR FACTORY-BUILT HOUSING
 (Based on Latest Information Received by PMHI as of July, 1976)

Third party inspection can do most to improve industry's performance when units from one plant are shipped to several states. The impacts and potentials of third party inspection are dealt with in the inter-state portion of this chapter.

Inspector Training and Certification

Most existing agencies regulating mobile home construction are, of necessity, very young; the laws creating them have only been passed in the last few years. Data extracted from the most recent CES study indicates that the average number of professional man-years of experience in mobile home regulation per entire state, as of 1974, was only 2.4 years. Similarly, the average number of inspector man-years of experience was 5.9 years. Given the age of most state mobile home regulation codes, the results are hardly unexpected. But the data underscores the need to establish consistent and thorough inspector training programs throughout the nation. Since MHMA members are acutely aware of this need, their organization might consider initiating or, at least, encouraging the requisite training programs.

Lessons can be learned from the on-site building industry's experience. A study of conventional codes in the Detroit metropolitan area indicated that variations in code interpretation by code officials interfere more with uniform regulation than does diversity of code and ordinance provisions.⁷ A second study drew a similar picture: "Even where a model code has been adopted over a relatively large number of jurisdictions or

relatively wide area with no or few amendments, local inspectors often interpret the code in a way which differs from the language and often even more from the interpretations of inspectors in the neighboring city or suburb." ⁸ Consistency of code interpretation would undoubtedly improve were code administrators properly trained in certification programs. There is no convenient method for comparing the cost of state training and certification programs with their benefits. Except for some conflicting manufacturers' comments on the competence of state mobile home inspectors, there is no basis on which to evaluate the qualifications of inspectors. But some general comments can be made.

At the very least, inspectors need to know what to look for and where to look for it. Wages paid to inspectors who lack those qualifications constitute complete waste. Some manufacturers indicate that there is such waste, at least in some regions, and that training could be worthwhile even at the most elementary level. Methods of inspection must be efficient as well as intelligent. State inspection fees become only a minor part of the inspection costs incurred by manufacturers if production lines are held up unnecessarily by inefficient inspection techniques.

Effectiveness, uniformity, and efficiency in inspection are the obvious and necessary benefits of inspector training. Of the 26 states surveyed in 1974 which had enacted statewide mobile home construction codes, 13 required that inspectors undergo formal training and pass a state examination. But 13 states had neither training nor certification programs for inspectors (see Figure 15). A similar situation exists in programs for manufactured housing enforcement personnel (see Figure 16).

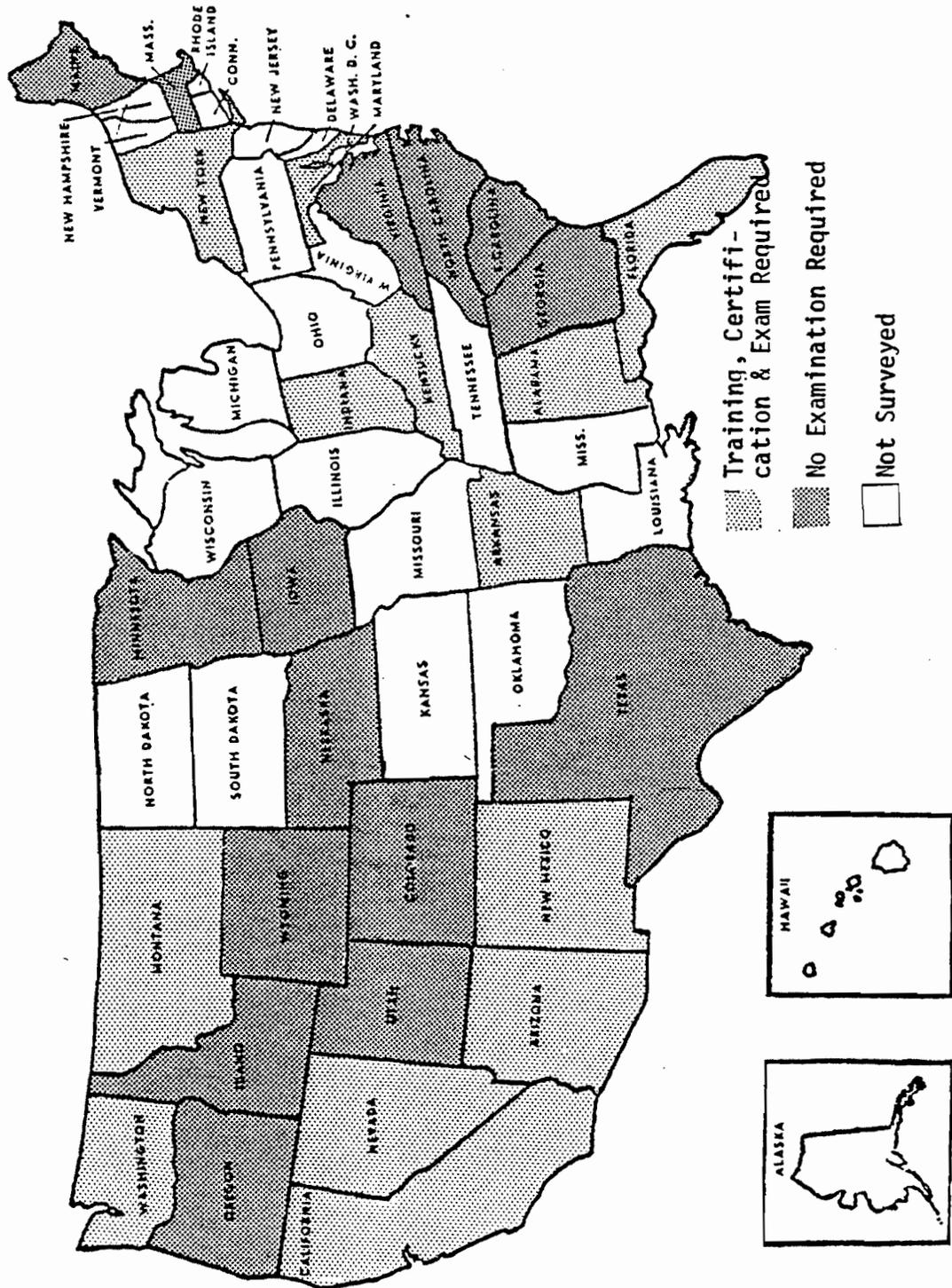


FIGURE 15: STATE EXAMINATION REQUIREMENTS FOR MORILE HOME CONSTRUCTION CODE ENFORCEMENT PERSONNEL

(Based on Latest Information Received by PMHI as of July, 1976)

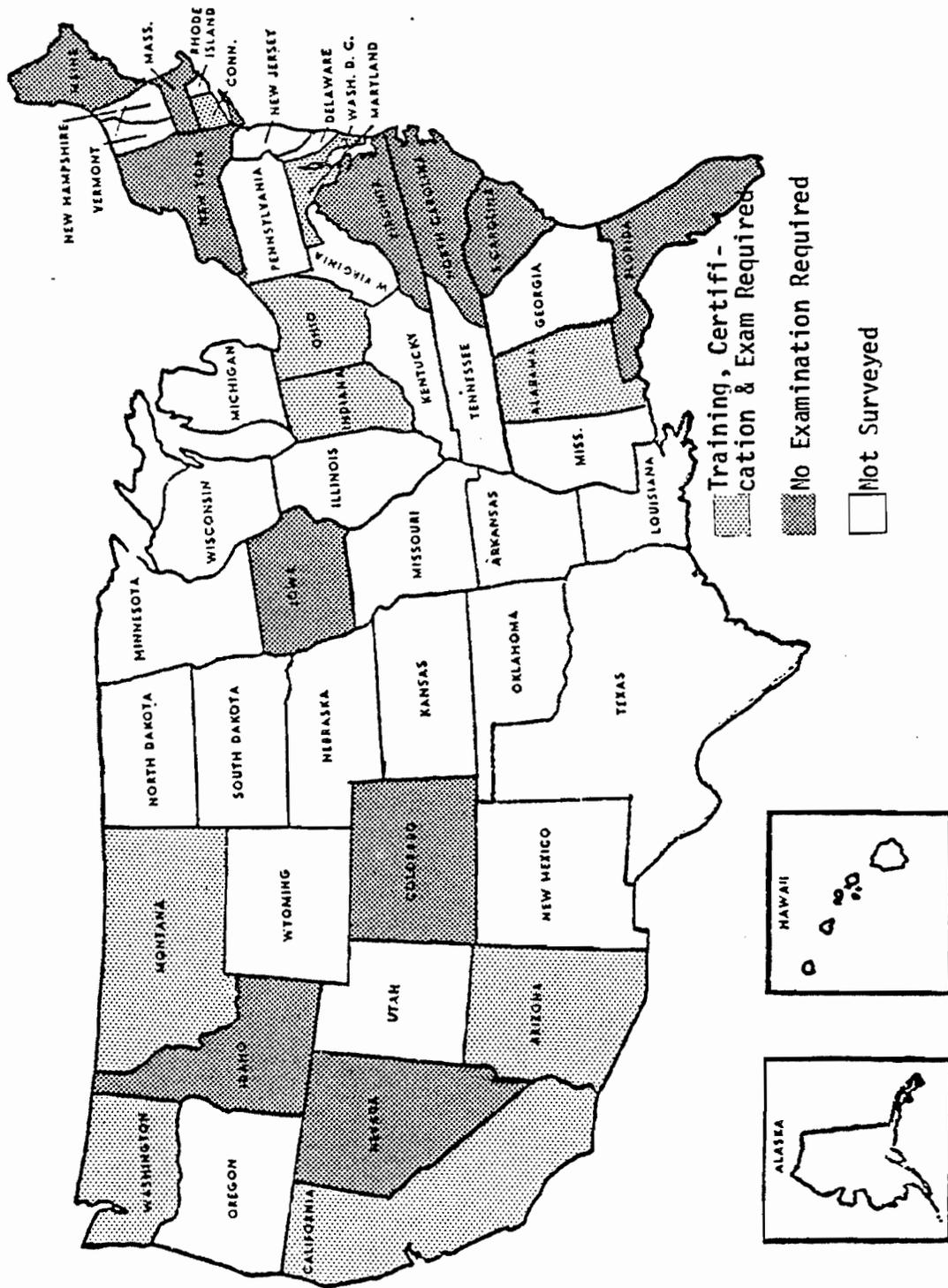


FIGURE 16: STATE EXAMINATION REQUIREMENTS FOR MANUFACTURED HOUSING CONSTRUCTION CODE ENFORCEMENT PERSONNEL (Based on Latest Information Received by PMHI as of July, 1976)

As building codes become increasingly performance oriented, they require a better trained building official. The inspection of technologically innovative building materials and components that profess to meet performance standards demands more technical competence than does the inspection of construction that conforms to a specification-type building code. Pre-entry as well as in-service training of building inspectors and officials could provide the skills necessary to administer performance building codes.

The few states in which training programs exist point to several strategies that other states might adopt. Indiana requires that all building inspectors attend a three-week course at Purdue University. Georgia has established a mobile home training program conducted by Southern Technical Institute. California, at the time of the 1973 CES survey, was investigating extension courses on building code inspection offered by the University of Nebraska. Other states could take similar advantage of already-established community educational resources, such as private or state universities and community colleges. Some states also make use of services offered by model code agencies to instruct its personnel. Maryland pays the "tuition" for all building inspectors to attend courses conducted by BOCA and NFPA. Georgia also sends its building officials to courses conducted by NFPA.

Efforts to improve the training programs of building officials are also going on at the national level. The Education and Qualification Committee of NCSBCS is presently investigating model legislation pertaining to

certification of Code Enforcement Officers, and the possibility of establishing both qualifications for code enforcement officials and a National Academy of Code Administration. Further research in these areas is essential in order to increase the effectiveness of code enforcement and to eliminate costs which would otherwise be passed on to consumers.

3.1.4 Functions of the Administrative Machinery

Evaluation and Approval (Certification)

The states require certification of manufacturers' plans for his mobile home as a means of assuring mechanical and structural soundness, fire safety and so forth. The amount of detail requested, types of plans submitted, evaluation agency and approval agency used, and other factors vary from state to state; there is no clear national or regional pattern of certification. (See Figures 17 and 18).

The distribution of factory agencies for evaluation and approval of factory-built housing follows the general pattern of mobile home agencies. (See Figures 19 and 20). The major difference is the existence of a limited number of states which recognize local or federal certification.

Obviously, certification calls for a cost-benefit analysis: the more detailed the plans submitted must be, the greater the confidence in the unit's performance; but the more detail the greater the cost

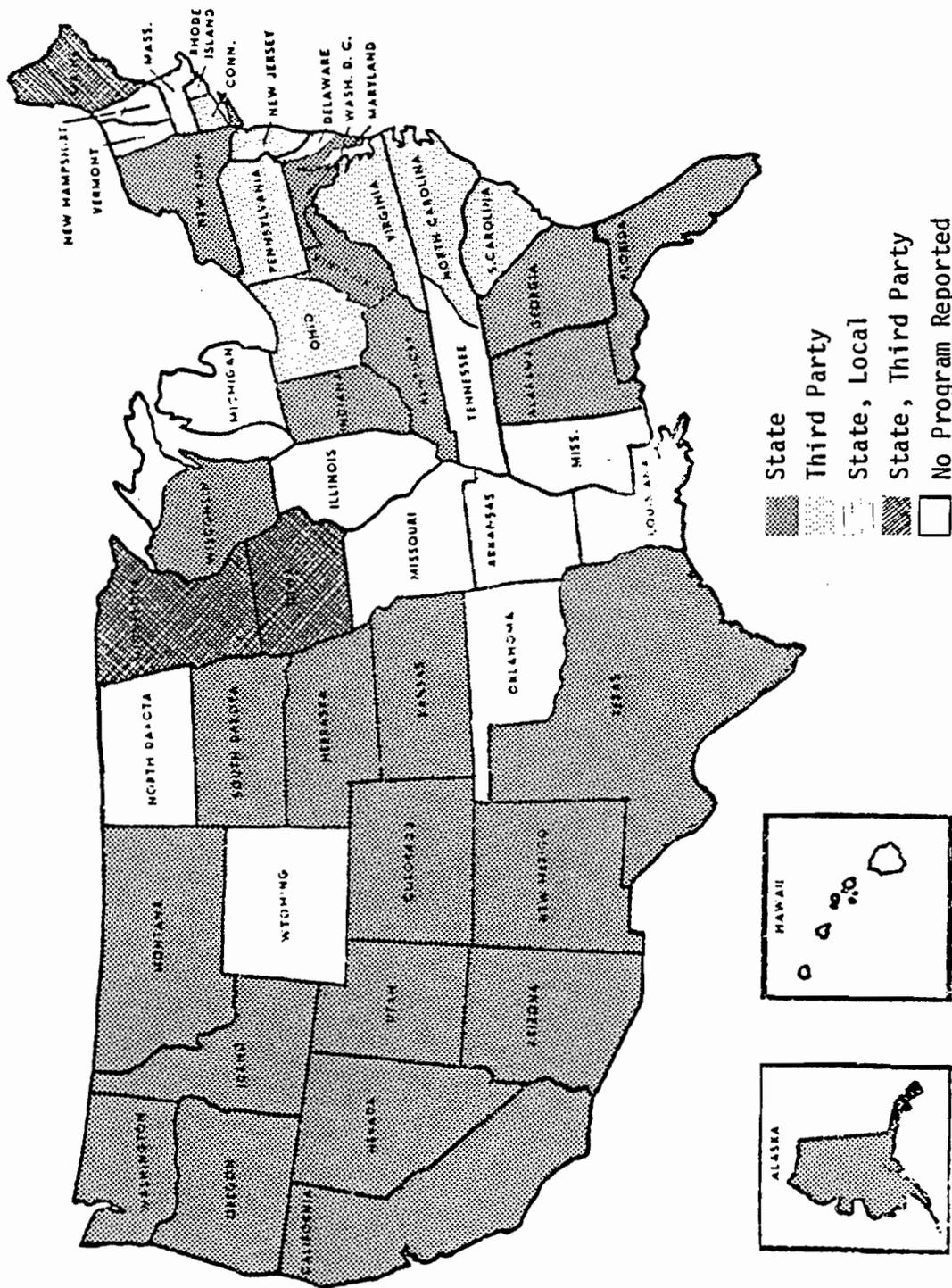


FIGURE 18: TYPE OF PROCESS FOLLOWED BY STATE FOR APPROVAL OF MOBILE HOME SYSTEMS
(Based on Latest Information Received by PMHI as of July, 1976)

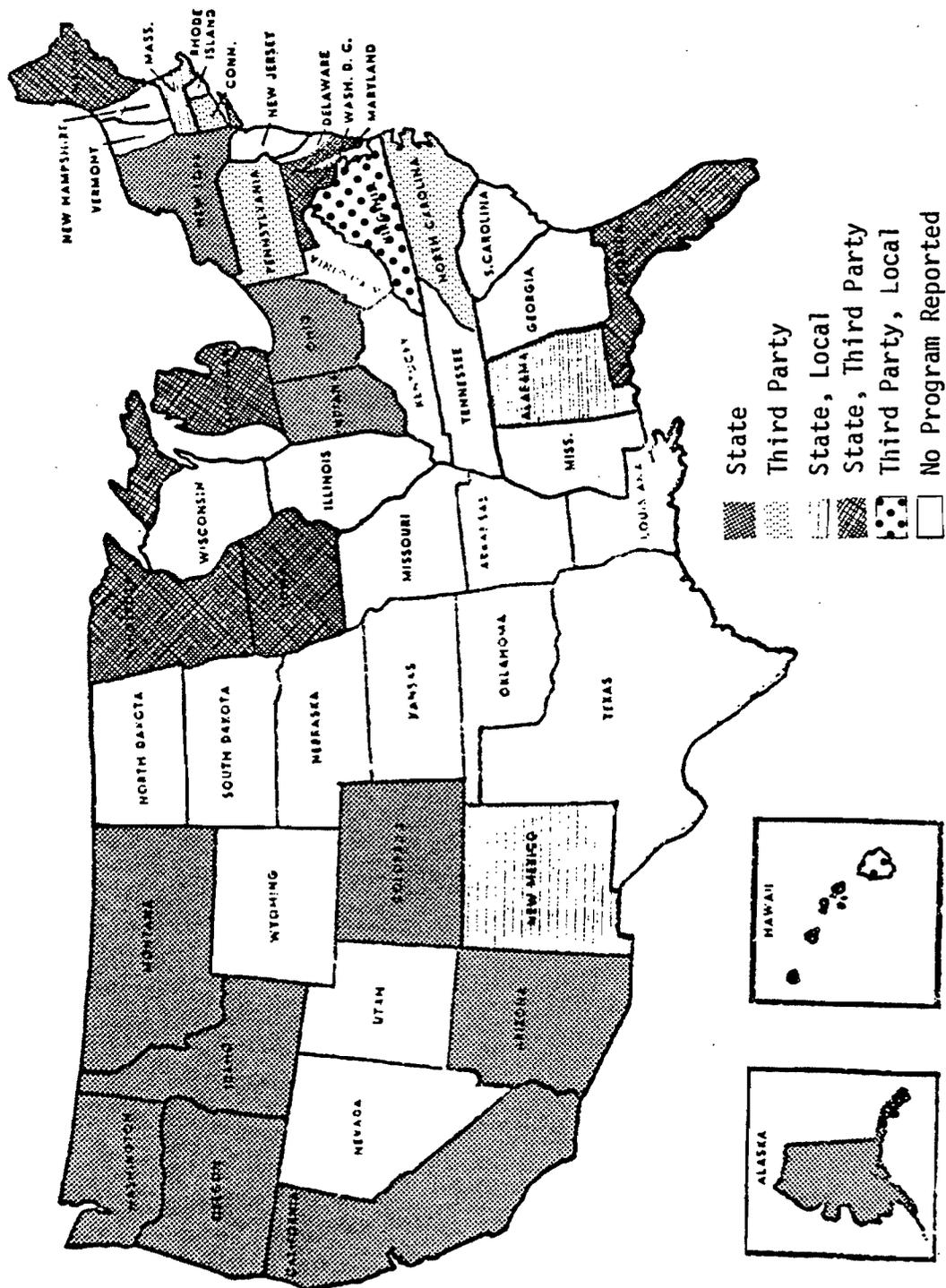


FIGURE 19: TYPE OF PROCESS FOLLOWED BY STATE FOR EVALUATION OF MANUFACTURED BUILDING SYSTEMS
(Based on Latest Information Received by PMHI as of July, 1976)

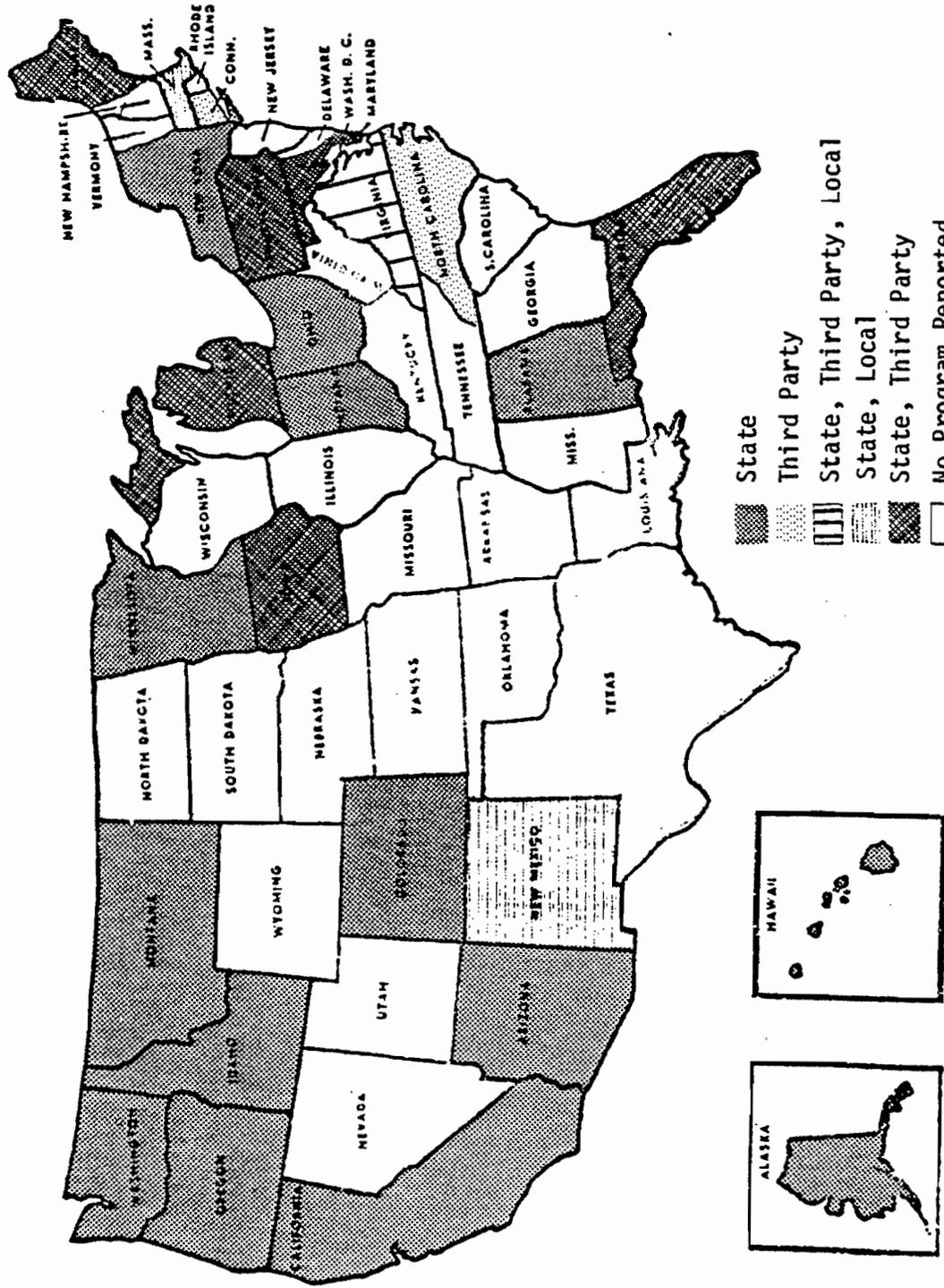


FIGURE 20: TYPE OF PROCESS FOLLOWED BY STATE FOR APPROVAL OF MANUFACTURED BUILDING SYSTEMS
 (Based on Latest Information Received by PMHI as of July, 1976)

to the manufacturer and, ultimately, the consumer. Some balance must be reached, dependent on situation-specific parameters.

Certification of plans clearly affects interstate production and marketing, but it is also an intrastate concern. Manufacturers often make yearly design changes, and most producers manufacture several different product lines. The high cost of resubmitting multiple sets of plans each year can be reduced by eliminating all unnecessary information, though what constitutes unnecessary information is obviously debatable. Costs may also be reduced through specialization - either by contracting out the evaluation and approval work to someone specializing in this field, or by creating a special department for this work only. The particular conditions within the state and the volume of approvals to be handled will dictate the most economical approach.

In-Plant Inspections --- Frequency and Depth

The in-plant inspection system is a crucial stage in the enforcement of the mobile home building code. Inadequate inspection may reduce costs, but is less effective in exacting compliance with approved plans and specifications. Conversely, excessive inspection, while ensuring compliance, interferes with economical operation of the production process.

Inspection procedures - including items to be inspected, method of inspection and frequency of inspection - depend largely on the balance struck between degree of compliance enforced (measured by the number of defic-

iciencies undetected) and cost of inspection for the manufacturer. Unfortunately, states have been unable to achieve any wide consensus on an ideal structure for the balance.

State and third party inspections lack clear universal standards for thoroughness. States responding to the 1974 CES survey usually described the range of items inspected as "all systems". Undoubtedly these responses hide a great variety in inspection quality. All states with inspection programs require visual inspection of subsystems during production. More sophisticated programs also include physical tests of electrical, plumbing, gas and/or water systems.

Nor can anyone agree on the frequency with which inspections should occur. Most states categorize the frequency of their inspections as "random" or "periodic". As of 1974, 15 states conduct periodic inspections, while 6 of these also conduct random checks.. In the 3 states performing only random checks, frequency of inspection varies with the number of state inspection personnel available to do the job. The optimal frequency, rather than a random or fixed periodic schedule, is a systematic but flexible rate of inspection based on the individual manufacturer's past production rate and record of code compliance.

An effective factory inspection system is crucial to the production of high quality, low cost mobile homes. A well designed inspection system uniformly applied in each state can reduce costs in those states now over-inspected and improve quality in those presently under-inspected. But a model inspection system incorporating correct frequency and depth of inspection cannot be designed without knowing

how many deficient units escape the inspector's detection using present methods. By conducting a comprehensive survey of its inspection systems with an improved data collection methodology, each state could better assess its present inspection procedures and contribute to the design of a model system.

On-Site Inspections

Most states with operational mobile home codes realize the value of a final inspection before occupancy; this is the last point at which deficiencies stemming from construction or transport of the unit can be corrected. Of 16 states with operational inspection programs surveyed by CES in 1973, all but four require a state inspection on site. (See Figure 21). Six of those providing for on-site inspection delegate responsibility to local inspectors for checking utility connections and foundations; six others allow the locality to inspect or not, as it sees fit. State or third party inspectors step in when local inspectors choose not to.

Local agencies, however, almost always control on-site inspection of factory-built housing (see Figure 22). Local control produces inconsistency in inspection procedures and unnecessarily high costs of inspection. Most states surveyed by the CES either charged the same fee for conventional and factory-produced housing or had no information about local fee structures. Only the State of Washington reported that local agencies were collecting lower fees for on-site

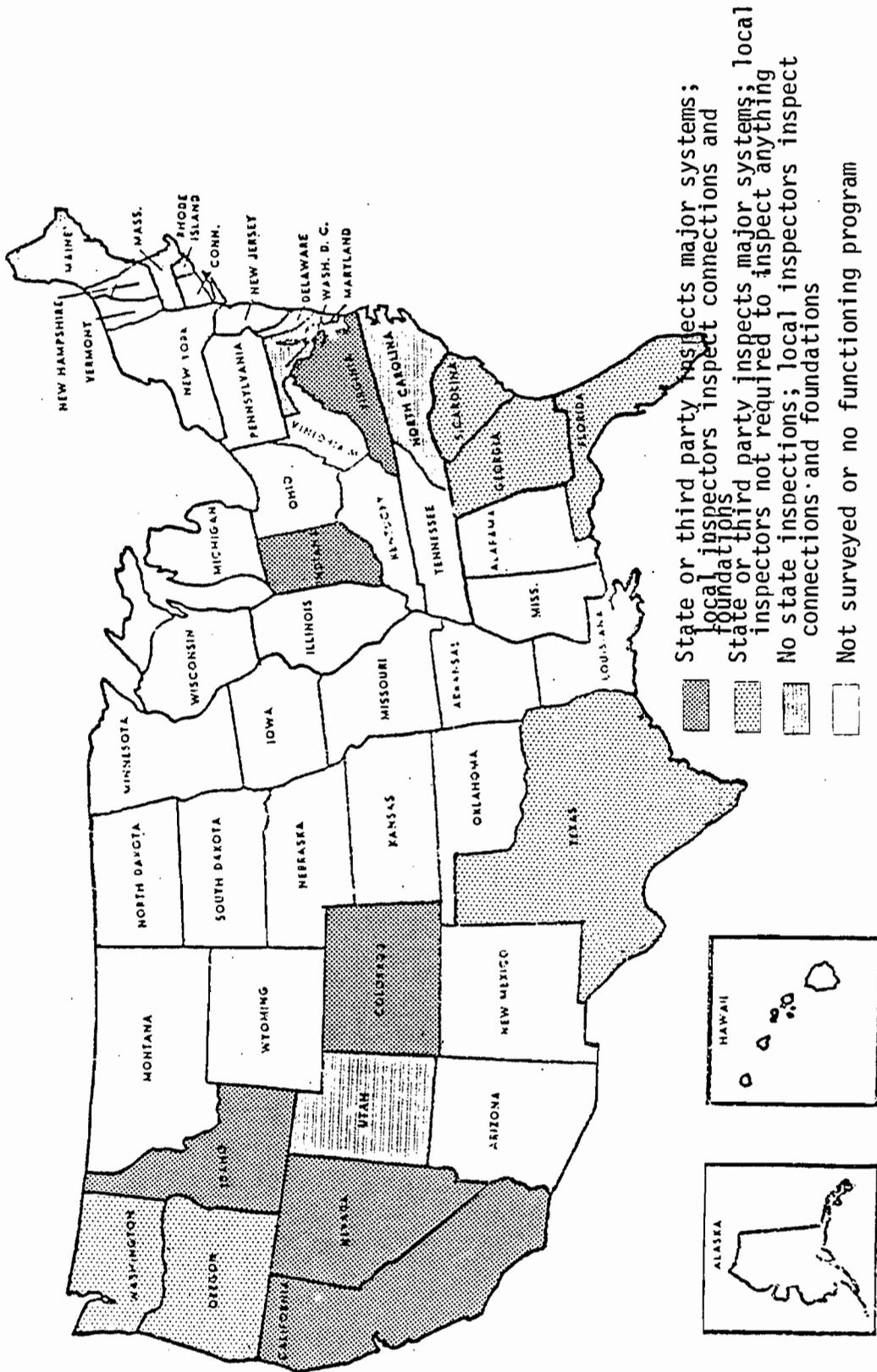


FIGURE 21: TYPE OF ON-SITE INSPECTION SYSTEM FOR MOBILE HOMES
 (Based on Latest Information Received by PMHI as of July, 1976)

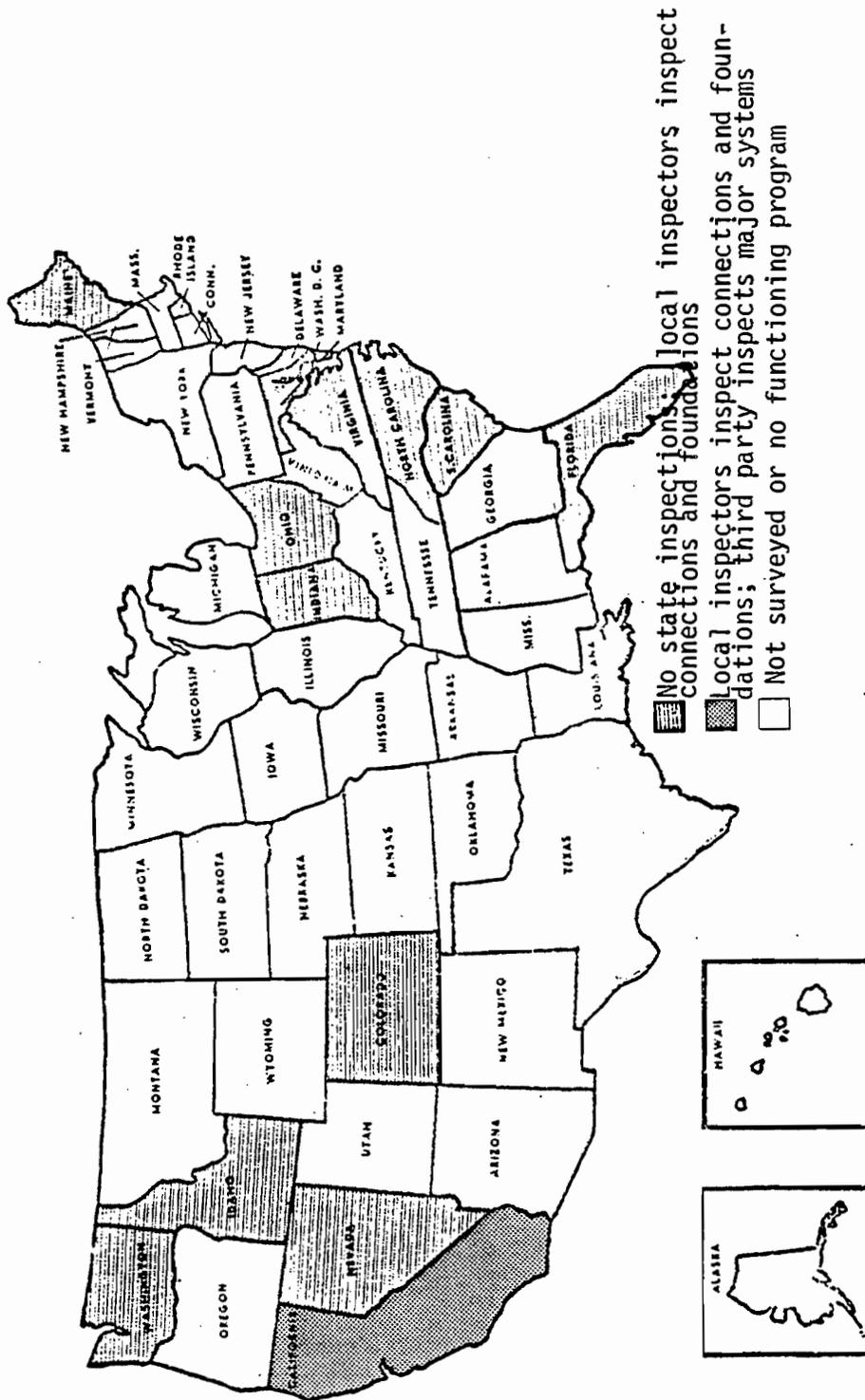


FIGURE 22: TYPE OF ON-SITE INSPECTION SYSTEM FOR FACTORY-BUILT HOUSING (Based on Latest Information Received by PMHI as of July, 1976)

inspection of factory-built housing than for inspection of conventional housing.

The frequency of on-site inspections varies greatly. A few states have specific frequency requirements (e.g., 10% of all units; or 1000 units per year); others inspect "periodically", which probably means they inspect as many units as they can with the personnel they have.

As with in-plant inspections, a program is needed that guarantees reliable quality without wasting manpower and money. In order to eliminate damaging inconsistencies arising at the level of code application, it is also necessary to train local inspectors thoroughly in this specific area of competence. Manufacturers and state officials testify that local inspectors sometimes apply conventional housing standards to mobile homes or apply the mobile home code erratically. This could best be eliminated by careful delineation of local inspectors' authority.

Correction of Deficiencies -- Enforcement and Penalties

Mobile home building code enforcement agencies protect public health and safety by attempting to assure that mobile homes offered for sale comply with code requirements. Their method is usually carrot-and-stick. While plant producing units which comply with code requirements can win a reduction in certain expenses, most statutes, still in the stick tradition, provide for criminal penalties. In all but four

states with mobile home codes, criminal penalties exist. (See Figure 23.) Similarly, most states with factory-built housing codes have legislation requiring criminal penalties for manufacturers' violations. (See Figure 24).

The effects of a given method of enforcement must be measured against the costs of manufacturer expenditures on quality assurance programs and of state inspection expenses. Although automatic penalties provide a strong incentive to improve quality, the imposition of stiff fines and the increased intensity of inspection following discovery of deficiencies may, even in the absence of corruption, lead inspectors to relax the thoroughness of routine inspections. An experienced inspector realizes that even the best quality assurance procedures fail on occasion, and it is a recognized characteristic of administrative bodies that personal ideas of justice influence employee behavior.

Appeals

Administrative agencies, including those empowered to enforce mobile home construction codes may establish quasi-judicial units to hear and rule upon agency decisions made by inspectors or plan approval officials. As of June 1, 1974, 33 out of 45 state laws governing mobile home programs reported the establishment of appeal procedures. Six state laws reported no appeals process (see Figure 25). Of 31 states with manufactured building programs, 21 provide for the establishment of appeals procedures; only 2 do not. (See Figure 26).

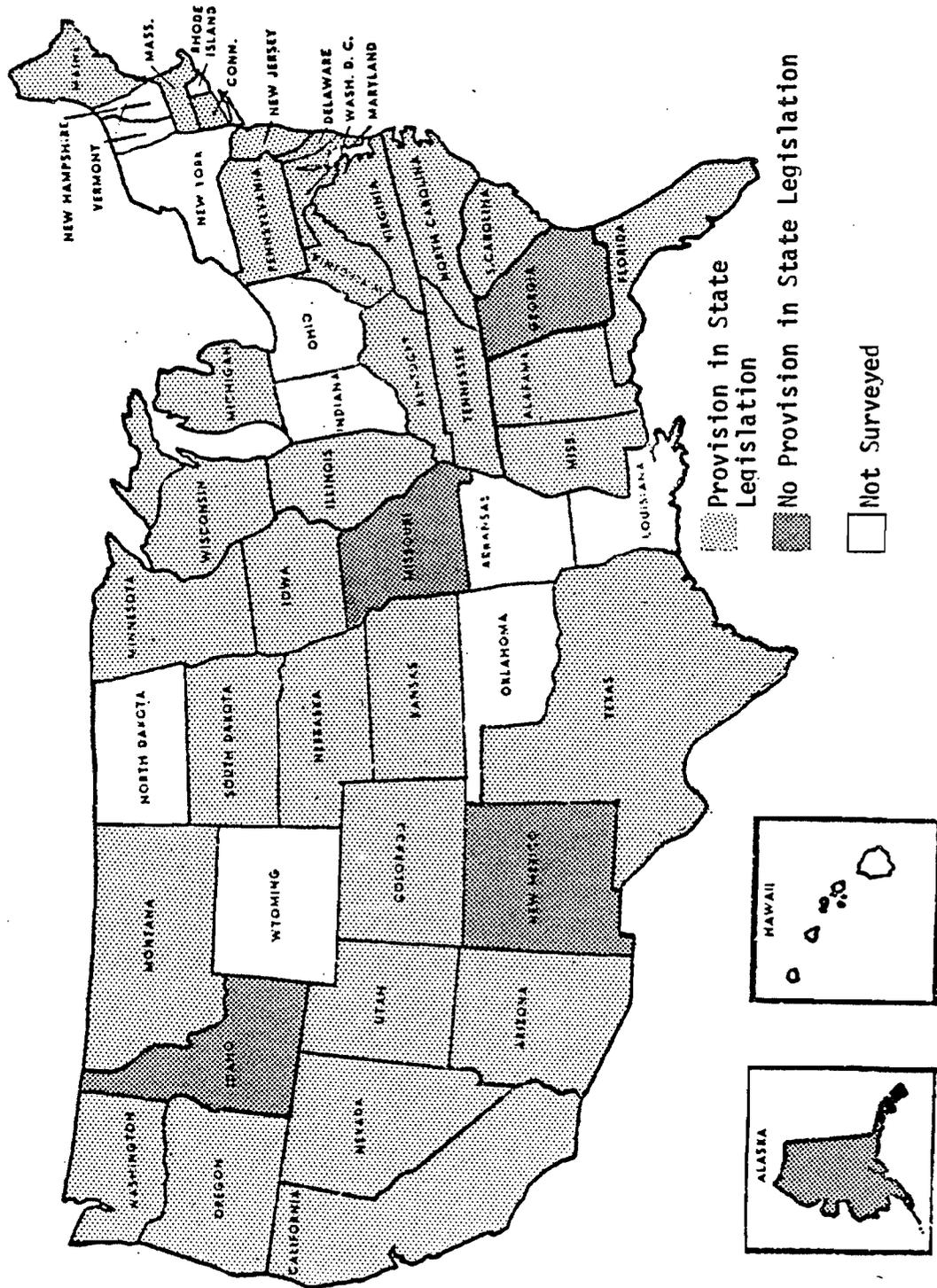


FIGURE 23: PROVISION IN MOBILE HOME LEGISLATION FOR CRIMINAL PENALTIES FOR VIOLATIONS
(Based on Latest Information Received by PMHI as of July, 1976)

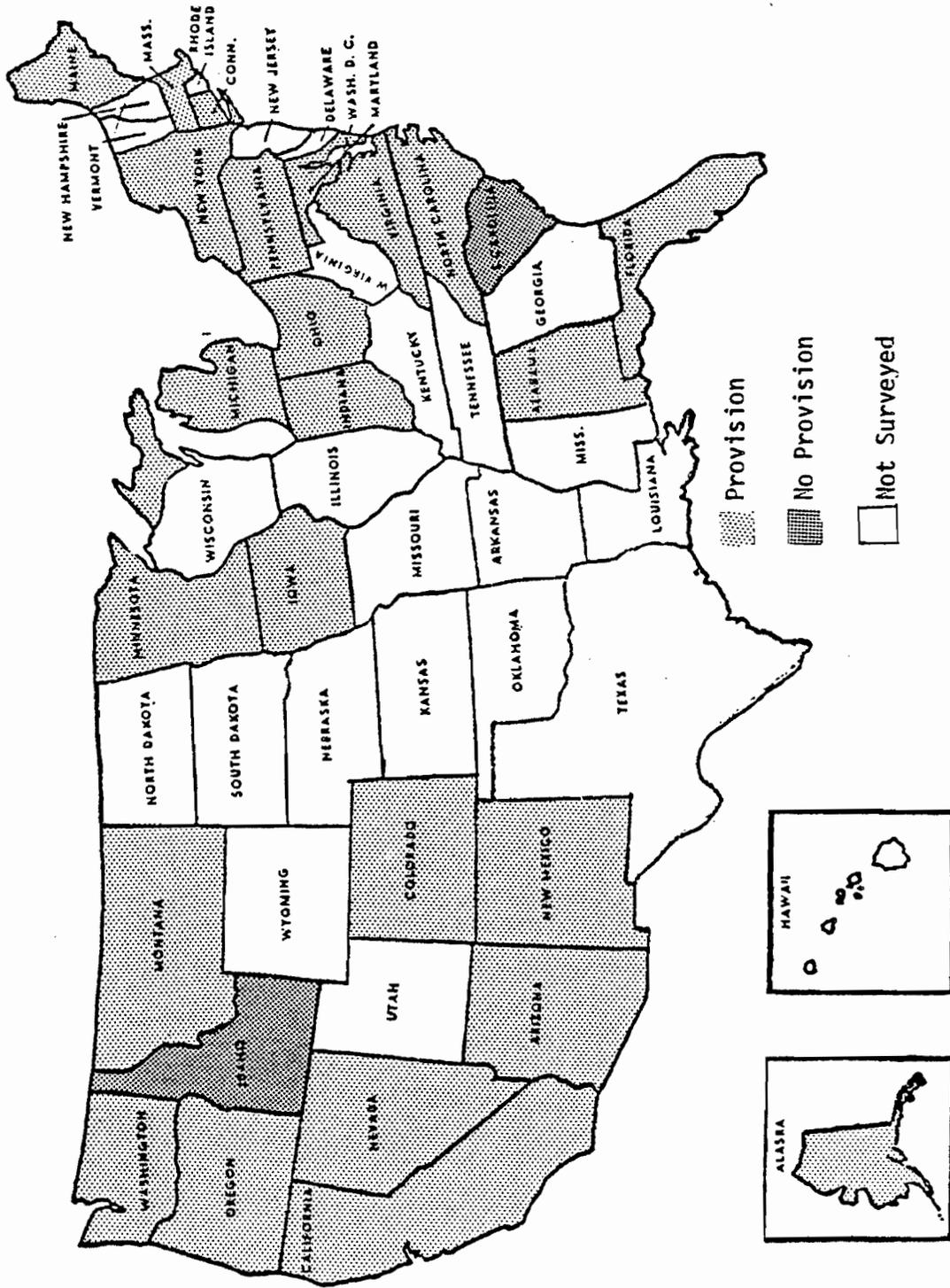


FIGURE 26: PROVISION FOR THE ESTABLISHMENT OF APPEALS PROCEDURE IN MANUFACTURED HOUSING LEGISLATION (Based on Latest Information Received by PMHI as of July, 1976)

Except under very special circumstances, aggrieved parties must rely upon administrative appeal machinery to resolve their grievances. Should the plaintiff remain unsatisfied after having used administrative methods for obtaining relief, his chances for success in a court of law are strictly limited by the presumption of validity accorded the decisions of administrative appeals officials.

For example, if a manufacturer cannot obtain initial approval of plans for production of a unit using innovative construction techniques, he must, in general, appeal within the administrative framework. Failure to obtain approval on administrative appeal may spur the manufacturer to file a judicial appeal. But, the presumption of validity is likely to lead a court to uphold the administrative decision even if code administrators in a neighboring state have approved the same plans under an identical code. The structuring of the particular appeals system within a given state is thus overshadowed in importance by the competence of the individuals involved. Law in this field emphasizes the crucial need for a qualified administrative staff.

3.2 INTERSTATE KEY FACTORS

3.2.1 Mutual Recognition Programs and Reciprocity

Despite the general trend toward standardization in state mobile home code provisions (i.e., the acceptance of ANSI A119.1 as the basis for code regulation in 45 states) a number of code problems still face manufacturers seeking regional or national markets. Few states allow sale of units inspected and passed by officials of neighboring states. Of the 45 states which have adopted statewide mobile home codes, only 35 indicated that they had provided for establishment of mutual recognition of inspection programs (see Figure 27). Of these, only 12 indicated that they had actually established such a program with one or more states (see Figure 28). Similarly, out of 21 states which allowed interstate reciprocity in factory-built housing, only nine actually had set up reciprocity programs (see Figures 29 and 30).

Reciprocity between states is hindered most by the volume of bureaucratic paperwork required to produce a total reciprocity program. Each state must evaluate every other state's codes in order to establish equivalency with its own code. Each state regulatory agency must cooperate with a variety of agencies in other states, since few states use the same agency to regulate mobile homes. Such a method for establishing reciprocity would entail no fewer than 1,015 separate reciprocity agreements. Reciprocity is too unwieldy

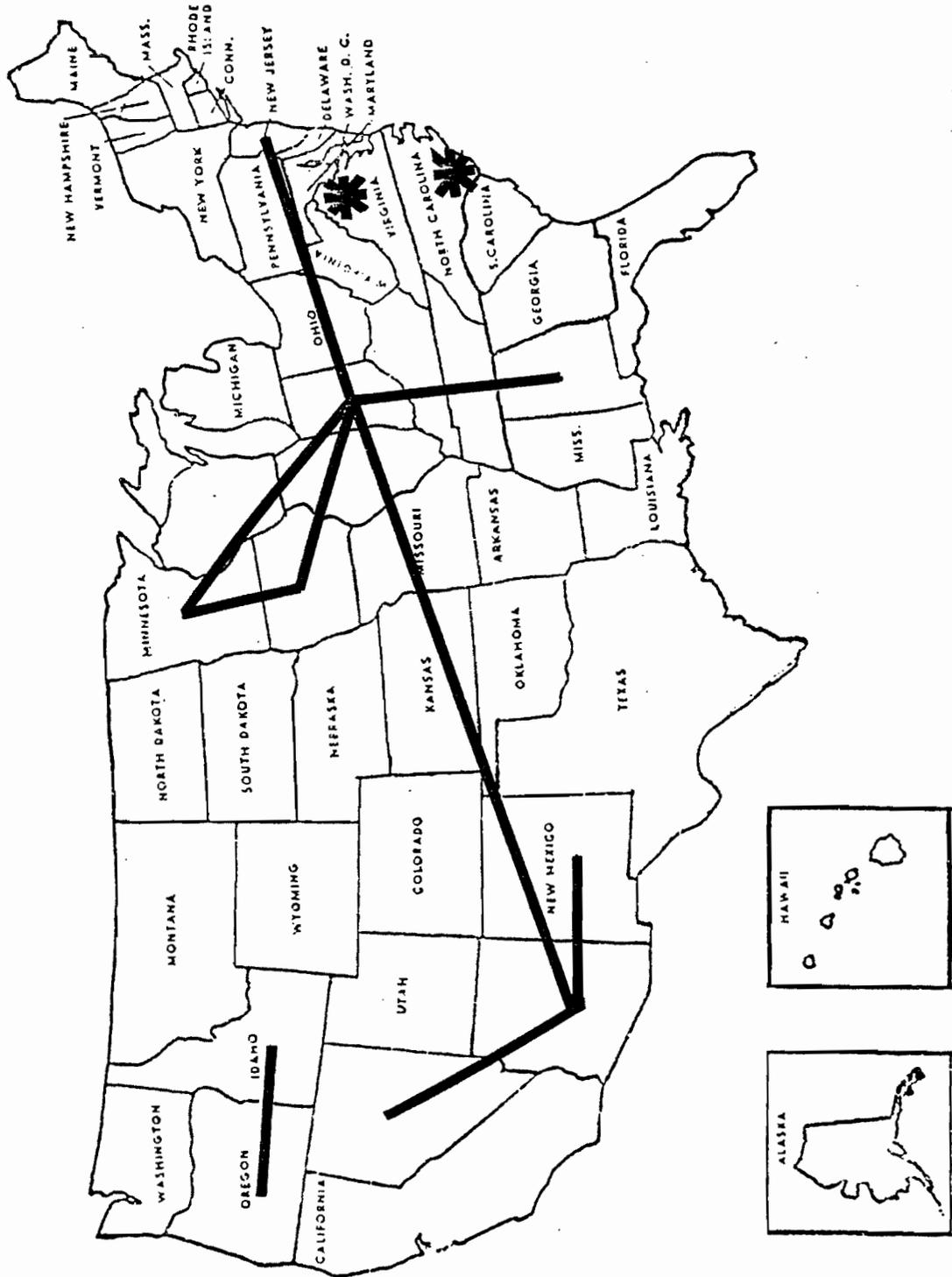


FIGURE 28: EXISTING RECIPROCAL AGREEMENTS BETWEEN STATES WITH MOBILE HOME REGULATION (Based on Latest Information Received by PMHI as of July, 1976)

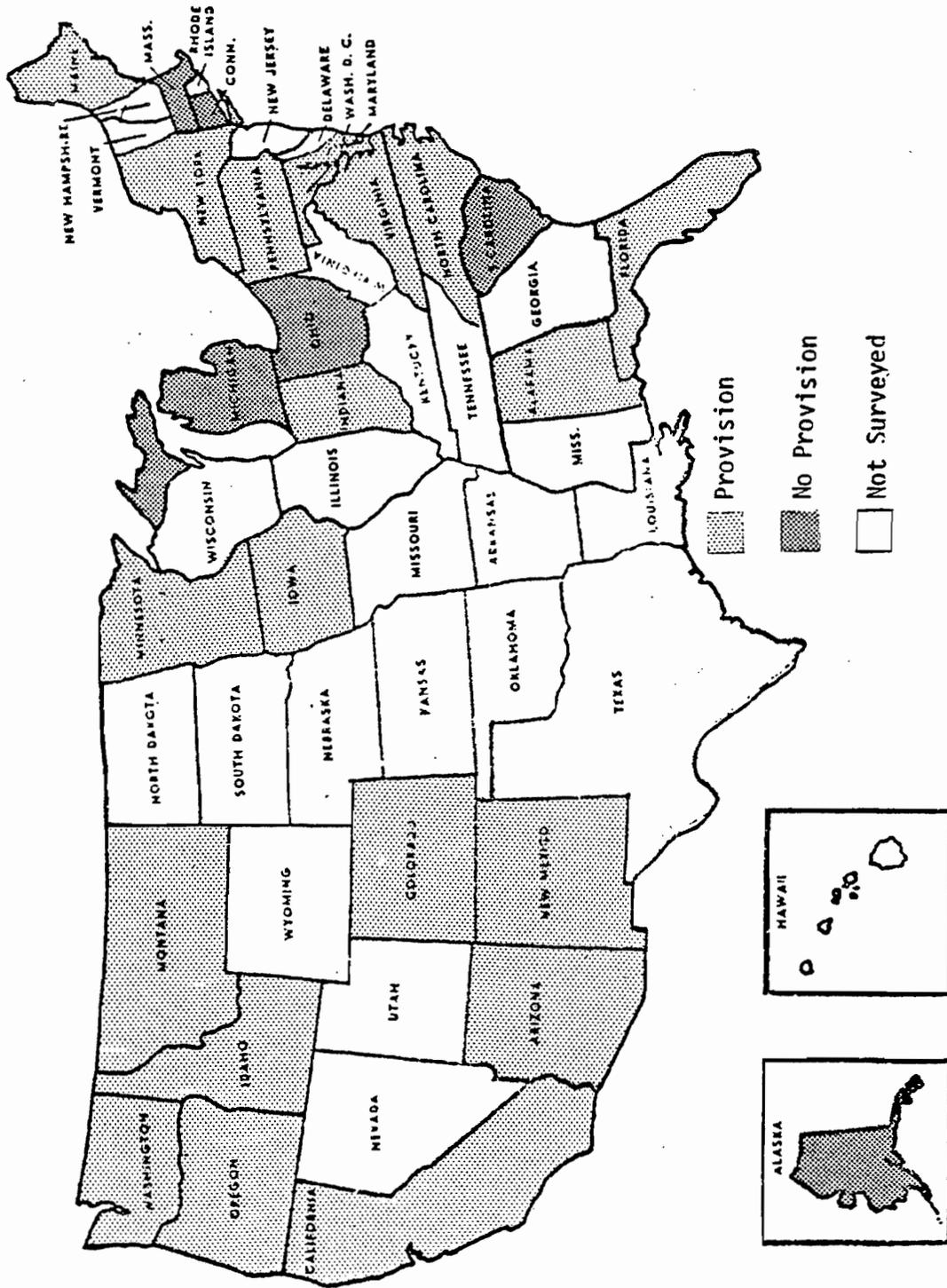


FIGURE 29: PROVISION FOR THE ESTABLISHMENT OF INTERSTATE RECIPROcity IN MANUFACTURED HOUSING LEGISLATION

when managed only at the state level, and must, therefore, be approached at the national level. The most practical way to achieve uniform, widespread code application appears to be state acceptance of third party evaluation and inspection, done on a regional and national level. State officials may be the biggest obstacle to achieving a uniform code, since they strive to maintain independence in rule-making power.

3.2.2 Out-of-State Approval and Inspection Systems

Mobile Home Plan Certification

Non-uniformity of the plan certification process hinders interstate production and marketing. A manufacturer producing three models to be shipped into 20 states may have to draw up and submit 60 different sets of plans; if the 3 models are changed the following year, he may have to repeat the process. Not only are approval fees high, but architects and engineers must often be used to draw the plans, adding to expense.

Twenty percent of the major manufacturers contacted in a recent telephone survey conducted by PMHI mentioned non-uniformity of plans to be submitted as the single most important factor they would change to improve the industry. In the above example, a uniform system of plan approval would permit the manufacturer to arrive at the same result with only 3 sets of plans instead of 60, though copies would have to be submitted to each state.

The process of plan certification can be streamlined at either the state or national level. A major national code or advisory group, such as NCSBCS, could design a model certification process and thus pressure all of its member states to adopt the model. Alternatively, individual states could (as Nevada now does) automatically accept plans approved in another state. This approach requires some previous standardization of plan certification, however. States must either all evaluate plans by the same rules or hire an independent body like Underwriter Laboratories for evaluation.

Materials and Component Approval

Most states have some system for approving innovative methods and materials to be used in mobile home construction. Regulatory agencies most commonly accept the approval listings of national code associations and testing companies. Of 19 states with viable mobile home programs surveyed by CES in 1973, 16 use such approval listings, either directly or after testing (see Figure 31). Of 15 states with viable factory-built housing programs, nine did so (see Figure 32). Some states reserve the right to put certain restrictions on code association or national testing laboratories' approved materials. A few states restrict the list of acceptable code association listings. Nevertheless, states rely heavily on code associations and testing laboratories for their own materials approval programs.

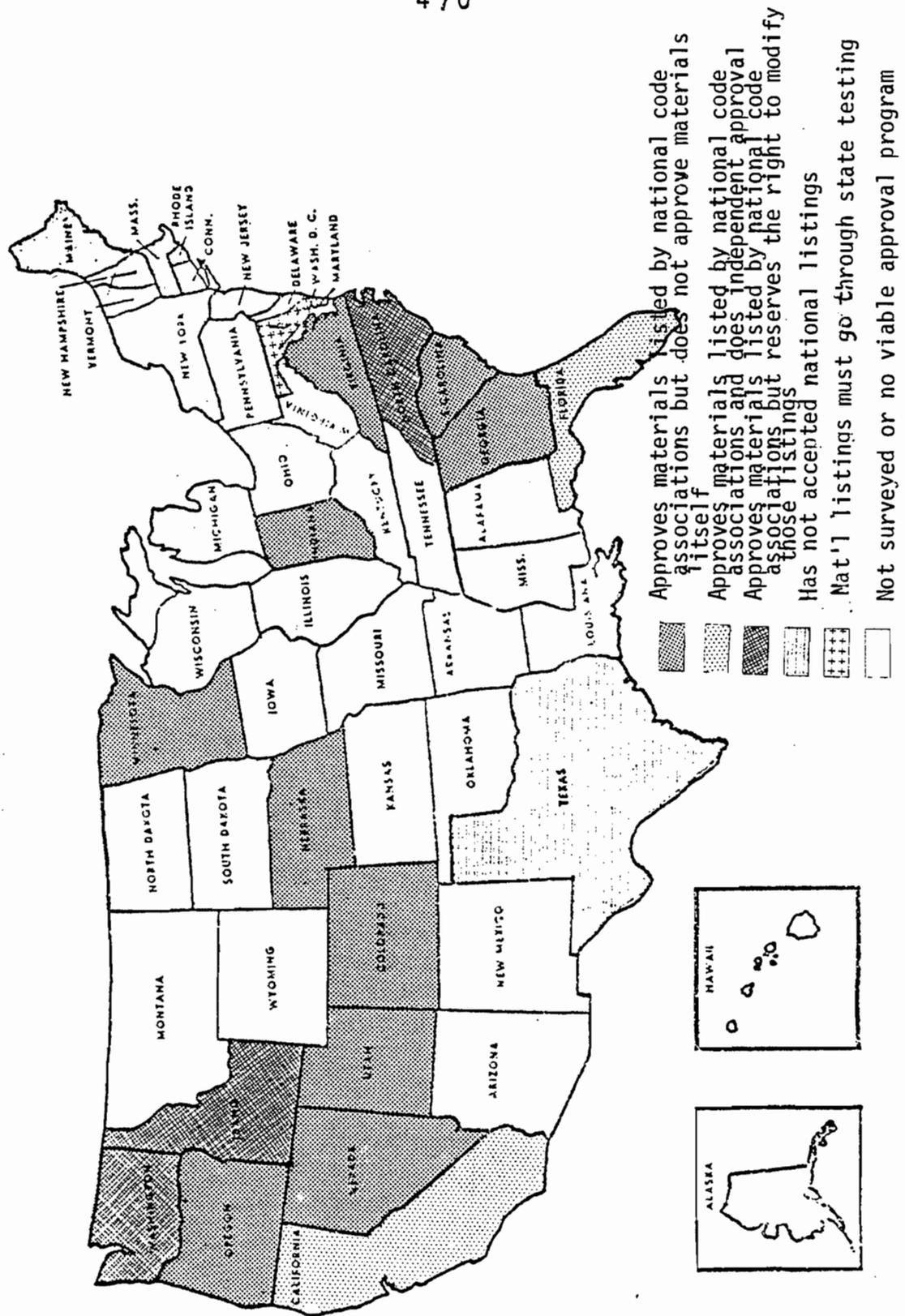


FIGURE 31: MATERIALS AND COMPONENT SYSTEMS APPROVALS; MOBILE HOMES
 (Based on Latest Information Received by PMII as of July, 1976)

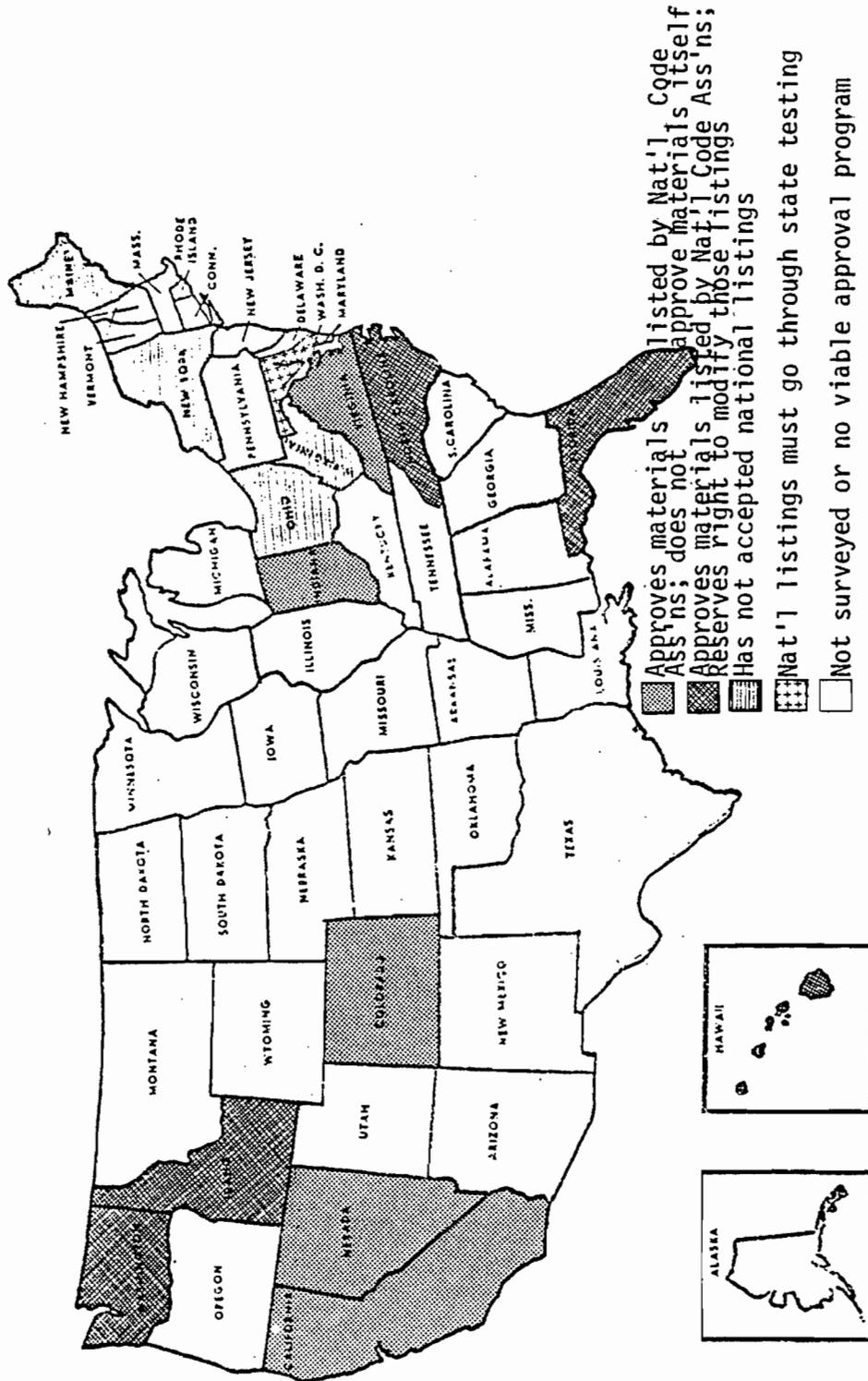


FIGURE 32: MATERIALS AND COMPONENT SYSTEMS APPROVED: FACTORY-BUILT HOUSING PROGRAMS
 (Based on Latest Information Received by PMHI as of July, 1976)

Materials suppliers feel the impact of standardized approval problems most strongly. If a supplier produces plastic pipe, it is far easier to get a national code association to approve his product than it is to fight for approval state by state. The importance of code association approval varies with the product being approved. For instance, the battle for use in construction between the plastic pipe industry and the cast iron producers was waged long and hard. The approval of 2x2 stud walls with decreased spacing instead of 2x4 wall studs created a fight of smaller proportions only because one industry was not threatening another. Regardless of the product involved, rapid approval of innovative materials brings faster production; the end product, the mobile home, will cost less.

Products that can genuinely meet the required performance criteria should be approved as quickly as possible. But political boundaries and state lines aggravate the situation. If state A approves a material and state B does not, the material producer is directly limited and the mobile home producer must either produce two versions of his product (one for state A and one for state B) or use the more expensive product for both.

Inter-code association approval of materials and uniform acceptance of code associations' recommendations can alleviate this situation. The agreement negotiated by BOCA, ICBO and SBCC which provides for a uniform approval system for new materials, represents a large step in this direction. But the states' home rule tendency remains as the major hurdle to be overcome.

Out-of-State Inspections

Most states employ an out-of-state inspection system to ensure that mobile homes brought into the state can pass the state's inspection criteria. Of 27 reporting states having operational mobile home programs surveyed by CES in 1974, all but Nebraska provided for out-of-state inspections.

The inspection is usually paid for directly by the manufacturer in the form of fees and per diem expenses for the inspectors. A few states do not charge the manufacturer higher out-of-state fees, choosing instead to spread the cost over all in-state and out-of-state manufacturers through their normal fee schedule.

Out-of-state fees typically include a per hour or per diem rate to pay the inspector's wage, and all expenses that the inspector incurs, including those for food, lodging and travel. If the inspection program includes frequent visits, the expense can add up quickly. This may cause the manufacturer to raise prices in order to maintain his profit level, and will eventually cause him to compete less effectively against in-state manufacturers (particularly true when the additional expense of transportation necessary to bring the unit in-state is considered). It may also prevent some manufacturers from ever entering the market.

Indiana, as a major producer and user of mobile homes, has reduced the cost of out-of-state inspection by supporting a reciprocity program.

According to the 1974 CES data, Indiana negotiated reciprocity agreements with five states (only North Carolina and Virginia had more with 18 states each in their respective combined factory-built housing and mobile home programs.)

Indiana offers several object lessons. First, a strong network of reciprocity agreements between states eliminates the need for sending inspectors out of state. If the producing state can assure the receiving state of the quality of the product, there is nothing to be gained by having the mobile home reinspected. Second, Indiana manufacturers are allowed to choose between state and third party inspection. Many choose the third party system as a means of unifying the inspections systems throughout their plants in various states. If a system of recognized third party inspection agencies were approved by all states, a single inspector could certify the units produced in one state for all other states having the same standards. This is equivalent to an automatic, informal reciprocity agreement between all states using the same code; since most states use ANSI 119.1, it would provide virtual national uniformity. The cost savings from either system could be passed onto the consumer, making mobile homes less expensive and possibly widening the mobile home market.

4.

Summary of Impacts
and Potentials

4.1 SUMMARY OF IMPACTS

PMHI has identified positive and negative impacts on the ability of the mobile home industry to provide high quality, low cost housing environments.

ANSI A119.1, the nationwide standard which regulates all production, is the single most important positive factor. Without such a standard the industry would languish. Nation-wide production and distribution of a standardized product - the lifeblood of the mobile home manufacturers - depends on uniformity among states. Preemption, in particular, exerts positive influence. Municipalities can be no more restrictive than are the standards of A119.1. Standardization creates a wider, more immediate market for producers, and encourages the cost efficiency that characterizes the industry.

The major negative influences isolated have been placed approximately in order, strongest first. The five variables selected are summarized below:

First, the negative effect of non-uniformity in inspection systems at all levels, one of the strongest influences PMHI found, is probably more detrimental than actual code variations. More than half of the major companies producing mobile homes that were surveyed by PMHI singled this out as a major problem.

Non-uniformity has two dimensions: multiple inspections of the same

unit and variations in the inspection. Multiplicity causes the duplications of cost and effort which occur when the same unit is inspected in-state, out-of-state, and on-site. The cost of this system, as opposed to a single, uniform evaluation, is often prohibitive. Interstate marketing is affected most adversely. Out-of-state inspection systems are generally considered by state officials and mobile home manufacturers to be too costly. This factor alone may dissuade some major companies from marketing in states with high fee schedules.

The lack of active reciprocity among states has contributed significantly to this problem. A weak reciprocity program requires that the mobile home be inspected by several sets of state inspectors, when only one inspection is really necessary to insure the quality of the unit. Multiple inspections, therefore, increase costs which have to be borne by the consumer or taxpayer.

Variation in inspection occurs when identical units are inspected in different places or at different times. This can produce varied results; different inspectors using different technical methods of evaluation, interpret the same code to have different definitional standards or levels of strictness. Despite preemption and careful working of the laws establishing codes, state and local inspectors still squabble over authority to inspect and interpret codes. With this much variation, some of the inspections are bound to be conflicting. Many of the complaints that PMHI has received from manufacturers focus on unreasonable interpretations or unnecessary

production flow interruptions during in-plant inspections. Inspection fees which vary from \$5 to more than \$50 also mean that something is wrong - excessive fees not only impose unfair burdens on the company but, ultimately, on the consumer.

These problems reflect three general administrative deficiencies:

- a) the lack of a statewide model inspection methodology which, while charging a reasonable fee schedule, defines precise terminology and a standardized, minimally intrusive means of sampling the production process.
- b) the general lack of programs for training and certifying inspectors. Existing training programs employ a patchwork of methods rather than a rigorous, efficient, standardized method. But the lack of available data concerning the effectiveness of inspections (e.g. how many defective units escape inspection) prevents us from objectively evaluating the current efficiency of inspection systems, let alone from suggesting an optimal method.
- c) the failure in at least a few states to appropriate sufficient funds for necessary inspections, thereby rendering their mobile home code largely ineffective. Predictably, mobile home producers give uneven quality.

Second, lack of interstate reciprocity in certification of manufacturer's plans hobbles the industry. Only a minority of states with mobile home programs actively administer reciprocity. Multiple state submissions requiring costly architectural and engineering talent add an unnecessary expense that must be borne by the buyer.

Third, states which provide no automatic procedure for adopting amendments to the ANSI code inhibit both technological currency and interstate code uniformity. When different requirements exist in neighboring states, the manufacturer must either produce different units to satisfy different requirements or over-design his units to the toughest specifications. Both of these alternatives add unnecessarily to the purchase price of the mobile home. In addition, outdated code requirements prevent the manufacturer from incorporating the most modern, cost-saving technology available.

Fourth, state-by-state approval of new materials and processes boosts costs and discourages innovation. While the higher cost of having innovations approved is now being reduced, as more states accept national code associations' recommendations, and as the code associations adopt a standardized approval system, the problem is still a serious one. Cutting the cost of innovation approval ultimately cuts the cost of mobile homes.

Lastly, administrative agencies for mobile homes and factory-built housing exist separate from one another. Manufacturers who produce both types of housing in the same plant are subjected to a wasteful duplication of

inspection effort which increases costs for both the manufacturer and for the inspection agency. These increased costs are then passed on to the consumer and to the public. For efficiency's sake, mobile home and factory-built housing agencies should pool their efforts.

4.2 SUMMARY OF POTENTIALS

In June, 1976, the Department of Housing and Urban Development began to administer the Federal Construction and Safety Standards Act, thereby replacing the pre-June-1976 system of mobile home regulation with a set of mandatory national standards. Unfortunately, however, many of the existing problems may persist under the new code because HUD will delegate code enforcement largely to the individual states.

Analysis of the pre-June-1976 system, then, provides both a comprehensive review of older practices and a sneak preview of the new federal code in action. Our conclusions have been classified below into five major categories of potential change:

- 1) Greater Intra-state uniformity of inspections. State administration of inspections has played and will probably continue to play a significant role in building regulation. There are three clear areas for improvement that ought to be considered by the administrators of the federal code. The agency invested by HUD for the overall coordination of federal code enforcement, NCSBCS, should shape the model mobile home code regulating system to include:
 - a) A model training program for building officials, to increase the effectiveness of state inspectors. Training programs could be conducted by model code agencies or by community colleges and universities.

b) The optimal inspection method and frequency, which will properly balance the costs of inspection with the number of deficient units produced and insure fair, efficient and non-disruptive inspection. Before this can be established, however, we need better and more systematic data collection methodology in order to determine the number and type of deficiencies that are presently being missed by inspectors.

c) An optimal funding and fee structure. Together, these innovations would bring a greater degree of uniformity to inspections within each state and greatly improve the effectiveness of each state's inspection program.

2) Greater uniformity of inspections between states. This could best be achieved through a reciprocity system or through a single third party inspection system. The reciprocity system, however, cannot function unless it is comprehensive. In the immediate past, each state had to negotiate active agreements with other states having mobile home commerce to be truly effective. Since each state desiring reciprocity had to evaluate other states' programs to determine equivalency of standards and procedures, reciprocity programs required a great deal of effort to establish. A unitary third party inspection system using Underwriters Laboratories, Pittsburgh Testing Laboratories, or another major testing agency to perform all inspections, simplifies matters somewhat. Inspectors certify that the manufacturer's product meets every state specification; reinspection by any state thus becomes unnecessary.

3) Streamlining of the certification process for manufacturer's plans. Either universal third party certification or automatic certification of any plans approved in another state (as in Nevada), would eliminate the high cost of repetitive certification by each state.

4) Automatic nationwide acceptance of innovations in materials or methods once they have been cleared by a single sanctioned evaluating agency. Recent changes in the system of approving innovation are steps towards this objective. A single innovation approval by one code association is automatically accepted by all major code associations and by many states. Furthermore, the enforcement procedures accompanying the federal mobile home standards designate HUD or a HUD sanctioned agency as the official judge of innovation, thereby establishing a single nationwide evaluator. Finally, the single approval process should be flexible enough that valid cost-saving methods can be employed as quickly as possible. The approval agency should recognize that cost-savings achieved by innovation are extremely important, both to industry growth (as an incentive to invest in research and development) and to the consumer who wants lower costs and higher quality.

5) A single administrating agency for regulating both mobile home and factory-built housing. This would bring cost-savings to the government, to industry, and thus to the consumer. It would also further the development of both mobile home and

factory-built housing codes, by allowing rapid transfer of innovations and information of concern to both.

The opportunities for improvement cited above are drawn from our own experience and from numerous other sources including state mobile home associations, state building code administrators and the MHMA. Because we feel that major manufacturers have an excellent understanding of pressures on the industry, PMHI interviewed a national sample of 16 mobile home producers during January, 1975. The interviews were held either with the president of the firm or with one of the officers of the firm.

First, we attempted to achieve an objective measure of the degree to which the profusion of state mobile home codes and enforcement has affected the industry. Each person interviewed was asked how many dollar savings per dwelling unit his company would realize if the present state-to-state variety of procedures were to be replaced by a single system of approval and inspection. The 13 responses to this question are tabulated in Figure 33. Most firms indicated that a savings of from \$5 to \$50 per unit would be achieved, although estimates range as high as \$400 per dwelling unit. The mean (average) savings per unit was \$76.54, while the median savings was \$35 per unit. Only one firm responded that there would be no savings generated by such a system.

Next, the participants in the interviews were asked to evaluate the effect of state enforcement of ANSI A119.1 on their marketing and production plans (see Figure 34). Approximately one third of the firms responded that state enforcement inhibits interstate production and

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FOLLOWING COPYRIGHTED MATERIAL:

Figure 33 - Savings per Dwelling Unit with a Single
System of Approval and Inspection

Figure 34 - Tabulated Responses to Selected Questions

Industry Interviews, Project Mobile Home Industry, January,
1975.

marketing. State enforcement of building codes apparently exerts a negative effect only on the fringe market areas. This suggests that, where a strong market exists, manufacturers can easily saddle customers with the additional costs imposed by non-uniform states' procedures.

Third, the establishment and enforcement of the ANSI code has had a significant impact on the quality of the mobile home as viewed by the respondents (see, again, Figure 34). Only two of the 16 respondents to this question felt that the ANSI code did not have an effect on the quality of their product. All of the manufacturers felt that the ANSI code had increased the quality within the industry as a whole.

Finally, the respondents were asked to suggest improvements either to the content of the present mobile home code or to its enforcement (see Figure 35). Out of a total of 35 suggestions, 33 referred to problems dealing with uniformity and/or reciprocity. The need to establish a uniform, national building code and the need to provide for more uniform enforcement of existing codes cropped up most frequently.

THIS PAGE REPRESENTS PAGE 488, WHICH HAD THE FOLLOWING
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Figure 35 - Suggested improvements to existing mobile
home code and/or enforcement

Industry Interviews, Project Mobile Home Industry,
January, 1975.

E.

MOBILE HOME CODE REGULATION TOMORROW--
FEDERAL MOBILE HOME CONSTRUCTION AND SAFETY STANDARDS

1.

Introduction

In 1974, Congress passed the National Mobile Home Construction and Safety Standards Act as Title VI of the Housing and Community Development Act of 1974, thereby authorizing the Secretary of HUD to formulate construction standards for mobile homes and to develop a federal program for enforcement of those standards, with the intent of improving the quality of mobile homes, and providing for the health and safety of their occupants.

Under Title VI, HUD assumed responsibility for formulating these new standards. Source materials included research data, evaluation of state codes and regulations, suggestions from trade associations, the National Mobile Home Advisory Council, the Consumer Product Safety Commission and the private sector. As primary background for the formulation of the standards, HUD and the National Mobile Home Advisory Council used 1) the current standard NFPA 501B/1974 (developed by the NFPA Sectional Committee on Mobile Homes and approved by the American National Standards Institute as ANSI A119.1), 2) the "Energy Task Force Amendment", developed by NFPA, 3) the "Construction Task Force Amendment", developed by NFPA, and 4) research conducted by the National Bureau of Standards on general problem identification and fire safety.

After background analysis and consideration of proposals from interested parties and agencies, HUD released its proposed industry standards in June of 1975. These standards included detailed performance and specification requirements in virtually all areas of mobile home planning, construction, durability, transportation, and general

safety. HUD then allowed interested parties to evaluate and comment on the new standards, before it issued them on August 22, 1975. These standards, released as publication 40FR 40261 of the Federal Register, took effect on June 15, 1976.

Further proposals and amendments will continue to be presented. As technology advances, and research data accumulate, federal standards will naturally require upgrading and clarifying.

2.

The Federal Standards:

Technical Content

Since we addressed the technical content of ANSI A119.1 in previous chapters, and since the new regulations bear a strong resemblance to that code, it would be redundant to describe all the new regulations.

However, the new federal standards include more explicit fire safety and energy conservation regulations than does the ANSI code.

Therefore, these two areas will be discussed in this chapter because of their potential impact on the mobile home industry.

Fire Safety Requirements

Prior to issuing the proposed standards, the National Bureau of Standards conducted fire safety tests on mobile homes. Because of insufficient data, the HUD standards proposed a minimum 200 flame spread rating for all interior surfaces. This was consistent with the current ANSI A119.1 code and common industry practice. But the tentative HUD standards also indicated that HUD was considering five more stringent proposals for adoption in the future, when sufficient research data had accumulated. Specifically, the regulation would force the use of class A (25 flame spread or less) interior surfaces throughout the mobile home. Most of these materials (in particular, gypsum board) are considered undesirable by most companies in the industry because they perform poorly after subjection to road shock, and because they are labor-intensive. Accordingly, the industry questioned the validity of the HUD fire safety tests, contending that

available data did not warrant more restrictive standards. To date, HUD has concurred with these contentions, and the new standards reflect this. Class A materials are required, however, throughout oil-furnace and water-heater compartments, and the surface of a wall adjacent to a cooking range must meet the fire resistant properties of 5/16" gypsum board.

The new standards are also more specific with regard to smoke detectors in mobile homes. The NBS full scale fire tests indicated that current regulations requiring one smoke detector per mobile home, in an unspecified location, are not adequate to insure reasonable fire safety. The new standards thus require specific locations, to protect each separate bedroom area, and require the detectors to be either the ionization chamber, or the photo-electric type.

Energy Conservation Requirements

Upon recommendation by the Energy Task Force of the NFPA, HUD added a new section entitled "Thermal Protection" to the federal regulations. This section, pertaining to energy conservation regulations, sets forth requirements for condensation control, air infiltration, thermal insulation, and certification for heating and cooling. More specifically, it set down minimum R-values and U-factors for insulation, and established maximum coefficients of heat loss for mobile homes. Insulation is now also required in all cavities in floors, exterior walls, and ceiling assemblies.

Summary

In summation, the federal regulations are reasonably compatible with the existing code; HUD made a conscious effort to bring this about. In addition, HUD is aware of the need for more data in several areas, and provisions for systematic updating, in tune with developing technology, have been built into the code. Specifically, HUD has established the HUD Office of Mobile Home Standards, to implement necessary code changes.

HUD has also acknowledged the expertise represented by the ANSI/NFPA Sectional Committee on Mobile Homes. It will continue to use the Committee's data and recommendations to formulate revisions in future versions of the mobile home code. Thus, HUD continues to rely on the industry's aid in shaping the technical content of industry regulatory codes.

3.

The Federal Standards:

Enforcement

The National Mobile Home Construction and Safety Standards Act of 1974 (hereafter referred to as "the Act") authorized the Secretary of Housing and Urban Development to establish rules governing the administration and enforcement of the federal mobile home code (see the Federal Register of January 22, 1976). In the May 13, 1976 Federal Register, HUD issued "Procedural and Enforcement Regulations", effective immediately upon publication. The Assistant Secretary for Consumer Affairs and Regulatory Functions (CARF) gained responsibility for the new Office of Mobile Home Standards -- the Secretary of CARF thus gained control of the entire Mobile Home Standards Program.

It may be of general interest to note that section 3282.10 of the Enforcement Regulations provides for a blanket authority to impose civil and criminal penalties, and injunctive actions for failure to comply with the rules and regulations.

Enforcement of the federal standard will be coordinated by the National Conference of States on Building Codes and Standards (NCSBCS), which will operate under a five year contract of approximately \$7.0 million. State or private agencies will receive about \$6.5 million of the total sum, through NCSBCS, for their participation. The funds will be raised by charging a \$19.00 labeling fee for every mobile home manufactured, and a \$2000 membership fee from each member state.

HUD has emphasized its commitment, as set forth by Congress in Title VI, to develop a program which maximizes state participation. It stated this in the May 13 Federal Register, despite a number of objections from manufacturers and other parties who felt that the system would be simplified by eliminating state administrative agencies.

Procedures and Rule Making

HUD has designed a set of procedures in order to facilitate participation in the Mobile Home Standards Program. For example, HUD requires itself to post both an "advance notice" of any proposed rules and a "notice" of proposed rules, in the Federal Register, and has promised to issue interpretive bulletins dealing with any ambiguous provisions in the standards. Finally, HUD emphasizes the openness of its enforcement procedure, and encourages informal communication.

Hearings and Investigations

For the adjudication of disputes between manufacturers and code enforcers, HUD prefers to use the more flexible administrative method rather than using unwieldy formal judicial procedures. Administrative resolution can take two forms: informal "presentation of views" and, "hearings". Both procedures should be conducted openly,

or if not, for an extenuating circumstance publicly stated. The "presentation of views", whether written or oral, is not an adversary proceeding, nor is it carried out under oath, or subject to cross-examination. Within ten days of a "presentation of views", the presiding officer refers all evidence submitted, the transcript, and his findings, to the Secretary of HUD. Within thirty days of receipt of this, the Secretary must issue a final determination.

"Hearings" are more formal, and are conducted as adversary proceedings. All witnesses testify under oath, and may be cross-examined at the presiding officer's discretion. The presiding officer rules on matters of proof and excludes irrelevant evidence. However, such hearings are not bound by the conventions of evidence of courts of law or equity. The officer can, for example, exclude an attorney or witness from the hearing at any point in the proceeding and can render an adverse decision in the absence of the complainant. After the hearing, the officer must file an initial written decision with the Secretary within ten days. Unless reversed or amended by the Secretary within thirty days, this constitutes a final determination.

The public may participate in any hearing, at the discretion of the presiding officer. The regulations provide for the conduct of any investigation into alleged violations of the Act or rules. Powers of subpoena, rights of witnesses, etc., are set forth in section 3282.155.

Primary Inspection Agencies (PIAs)

Every manufacturer must provide each of his plants with complete services from two types of Primary Inspection Agencies (PIAs): Design Approval Primary Inspection Agencies (DAPIAs), and Inspection PIA's (IPIAs).

Private organizations wishing to become PIAs must submit complete evidence of experience and personnel in the mobile home field, and must attest to having no conflict of interest. As of May 13, 1976, sixteen state, and fourteen private agencies had been provisionally approved to perform design approval and factory inspection under Title VI.

Design Approval Primary Inspection Agencies (DAPIAs)

DAPIAs accredited by HUD may legally approve mobile home designs and quality control manuals. As under ANSI/NFPA A119.1, enforcement will assume that quality must be assured by the production process, not by inspection. Thus the manufacturer must assure the DAPIA that his plants use an effective quality control program, by providing complete specifications, and a detailed quality control manual. The DAPIAs also monitor deviations from original plans, approve changes of plans, and supervise correction of defects.

Inspection Primary Inspection Agencies (IPIAs)

IPIAs evaluate mobile home manufacturing plants and conduct periodic in-plant inspections, verifying that plants are equipped to implement specified quality control procedures, and that these procedures are being followed. All PIAs must meet rigorous criteria to receive accreditation, and this accreditation can be rescinded at any time if monitoring becomes shoddy.

State Administrative Agencies (SAAs)

State administrative agencies (SAAs) are agencies set up to handle problems of mobile homes sold within one state. A state administrative agency has three mandatory and four optional functions. It is required to perform: 1) monthly reports on oversight activity, consumer complaints, notification and correction activities, 2) hearings and presentations, and 3) handling of consumer complaints; although HUD may elect to handle "imminent safety hazards" itself. In addition, a state has the option of performing intrastate monitoring visits to manufacturing plants (coordinated by NCSBCS to avoid duplication), and the monitoring of dealer lots for damage from transportation, seal tampering, and unauthorized alteration. The state administrative agency may also elect to oversee final unit installation, and instruction of local building officials and others involved in mobile home inspection.

The SAAs are financed by a fee of \$6.00 per unit for mandatory functions, and up to \$3.00 per unit for optional ones. The state can choose any combination of optional functions and receive prorated reimbursement.

An SAA may monopolize IPIA activity. Without an SAA, the state may still perform these functions, but may not exclude competition from private agencies.

Interstate Monitoring Teams (IMTs)

Seventeen three-man teams monitor all PIAs. The teams include one representative from each of three participating states, and visit each plant to monitor the PIAs. Team members must be expert in the mechanical, electrical, structural or plumbing fields. Each state participating must contribute one man year,

The NCSBCS funds state participation mainly through a \$32,000 contract between NCSBCS and the state, and, as of last report, secondarily, by NCSBCS reimbursement for per diem and travel expenses. These funds should represent approximately 43% of the \$19.00 fee per mobile home.

Summary

State participation in enforcement is wholly optional, albeit the only fiscally rational alternative. Should the state elect not to participate, it loses any rights to inspection or design approval. All revenue generated from regulatory activities then reverts to a third party regulator. On the other hand, a cooperative state controls intrastate mobile home enforcement, and keeps 90% of the funds generated by the \$19.00 label fee. Given these incentives, extensive state participation seems likely. This would guarantee reciprocity throughout the U.S. and remove all restrictions on interstate mobile home commerce.

4.

Implications of the Federal Mobile Home Standard
for Future Code Regulation of the Building Industry

If the federal standards program works to its full potential, a manufacturer will no longer have to face costly duplication of approval and inspection. Instead, there will be one plan approval, one label, one data plate, and one review. If the mobile home industry can submit plans to, and be inspected by, one agency, and have it approved by all other states with no further submissions, the potential savings could amount to tens of millions of dollars. When one contrasts this to the fractionalized regulations imposed on the manufactured building industry, and to an even greater extent on the traditional industry, it appears likely, as industry consultant Tom Arnold put it, that "the future regulatory approaches for manufactured housing are being cast in bronze today as the regulatory aspects of programs applicable to mobile homes are developed".⁹

The federal initiative in building code regulation of the mobile home industry has set a precedent that, ultimately, will affect the entire building industry.

F.
Summary

Historically, building construction has been regulated at the local level. The Federal government did not, until recently, choose to assert that it had the power to regulate building construction, but left this to the states, which delegated this power to the local governments.

In the early years, public safety regulations did not exist for mobile homes, which were commonly treated as personal property, rather than real estate. Manufacturers were not generally required to conform to local conventional building code standards. They were thus able to use technologically advanced materials and construction methods which could substantially reduce production costs. This enhanced the market for mobile homes as low-cost housing. At the same time, some mobile home manufacturers were marketing a poor quality product. A desire for high standards of quality, plus the ever-increasing size of the mobile home industry, made industry leaders realize the need to fill the legal vacuum, particularly since local governments were already beginning to impose local construction standards on mobile homes, often in an effort to exclude them.

The Mobile Home Manufacturers Association (MHMA) therefore undertook the task of developing and promoting its own standards, in an attempt to avoid industry subjugation to the maze of local codes which face on-site residential builders. During the 1950's, the MHMA instituted a long-term program of self-regulation, in order to build a national performance-type building code. Using as its basic tactic, the enlist-

ment of respected, impartial national institutions, the MHMA and the Trailer Coach Association, approached the National Fire Protection Association (NFPA) and the American National Standards Institute (ANSI), to seek their cooperation in developing standards geared to the special conditions of mobile home production. After almost 20 years of continuous, joint code development work, "ANSI Standard A119.1 for Mobile Homes--Body and Frame Design and Construction: Installation of Plumbing, Heating, and Electrical Systems" was published. It is a nationwide, comprehensive, performance code for the entire industry, which is regularly amended by the American National Standards Institute.

As of June, 1974, 45 states had adopted A119.1, or a derivative of it, largely because of lobbying by the MHMA, and state recognition of the need for public safety and quality standards.

In the mid 1970's, state-wide, preemptive building codes existed for

- a) mobile homes only
- b) factory-built housing only
- c) mobile homes and factory-built housing (separate programs in the same state)
- d) mobile homes and factory-built housing (combined programs in the same state)
- e) on-site building only, and
- f) all building types, on- and off-site.

State-wide building codes had been enacted mostly for mobile homes and factory-built housing (a,b, and c), while on-site building had remained almost entirely in the domain of local building officials.

State acceptance of ANSI A119.1 had been completely voluntary. As a result, although the codes were based on A119.1, they were not all the same. These state-by-state variations had many negative impacts on industry performance, which can be summarized thus:

- 1) The negative effect of non-uniformity in inspections at different levels, resulting in multiple inspections of the same unit, and variations in the inspections. Multiple inspections of the same unit in-state, out-of-state, and on-site raises costs and affects interstate marketing.

Variations in inspection occur when identical units are inspected in different places or at different times. Different inspectors can interpret the same code differently, and enforce it with different levels of strictness.

- 2) Lack of interstate reciprocity in certification of manufacturer's plans. Only a minority of states with mobile home programs actively administered reciprocity.

- 3) Lack, in most states, of an automatic procedure for adopting amendments to the ANSI code. This inhibits technological currency and interstate conformity. When different requirements exist in different states, manufacturers must either produce different units to satisfy

different requirements, or over-design to the toughest specifications. Either alternative adds unnecessarily to the cost of the mobile home.

4) State-by-state approval of new materials and processes. This boosts costs and discourages innovation.

5) The typical existence of different administrative agencies in the same state, for mobile home or factory-built housing programs. Manufacturers producing both types of housing are subjected to a wasteful duplication of time and effort.

Upon considering this list, a number of potential improvements suggest themselves:

1) Greater intrastate uniformity of inspections. There are three features model mobile home code regulations should be shaped to include:

a) A model training program for building officials, to increase the effectiveness of state inspectors. This could be conducted by model code agencies, or by community colleges and universities.

b) The development of the optimal inspection method and frequency, to balance properly the costs of inspection with the number of deficient units produced, and insure fair, efficient and non-disruptive inspection.

c) An optimal funding and fee structure.

Together, these innovations would bring a greater degree of uniformity to each state, and greatly improve the effectiveness of state inspection programs.

2) Greater interstate uniformity of inspection. This could best be achieved through a reciprocity system, or a single third party inspection system. Reciprocity systems require a good deal of negotiation, with each state evaluating all other state systems to determine equivalency of standards and procedures. A unified third party system using Underwriters Laboratories, Pittsburgh Testing Laboratories, or another major testing agency, simplifies matters. Inspectors certify that the manufacturer's product meets every state specification; reinspection by each state thus becomes unnecessary.

3) Streamlining of the certification process for manufacturer's plans. Either universal third party certification, or automatic certification of any plans approved in another state,

would eliminate the high cost of re-certification by each state.

4) Automatic nationwide acceptance of innovations in materials or methods which have been cleared by a single, sanctioned evaluation agency. Recent changes in the system of approving innovation are steps towards this objective. This single approval should be flexible, so that cost-saving methods can be employed as quickly as possible.

Many of the groups in, and affiliated with, the mobile home industry recognized these problems, and the implied potentialities of dealing with them. Therefore, when a federal mobile home code ✓ was first discussed in Congress, it was supported not only by consumer groups, but also by the mobile home industry, which had much to gain from a uniform Federal code.

In 1972, Representative Louis Frey, Jr. (R-Fla.) introduced national mobile home standards legislation in Congress. Shortly thereafter, Senator William E. Brock, III (R-Tenn.) introduced similar legislation in the Senate and such legislation became a popular subject in Congress. Within a month from the introduction of Representative Frey's bill, 30 co-sponsors had been gathered, and at one point five bills, each with separate sponsors, were pending before Congress.

In 1973, Senator William Proxmire (D-Wis.) introduced a somewhat stricter bill, which would have allowed higher standards in state

codes, than those set in the federal code.

In 1974, compromise legislation was passed, somewhat less stringent than the Proxmire version. For example, provisions for a federally required warranty, for two special HUD secretaries to deal with mobile homes, and for a requirement that manufacturers submit all plans to HUD for approval, were dropped. Instead, manufacturers need only certify that their unit complies with federal standards.

The bill as adopted, the "National Mobile Home Construction and Safety Standards Act of 1974", is Title VI of the Housing and Community Development Act of 1974, in which HUD is directed to establish national construction and safety standards. HUD is also directed to consult the National Mobile Home Advisory Council in developing these standards. This twenty-four member group consists of eight members from consumer advocate groups, eight from the mobile home industry, and eight from federal, state, or local environmental bodies concerned with mobile homes.

As required by Title VI, HUD published notice of its proposed rule-making in the Federal Register of June 25, 1975, and solicited public comments. In the thirty days allowed, more than 1,000 comments from mobile home manufacturers, suppliers, national code organizations, state and other government agencies, consumer organizations, and individual consumers, were received. Eight hundred and twenty-five of these urged the adoption by reference of ANSI A119.1/MFPA 501B,

as the federal mobile home standard, confirming the technical soundness of the ANSI code.

Even though HUD did not simply adopt the ANSI standards by reference, HUD did react responsively to these recommendations. The federal standards are, in substantial measure, based on the ANSI/A119.1-1975/NFPA 501B standard for mobile homes.

On June 15, 1976, the new federal standards took effect. Perhaps the most significant aspect of Title VI is that the new federal standard preempts all existing state and local regulations affecting mobile homes. States and localities may conduct their own construction and safety standards programs for building code areas not specifically covered by the new federal standard, but they may do this only with HUD approval, and in no case may they themselves amend the federal standard. Two other important results are the fact that the federal code developed by HUD is a performance code, which permits flexibility and innovation within the performance standards, and the fact that the federal standards can be expected to evolve in an orderly manner, responding to further research and experience under the direction of the newly established HUD Office of Mobile Home Standards.

States are encouraged to develop their own enforcement plans, with the assistance of HUD. With the enactment of the federal standards, in June of 1976, states having a HUD-approved and 90%-funded enforcement program, must grant reciprocity in their inspections.

This means that a mobile home inspected and certified as meeting the federal standards in one state, must be accepted for sale in all other states having HUD-approved programs. This can help realize the full production and marketing potential of the mobile home industry; and the establishment of federal standards, along with authorized research and development, will, hopefully, further improve the safety, quality, and durability of the mobile home.

The new federal code does not promise to be an immediate panacea, however. Many of the existing problems may continue under the new code, because, at least in the immediate future, HUD will largely delegate code enforcement to the individual states. However, when the Federal Standards program ultimately realizes its full potential, a manufacturer will no longer have to face costly duplicate approvals and inspections, but, instead, there will be one plan approval, one label, one data plate, and one review. If a manufacturer can submit a plan to, and be inspected by, one agency, and have it approved by all states with no further submissions, the potential savings amount to tens of millions of dollars.

The development of a national performance building code was an important step in the mobile home industry's development, but the significance of this step goes well beyond the mobile home industry.

In the future, building construction may well be overseen by the federal government. In title VI of the Housing and Community Development Act of 1974, the federal government initiated its participation in building

regulation outside of federally financed housing by establishing Federal Mobile Home and Construction Standards which preempt all existing state and local regulations. In doing so, the federal government implicitly withdrew this power from the states. When one contrasts this with the fractionalized regulations imposed on the manufactured building industry, and to an even greater extent on the traditional housing industry, it appears likely that the federal initiative will set a precedent for future code regulation, especially of the sister manufactured building industry.

G.

FOOTNOTES

1. "Home Manufacturing and Building Codes: The Confrontation Between Technology and Institutional Regulation", an unpublished PhD thesis by Charles Field, Harvard University, 1971; and "Social Control of Technological Innovation: The Regulation of Building Construction", an unpublished PhD thesis by Francis Ventre, Massachusetts Institute of Technology, 1973.
2. "Building Codes Are Like Rabbits." Automation in Housing, October, 1970, p. 40.
3. "Building Codes Are Like Rabbits." Automation in Housing, October, 1970, p. 41.
4. Manufactured Housing Newsletter, Vol. 6, no. 23, October 17, 1975, p. 1.
5. Telephone interview, August 16, 1973.
6. Douglas Commission Report, p. 257.
7. Public Administration Service, Study of Local Building Codes and Their Administration in Southeast Michigan Six-County Region. (Detroit: Metropolitan Fund, Inc., 1966).
8. Douglas Commission Report, p. 260.
9. Manufactured Housing Newsletter, Vol. 6, no. 23, October 17, 1975, p. 1.

HIGHWAY REGULATION

TABLE OF CONTENTS

A.	<u>THE PRESENT SITUATION AND EMERGING TRENDS</u>	523
1.	Introduction.....	524
2.	The Present Situation.....	528
2.1	Dimension Limitations.....	530
2.1.1	Normal Size Vehicles.....	530
2.1.2	Over Size Vehicles.....	532
2.2	Permits.....	535
2.2.1	Procedure for Obtaining Permits.....	535
2.2.2	Issuance of Permits.....	536
2.2.3	Permit Duration.....	536
2.3	Traffic Regulations.....	538
2.3.1	Escort Vehicles.....	538
2.3.2	Times of Travel.....	538
2.3.3	Route Restrictions.....	540
2.3.4	Equipment Requirements.....	543
3.	Emerging Trends.....	546
3.1	Permits.....	547
3.1.1	Extended Time Permits.....	547
3.1.2	The Per Trip System.....	549
3.2	Dimension Limitations.....	550
3.2.1	Normal Size Vehicles.....	550
3.2.2	Over Size Vehicles.....	553
3.3	Other Areas.....	556
B.	<u>THE EFFECT OF HIGHWAY REGULATION ON THE ECONOMIC PERFORMANCE OF THE INDUSTRY</u>	559
1.	Introduction.....	560
2.	A Case Study.....	562
2.1	Introduction.....	563
2.2	Basic Assumptions.....	564
2.2.1	The Distance Involved.....	564
2.2.2	The States Involved.....	565
2.2.3	The People Involved.....	565
	The Manufacturer.....	565
	The Transporter.....	566
2.2.4	The Mobile Home Unit.....	566
2.3	The Trip.....	567
2.3.1	Permits and Procedures.....	567
2.3.2	Escort Requirements.....	568
	Oklahoma.....	
	Kansas.....	

	2.3.3	Equipment.....	571
	2.3.4.	Routes and Escorts.....	572
2.4		Unnecessary Costs.....	575
	2.4.1	Introduction.....	575
	2.4.2	Information Services.....	575
	2.4.3	Permits.....	576
	2.4.4	Traffic Regulations.....	578
		Equipment Requirements	
		Escort Vehicles	
		Times of Travel	
		Route Restrictions	
	2.4.5	Total Unnecessary Costs.....	585
C.		<u>SUMMARY</u>	590
D.		<u>FOOTNOTES</u>	594

A.

THE PRESENT SITUATION AND EMERGING TRENDS

1.

Introduction

The mobile home, like any other home, is a permanent dwelling. Unlike other homes, however, the mobile home is moved at least once -- from the factory to its permanent site. Because of this one move the mobile home industry is greatly affected by transportation regulations.

Although the initial move may be over land, sea, or even through the air, the use of railroads, ships and crane helicopters is very much limited at this time. Mobile homes have been, and still are, primarily transported over the highway. This section focuses on highway regulation, rather than the more broad class of transportation regulation, and analyzes the impact of highway regulation on the mobile home industry. Any potential means of transportation other than over the highway will not be discussed.

The two facets of the mobile home industry most affected by highway regulation are the industry's economic performance and the industry's responsiveness to the needs of the user. The

economic performance of the industry is affected if the states legislate unnecessarily restrictive regulations because the industry must make extra expenditures to comply. The industry obviously cannot give the consumer wider mobile homes with functionally better layouts if the states do not allow the wider homes on the highways.

This section contains many figures detailing several facets of Highway Regulation. While this information has been compiled from very reliable resources, Project Mobile Home Industry takes no responsibility for their legality -- the figures are intended as an aid to the understanding of this section, not as a legal handbook for mobile home transporters.

Even though this section of Highway Regulation has benefitted greatly from fieldwork and field interviews conducted by Project Mobile Home Industry staff members, and from the first hand experience in the industry of these members, many statistical details have been drawn from the Mobile Home Manufacturers Association's Mobile Home Highway Movement Handbook. Major credit should be given to the compilers of this excellent work. PMHI has used this subscription periodical for the past

several years, and this report reflects revisions received up to February, 1975.

2.

The Present Situation

Highway regulation is the concern of various governmental units, the most prominent of which is the state. Each state imposes certain restrictions, regulations and controls on the use of its highways in order to insure the safety and convenience of its residents. These controls may place a burden on interstate commerce, but the constitution assures the state's right to regulate its highways and thus upholds many state highway regulations although they may burden interstate commerce.

In the regulation of interstate commerce, Congress may determine that the burdens imposed on interstate commerce by state highway regulations are too great, and then may curtail the state's regulatory power. In this curtailment, Congress must weigh two interests: the states' authority to regulate its own highways and the Congressional authority to further interstate commerce. It is the first interest, the control of states over their highways, that is the effective factor in this analysis.

All states exert some control over the movement of mobile homes on the highway. Maximum dimensions are stated; permits may be required, and regulations specific to oversize vehicles--those exceeding the maximum dimensions--may be in effect. This chapter discusses the regulations rather than their effects.

2.1 DIMENSION LIMITATIONS

2.1.1 Normal Sized Vehicles

Statutes in each state specify maximum vehicle size limits. In applying these limits, the overall or combined length is specified where one vehicle is towed by another, as where a mobile home is being towed by a truck. Mobile homes that do not exceed the maximum size limitations are regulated as any other vehicle; they are subject only to the normal controls imposed on all vehicles using state highways.

The maximum dimensions for vehicles without permits vary among the states as follows:

Combined Length:	50' - 75'	(2 states no limit)
Mobile Home Length:	33' - 60'	(Some states no limit)
Width:	8' - 8'6"	(Alabama allows 12'w)
Height:	12'6" - 14'	

Those mobile homes with dimensions exceeding the allowable limits must obtain a permit to travel over the highways.

STATE	LEGAL SIZE WITHOUT PERMITS				OVERSIZE PERMITS			
	Comb L	MI L	W	HT	Comb L	MI L	W	HT
ALABAMA	75	N	12	13'6"	N	N	N	N
ALASKA	70	N	8	13'6"	N	N	16	N
ARIZONA	65	40	8	13	85	70	14	13'6"
ARKANSAS	60	N	8	13'6"	N	N	14	N
CALIFORNIA	60	40	8	13'6"	85	70	12	13'6"
COLORADO	65	N	8	13'6"	N	N	14	N
CONNECTICUT	55	N	8'6"	13'6"	85	N	12	13'6"
DELAWARE	55	N	8	13'6"	N	N	14	13'6"
FLORIDA	55	40	8	13'6"	N	N	12	N
GEORGIA	55	N	8	13'6"	83	N	N	13'6"
IDAHO	65	N	8	14	85	70	14	14
ILLINOIS	60	42	8	13'6"	85	N	14	N
INDIANA	60	N	8	13'6"	80	N	14	13'6"
IOWA	60	48	8	13'6"	80	68	14	13'6"
KANSAS	65	N	8	13'6"	85	N	14	N
KENTUCKY	55	N	8	13'6"	80	70	14	N
LOUISIANA	65	N	8	13'6"	85	N	14	13'6"
MAINE	56'6"	N	8'6"	13'6"	N	N	N	N
MARYLAND	55	N	8	13'6"	N	N	14	N
MASSACHUSETTS	N	33	8	13'6"	N	N	14	N
MICHIGAN	60	45	8'4"	12'6"	85	70	14	15
MINNESOTA	55	40	8	13'6"	85	68	14'6"	13'6"
MISSISSIPPI	55	N	8	13'6"	80	N	12	N
MISSOURI	55	N	8	13'6"	85	N	14	N
MONTANA	60	60	8	13'6"	N	N	18	N
NEBRASKA	65	40	8	13'6"	90	N	14	13'6"
NEVADA	70	HN	8	14'	70	N	14	14
NEW HAMPSHIRE	55	N	8	13'6"	N	N	14	N
NEW JERSEY	60	35	8	13'6"	N	N	12	N
NEW MEXICO	65	N	8'6"	13'6"	80	80	14	20
NEW YORK	55	35	8	13'6"	N	N	14	N
NORTH CAROLINA	55	35	8	13'6"	80	N	12	13'6"
NORTH CAROTA	N	60	8	12'6"	N	70	14	12'6"
OHIO	65	40	8	13'6"	85	70	14	13'6"
OKLAHOMA	65	N	8	N	N	N	14	N
OREGON	50	35	8	13'6"	85	N	14	N
PENNSYLVANIA	55	N	8	13'6"	N	N	12	N
RHODE ISLAND	55	40	8'6"	13'6"	N	55	14	N
SOUTH CAROLINA	60	N	8	13'6"	80	70	12	N
SOUTH CAROTA	65	35	8	13'6"	N	N	16	N
TENNESSEE	69	N	8	13'6"	N	N	12	13'10"
TEXAS	55	N	8	13'6"	95	N	16	N
UTAH	60	45	8	14'	85	N	14'6"	N
VERMONT	55	55	8'6"	13'6"	varies	N	14	N
VIRGINIA	55	N	8	13'6"	80	70	12	N
WASHINGTON	65	45	8	13'6"	85	N	14	N
WEST VIRGINIA	50	35	8	12'6"	75	N	14	13'6"
WISCONSIN	60	45	8	13'6"	85	70	14	N
WYOMING	75	N	8'6"	14'	N	N	N	N
HAWAII	-	-	-	-	-	-	-	-

N: Nothing Specified

Source: Compiled from the Latest Revisions Issued as of February 1975 of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical.

FIGURE 1: DIMENSION LIMITATIONS FOR MOBILE HOME UNITS

2.1.2 Oversize Vehicles

An "oversize" vehicle exceeds the normal size limitations and may travel only under permit. The maximum dimensions for vehicles with a permit vary among the states as follows:

Combined Length:	75' - 85'	(Two states greater)
Mobile Home Length:	55' - 70'	(Some states no limit)
Width:	12' - 18'	(Some states no limit)
Height:	12' - 14'	(Some states no limit)

Those mobile homes with dimensions exceeding these limits may not travel the highways.

The height limitations are generally based upon overpass clearances. Because most mobile homes can meet this limitation, it is not generally a relevant regulation. Weight limitations, similarly, do not usually present problems.

Length limitations are more constraining. Maximum limits for mobile home length vary between 55' and 70', with many states placing no specified limit. The length of the mobile home plus the length of the truck hauling it, the maximum combined length, generally ranges between 75' and 85', with Nebraska allowing 90' and Texas allowing 95'. It is interesting that as the length of mobile homes has

increased, the length of the trucks hauling them has decreased in order to comply with the length restrictions for combinations. Thus, in a state allowing a 75' combined length, 70' mobile homes are sometimes hauled by trucks measuring 5 feet in length.

The most severe constraint for a mobile home is the width restriction, as the width of the mobile home is absolutely limited by the width allowed on the highway. Maximum widths vary from the 12 feet allowed in all states to 16' allowed in two states to no specified restrictions in two states. Thirty-nine states now allow movement of 14 foot wide mobile homes. In more than 20 interviews with mobile home manufacturing company presidents in January, 1975, PMHI found that manufacturers generally do not like 14 wides because of the dimension limitations: in states not allowing 14 wides on the roads they can not be sold; in states restricting width to 14 wide many architectural amenities (overhanging roofs, etc.) must be sacrificed on the 14 wide unit.

2.2 PERMITS

A permit is issued by a state to allow the transportation of an oversize vehicle on state highways. Since all states, with the exception of Alabama, limit a normal size vehicle to 8' - 8'6" in width, virtually all mobile homes are classified "oversized." This permit allows the transportation of the mobile home, subject to special restrictions.

2.2.1 Procedure for Obtaining Permits

A permit must be obtained from each state the mobile home will travel through. Sometimes application must be made to an additional agency of the state, such as the thruway authority, if the mobile home is to be transported on a special route. Thus, at least one permit is always required from each state and sometimes more.

In forty-eight states the permit application may be made by mail and/or telegraph. In six states the permit application must be made by mail or in person. Five states allow permits to be obtained at ports of entry while two states allow the carrier of the mobile home to proceed, without permit, to the nearest office where the permit can be obtained.

2.2.2 Issuance of Permits

Permit issuance procedures vary from state to state, but are generally discretionary. One must show good cause and prove the existence of conditions for the public safety. The permits often specify route restrictions, equipment requirements and a bond or proof of insurance or financial responsibility.

2.2.3 Permit Duration

While a few states issue permits to licensed manufacturers, dealers, and mobile home transporters for periods of up to one year, more often a separate permit must be obtained for each mobile home transported. The duration of the single trip permit varies from state to state. Those that do specify the duration for an individual permit vary from one to fifteen days. Twenty-seven states do not specify a standard amount of time but may specify on the individual permits. In seventeen states, extended permits are available for the movement of several mobile homes for periods up to one year.

2.3 TRAFFIC REGULATIONS

In transporting an oversize mobile home through different states, the carrier must comply not only with the regulations which that state imposes on all normal size vehicles, but also with the many varied traffic regulations imposed on oversized vehicles. These regulations vary considerably and the regulations of each and every state the mobile home passes through must be followed.

2.3.1 Escort Vehicles

To transport an oversize mobile home, even with a permit, most states require flagmen, pilot cars, or both. Flagmen are frequently required at bridges and blind curves. Thirty-eight states require one escort vehicle following or preceding the mobile home under certain conditions while ~~twenty-nine~~ states require two escorts (front and rear) under certain conditions. Only ten states do not require any escort at all.

2.3.2 Times of Travel

THIS PAGE REPRESENTS PAGE 539, WHICH HAD THE FOLLOWING
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Figure 4- Escort requirements for mobile home units

Compiled from the Latest Revisions Issued as of February,
1975 of Mobile Home Highway Movement Handbook, Washington,
D.C.: MHMA, Subscription Periodical.

The transportation of a mobile home is almost universally limited to the daylight hours of weekdays. Travel is usually restricted on legal holidays and frequently on the days preceding and following such holidays. In addition, many cities, especially those using an interstate highway as an expressway, restrict movement of mobile homes during rush hours.

2.3.3 Route Restrictions

Permits will frequently state a specific route which must be followed. In seven states mobile homes may not use the interstate highways, and in other states may not use highways which carry a heavy load of public traffic. A few states prohibit all oversized mobile homes unless the final delivery is within the state. In this particular case, certain tricks of the trade have developed; the transporter will enter the state and obtain the permit, saying that he is delivering the mobile home to a site just within the far borders of the state. When he reaches that point, the transporter continues on out of the state, travelling through the state without a permit. He runs, of course, the risk of heavy fine, but can traverse the state.

STATE	RESTRICTED ROUTE OR AREA	RESTRICTIONS	RUSH HOUR RESTRICTIONS	
			AREAS	TIMES
ALABAMA	NS	NS	NS	NS
ALASKA	Alaska Highway	Separate, no cost permit required. Red flags. >11'w must have "Wide Load" signs. 1 escort >70'1 huc<11'w, else 2, 14'w 3 escorts.	NS	NS
ARIZONA	NS	NS	NS	NS
ARKANSAS	All Interstate Routes	Nothing >14'w	Greater Little Rock	7-9 AM, 3:30-6 PM
CALIFORNIA	Los Angeles County San Diego County	Routes as per permit Separate, 1-year permit, \$4.50 Separate permit, 1 year-\$30, 1 trip (12'w)-\$10.	NS	NS
COLORADO	Tunnels of US 6 west of Denver in Clear Creek, of SH 265 at Denver	Overpass Clearance: 13'6"	NS	NS
CONNECTICUT	NS	NS	NS	NS
DELAWARE	NS	NS	New Castle County: I-95 US 13 north of Del 7 Del 141, Del 2, US 202 Kent County: US 13, US 113	7:30-9 AM 3:30-5:30 PM 7:30-8:30AM &-5:30
FLORIDA	Florida Keys	Flashing lights, company escorts for 12'w. Police escort over narrow bridges	NS	NS
GEORGIA	NS	Routes as per permit	NS	NS
IDAHO	NS	Routes as per permit	Local traffic on urban sections of state highways	7-8:30 AM 12-1 PM, 4-5 PM
ILLINOIS	Illinois Toll Highways, Controlled Access Rts. in Cook Cty. Northern Illinois Toll Highway	Routes as per permit Except special routes, no movement Special permit available at toll plazas, \$10. No weekend travel, min. speed 45, max. 60. No escort. Rigid hitch.	NS	NS
INDIANA	NS	Routes as per permit	NS	NS
IOWA	NS	Routes as per permit	NS	NS
KANSAS	Except: US 24 I-70 to Colorado US 50 Newton to Hutchison US 56 McPherson to Sublette US 83 Sublette to Liberal US 54 Liberal to Oklahoma US 81 Newton to McPherson US 156 US 56 to I-70 US 183 Rush Ctr. to Neb. US 283 Wakeeny to Neb. K 96 Great Bend to Col. K 196 US 81 to El Dorado Kansas Turnpike	>12'w must have escort, >70'1 must have telephoned authorization from Topeka and 1 escort Special permit. Min. speed 40. 1 escort if >12'w.	Metropolitan Areas	7-9 AM 4-6 PM
KENTUCKY	NS	Routes as per permit	NS	NS
LOUISIANA	NS	NS	NS	NS
MAINE	Maine Turnpike	Special permit, available at toll plazas, \$5 + toll.	NS	NS
MARYLAND	NS	NS	All beltways, expressways, toll facilities	7-9 AM 3:30-6:30 PM
MASSACHUSETTS	Massachusetts Turnpike	Special permit, available at interchanges, \$3 + tolls +16/foot over 60'1/mile + 26/ft over 9'w/mile + 26/ft over 13'6" height/mile	NS	NS
MICHIGAN	NS	NS	NS	NS
MINNESOTA	EXCEPT State trunk highways Minneapolis, St. Paul, Duluth	No movement Restricted summer movement	Minn., St. Paul	6:30-8:30AM, 4-6PM
MISSISSIPPI	NS	NS	NS	NS

NS Nothing Specified
> Greater than or equal to

Source: Compiled from the Latest Revisions Issued as of September, 1974 of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical

FIGURE 5: HIGHWAY RESTRICTIONS FOR MOBILE HOME UNITS

2.3.4 Equipment Requirements

State equipment requirements are complex. Typically, all trailers, including mobile homes, are required to have various rear and side clearance lights or reflectors, flares or other warning devices, electrical or mechanical turn signals and brake lights which can be seen from behind the trailer. Mobile homes may also be required to have brakes on a specified number of axles or to use specific types of tow hitches. Most states require wide load signs and warning flags. Radio communication between escorts and hauler is often required.

The complexity of this system is readily illustrated. In an interview with a representative of one of the leading mobile home carriers, PMHI discussed the problem. Suppose a manufacturer is delivering a mobile home through four states. Assume that one state requires brakes on two axles while the others require brakes on only one axle. The transporter must either be prepared to install the extra set of brakes when entering the more restrictive state or he must install them at the outset. If all four states require different wording, or lettering, or coloring of the wide-load signs (many states do), the carrier must take with him a different sign for each state, and, before entering the state, he must stop and switch signs. Thus, the carrier can merely comply with the most stringent requirement, as with the brakes, to meet the requirements of all

STATE	Wideload Signs	Flags on Unit	Warning Lights on MH	Brakes	2-Way Radio
ALABAMA	N	N	N	N	N
ALASKA	*	YES	*	N	YES
ARIZONA	YES	YES	N	N	YES
ARKANSAS	N	N	N	>10'w	N
CALIFORNIA	YES	N	N	N	N
COLORADO	>10'w	N	N	>3000 lbs	N
CONNECTICUT	>10'w	YES	* >12'w	YES	>12'w
DELAWARE	YES	YES	>10'w	N	N
FLORIDA	>10'w	YES	N	N	N
GEORGIA	>8'w	>8'w	N	N	N
IDAHO	YES	N	+	YES	N
ILLINOIS	>10'w	YES	* >12'w	N	N
INDIANA	+	N	*	N	YES
IOWA	>8'w	YES	>25 mph	N	N
KANSAS	*, >10'w	YES	YES	N	N
KENTUCKY	N	YES	>14'w,*	>14'w	N
LOUISIANA	>10'w	N	N	YES	N
MAINE	>11'6" w	YES	*	YES	>13'6" w
MARYLAND	>12'w	N	N	N	N
MASSACHUSETTS	N	N	N	N	N
MICHIGAN	YES	YES	>14'w,*	>2 axles	N
MINNESOTA	>8'w	>8'w	N	>12'w	N
MISSISSIPPI	N	>10'w	N	N	N
MISSOURI	>10'4" w	YES	N	N	N
MONTANA	>9'w	N	>10'w*	>3000 lbs	N
NEBRASKA	YES	YES	YES	YES	N
NEVADA	YES	YES	>10'w,*	N	>12'w
NEW HAMPSHIRE	>10'w	>10'w	N	YES	N
NEW JERSEY	YES	YES	N	N	N
NEW MEXICO	YES	YES	>10'w,*	N	YES
NEW YORK	>12'w	>10'w	>12'w	N	N
NORTH CAROLINA	>10'w	>10'w	N	YES	N
NORTH DAKOTA	>10'w	>10'w	N	N	N
OHIO	YES	YES	>12'w,*	YES	N
OKLAHOMA	>12'w	* >12'w	N	N	YES
OREGON	YES	YES	YES,**	YES	YES
PENNSYLVANIA	YES	YES	N	YES	N
RHODE ISLAND	N	N	N	N	N
SOUTH CAROLINA	YES	YES	N	YES	N
SOUTH DAKOTA	YES	YES	>12'6"	YES	N
TENNESSEE	>10'w	>10'w	*	N	N
TEXAS	N	N	N	YES	N
UTAH	>10'w	>10'w	*, >20'w, 5mph	YES	N
VERMONT	>8'w*	YES	*	N	N
VIRGINIA	N	>10'4" w	N	N	N
WASHINGTON	>12'w	>12'w	>12'w*	>12'w	>12'w
WEST VIRGINIA	YES	YES	YES*	YES	N
WISCONSIN	>8'w	YES	>8'w	N	N
WYOMING	YES	>10'w, 25mph*	*	N	N
ALABAMA	-	-	-	-	-

* on escort vehicle
 + varies, or as per permit
 ** on escort if motorcycle

Source: Compiled from the Latest Revisions Issued as of February 1975 of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical

FIGURE 6: EQUIPMENT REQUIREMENTS FOR MOBILE HOME UNITS

the states, or, he must carry any equipment required by any state (such as the wide load signs, flags, and lights) and be prepared to change them before crossing the next state line. Thus, equipment requirements can place a great burden on interstate transporters. A large amount of unnecessary labor is involved if the laws are strictly enforced. To completely change all the "Wide Load," "Long Load," "Caution," etc. signs, to replace or reposition warning flags and lights, the transporter must carry not only the equipment but also the tools to change it--even a stepladder to reach signs! A large amount of risk is involved if the laws are not strictly enforced and a carrier does not comply--there is always the chance they will be enforced this time.

3.

Emerging Trends

3.1 PERMITS

Three basic systems for granting oversize permits exist in the United States today: the individual permit system, the extended time system, and the per trip system. The individual permit system, where a separate permit is required for each one way trip, is and has been available in all states. The other systems have become more widespread in recent years.

3.1.1 Extended Time Permits

An extended time permit allows individual mobile home transporters to ship all oversize units for a prescribed length of time. The cost varies from \$0 to \$500 and the length from three months to one year to "open end," or no specified limit. States may offer more than one extended permit--for example, Georgia offers the transporter a choice of one month for \$25 or one year for \$75.

This system has become increasingly widespread over the past few years.

STATE	1975				1972			
	Single		Multiple		Single		Multiple	
	COST (Dollars)	DURATION (Days)	COST (Dollars)	DURATION (Months)	COST (Dollars)	DURATION (Days)	COST (Dollars)	DURATION (Months)
ALABAMA	0	NS	NA	NA	5-0	N		
ALASKA	10 to 50*	NS	25	1	0	N	5-0	6
ARIZONA	5	varies	NA	NA	5	N		
ARKANSAS	5	NS	NA	NA	5	N		
CALIFORNIA	3	NS	30	12	3	N	30	12
COLORADO	5	15	NA	NA	5	15		
CONNECTICUT	0	NS	NA	NA	0	N		
DELAWARE	5	NS	NA	NA	5	N		
FLORIDA	5	5	20	12	5	3*	20	12
GEORGIA	10 to 20*	4	100	12	10	4	100	12
IDAHO	3 to 5*	NS	25 or 75	1 or 12	3-5*	30		
ILLINOIS	7 to 17*	5	22.50 to 40*	3	7-17*	5	22.50-40*	3
INDIANA	10+	3 to 15*	10 or 25/trip	12	10+	15	10/trip**	varies
IOWA	5	NS	10	12	5	N	10	12
KANSAS	5	NS	NA	NA	5	N		
KENTUCKY	10	10	40	12	5	10	20	12
LOUISIANA	6	1	NA	NA	6	1		
MAINE	varies	varies	NS	NS		N		
MARYLAND	10	NS	NA	NA	10	N		
MASSACHUSETTS	0	NS	NA	NA	0	N		
MICHIGAN	0	NS	NA	NA	0	N		
MINNESOTA	5	NS	NA	NA	5	N		
MISSISSIPPI	0	5	0**	6	0	5	0	6
MISSOURI	5	5	NA	NA	4	3		
MONTANA	6	NS	NA	NA	6	N		
NEBRASKA	5 to 10*	10	25	3	2-10*	90	100	12
NEVADA	0	NS	NA	NA	0	N		
NEW HAMPSHIRE	5	5	NA	NA	5	5		
NEW JERSEY	10*	NS	NA	NA	5	N		
NEW MEXICO	5	NS	10 to 20**	NA	2.50	N		
NEW YORK	7	8	10 or 75/tow	1 or 12	7	N		++
NORTH CAROLINA	0	10	5	NS	0	3/10	5	varies
NORTH DAKOTA	5	NS	5	NS	5	N	5+5/trip*	12
OHIO	2+	5	6	NS	2+	N	6	12
OKLAHOMA	5	NS	25	25 trips	5	N		
OREGON	3	NS	30	12	N	N		
PENNSYLVANIA	5 to 10*	NS	NA	NA	5*	N		
RHODE ISLAND	0	NS	NA	NA	0	N		
SOUTH CAROLINA	5	14	5/trip	open ended	5	14	varies	open end
SOUTH DAKOTA	10**	NS	500	6	5	N	500	6
TENNESSEE	0	NS	NA	NA	0	N		
TEXAS	5	10	NA	NA	5	10		
UTAH	3	96 hours	15 or 25	3 or 12	3	4	15-25	3-12
VERMONT	10	14	NA	NA	10	14		
VIRGINIA	6	NS	5+1/trip	NS	6	N		
WASHINGTON	5	NS	NA	NA	5	N		
WEST VIRGINIA	15-20*	5	1+1/trip	NS	15-20*	5		
WISCONSIN	0	NS	NA	NA	0	N		
WYOMING	5*	NS	NA	NA	5-25*	N		
HAWAII	-	-	-	-	-	-	-	-

- * Varies by Size/Mileage
- + Extra Cost for Extension/Change
- ** Varies with number of Trips
- NS Not Specified
- ** Special Rates/Extended Permits for Dealers, Manufacturers, Commercial Haulers only

Source: Compiled from Subsequent Issues of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical, 1972 through 1975

FIGURE 7: COMPARISON OF PERMIT REGULATIONS, 1972/1975

In 1972, it was available in fifteen states; in 1975, in 19 states.

3.1.2 The Per Trip System

States using the per trip system charge the transporter for the number of units he ships rather than for the number of days or months he ships. Most states using this system require either the posting of a surety bond (as Oklahoma) or the payment of an initial fee (as Virginia) before the service is made available to a transporter. This is indicated in Figure 7 under "Multiple." \$2 + \$2/trip would mean a base cost of \$2 with an added cost of \$2 for every unit shipped.

This system is a relatively recent development. In 1972, only two states offered the system, and, in 1975, six states offered some form of it (for instance, New York charges per towing unit). With this system, the state can reduce rates over the single permit system for manufacturers, etc., without giving the larger plants a larger break in the rates than the smaller plants.

3.2 DIMENSION LIMITATIONS

The trend in dimension limitations has been toward the longer and wider mobile home units, both in the normal size vehicle and in the over size vehicle. This trend may be the result of consumer demand or industry pressure, but certainly the increased number of super highways which have been built and the increased number of safety devices on them was a factor. The interests of public safety and convenience are no longer as adversely affected by the oversize units as they were a few years ago.

3.2.1 Normal Size Vehicles

In no state has the legal combination length, the mobile home length, or the width decreased in the period from September 1972 to February 1975. Six states have increased the legal combination length by 5 to 15 feet, 3 states have abolished regulations concerning legal load length and one state has raised it 15 feet. Vermont and Wyoming have both raised width limitations to 8'6". Height limitations, based as they are on overpass constrictions, have not changed significantly.

	COMBINATION LENGTH	MOBILE HOME LENGTH	MOBILE HOME WIDTH	MAXIMUM HEIGHT
NORMAL SIZED				
1972 variation	50-75	33-60	8-8'6"	12'6-14
#exception	2	5	1	1
1975 variation	55-75	35-N	8-8'6"	12'6-14
#exception	5	1	1	1
OVER SIZED				
1972 variation	75-85-N	55-70-N	12-18	12'6-14
#exception	3	0	4	-N 0
1975 variation	80-90	68-80	12-16-N	12-20-N
#exception	3	2	0	0

-N More than 5 states do not specify

Source: Compiled by PMHI from the Latest Revisions Issued as of February, 1975, of Mobile Home Highway Handbook, Washington, D.C.: MHMA, Subscription Periodical

FIGURE 8: COMPARISON OF RANGES, 1972/1975

STATE	1975								1972							
	LEGAL SIZE WITHOUT PERMITS				OVERSIZE PERMITS				LEGAL SIZE W/OUT PERMIT				OVER SIZE PERMITS			
	Comb L	MH L	W	HT	Comb L	MH L	W	HT	Comb L	MH L	W	HT	Comb L	MH L	W	HT
ALABAMA	75	N	12	13'6"	N	N	N	N	75	N	12	13'6"	N	N	N	N
ALASKA	70	N	8	13'6"	N	N	16	N	60	40	8	13'6"	80	N	14	N
ARIZONA	65	40	8	13	85	70	14	13'6"	65	40	8	13'6"	75	65	NLS	N
ARKANSAS	60	N	8	13'6"	N	N	14	N	60	N	8	13'6"	N	N	14	N
CALIFORNIA	60	40	8	13'6"	85	70	12	13'6"	60	40	8	13'6"	65	65	12	13'6"
COLORADO	65	N	8	13'6"	N	N	14	N	65	35	8	13'6"	N	N	14	N
CONNECTICUT	55	N	8'6"	13'6"	85	N	12	13'6"	55	N	8'6"	13'6"	75	N	12	13'6"
DELAWARE	55	N	8	13'6"	N	N	14	13'6"	55	N	8	13'6"	N	N	14	13'6"
FLORIDA	55	40	8	13'6"	N	N	12	N	55	40	8	13'6"	N	N	12	N
GEORGIA	55	N	8	13'6"	83	N	14	13'6"	55	N	8	13'6"	75	55	12	13'6"
IDAHO	65	N	8	14	85	7'6"	14	14	60	N	8	14'0"	75	60	12	14
ILLINOIS	60	42	8	13'6"	85	N	14	N	60	42	8	13'6"	70	N	12	N
INDIANA	60	N	8	13'6"	80	N	14	13'6"	60	N	8	13'6"	80	68	14	13'6"
IOWA	60	48	8	13'6"	80	68	14	13'6"	60	48	8	13'6"	80	68	14	13'6"
KANSAS	65	N	8	13'6"	85	N	14	N	55	N	8	13'6"	65	N	14	N
KENTUCKY	65	N	8	13'6"	80	70	14	N	55	N	8	13'6"	75	N	14	N
LOUISIANA	65	N	8	13'6"	85	N	14	13'6"	65	N	8	13'6"	85	N	14	13'6"
MAINE	56'6"	N	8'6"	13'6"	N	N	14	N	56'6"	N	8'6"	13'6"	N	N	14	N
MARYLAND	55	N	8	13'6"	N	N	14	N	55	N	8	13'6"	N	N	14	N
MASSACHUSETTS	N	33	8	13'6"	N	N	14	N	N	33	8	13'6"	N	N	14	N
MICHIGAN	60	45	8'4"	12'6"	85	70	14	15	60	45	8'4"	12'6"	85	65	12	15
MINNESOTA	55	40	8	13'6"	85	68	14'6"	13'6"	55	40	8	13'6"	85	68	14'6"	13'6"
MISSISSIPPI	55	N	8	13'6"	80	N	12	N	55	N	8	13'6"	75	N	12	N
MISSOURI	55	N	8	13'6"	85	N	14	N	55	40	8	13'6"	85	70	12'4"	varies
MONTANA	60	60	8	13'6"	N	N	18	N	60	60	8	13'6"	N	N	16	N
NEBRASKA	65	40	8	13'6"	90	N	14	13'6"	65	40	8	13'6"	85	N	14	13'6"
NEVADA	70	N	8	14	70	N	14	14	70	N	8	varies	70	N	14	varies
NEW HAMPSHIRE	55	N	8	13'6"	N	N	14	N	55	N	8	13'6"	N	N	14	N
NEW JERSEY	50	35	8	13'6"	N	N	12	N	50	35	8	13'6"	N	N	12	N
NEW MEXICO	65	N	8'6"	13'6"	80	80	14	20	65	N	8'6"	13'6"	80	65	14	N
NEW YORK	55	35	8	13'6"	N	N	14	N	55	35	8	13'6"	N	N	14	N
NORTH CAROLINA	55	35	8	13'6"	80	N	12	13'6"	55	35	8	13'6"	80	N	12	13'6"
NORTH DAKOTA	N	60	8	12'6"	N	70	14	12'6"	N	60	8	12'6"	N	70	14	12'6"
OHIO	65	40	8	13'6"	85	70	14	13'6"	65	40	8	13'6"	85	70	14	13'6"
OKLAHOMA	65	N	8	N	N	N	14	N	65	N	8	13'6"	N	N	14	N
OREGON	50	35	8	13'6"	85	N	14	N	50	35	8	13'6"	85	N	14	N
PENNSYLVANIA	55	N	8	13'6"	N	N	12	N	55	N	8	13'6"	N	N	12	N
RHODE ISLAND	55	40	8'6"	13'6"	N	55	14	N	55	40	8'6"	13'6"	N	55	14	N
SOUTH CAROLINA	60	N	8	13'6"	80	70	12	N	60	N	8	13'6"	75	N	12	N
SOUTH DAKOTA	65	35	8	13'6"	N	N	16	N	65	35	8	13'6"	N	N	14	N
TENNESSEE	69	N	8	13'6"	N	N	12	13'10"	65	N	8	13'6"	N	N	12	13'6"
TEXAS	60	35	8	13'6"	95	N	16	N	60	35	8	13'6"	95	N	16	N
UTAH	60	45	8	14	85	N	14'6"	N	60	45	8	14	80	N	14	N
VERMONT	55	55	8'6"	13'6"	varies	N	14	N	55	55	8	13'6"	varies	N	12	N
VIRGINIA	55	N	8	13'6"	80	70	12	N	55	N	8	13'6"	75	N	12	N
WASHINGTON	65	45	8	13'6"	85	N	14	N	60	40	8	13'6"	85	N	14	N
WEST VIRGINIA	50	35	8	12'6"	75	N	14	13'6"	50	35	8	12'6"	75	N	14	12'6"
WISCONSIN	60	45	8	13'6"	85	70	14	N	60	45	8	13'6"	85	70	12	N
WYOMING	75	N	8'6"	14	N	N	N	N	75	N	8'6"	14	N	N	N	N
HAWAII	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

N: Nothing Specified

Source: Compiled from Subsequent Issues of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical, 1972-1975

FIGURE 9: COMPARISON OF DIMENSION LIMITATIONS, 1972/1975

3.2.2 Over Size Vehicles

The dimension limitations for vehicles travelling under permit have shown great increases over the past three years. Twelve states have raised combination lengths by 5 to 15 feet; 8 have raised the load length by the same amount. The all-important width regulation has shown great change--11 states have increased their limits by up to two feet.

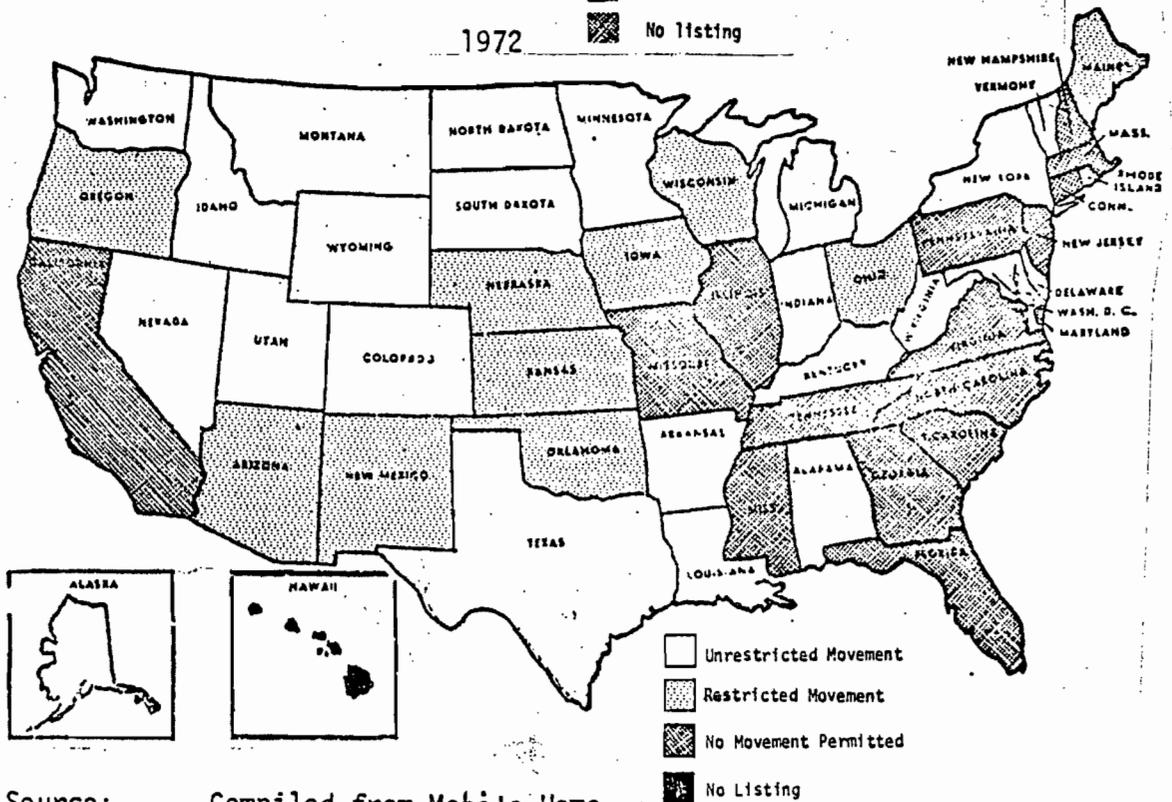
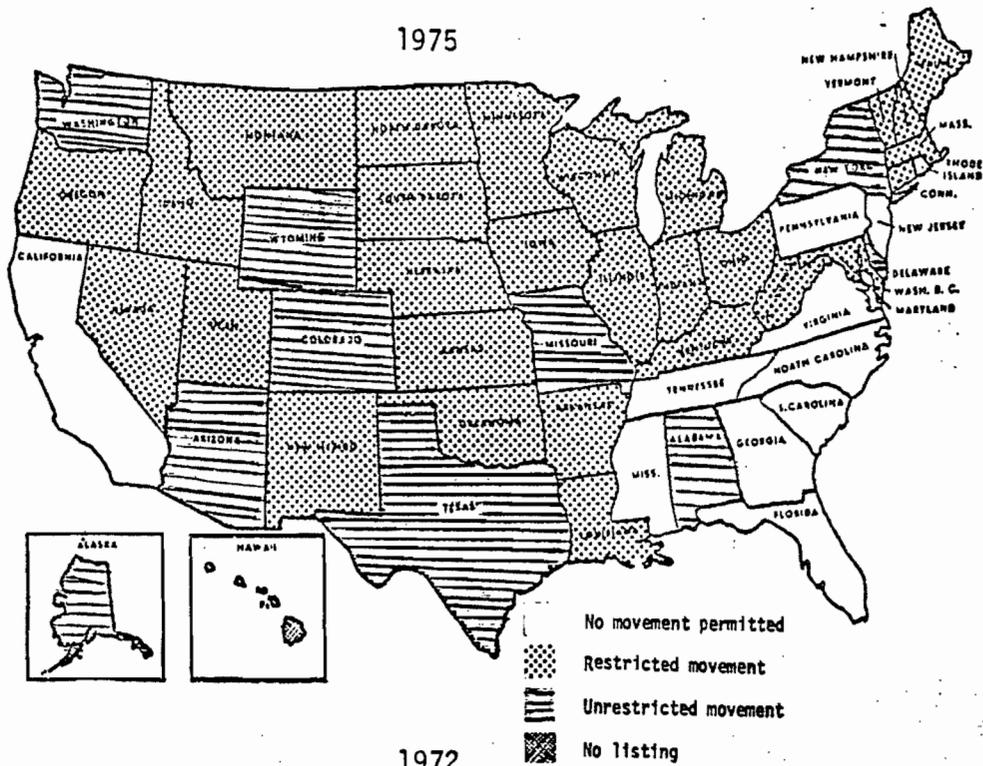
The increases in width are more significant than they may seem. Sales of 14 wide mobile homes have consistently taken a third of the market for most of 1974¹, yet only 39 states allow them on the highways. Those states which do not prohibit them outright usually restrict them to certain roads or require special equipment and drivers. Figure 10 is a comparison of the restrictions of 14-wides in 1972 and 1975--a relatively short period in which many changes have occurred.

STATE	DATE PERMITTED	RESTRICTIONS	
		1972	1975
ALABAMA	1971	NS	NS
ALASKA	*	Single Trip Permits only, 3 escorts required.	NS
ARKANSAS	1971	≥12'w Commercial Haulers only Tandem axles with brakes	≥12'w Commercial Haulers only Tandem axles with brakes
ARIZONA	1973	Special Permit Required, Movement on Lowboy	NS
CALIFORNIA	N	NA	NA
COLORADO	1970	Restricted Days of Travel	NS
CONNECTICUT	1973	NA	Special Permit over Approved Rt. 2 escorts, special equipment req. Restricted travel times.
DELAWARE	1973	Special Permit, Lowboy	NS
FLORIDA	N	NA	NA
GEORGIA	N	NA	NA
IDAHO	1970	NS	Commercial Haulers only
ILLINOIS	1973	NA	2 escorts required
INDIANA	1971	Special Permit, Police esc.	2 escorts required
IOWA	*	Lowboy. Max. Distance 50 miles	Max Distance 50 miles. 1 escort required
KANSAS	1969	Special Permit over Approved Route. 2 escorts.	Special Permit over Approved Route. 2 escorts.
KENTUCKY	1972	Special Permit, "reasonable" distances on 2 lanes. 1 esc. on 4 lanes, 2 on 2	Single trip permit, Commercial haulers only. "Reasonable" Distances. 1 esc. on 4 lanes, 2 on 2.
LOUISIANA	1969	1 escort	1 escort
MAINE	*	No movement on Turnpikes	Restricted times of Travel
MARYLAND	1973	NA	>10'w on Lowboy
MICHIGAN	1971	NA	1 escort
MINNESOTA	1969	Approved Routes	Approved Routes
MISSISSIPPI	N	NA	NA
MISSOURI	1973	NA	NS
MONTANA	*	NS	Routes as per Permit
NEBRASKA	1970	1 escort.	≥12'w single trip permit 1 escort.
NEVADA	1972	Special Equipment	Special Equipment, 2 escorts.
NEW HAMPSHIRE	1970	Special Permit	Approval of Undercarriage Review, 2 escorts required.
NEW JERSEY	N	NA	NA
NEW MEXICO	*	Police Escort	Certified Escort
NEW YORK	1972	NA	NS
NORTH CAROLINA	N	NA	NA
NORTH DAKOTA	1969	Commercial Haulers only	Commercial Haulers only
OHIO	1970	No movement on turnpikes Single trip permit, special equipment required, 1 esc.	Single trip permit, commercial Haulers only
OKLAHOMA	1969	No movement on turnpikes 1 esc. on 4 lanes, 2 on 2	Escort Requirements vary
OREGON	1970	Special permit over Approved Rts. Test Run.	Certain Routes. Test Run
PENNSYLVANIA	N	NA	NA
RHODE ISLAND	1972	2 escorts required.	NS
SOUTH CAROLINA	N	NA	NA
SOUTH DAKOTA	1969	Special Equipment Required.	1 escort.
TENNESSEE	N	NA	NA
TEXAS	*	NS	NS
UTAH	1970	Special Equipment Required	No movement on Freeways or Interstate Highways
VERMONT	1970	NS	Police Escort Required
VIRGINIA	N	NA	NA
WASHINGTON	1970	single trip Permit over Approved Route. Special Equipment req. Inspection by issuer required	NS
WEST VIRGINIA	1971	Special Equip. Apr. Rt.	Special Equip., Apr. Rt., 2 esc.
WISCONSIN	*	Single trip permit only	Single trip permit only
WYOMING	*	Appr. Rts. Spec. Equip. 1esc. on 4 lanes, 2 on 2	NS
HAWAII	-	-	-

N Not permitted
 NA Not Applicable
 NS None Specified
 * Prior to 1969

Source: Compiled from the Latest Revisions Issued as of February, 1975, of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical.

FIGURE 10: COMPARISON OF 14-WIDE REGULATIONS, 1972/1975



Source: Compiled from Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical, 1972-1975

FIGURE 11: GEOGRAPHIC COMPARISON: 14 WIDE MOBILE HOME UNITS, 1972/1975

3.3 OTHER AREAS

Other areas in Highway Regulation have not, by and large, shown any definite trends. Changes have occurred in many states from 1972 to 1975, of course, but, as Figures 12 and 13 show, no trends have emerged.

In the area of Equipment Requirements, more states are requiring two way radio communication between escorting and hauling vehicles. In the area of Escort Requirements, many states are now mapping out escort requirements, route by route.

1975

State	Travel Times	Escort Requirements	Lowboy/Flatbed	Speed Limit
ALABAMA	+	NS		50
ALASKA	+	>20'0	NS	varies
ARIZONA	+	>20'0	NS	45
ARKANSAS	+	NS	NS	NS
CALIFORNIA	+	as per permit	as per permit	55
COLORADO	+	varies	varies	NS
CONNECTICUT	+	varies	varies	NS
DELAWARE	+	NS	NS	45
FLORIDA	+	>25'1	NS	NS
GEORGIA	+	>12'w, >75'1	NS	50
ILLINOIS	+	>12'w	NS	45 or min. 55
INDIANA	+	>12'w	NS	NS
IOWA	+	>12'w, >12'5'w, >20'1, >80'1 and >8'w, >16'h	NS	NS
KANSAS	+	varies	varies	50, min. 35
KENTUCKY	+	>10'6" on 2 lanes, or all slow loads, or as per permit	NS	NS
LOUISIANA	+	>12'w	NS	NS
MAINE	+	>11'6" w	NS	NS
MARYLAND	+	NS	NS	NS
MASSACHUSETTS	+	NS	NS	NS
MICHIGAN	+	14'w, >80'1	NS	45/4 lanes
MINNESOTA	+	varies	varies	NS
MISSISSIPPI	+	varies	varies	40, 10/bridges
MISSOURI	+	varies	varies	NS
MONTANA	+	NS	NS	50
NEBRASKA	+	>12'w or as per permit	NS	NS
NEVADA	+	>10'6" w, >75'1	NS	NS
NEW HAMPSHIRE	+	>10'0'1	NS	NS
NEW JERSEY	+	>12'w on 2-lane road	NS	NS
NEW MEXICO	+	>12'w on 4-lane road	NS	NS
NEW YORK	+	>12'w, >85'1 on 2 lanes	NS	NS
N. CAROLINA	+	>12'w, >85'1 on 2 lanes	NS	NS
N. DAKOTA	+	>20'1	NS	NS
OHIO	+	>12'w or as per permit	NS	NS
OKLAHOMA	+	>10'0'1, >12'w/2 lanes	NS	NS
OREGON	+	varies	varies	NS
PENNSYLVANIA	+	>12'w, >85'1/4 lanes	NS	NS
RHODE ISLAND	+	NS	NS	NS
S. CAROLINA	+	NS	NS	NS
S. DAKOTA	+	>14'w or as per permit	NS	NS
TENNESSEE	+	>12'w road/2 lanes	NS	NS
TEXAS	+	NS	NS	NS
UTAH	+	>12'w, >45'w	NS	NS
VERMONT	+	>12'w, >12'w/2 lanes	NS	NS
VIRGINIA	+	NS	NS	NS
WASHINGTON	+	NS	NS	NS
WISCONSIN	+	NS	NS	NS
WYOMING	+	NS	NS	NS
PUERTO RICO	+	NS	NS	NS

1972

State	Travel Times	Escort Requirements	Lowboy/Flatbed	Speed Limit
ALABAMA	+	NS		50
ALASKA	+	>10'w		35, 25 in mts.
ARIZONA	+	>15'w	>12'w	45
ARKANSAS	+	>15'w	NS	NS
CALIFORNIA	+	varies	NS	NS
COLORADO	+	max demand in mountains	NS	NS
CONNECTICUT	+	>12'w/65'1	NS	NS
DELAWARE	+	varies	NS	NS
FLORIDA	+	>12'w/85'1 on 1 lane	>12'w	45 for >12'w
GEORGIA	+	>12'w/75'1	NS	minimum 40
IDAHOW	+	as per permit	NS	10, or 20 under posted limit
ILLINOIS	+	>12'w	NS	8-45, 10-40
INDIANA	+	>12'w	NS	45 min. 50 max.
IOWA	+	where load	NS	NS
KANSAS	+	>10'4" w/70'1	NS	NS
KENTUCKY	+	>10'6" w on 2 lanes, >75'1	NS	NS
LOUISIANA	+	>12'w when road < 20'w	NS	NS
MAINE	+	>11'6" w	NS	NS
MARYLAND	+	>12'w, special escort	NS	NS
MASS.	+	>12'w	NS	NS
MICHIGAN	+	>14'w	NS	NS
MINNESOTA	+	>14'w	NS	NS
MISSISSIPPI	+	>10'w as per permit	NS	NS
MISSOURI	+	NS	NS	NS
MONTANA	+	>10'6" or 1/2 road width	NS	NS
NEBRASKA	+	>10'w	NS	50 max. 20 min. 35 min.
NEVADA	+	>12'w	NS	NS
NEW HAMPSHIRE	+	as per permit	NS	NS
NEW JERSEY	+	>10'w/70'1	NS	NS
NEW MEXICO	+	>10'w on 2 lanes	NS	NS
NEW YORK	+	as permit when 2 lane size	NS	NS
N. CAROLINA	+	>12'w & 2 lanes, 85'w	NS	NS
N. DAKOTA	+	>12'w on 2 lanes	NS	NS
OHIO	+	>10'w/70'1	NS	NS
OKLAHOMA	+	>12'w, per permit	NS	40 or posted min
OREGON	+	>12'w on 2 ins. >14'w on 4.	NS	NS
PENN.	+	>12'w (SPECIAL)	NS	NS
PHOENIX	+	>12'w/85'1 on 4 lanes	NS	NS
R. CAROLINA	+	NS	NS	NS
S. DAKOTA	+	>12'w on 2-lane road	NS	NS
TENNESSEE	+	>10'w where road < 24'w	NS	NS
TEXAS	+	>12'w	NS	NS
UTAH	+	NS	NS	NS
VERMONT	+	as per permit	NS	NS
VIRGINIA	+	>84'1/2'	NS	60 min. 30
WASHINGTON	+	as per permit	NS	35 or 50
W. VIRGINIA	+	>10'4" w except div. rd.	NS	NS
W. VIRGINIA	+	>12'w on 2 lane road	NS	varies
WISCONSIN	+	>8'w	NS	40 or 45
WYOMING	+	>12'w	NS	NS
PUERTO RICO	+	NS	NS	NS

* Restricted weekend movement; no movement during hours of darkness
 + No movement during hours of darkness
 NS Nothing Specified
 w wide
 l long
 h high
 o overhang

Source: Compiled from Subsequent Issues of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical, 1972-1975

FIGURE 12: COMPARISON OF ESCORT REQUIREMENTS, 1972/1975

STATE	1975					1972			
	Wideload Signs	Flags on Unit	Warning Lights on MH	Brakes	2-Way Radio	Wideload Signs	Flags on Unit	Warning Lights on MH	Brakes on MH
ALABAMA	N	N	N	N	N	N	N	N	N
ALASKA	*	YES	*	N	YES	YES	N	N	N
ARIZONA	YES	YES	N	N	YES	YES	N	N	N
ARKANSAS	N	N	N	>10'w	N	N	N	N	N
CALIFORNIA	YES	N	N	N	N	YES	N	N	>10'w
COLORADO	>10'w	N	N	>3000 lbs	N	>10'w	N	N	YES
CONNECTICUT	>10'w	YES	*>12'w	YES	>2'w	>10'w	YES	N	YES
DELAWARE	YES	YES	>10'w	N	N	N	YES	N	N
FLORIDA	>10'w	YES	N	N	N	>10'w	YES	N	N
GEORGIA	>8'w	>8'w	N	N	N	N	YES	N	N
IDAHO	YES	N	+	YES	N	YES	YES	YES	YES
ILLINOIS	>10'w	YES	*>14'w	N	N	>10'w	YES	N	N
INDIANA	+	N	*	N	YES	YES	YES	N	N
IOWA	>8'w	YES	>25 mph	N	N	YES	YES	N	N
KANSAS	* >10'4'w	YES	YES	YES	N	YES	YES	>14'w	YES
KENTUCKY	N	YES	>14'w,*	>14'w	N	N	YES	>14'w	>14'w
LOUISIANA	>10'w	N	N	YES	N	>10'w	N	N	YES
MAINE	>11'6'w	YES	*	YES	>13'6'w	>11'6'w	YES	N	N
MARYLAND	>12'w	N	N	N	N	>12'w	N	N	N
MASSACHUSETTS	N	N	N	N	N	N	N	N	N
MICHIGAN	YES	YES	>14'w,*	>2 axles	N	YES	YES	14'w	>2 axles
MINNESOTA	>8'w	>8'w	N	>12'w	N	YES	YES	N	>12'w
MISSISSIPPI	N	>10'w	N	N	N	YES	>10'w	N	N
MISSOURI	>10'4'w	YES	N	N	N	YES	YES	N	N
MONTANA	>9'w	N	>10'w,*	>3000 lbs	N	>9'w	YES	>10'w	YES
NEBRASKA	YES	YES	YES,*	YES	N	>10'w	>8'w	>10'w	>8'w
NEVADA	YES	YES	>10'w,*	N	>12'w	YES	YES	>12'w	N
NEW HAMPSHIRE	>10'w	>10'w	N	YES	N	>10'w	>10'w	N	>10'w
NEW JERSEY	YES	YES	N	N	N	YES	YES	N	N
NEW MEXICO	YES	YES	>10'w,*	N	YES	>10'w	YES	>10'w	N
NEW YORK	>12'w	>10'w	>12'w	N	N	>12'w	>10'w	>12'w	N
NORTH CAROLINA	>10'w	>10'w	N	YES	N	>10'w	YES	N	YES
NORTH DAKOTA	>10'w	>10'w	N	N	N	YES	YES	N	N
OHIO	YES	YES	>12'w,*	YES	N	YES	YES	>14'w	YES
OKLAHOMA	>12'w	*>12'w	N	N	YES	>12'w	YES	N	N
OREGON	YES	YES	YES,**	YES	YES	YES	YES	YES	YES
PENNSYLVANIA	YES	YES	N	YES	N	YES	YES	N	N
RHODE ISLAND	N	N	N	N	N	N	N	N	N
SOUTH CAROLINA	YES	YES	N	YES	N	>12'w	>12'w	>12'w	YES
SOUTH DAKOTA	YES	YES	>12'6"	YES	N	YES	YES	>12'6"	YES
TENNESSEE	>10'w	>10'w	*	N	N	>10'w	>10'w	N	N
TEXAS	N	N	N	YES	N	N	N	N	N
UTAH	>10'w	>10'w	*>20'w, 5mph	YES	N	>10'w	YES	YES	>12'w
VERMONT	>8'w*	YES	*	N	N	YES	YES	N	N
VIRGINIA	N	>10'4'w	N	N	N	N	>10'4'w	N	N
WASHINGTON	>12'w	>12'w	>12'w,*	>12'w	>12'w	>12'w	>12'w	>12'w	>12'w
WEST VIRGINIA	YES	YES	YES,*	YES	N	YES	YES	N	N
WISCONSIN	>8'w	YES	>8'w	N	N	YES	YES	>12'w	N
WYOMING	YES	>10', 25mph*	*	N	N	YES	YES	N	N
HAWAII	-	-	-	-	-	-	-	-	-

N = Nothing Specified
 * on escort vehicle
 + varies, or as per permit
 ** on escort if motorcycle

Source: Compiled from Subsequent Issues of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical, 1972-1975

FIGURE 13: COMPARISON OF EQUIPMENT REQUIREMENTS, 1972/1975

B.

THE EFFECT OF HIGHWAY REGULATION ON THE ECONOMIC PERFORMANCE OF
THE INDUSTRY

1.

Introduction

Some highway regulations hamper the economic performance of the industry more than others. In order to propose a feasible alternate system, PMHI analyzed the effects of regulations to determine their usefulness, both to the industry and to the general public, and formed two categories --necessary and unnecessary effects.

A necessary effect is an influence on the economic performance of the mobile home industry which--

- promotes safety in a reasonable manner

- is conducive to commerce

- does not unreasonably burden the industry in terms of cost of compliance

while an unnecessary effect--

- does not promote safety in a reasonable manner

- obstructs interstate commerce

- unreasonably burdens the industry in terms of cost of compliance.

This part estimates the actual cost of compliance to highway regulation to mobile home transporters through the use of a case study and analyzes the economic impact and necessity of many facets of regulation.

2.

A Case Study

2.1 INTRODUCTION

In order to analyze the actual effect of highway regulation on the industry, PMHI has constructed a case study. Because of the many differences from state to state both in regulations and in the industry, PMHI could not find an "average" case, but uses a typical case. An alternate system of regulation is then proposed and the differences between the present and the proposed systems analyzed in terms of cost.

The mobile home manufacturer, dealer, buyer, and transporter in this case study are fictitious and designed only as an analytical tool.

2.2 BASIC ASSUMPTIONS

2.2.1 The Distance Involved

A survey conducted by Lorimer, Chiodo and Associates² determined that 56 percent of a manufacturer's market--the dealerships which distribute his product--are within 250 miles of his plant, and that 44 percent are within 250 to 500 miles of his plant. This survey also determined that 83 percent of the dealer's market is also within 250-500 miles of the manufacturer's plant. Therefore, a 350 mile trip, manufacturer to dealer to consumer, can be considered typical and will be used in the case study.

The PMHI Dealer Survey determined that while manufacturers ship many units to dealers in distant states, most units are shipped to dealers in the same or an adjacent state.³ Few mobile homes move through more than three states, and a case study of a trip through two states can well represent the situation.

2.2.2 The States Involved

PMHI attempted to find two states with typical mobile home distribution and typical highway regulations. Oklahoma and Kansas had both. The South-Central region of the U.S., the region of Oklahoma and Kansas, is perhaps the most typical in terms of distribution--it is not New England, where there are almost no mobile homes, and it is not the South Atlantic, where they are everywhere. The two states are representative in their control of state highways--while they do not use every control used in the U.S., they do use the common ones.

2.2.3 The People Involved

The Manufacturer

Mobile home manufacturing companies, in general, are either very large or very small. A large company may produce up to 70,000 units annually while a small company may produce as few as 50 units annually. Taking the overall industry average for the states involved will not produce a "typical" firm, but will provide a convenient breakpoint for statistical analysis. Using data from the PMHI Manufacturer Survey, PMHI computed an overall average of 900 units per year. The case study manufacturer is defined as having an annual production of 900 units.

The Transporter

Mobile home transporters may be private individuals, commercial hauling companies, or mobile home manufacturers who operate their own fleets. Approximately 80 percent of those manufacturers surveyed by PMHI operate their own fleets.⁴ The case study therefore assumes that the manufacturer uses his own fleet.

2.2.4 The Mobile Home Unit

In recent years sales of 12 and 14 wide units have outranked sales of all other mobile homes.⁵ This case study assumes a 14 wide unit in order to best present the actual situation in the field.

2.3 THE TRIP

The case study assumes the manufacturer is located in Bristow, Oklahoma. A 14 wide mobile home unit has been ordered for delivery by a dealer whose lot is located in Salina, Kansas, approximately 300 miles away. The dealer expects to deliver the unit to a mobile home park in Concordia, 50 miles further (350 miles, total). For the first 165 miles the transporter must comply with Oklahoma regulations, for the last 185, with Kansas regulations. The excerpt from the MHMA Highway Handbook in the appendix details the regulations concerning mobile homes for both states.

2.3.1 Permits and Procedures

The transporter must obtain permits from both states before moving the mobile home unit. With the posting of a \$5,000 surety bond, Oklahoma makes available "Application Books," 25 applications for \$25. To obtain a permit the applicant fills out and sends in the application form and then calls the Permit Office in Oklahoma City to complete the application. (Alternatively, it is possible to purchase individual permits at \$5 each.) Kansas permits are available on

an individual basis only--\$5. Permits are available by mail, phone, or in person, but 14 wides must have the approval of the Special Permit Department for designated routes.

The mobile home must have a current license plate and the driver a current chauffeur's license. In Kansas the driver must carry evidence that the mobile home and the truck hauling it are insured in the amounts of \$100,000/\$300,000/\$25,000, while the minimum insurance requirements in Oklahoma are \$5,000/\$10,000/\$5,000. Kansas has complete license reciprocity with Oklahoma while Oklahoma has prorated reciprocity with Kansas.

2.3.2 Escort Requirements

In general, mobile home transporters may either use their own escort vehicles or hire escorts from a commercial escort service --in any event, escorts are expensive. A self escort was estimated to cost 12¢ per mile while escorting, 9¢ per mile while returning to plant or meeting a load. A commercial escort will usually cost 30 to 35 cents per mile with a 100 mile minimum.⁶ PMHI has estimated the cost to the transporter for both cases in the Appendix.

Oklahoma

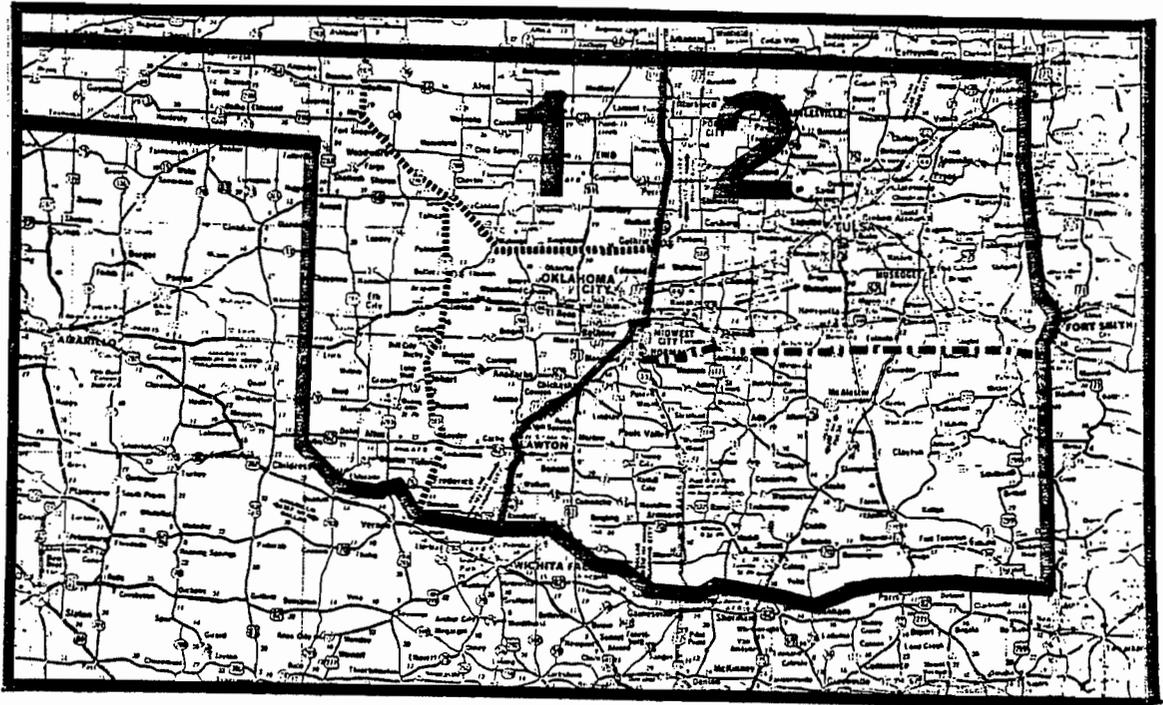
All vehicles used to escort oversize mobile homes in Oklahoma must be registered and certificated (filing fee: \$25.). Operators must file evidence of insurance in the proper amount (\$10,000/\$25,000/\$5,000). All escorts must bear a current identification device (\$3 a year).

The actual escort vehicle must be a car or pickup weighing at least 3,000 pounds. A regulation "CAUTION WIDE AND LONG LOAD" sign with lettering on both sides must be mounted on the roof. Outside rear view mirrors (2), a fire extinguisher (2.5 pound CO₂ or equivalent), emergency reflectors and fuses (a minimum of 3 each), and a two-way radio capable of maintaining communication with the towing vehicle and second escort vehicle (if any), complete the required safety harness.

Escort requirements for 14 wide units in Oklahoma vary. A rear escort is required on all 4-lane highways. In certain parts of the state two escorts are needed on two lane roads while in other parts only one is required. Figure 14 details these requirements.

Kansas

Vehicles used to escort mobile homes through Kansas must meet slightly different requirements. Front escorts must have regulation wide load



1 rear escort required on all four lane highways.

REGION 1: Two escorts required on all two lane highways except those marked, where a front escort only is required.

REGION 2: One front escort on all highways except those marked, where two escorts are required.

Source Compiled from the Latest Revisions Issued as of February, 1975, of Mobile Home Highway Movement Handbook, Washington, D.C.: Subscription Periodical.
Map: "Central United States" Texaco, Rand McNally & Co.

FIGURE 14: OKLAHOMA ESCORT REQUIREMENTS FOR 14-WIDE UNITS

signs mounted above the front bumper and red flags on the rear corners; rear escorts the reverse. A flashing amber light (at least 6" in diameter) must be mounted on vehicles escorting 14 wide units.

All 14 wide units transported through Kansas must be protected by two escort vehicles.

2.3.3 Equipment

Both Oklahoma and Kansas have fairly specific equipment requirements. For Oklahoma, red flags, 16 inches square, must be placed on each corner and along the sides of the mobile home. "CAUTION WIDE AND LONG LOAD" signs in red and white, at least 48 inches by 22 inches with letters 4 inches high, must be placed on the front of the towing vehicle, the front of the escort vehicle, and the rear of the mobile home unit. All drawbar connections, safety hitches, safety chains, brakes--both for the towing vehicle and the mobile home unit--and towing vehicles must comply with specific statutes.

When the mobile home enters Kansas a few changes must be made. The same red flags and wide load signs are specified, but must be moved. Red flags must be placed on the towing vehicle and the escort cars as well as the mobile home unit. The sign on the front of the towing vehicle must be placed on the cab, and an identical sign

must be placed on the rear of a second escort vehicle. In addition, each escort vehicle must have a flashing amber light on its roof. When the unit reaches the port of entry, it must stop and have these changes made.

2.3.4 Routes and Escorts

From the manufacturing plant in Bristow to the junction of Interstate 35 just outside Oklahoma City--a distance of about 65 miles--there are two possible routes. The "super highway" route, Interstate 44 or the Turner Turnpike, is closed to all mobile homes 12 feet wide and over, so the manufacturer must use US 66, a "through highway", as an alternate route. Two escort vehicles, one front and one rear, are required, while on Interstate 44, only one would be necessary.

The mobile home then merges onto Interstate 35, a controlled access divided highway. The lead escort vehicle may return to the plant as only the rear escort will be needed for the next 145 miles.

At the Kansas state line, Interstate 35 becomes the Kansas Turnpike, a toll highway. After stopping at the port of entry, changing equipment, and paying a toll, the mobile home unit proceeds with a rear escort 45 miles to Wichita. The unit leaves the Turnpike, taking Interstate 235, a controlled access divided highway, 15 miles around Wichita, accompanied by two escort vehicles, to the junction of US 81.

THIS PAGE REPRESENTS PAGE 573, WHICH HAD THE FOLLOWING
COPYRIGHTED MAP:

Figure 15: The Route Taken

"Central United States" Texaco, Rand McNally & Co.

From Wichita to Newton, a distance of 20 miles, US 81 is a divided highway; from Newton to MacPherson, a distance of 30 miles, it is a principal through highway. The driver of the lead escort vehicle must stop all on-coming traffic at the far end of all bridges and culverts less than 28 feet wide until the mobile home can cross. The rear escort must keep traffic from passing the mobile home while it crosses. After MacPherson, the unit takes Interstate 35W, a controlled access divided highway, 25 miles to the dealer lot in Salina.

The dealer takes over from the manufacturer and sells the unit. Delivery must be made to a mobile home park in Concordia, 50 miles away. The dealer's transporter takes US 81, a principal through highway, directly to the park. 2 escorts will be required for the entire trip.

2.4 UNNECESSARY COSTS

2.4.1 Introduction

An "unnecessary" cost is an expense, expressed in dollars and cents (estimated!), resulting from the imposition of highway rules, regulations, or procedures which can be eliminated or significantly reduced without adversely affecting safety on or state control of the highways. This section determines which costs are necessary and which are unnecessary, justifies its determination, and proposes a plan to significantly reduce unnecessary costs. The accounting sheets in the Appendix detail PMHI's estimations of the costs attributable to highway regulation under the present and proposed systems of regulating mobile home transportation for the case study.

2.4.2 Information Services

One of the industry's greatest unnecessary expenses is the cost involved in keeping abreast of the highway regulations of each state through which mobile homes are to be shipped. Each state may have different standards, different regulations, for mobile home transporters. If standards and regulations were the same from state to state, a great deal of time and money could be saved

by manufacturer, dealer, and, ultimately, the consumer. As it is, each time a mobile home transporter moves a mobile home he must check the regulations--permits and permit procedures, equipment requirements, route restrictions, escort requirements, times of travel, and so on. If the system could be standardized, at least partially, these costs would be greatly reduced.

Detailed estimate analysis of the case study showed that the transporter could save \$6.61 per unit shipped. If he ships 900 such units per year, he saves \$5,949 with the proposed system.

2.4.3 Permits

The permit itself is a reasonable method employed by the state to control the use of its highways. The permit process allows the state to insure that only responsible transporters ship mobile homes over the highways and that these transporters comply with state regulations and procedures. The state, however, often exerts its control in a costly, cumbersome, and inefficient manner. Under the present system, the transporter must familiarize himself with the permit procedures of each jurisdiction he is to travel in. He must keep abreast of any changes. Usually, he must apply separately for a permit for each mobile home shipped. Since the average mobile home manufacturer produces approximately 900 units per year, he must make 900 separate applications - an unnecessary waste of manpower for both the state and the manufacturer.

Some states have made the permit procedure more efficient by granting extended or "blanket" permits useable for up to one year. With this system, the transporter need not apply for a separate permit for each mobile home to be transported, but may transport all his mobile homes for the period covered by the permit. He need not pay for the clerical labor and administrative materials involved in applying for 900 permits, nor for the actual cost of 900 permits. Of the actual single trip permit cost, surely some of the charge covers the state's administrative costs of issue. Under the "blanket permit" system, the state need process only one or two applications per manufacturer each year rather than an average of 900 applications per manufacturer each year. Even if \$50.00 were charged to cover administrative costs both the state and the transporter would win - the transporter saves the cost of 900 permits a year and the state saves the cost of processing 900 permits a year.

The state does not relinquish any significant degree of control with the blanket permit procedure. The state need not grant permits for transportation not serving the public interest; need not grant permits without proof of insurance; need not, in fact, grant any permit under the new system it would not have granted under the old. The transporter must still comply with all state regulations.

As the case study shows, the manufacturer realizes a great savings with this system. He saves \$4.45 in the application process, and \$5.89 for the actual permits, for each mobile home shipped - at 900 units per year,

a savings of \$9,306! This is a substantial benefit for the manufacturer, resulting in no loss of state control or lack of highway safety.

Obviously, under the proposed system, if each manufacturer is charged the same fixed price for the blanket permit, the large manufacturers, shipping in excess of 900 units per year, will benefit more than the smaller manufacturers, shipping less than 900 units per year. The state could control this by charging flexible rather than fixed rates - at the end of each permit period, the manufacturer would specify the number of units shipped for the period covered by the permit and be charged accordingly.

2.4.4 Traffic Regulations

The great lack of uniformity of traffic regulations state to state is a major producer of unnecessary costs. Traffic regulation itself is a necessary cost, essential to the safe movement of traffic on the highways. Good safety regulations, by making safe deliveries more certain, are actually conducive to improved economic performance. The diversity of regulations state to state, however, results in unnecessary expenditures.

Equipment Requirements

The equipment requirements from state to state are basically similar but

the details may vary widely. Most states require a safety "harness" - flashers, lights, flags, oversize load signs - but each state may require a radically different size, color, or placement of this harness. There is no evidence to conclude that a red flashing light used in one state becomes any less safe when used in another; none to conclude that the black and yellow "Wide Load" sign on the roof of the towing vehicle required by one state is any safer than the black and white "Oversize Load" sign on the front bumper required by another state. These changes are unnecessary and result in three unnecessary costs: initial purchase, blue collar labor, white collar labor. The transporter must purchase a different "harness" for each state he crosses. He must pay his drivers to change the harness at each state border. And he must pay his administrative staff to compile and update information on the safety harness for each state.

Greater uniformity in safety regulations could significantly reduce these costs. Initially the transporter could purchase one harness per hauling vehicle, and could have it installed at the beginning of a trip and never changed. His staff would not have to research safety standards for each individual state. The transporter would save money; the states could still assure safety on their highways.

The case study is a good example. In the same geographic area, the same type of terrain, the same load, the same road and the same day, Kansas and Oklahoma require different harnesses. If these two states had identical harnesses, transporters would save the initial cost of the second

harness and the labor required to change the harness at the border--a total of \$3.72 per trip.

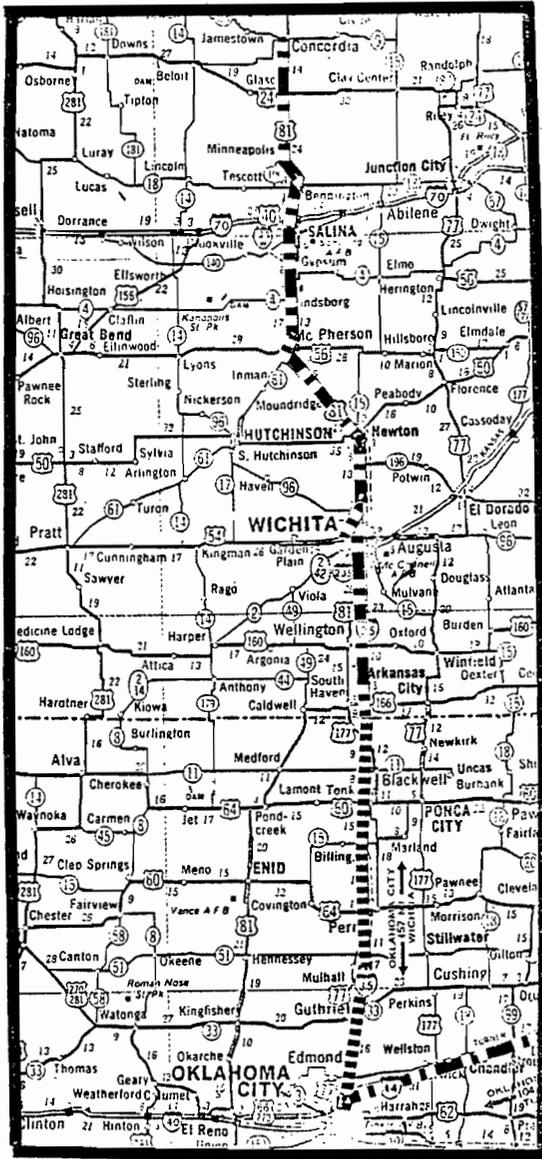
Escort Vehicles

State regulations concerning escort vehicles are nearly as varied as those concerning safety equipment, but may be somewhat justified-- while one escort may suffice in flat, open country, two escorts may be necessary in mountainous or forested areas where visibility is limited. On the "super-highways"--turnpikes, freeways, etc.-- in particular only one escort is needed for safety, as the mobile home only travels in the hours of daylight and can be seen easily. The same is true for most highways.

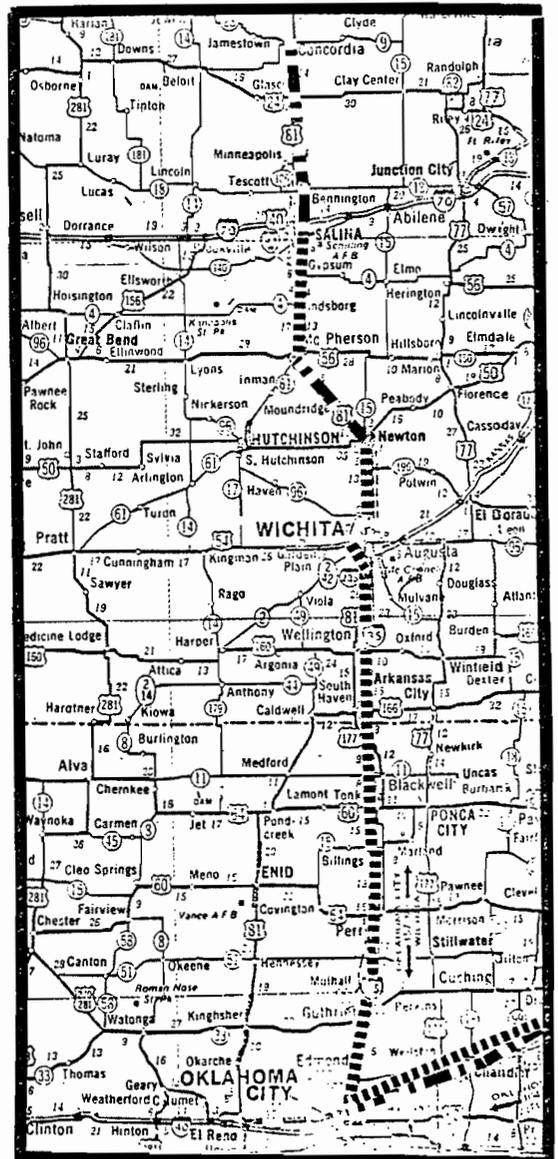
In fact, a research report done concurrently with and independent of this research recommended that escorts on divided highways be eliminated and that only one be required on any other road. This research group found that escorts can actually be a safety hazard, rather than a safety aid, when the drivers were untrained (as they usually are) and when communication between escort and hauler was broken.⁶ PMHI feels, however, that with proper training of drivers an escort can be a positive aid to safety.

Indeed, if the area is hilly, or the road poor, or the mobile home wider than the road, or other unforeseen circumstances arise, two escort vehicles are not an unreasonable cost for the added safety

Highway Regulation



PRESENT SYSTEM



PROPOSED SYSTEM

One escort required

—————

Two escorts required

Source: Information Compiled from the Latest Revisions Issued as of February 1975 of Mobile Home Highway Movement Handbook, Washington, D.C.: MHMA, Subscription Periodical.
 Map: "Central United States" Texaco, Rand McNally & Co.

FIGURE 16: COMPARISON OF ESCORT REQUIREMENTS

factor. The unreasonable cost arises when more escorts are required than are needed for safety.

In the case study, two escorts are required by law on three super highways--Interstate 235 and Interstate 35W, both controlled access divided highways, and US 81, a divided highway. Unless there is severe traffic congestion on these roads two escorts are unnecessary. A lead escort is extraneous when the traffic passing the unit in the opposite direction is separated from the unit by the construction of the highway--there is no need to warn the traffic a mobile home is coming as it can not possibly effect them.

Later in the trip two escorts may be necessary. In this case, the manufacturer can send his own escort vehicle ahead to await the mobile home unit, or hire one from an escort service. If he supplies his own, he will save \$36.59 per unit over the present system, while if he hires his escorts to save sending and return costs, he saves \$35.00.

Times of Travel

Regulatory policies concerning times of travel are very similar among the states. Usually mobile homes may travel from dawn to dusk on weekdays except during rush hours around metropolitan areas.

These regulations are necessary for the safety of the highway users and for the facilitation of traffic flow. Any additional expense to mobile home transporters resulting from these regulations must be a necessary cost. The state does not lose any control in this area under the proposed system--it can still legislate when who can travel where.

Route Restrictions

Almost all states have some route restrictions--some necessary, some not. A small number of states prohibit mobile homes on the interstate highways. Other states restrict mobile homes to certain routes, often secondary state or even county highways. Most states require the route to be specified on the oversize permit.

Mobile homes are transported most efficiently over the super highways. The mobile home is generally not as much a safety hazard or a traffic impediment on a super highway as it is on a two lane state or county road, where the mobile home usually takes up well over half of the road surface, obstructing traffic in both directions, and presenting a serious danger at blind curves, even with an escort. In addition, these secondary routes are a source of expense for mobile home transporters. The routes are usually circuitous, adding mileage, driver time, clerical time to map routes, gas costs, and wear and tear on hauling and escort vehicles to the total bill for the trip.

Thus, regulations restricting mobile homes from the super highways are not necessary--they do not promote public safety, they are not conducive to commerce, and they are an unreasonable burden on the industry in terms of cost of compliance unless there are special hazards not usually found on super highways.

One "super highway" route in the case study was closed to mobile home (12 wide and over) use--Interstate 44 or the Turner Turnpike. The manufacturer was forced to use US 66, a through highway, instead. Although the distance was essentially the same in this case (it need not have been), the manufacturer still loses money. On US 66 he must use two escorts, while on I-44 he would use only one. This is an unnecessary \$9.31 per trip for escort vehicles alone. In addition, the unit could not average as fast a speed, adding driver time--if the unit averages 10 mph slower, for the 65 miles, two hours of time, truck driver and escort drivers, will be added. This results in an unnecessary cost of \$39.10 per trip for an equal distance route, not even considering the additional wear and tear on the vehicles. If the route were longer, there would be additional time and additional gas and escort expenses. Thus, the closing of super highways to mobile homes results in a great amount of unnecessary expense to the manufacturer and, ultimately, to the consumer.

PMHI proposes that mobile home transporters be allowed greater freedom of route choice, for the safety and convenience of all concerned. Mobile home transporters should not be allowed to use every highway

in a state--certain routes may be so narrow, or so congested at all hours of the day, that mobile homes would necessarily be prohibited. A re-evaluation by the states of route restrictions in reference to mobile homes could greatly facilitate the movement of mobile homes and thus enhance the industry's ability to deliver.

2.4.5 Total Unnecessary Costs

Assuming the manufacturer supplies all escort vehicles, he will save:

\$ 6.61 per unit in Information Costs

\$10.34 per unit in Permit Costs

\$ 3.72 per unit in Equipment Requirements,

\$36.59 per unit in Escort Requirements, and

\$39.10 per unit in Route Restrictions (not shown Figs. 17-19);

a total of \$96.36 per unit, with the proposed system. If he ships 900 units at this average savings, he will save \$86,724 per year.

If the manufacturer hires a commercial escort service he saves equal amounts in Information Costs, Permit Costs, but saves

\$ 0.00 in Equipment Requirements,

\$35.00 per unit in Escort Costs, and

\$24.70 in Route Restrictions,

a total of \$81.65/trip, or \$73,485 per year.

While these figures are at best rough estimates, they are not inflated

NEED	LABOR		PRODUCTS				TOTALS
	CLERICAL	ESCORT DRIVER	ADMINISTRATIVE MATERIALS	EQUIPMENT	GAS	MAINTENANCE, DEPRECIATION	
INFORMATION SERVICES:							
PERMITS	\$.41		\$.05				\$.46
EQUIPMENT REQUIREMENTS	.66		.05				.71
ROUTE RESTRICTIONS, MAPPING	8.27		1.00				9.27
ESCORT REQUIREMENTS	2.07		.50				2.57
OTHER: DIMENSION LIMITATIONS, TIMES OF TRAVEL SPEED LIMITS, etc.	.66		.05				.71
PERMITS							
APPLICATION PROCESS	4.14		.30				4.44
ACTUAL COST			6.00				6.00
TRAFFIC REGULATIONS							
EQUIP REQUIREMENTS							
HAULING VEHICLE		\$.30*		\$.78			1.08
ESCORT VEHICLE		3.57		2.26			5.83
ESCORT VEHICLES							
WHILE ESCORTING		54.60			\$16.84	\$2.44	73.88
RETURN TRIP		59.85			24.60		84.45
SENDING COSTS		28.30			7.77		36.07
TOTALS	16.21	146.32	7.95	3.04	49.21	2.44	\$225.47

* Hauling Vehicle Driver Time

FIGURE 17: MANUFACTURER'S COST PER UNIT--PRESENT SYSTEM

NEED	LABOR		PRODUCTS				TOTALS
	CLERICAL	ESCORT DRIVER	ADMINISTRATIVE MATERIALS	EQUIPMENT	GAS	MAINTENANCE, DEPRECIATION	
INFORMATION SERVICES							
PERMITS AND PROCEDURES	\$.20		\$.03				\$.23
EQUIPMENT REQUIREMENTS	.33		.03				.36
ROUTE RESTRICTIONS, MAPPING	4.13		.75				4.88
ESCORT REQUIREMENTS	1.03		.25				1.28
OTHER: DIMENSION LIMITATIONS, TIMES OF TRAVEL SPEED LIMITS, etc.	.33		.03				.36
PERMITS:							
APPLICATION PROCESS	0.00		.11				0.00
ACTUAL COST							.11
TRAFFIC REGULATIONS:							
EQUIPMENT REQUIREMENTS:							
HAULING VEHICLE				\$.78			.98
ESCORT VEHICLE		\$.20*		\$2.00		\$0.00	2.11
ESCORT VEHICLES							
WHILE ESCORTING		39.60			\$12.47	\$1.60	53.67
RETURN TRIP		51.75			21.28		73.03
SENDING COSTS		22.05			9.06		31.11
TOTALS	\$6.02	\$113.91	\$1.20	\$2.78	\$42.81	\$1.60	\$168.12

* Hauling Vehicle Driver Time

FIGURE 18: MANUFACTURER'S COST PER UNIT--PROPOSED SYSTEM

NEED	LABOR		PRODUCTS				TOTALS
	CLERICAL	ESCORT DRIVER	ADMINISTRATIVE MATERIALS	EQUIPMENT	GAS	MAINTENANCE, DEPRECIATION	
INFORMATION SERVICES							
PERMITS AND PROCEDURES	\$.21		\$.02				\$.23
EQUIPMENT REQUIREMENTS	.33		.02				.35
ROUTE RESTRICTIONS, MAPPING	4.14		.25				4.39
ESCORT REQUIREMENTS	1.04		.25				1.29
OTHER: DIMENSION LIMITATIONS, TIMES OF TRAVEL SPEED LIMITS, etc.	.33		.02				.35
PERMITS:							
APPLICATION PROCESS	4.14		.31				4.45
ACTUAL COST			5.89				5.89
TRAFFIC REGULATIONS:							
EQUIPMENT REQUIREMENTS:							
HAULING VEHICLE				\$0.00			0.00
ESCORT VEHICLE		\$ 0.00		.26			3.72
		3.46					
ESCORT VEHICLES							
WHILE ESCORTING		15.00			\$ 4.37	\$.84	20.21
RETURN TRIP		8.10			3.32		11.42
SENDING COSTS		6.25			-1.29		4.96
TOTALS	\$10.19	\$32.81	\$6.76	\$.26	\$ 6.40	\$.84	\$57.26

FIGURE 19: COST COMPARISON--MANUFACTURER'S SAVINGS PER UNIT
PRESENT VS. PROPOSED SYSTEMS

estimates. Many expenses have been neglected (insurance for escort vehicles, breakdown procedures, extra costs due to added mileage necessary to comply with route restrictions, etc.) and PMHI feels that these estimates are realistic.

C.

SUMMARY

State regulation of mobile home highway movement takes three major forms: dimension limitations, permit requirements, and traffic regulations specific to oversize vehicles. While these controls are designed in the interests of public safety and convenience, they often do not serve the purpose.

Every state sets dimension limitations for vehicles using its highways. Commonly regulated dimensions are the "combination" length (hauling vehicle length plus load length), the load length, the width, and the height. As nearly all mobile homes exceed the maximum dimensions (width regulations, in particular, range from 8 to 8 1/2 feet in all but one state), transporters must obtain permits to move them.

Single trip permits are available from every state, usually costing \$5 to \$10. These permits may be used only once each, and large manufacturers must obtain many of them each year. A more feasible practice is the extended permit, available in 24 states, where a manufacturer may move all his mobile homes under a single permit for periods of up to one year. This system is far less cumbersome and far more economical--to the manufacturer, to the state, and, finally, to the public, either as consumers or as taxpayers. PMHI found that a "typical" manufacturer could save an estimated \$6.61 per unit with the extended permit.

In addition to regulations for all traffic, mobile home transporters must comply with specific regulations for oversize loads. These

regulations include: Extra equipment requirements (lowboys, tandem axles, etc.); safety equipment requirements (caution signs, red flags, flares, etc.); travel time restrictions (usually no travel at night and on weekends) and escort requirements. Some routes may be restricted --mobile homes may only travel at certain times, with special precautions--or may be prohibited altogether.

At present, the system is ineffective and costly. Regulations vary widely from state to state, often arbitrarily. A transporter must comply with the regulations of each state he enters, perhaps changing equipment at each border, because one state may require black and yellow signs and another black and white. PMHI estimated that manufacturers (and ultimately consumers) could save \$10.33 per unit in equipment simply if the system were standardized. Safety would not be jeopardized--there is no evidence that any one state's safety equipment is safer than any other's.

Most states require more escort vehicles than are actually necessary to safety. PMHI proposes that only one escort be used on all divided highways, and two only where roads are very narrow, curvy, or otherwise unsuited to mobile home use. With these minimized requirements, a manufacturer could save an estimated \$36.59 per unit.

Route restrictions cost manufacturers millions of dollars a year. Most mobile homes can be transported most efficiently and safely on the larger highways, yet many states restrict their use.

A typical transporter could save an estimated \$39.10 per unit if he could use all divided highways in his area.

The total estimated savings for a 14-wide unit is \$96.36. The mean F.O.B. Factory price as calculated by PMHI is \$7.60 per square foot or \$5,960 for a 14 by 60. In comparison, highway regulation adds an unnecessary cost of about 1.6 percent which could easily be reduced significantly or eliminated completely if the system were as effective as it could be.

The states are, of course, attempting to act in the best interests of the public. PMHI feels that standardization of regulations, the granting of extended permits, and the requirement of fewer escort vehicles will not jeopardize public safety or convenience, but will, in fact, contribute to it.

D.

FOOTNOTES

FOOTNOTES

1. "The Monthly Market Letter on Mobile Home Shipments"
Mobile-Modular Housing Dealer Magazine, Marketing and Research
Department, January-December, 1974.
2. Lorimer, Chiodo, and Associates. Automated Total Housing Svstems
in the U.S., 1970, as Applied to the State of Minnesota.
3. Project Mobile Home Industry Dealer Survey
4. Project Mobile Home Industry Manufacturer Survey
5. W.D.Glauz, B.M.Hutchison, D.R.Kobett Economic Evaluation of Mobile
and Modular Housing Shipments by Highway, April, 1974,
prepared for the U.S. Department of Transportation and the U.S.
Department of Housing and Urban Development. Volume 1, p. 125.
6. Ibid., Volume 1, p. 221.

APPENDIX

TABLE OF CONTENTS

A.	<u>LAND USE CONTROLS</u>	598
	Supply and Demand Model of Mobile Home Rental and Purchase Markets.....	599
B.	<u>TAXATION</u>	611
	1. The New York and Pennsylvania Experiences with the Realty Tax.....	612
	2. Fair Share Studies from California, Connecticut, and Georgia.....	616
C.	<u>HIGHWAY REGULATION</u>	626
	1. Oklahoma Regulations.....	627
	2. Kansas Regulations.....	639
	3. Accounting Sheets.....	652

A.

LAND USE CONTROLS

Supply and Demand Model of
Mobile Home Rental and Purchase Markets

Introduction

The intention of this appendix is to determine whether municipal land use controls have a demonstratable effect on the price and quantity of mobile homes sold in the United States. Having specified a suitable model, it is intended to use the model to show that exclusionary land use controls raise the price and limit the quantity of mobile homes and land supplied to the consumer.

Empirical work specifically directed at the mobile home component of the housing industry has been generally limited in scope and purpose. For example, the problem of what to do with mobile homes often surfaces when one is working with the housing market in the United States. In a 1970 Federal Home Loan Bank Board working paper on the housing market¹ the only variables used to explain the quantity of mobile homes produced were a constant, the Boeckh Construction Cost Index, and a time trend variable.

In addition, research concerned with the impact of the land-use control system on conventional housing markets is complicated by the fine grain of its implementation. Ten thousand governments have a zoning ordinance² and many more have the power to implement one if they wish. Existing

studies have been limited to one local area or have been designed as comparative research between two cities or two subdivisions for this reason. For example, see George Sternlieb's 1972 study of zoning and housing costs in New Jersey.³

Formulation of Model - Demand Equation

Owing to the nature of the data available on zoning regulation of mobile homes, one is limited to constructing a cross-section model by state for the period 1969-1970. Since mobile homes are the dominant form of housing in the below \$25,000, it would appear that as income goes up, fewer mobile homes would be demanded as individuals could more easily afford conventional housing. One would then expect income and the cost of conventional housing to appear in the demand equation. An increase in the cost of conventional housing would increase demand for mobile homes as fewer people could then afford conventional housing. Since the primary market for mobile homes is young families, the percentage of households headed by individuals less than thirty-five years old is included. A higher percentage of young households would indicate a greater demand for mobile homes. Finally, the net household formation rate is included. A positive sign is also expected for this variable. A governmental variable is included: a dummy variable which is zero when mobile homes are taxed by real estate or personal taxes and unity when mobile homes are taxed by fees and/or licences. The fee system, in most cases, measurably reduces the amount of taxes typically paid by the mobile home dweller. The demand equation is:

$$Q_D = a_1 P + C + a_2 \text{ INCOME} + a_3 \text{ HOUSE_CST} + a_4 \text{ HSHD 35} \\ + a_5 \text{ HSHD_CHG} + a_6 \text{ TAX}$$

where:

Q is quantity/1000 households

P is price

C is a constant

INCOME is the median family income in that state.⁴

HOUSE_CST is the annual cost of housing for a five room unit.⁵

HSHD 35 is the percentage of household heads less than 35 years old.⁶

HSHD_CHG is the percentage change in the number of households 1967 to 1968.⁷

TAX is a dummy variable; unity when mobile homes are subject to fees and licenses rather than real and personal property taxes.⁸

Formulation of Model-Supply Equation

The hypothesis being tested is that municipal land use regulation limits the quantity and raises the price of mobile homes at the retail level. They do this by regulating the land supply available for siting of a mobile home which will limit mobile home sales and raise prices for both mobile home units and the available land. Three land-use controls are considered: the restriction of mobile homes to mobile home parks, the restriction of mobile homes to non-residentially zoned areas, and the complete exclusion of mobile homes. While an argument can be made that the first two restrictions alter the attributes of the mobile home housing

package and thereby also belong in the demand equation, this is assumed to be a second order effect. Therefore, both restrictions appear only in the supply equation.

As cost of construction varies from state to state, this also is included in the supply equation, as it increases the suppliers' costs, positively affecting price and depressing quantity. The equation is then:

$$Q_s = b_1 P + C + b_2 \text{ BAN} + b_3 \text{ PARKS} + b_4 \text{ NONRES} + b_5 \text{ BUILD_CST}$$

where:

Q is quantity per thousand households

P is price

C is constant

PARKS is the percentage of municipalities requiring location of mobile homes in a mobile home park of all municipalities permitting mobile homes in a state.⁹

NONRES is the percentage of municipalities prohibiting location in a residential district of all municipalities permitting mobile homes in a state.¹⁰

BAN is the percentage of municipalities in a state completely excluding mobile homes.¹¹

BUILD_CST is an index of the cost of framed construction.¹²

The model as it stands now consists of two simultaneous equations with two endogenous variables and nine predetermined variables, four which are excluded from the demand equation and five which are excluded from the supply equation. Therefore both equations are identified.

Data

Up to this point the method by which price and quantity will be measured has not been explained. This problem is especially acute in the mobile home market since the mobile home is usually sold separately from the land on which it is ultimately placed. Due to this situation, and because the retail price is not reported except as a national average,¹³ it was decided to first estimate the entire model for only rental mobile homes. This allows one to estimate both the price and quantity reduced form equations for roughly ten percent of the mobile home market and then compare the quantity reduced form coefficients with those of the quantity reduced form equation estimated for the entire mobile home market. This procedure makes no assumption about the equivalence of the two markets. One hopes, however, that an understanding of the effects of the land-use controls on the rental market will aid in explaining their impacts on the entire market.

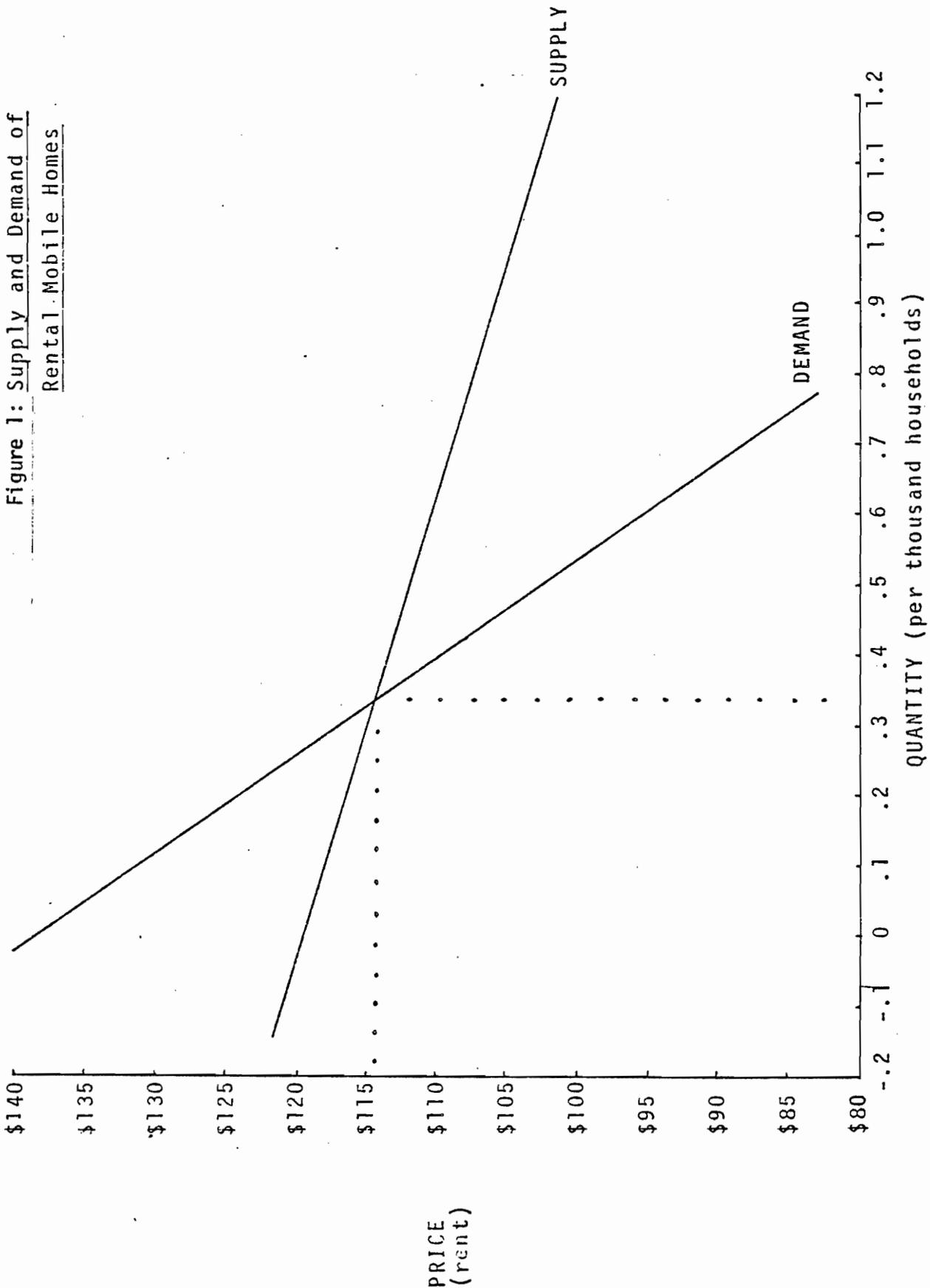
The model, when used in the rental market, remains essentially the same with the exception of TAX which now properly belongs in the supply equation as the landlord is paying the taxes. The equations are still identified. Quantity (Q) is the number of rental mobile homes in a state that were manufactured in 1969 and 1970.¹⁴ This is adjusted for size by the mean number of rooms reported.¹⁵ Price (P) is the median rent paid by renters in mobile homes that were manufactured in 1969-70¹⁶ adjusted in a similar manner.

The land use controls in the supply equation measure the percentage of municipalities in each state that use each land use control. These are derived from the same information used in Figure 10 in the section on Land Use Controls. This forces the assumption that, for states with the same percentage of municipalities using a control, the pattern of the distribution of use between urban, suburban, and rural municipalities is also the same.

To quantify the effects of land use controls on the mobile home market, one cannot simply use the number of mobile homes sold in a certain period as a measure of quantity. Not all of the mobile homes sold come into contact with a municipality's land use control system. Those sold as replacements for older mobile homes can be located on the site of the retired unit that previously conformed with the zoning ordinance. This is especially true of units in a mobile home park. Therefore, the quantity variable is adjusted by an estimate of the number of mobile homes retired from the mobile home stock in that state.

Unfortunately such a figure is hard to come by. From two sources, it is known that a quarter of the mobile homes sold are bought by people who previously owned a mobile home.¹⁷ This represents 8% of the present mobile home stock. From industry production figures¹⁸ and the 1970 census¹⁹, it can be shown that 75% of the mobile homes manufactured between 1965 and 1968 are still in use. 69% of the stock added between 1960 and 1965 is still in use. This figure drops to 38% for those units made between 1950 and 1959. This indicates an average life of somewhere around ten years, or 10% of the stock being retired each year if pro-

Figure 1: Supply and Demand of Rental Mobile Homes



duction was constant. Since the production of mobile homes has generally been increasing from year to year, the figure should be considerably less than ten percent of the total stock. We have estimated the replacement rate to be five percent of the total stock. Therefore, the quantity figure in the equation is reduced by five percent of the mobile home stock in a state.

Analysis - Rental Market Structural Equations

After deletion of several variables which proved insignificant and which showed the wrong sign, the resulting model is (with t-statistic in parentheses and using two stage least squares):

DEMAND:

$$\text{Quantity} = -0.013 \text{ PRICE} + 2.54 - 0.00012 \text{ INCOME} + 0.11 \text{ HSHD_CHG}$$

$$(-1.24) \quad (2.64) \quad (-2.41) \quad (1.64)$$

$$\text{SSR} = 5.27 \quad \text{Std. err.} = 0.37 \quad \text{F} = 3.08 \quad \text{F}_{95\%} = 2.84$$

SUPPLY:

$$\text{Price} = -13.84 \text{ QUANTITY} + 121.81 + 0.051 \text{ BAN} + 0.022 \text{ NONRES} - 0.15 \text{ PARKS}$$

$$(-1.39) \quad (26.36) \quad (0.38) \quad (0.21) \quad (-1.67)$$

$$\text{SSR} = 8182.93 \quad \text{Std. err.} = 14.87 \quad \text{F} = 1.07 \quad \text{F}_{95\%} = 2.61$$

These relationships are plotted in Figure 1. As can be seen in that figure, the estimation procedure has yielded perverse results in the supply sector. The demand equation is reasonable and the parameters

have the expected signs. The supply equation, however, is downward sloping and several parameters have unexpected signs. The equilibrium indicated in Figure 1 is unstable and the most likely result of a market with such a supply equation would be monopoly or oligopoly. Since this does not appear to be a reasonable description of the rental market it is clear that the statistical estimates do not provide a reasonable depiction of market processes.

Explanations of this statistical failure include two possible problems. First, the data used in the analysis may not have been sufficiently refined to permit such estimation. Every effort has been made to assure the quality of data, but problems may still exist. A more likely source of problems is the questionable nature of the interpretations of the land use control variables. It may be that the variables used to measure the extent of land use controls also measure indirectly the demand for mobile homes in specific areas. That is, reduced demand may make possible restrictions which are stronger than would be possible in areas of higher demand. Unfortunately, the lack of additional data on demand makes testing of this hypothesis impossible at this time.

Footnotes

1. Dr. Eugene Brady, "An Econometric Analysis of the United States Residential Housing Market", Federal Home Loan Bank Board Working Paper #11 (November 30, 1970) at 41, 42.
2. Douglas Commission, Building the American City. (1968) at 216
3. Lynne Sagalyn and George Sternlieb, Zoning and Housing Costs, Center for Urban Policy Research, Rutgers Univ., at 15,52 (Jan.1973).
4. Bureau of the Census, "General Social and Economic Characteristics PC(1)-C1", U.S. Census of Population (1970) at table # 178.
5. estimated from City Workers Family Budget, Bureau of Labor Statistics (1966) at 27.
6. Bureau of the Census, "General Population Characteristics PC(1)-Bxx" U.S. Census of Population (1970) at table #22.
7. derived from Bureau of the Census, "Population Reports P-25". (1968-9).
8. unpublished data, Program in Industrialization of the Housing Sector, M.I.T.
9. Ibid.
10. Ibid.
11. Ibid.
12. estimated from F.W. Dodge, Building Cost Estimator (1973, McGraw-Hill) at A-15.
13. U.S. Department of Housing and Urban Development, Housing Surveys Parts 1 and 2, UD/MP 72 (Nov. 1968) at 75.
14. Bureau of the Census, "Subject Report: Mobile Homes HC(7)-6", U.S. Census of Housing (1970).
15. Ibid.
16. Ibid.

17. see both U.S. Dept. of H.U.D., and Survey by Market Facts Inc.,
Washington, D.C. (1971).
18. Blair, Fredrick, Mobile Homes and the General Housing Supply (1960).
19. Bureau of the Census, "Subject Report: Mobile Homes", op.cit.

B.

TAXATION

1.

The New York and Pennsylvania
Experiences with the Realty Tax

The New York personal property tax was repealed in 1933 leaving mobile homes, generally regarded to be personalty, untaxed. In 1952 a local assessor attempted to assess mobile homes as realty, but in Stewart v. Carrington, 203 Misc. 543, 119 NYS 2d 778 (1953) the assessment was declared illegal and void. The court stated that mobile homes did not fit the present definition of real property and that the legislature was the appropriate branch to make the change, not the courts. The state legislature responded to the Carrington opinion by amending subdivision 6a of Section 2. Subdivision 6a subjects all mobile homes which are or can be used as homes or offices to taxation as real property. Exceptions are provided for 1) transient trailers, i.e., those within the district less than 60 days, and 2) trailers which are unoccupied and for sale. Subdivision 6a also provides that the tax is to be assessed against the owner of the land upon which the mobile home is located.

The lower courts in New York initially were divided over the validity of subdivision 6a. The Supreme Courts of Broome and St. Lawrence counties upheld subdivision 6a (in Beagal v. Douglas, 2 Misc. 2d 361, 151 NYS 2d 461 (1955) and Feld v. Hanna 4 Misc. 2d 3, 158 NYS 2d 94 (1956)). The Supreme Courts of Monroe and Onandaga counties declared subdivision 6a unconstitutional (Barnes v. Gorham, 12 Misc. 2d 285, 175 NYS 2d 376 (1957) and New York Trailer Coach Ass'n. v. Steckel, 208 Misc. 308, 144 NYS 2d 82 (1955)).

An authoritative decision was finally given in 1961 when the New York

Court of Appeals overruled the lower court in Steckel and upheld the constitutionality of subdivision 6a. (New York Trailer Coach Ass'n. v. Steckel, 9 NY 2d 150 (1961)).

The court held that the legislature had the power to classify and tax an object, and that the classification of mobile homes as realty was reasonable. The court refused to rule on the equal protection and due process arguments because the issue was not properly before it.

Thus, the constitutionality of subdivision 6a was upheld but is still open to attack on equal protection and due process grounds if the question is properly presented. It is doubtful that the issue will even be brought because of the Steckel implication that if the question was properly before it, the court would rule against the association.

The Pennsylvania experience parallels New York's. In the General County Assessment Law of 1933, and the fourth to eighth class county assessment law of 1943, the legislature provided a comprehensive plan for the taxation of realty. Mobile homes were not subject to assessment and taxation under these laws. Local assessors endeavored to include the value of mobile homes in the assessment of mobile home parks but such endeavors were held improper.¹

¹ Streyle v. Bd. of Property Assessment, App. and Rev., 173 Pa Super 324, 98 A2d 410 (1953); Fryer Appeal, 81 Pa D&C 139 (1951); Mason Appeal, 75 Pa D&C (1950).

The courts in the above cases all held that the mobile home in question was not permanently affixed to the ground and therefore could not be assessed as part of the land. The test for permanent attachment, however, did not remain constant for the Pennsylvania courts. The first test for permanence was couched in familiar common law terms: an object is permanently affixed to the realty if removal is possible only by materially injuring the object. The new test is phrased in terms of the owner's intent; the manner of attachment was but one factor among many which needs to be considered. Other important factors to be considered in finding the intent of the owner are whether the wheels have been removed, the length of time on the lot, and the number of improvements or permanent additions which have been made.

In 1953, the 1943 law was amended to specifically include in the term realty house trailers permanently attached to the ground. Permanent attachment was to be determined on a case-by-case approach. In 1961 the law was again changed. Now, a house trailer or mobile home is to be considered real property if it is permanently attached to the land or connected to water, gas, electric or sewer facilities.

The New York and Pennsylvania experiences indicate that if the legislature specifically authorizes taxation of all mobile homes as real property if certain specified conditions are met, the courts will uphold the classification as reasonable and give judicial approval.

2.

Fair Share Studies from
California, Connecticut, and Georgia

California Study

This report was compiled by Donald R. Crow of the California Department of Housing and Community Development. California has a fee system of mobile home taxation in lieu of property taxation. At the time of the study, the fee was 2% of the fair market value of the unit with straight line depreciation over 18 years. The fee is collected by the state but allocated to the local governmental unit in which the mobile home is located. Mr. Crow estimated that local governments spent \$450 per capita annually. This translated to \$900 per unit of mobile homes, \$984 per unit of multifamily dwellings, and \$1308 per unit of conventional housing.

Each group returned the following amounts in taxes or fees: mobile homes -- \$166.50 per capita, \$258 per unit; multifamily dwellings -- \$153.00 per capita, \$335 per unit; conventional homes -- \$174.00 per capita, \$505 per unit. Thus, each group ran a deficit. (See Figure 1 for a summarized account.)

Conventional housing had the highest per unit but the lowest per capita deficit. This latter figure is open to some question due to the fact that the services provided by the mobile home parks to their residents were not valued nor included in the calculation of the mobile home owners' contribution. Had such services been included, the per capita deficit for mobile homes may well have been lower than that for conventional housing.

Thus, the California study indicates that no segment of the population is paying its share of municipal expenditures.

Georgia Study

This study was conducted by the Graduate City Planning Program, Georgia Institute of Technology. Only county revenue and expenditures were analyzed. The mobile home located on leased land is taxed as personal property; the amount of the tax is calculated at county mill rates. The industry blue book is used by assessors to determine fair market value.

The revenue/expenditures for mobile homes were calculated on a per unit basis. Three counties were analyzed: Bibb County, which includes the city of Macon; Chatham County, which includes the city of Savannah; and DeKalb County, which includes Atlanta. In all cases, mobile home parks turned in a deficit; in five cases, high valued subdivisions of conventional housing turned in a surplus. In low and middle value subdivisions and apartment house complexes, deficits were returned. Mobile home parks, however, produced the greatest deficits.

Connecticut Study

The Connecticut study was conducted by the Southeast Regional Planning

Agency of Connecticut, and was concerned only with the communities of Griswold, Ledyard, Norwich, and Stonington. The study compared mobile homes to single family homes. In Connecticut, mobile homes are taxed as personal property. In all the communities, mobile homes showed a deficit. In three communities, single family homes showed deficits. In Griswold there was a surplus for single family homes. The surplus in Griswold was due to the low amount of expenditures for education and the high valuation of the property. One unit of mobile home housing added significantly less expense to the local community costs (education) because mobile home families have fewer school age children. The study concludes that one of the major reasons for the mobile home deficit is the manner of taxation. However, it should be remembered that mobile homes place less of a demand on community services than do other forms of housing; this fact should be considered when looking at the deficits.

Type of Structure	Expenditures by Local Community	Revenue Collected by Local Community by Property or Fee	Deficit	Deficit as % of Expenditures
Mobile homes per Capita Per Unit	\$450 \$900	\$166 \$258	\$284 \$642	63% 71%
Conventional housing Per Capita Per Unit	\$450 \$1303	\$174 \$505	\$276 \$803	61% 61%
Multi-family housing Per Capita Per Unit	\$450 \$984	\$153 \$335	\$297 \$649	66% 65%

FIGURE 1: SUMMARY OF CALIFORNIA REPORT

	GENERAL GOVERNMENT			EDUCATION			TOTALS		
	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.
DEVELOPMENT									
Wesleyan Woods	261	237	24 (141)	448	128	320 (28)	709	365	344 (169)
Whippoorwill Hills	94	235	10.1 (60.0)	100	128	(28)	194	363	94.2 (46.6)
SUBDIVISIONS									
MOBILE HOME PARKS									
U.S. 41	63	199	(136)	47	128	(81)	111	327	(216)
Alderman	57	200	(143)	38	128	(90)	95	328	(233)
Macon	64	203	(139)	47	128	(81)	111	331	(220)

Note: Any variation in numbers is due to rounding.

FIGURE 2 : SUMMARY OF GEORGIA REPORT: REVENUES-EXPENDITURES, BIBB COUNTY

Development	General Government				Education				Totals			
	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Surplus or (Deficit) as % of Expend.	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Surplus or (Deficit) as % of Expend.	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Surplus or (Deficit) as % of Expend.
<u>Subdivisions</u>												
Bluff	385	226	159	70.4	262	127	135	106.3	647	352	294	83.3
Wilmington Park	308	227	61	35.7	204	127	77	60.6	512	354	152	44.5
Wilshire Estates	168	219	(51)	(23.3)	104	127	(23)	(18.1)	272	346	(75)	(21.4)
Lakeside	63	222	(159)	(71.6)	27	127	(100)	(78.7)	90	349	(259)	(74.2)
<u>Apartments</u>												
Chalet	133	205	(72)	(35.1)	77	127	(50)	(39.4)	210	332	(122)	(36.7)
Spanish Villa	137	203	(66)	(32.5)	81	127	(46)	(36.2)	218	330	(112)	(33.9)
Carriage House	134	205	(71)	(34.6)	78	127	(49)	(38.6)	212	332	(120)	(36.1)
College Inn	105	207	(102)	(49.3)	57	127	(70)	(55.1)	162	334	(172)	(51.5)
Lakeside	99	204	(105)	(51.5)	53	127	(74)	(58.3)	152	331	(179)	(54.1)
<u>Mobile Home Parks</u>												
Azalea	63	208	(145)	(69.7)	24	127	(103)	(81.1)	87	335	(248)	(74.0)
Southside	47	204	(157)	(77.0)	14	127	(113)	(89.0)	61	331	(270)	(81.6)
Vicks	50	203	(153)	(75.4)	16	127	(111)	(87.4)	66	330	(264)	(80.0)

Note: Any variation in numbers is due to rounding.

FIGURE 3: SUMMARY OF GEORGIA REPORT: REVENUES-EXPENDITURES, CHATHAM COUNTY

Development	General Government				Education				Totals			
	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Surplus or (Deficit) as % of Expend.	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Surplus or (Deficit) as % of Expend.	Rev. per d.u.	Ex. per d.u.	Surplus or (Deficit) as % of Expend.	Surplus or (Deficit) as % of Expend.
<u>Subdivisions</u>												
Kingsley	285	129	96	50.8	368	199	169	84.9	653	332	265	68.3
Drayton Woods	187	172	15	8.7	223	199	24	12.1	410	371	39	10.5
DeLeon East	128	179	(51)	(20.5)	136	199	(63)	(31.7)	264	378	(114)	(30.2)
<u>Apartment</u>												
Stonecrest	194	149	45	30.2	233	199	34	17.1	427	348	79	22.7
Woodlake	115	143	(33)	(22.3)	116	199	(83)	(41.7)	231	347	(116)	(33.4)
Peachtree Gardens	90	153	(63)	(41.0)	78	199	(121)	(60.0)	168	352	(184)	(52.3)
<u>Mobile Home Parks</u>												
Druid Hills	56	149	(93)	(62.4)	29	199	(170)	(85.4)	85	348	(263)	(75.6)
Burgess	50	151	(101)	(66.9)	21	199	(178)	(89.4)	71	350	(279)	(79.7)
George's	50	152	(102)	(67.1)	20	199	(179)	(89.5)	70	351	(281)	(80.1)

Note: Any variation in numbers is due to rounding.

FIGURE 4: SUMMARY OF GEORGIA REPORT: REVENUES-EXPENDITURES, DEKALB COUNTY

Type of Structure by Community	Expenditure for Education by Community	Revenue Collected by the Community	Defecit or Surplus	Defecit (or Surplus) as % of Expenditures
Griswold:				
Mobile Home Park				
a) Per Unit	93.24	38.87	54.37	58.3%
b) Per Capita	264.42	N/A	—	—
Single family dwelling				
a) Per Unit	264.42	312.30	(47.88)	(18.1%)
b) Per Capita	264.42	N/A	—	—
Ledyard:				
Mobile Home Park				
a) Per Unit	149.00	85.38	63.62	42.7%
b) Per Capita	413.00	N/A	—	—
Single family dwelling				
a) Per Unit	563.00	511.30	57.70	10.2%
b) Per Capita	413.00	N/A	—	—
Norwich:				
Mobile Home Park				
a) Per Unit	115.32	62.45	42.87	37.2%
b) Per Capita	548.71	N/A	—	—

FIGURE 5: SUMMARY OF CONNECTICUT REPORT

Type of Structure by Community	Expenditure for Education by Community	Revenue Collected by the Community	Deficit or Surplus	Deficit (or Surplus) as % of Expenditures
Single family dwelling				
a) Per Unit	504.83	442.69	62.14	12.3%
b) Per Capita	548.71	N/A	—	—
Stonington:				
Mobile Home Park				
a) Per Unit	98.80	53.02	45.78	46.3%
b) Per Capita	449.11	N/A	—	—
Single family dwelling				
a) Per Unit	615.27	382.63	232.64	37.8%
b) Per Capita	149.11	N/A	—	—

FIGURE 5: SUMMARY OF CONNECTICUT REPORT
(cont.)

C.

HIGHWAY REGULATION

1.

Oklahoma Regulations

OKLAHOMA

	<u>Legal Size Without Permits</u>	<u>Oversize Permit Limitations</u>
Combination Length	65 Feet	*(See below)
Mobile Home Length	No Regulation	No Regulation
Width	8 Feet	14 Feet
Height	13 Feet 6 Inches	11 Feet on Turn & Will Rogers Turnpikes (144)

* Over 80 Feet (One Escort Required)

* Over 100 Feet (Escort, Front & Rear)

PERMITS

WHERE OBTAINED:

Permits for oversize and overweight may be obtained at the following locations: Oklahoma Highway Patrol Headquarters

<u>CITY</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>OFFICE HOURS</u>
Ardmore	2001 W. Highway 142	405/223-8800	8:00 - 5:00
Clinton	2225 Gary Freeway	405/323-2424	7:00 - 3:00
Durant	U.S. 69, north edge of Durant	405/924-2644	7:00 - 3:00
Enid	Jct. U.S. 81 & S.H. 15	405/234-6148	7:00 - 4:00
Guymon	U.S. 54 East	405/338-3366	7:00 - 3:00
Lawton	8 Southeast 7th	405/353-0783	7:30 - 4:30
McAlester	U.S. 69 bypass South of McAlester	918/423-3636	7:00 - 3:00
Muskogee	East of Muskogee TP & Chandler Exit	918/687-8681	8:00 - 4:30
Okla. City	3600 N. Eastern	405/424-4011	8:00 - 4:45
Tulsa	8035 E. 31st	918/627-0440	7:00 - 4:45
Vinita	1/4 East on U.S. 66	918/256-3388	8:00 - 5:00

Field Offices

Ada	County Health Building	405/332-7411	8:00 - 4:45
Blackwell	201 Enlow	405/363-3870	7:00 - 4:00
Duncan	13th & Fair Park	405/255-3384	7:00 - 4:00
Hugo	Court-house	405/326-5505	7:00 - 3:30
Sallisaw	1 Block east Jct. U.S. 59 & U.S. 64	918/775-3541	8:00 - 4:45
Seminole	Municipal Building	405/382-3022	7:00 - 3:30
Woodward	Court-house	405/256-3612	7:00 - 4:00

OKLAHOMA (Cont'd)

11-2

PERMITS HOW OBTAINED:

Permits may be sent to any point available from the Oklahoma City office by calling A/C 405-424-4011. Listed below in alphabetical order are the companies and methods available:

Insta/Com	Facsimile	800/527-6160 or 214/631-1505 (In Texas)
Inter Trucking Systems (Transceiver)	Facsimile	800/527-4545 or 214/744-3271 (In Texas)
Mid Continent Interstate Service	TWX	800/643-8655 or 800/662-8610 (In-Bound Ark.)
Western Union	Straight wire TLX, TWX	800/851-2300 or 800/642-2430 (In-Bound Ill.)

Arrangements can be made for paying the permit fee at the truck stop by contracting the above companies.

The above organizations which provide services for the dissemination of permits have directories listing the various truck stops and locations where they have services for the reception of permits from the Oklahoma City office. It should be remembered, however, that it is a necessity to call the Oklahoma City office and give the required information on the load to be moved and the system the individual wishes to use to obtain a permit.

There is also available a method whereby the individual or company may post a \$5,000 surety bond with the Size & Weights Division of the Department of Public Safety and defer payments for permits used. The company would be billed on the 1st of each month. This would also entitle the user of an account to purchase APPLICATION BOOKS in the amount of \$25 per book for 25 applications and call the permit office in Oklahoma City to complete an application for movement. One copy would be used to complete the move and the original copy would be mailed to the Oklahoma City office at the time the order is made. This system is available through the Oklahoma City office only and cannot be obtained or completed through any other office.

COST:

\$5.00 charge for permit.

REGULATIONS:

The legal length of a car and 8 ft. wide mobile home combination is 65 feet. The legal length of a truck, 3/4 ton or more with dual rear wheels, and 8 feet wide mobile home is 65 feet. Any combination in excess of the above dimensions must obtain a special permit to travel on any public street or road.

REGULATIONS: (Cont'd)

10-Wide and/or Overlength:

The towing vehicle must have a rated capacity of 3/4 ton and must have dual rear wheels.

Maximum speed 50 miles per hour or as posted.

Permits may be refused because of adverse road conditions.

All trucks must have and display I.C.C. plates, cost \$2.25. All towing vehicles must carry Oklahoma Tax Commission card. All commercial transporters must have a copy of Oklahoma authority in vehicle.

Overwidth units must be towed by a 3/4 ton truck or larger, with dual rear wheels.

Movement prohibited on Sunday, legal holidays and during hours of darkness.

12-Wide Regulations:

The towing unit must be a truck at least two-ton rated capacity with dual rear wheels.

Movement of 12-wides must be escorted by an escort vehicle at least 300 feet in front on 2-lane highways. The escort vehicle shall carry red flags and the flagman shall be prepared to direct approaching traffic before entering a bridge, underpass or overpass. The flagman shall be capable of directing traffic on turns, also entrances and exits, from and on to a 4-lane highway. An escort vehicle will not be required on 4-lane highways. All vehicles must maintain a minimum of 40 miles per hour on the Interstate System.

No escort if caution signs complied with.

Red flags (at least 16 inches square) must be placed on each corner of the mobile home. WIDE LOAD signs must be placed on the front of the towing vehicle, on the front of the escort vehicle, and on the rear of the mobile home. WIDE LOAD signs must be placed on the front of the towing vehicle and the rear of the mobile home when an escort vehicle is not required. WIDE LOAD signs must be at least 5 feet long and 18 inches wide, with letters at least 10 inches high.

REGULATIONS: (Continued)12-Wide Regulations: (Cont'd)

Movement allowed without flagman on Interstate 35, but no 12-wide movement permitted on Interstate 44.

Movement of 12-wide mobile homes may be permitted Monday through Friday noon. Daylight hours only.

No movement of 12-wide mobile homes on Friday afternoon, Saturday, Sunday, holidays nor the afternoon preceding a holiday.

Twelve foot wide loads WILL NOT BE PERMITTED ON THE WILL ROGERS AND TURNER TURNPIKES.

14-Wide Regulations:

One (1) escort or pilot vehicle will be required to follow at the rear of fourteen (14) foot wide mobile homes on all four (4) lane highways. Two (2) escort vehicles, one in the front and one in the rear, shall be required on all two (2) lane highways east of Interstate 35 from the Kansas line south to Oklahoma City, and east of the H.E. Bailey Turnpike from Oklahoma City south to the Texas line with the exception of SH-9, where only one (1) escort vehicle shall be required in front of the mobile home.

One (1) escort vehicle shall be required to travel in front of fourteen (14) foot wide mobile homes on all highways west of Interstate 35 from the Kansas line south to Oklahoma City, and northwest of the H.E. Bailey Turnpike from Oklahoma City south to the Texas line with the exception of SH-3, SH-183 and US-287 where two (2) escort vehicles will be required, one in the front and one in the rear.

Effective January 1, 1974, all escort or pilot vehicles escorting mobile homes shall be equipped with a two-way radio capable of maintaining radio communications with the towing vehicle and other escort vehicles.

Escort Vehicles:

All operators of escort vehicles, which are required by law and rules and regulations of the Department of Public Safety, to escort oversize loads and receive compensation for this service, will be required to register and obtain a certificate from the Corporation Commission of Oklahoma.

REGULATIONS (Cont'd)Escort Vehicles: (Cont'd)Certificate:

An applicant for a certificate shall file with the Secretary of the Corporation Commission a written application, in duplicate, and shall tender with the application a filing fee of twenty-five dollars (\$25.00) in cash or check.

Insurance:

Each operator shall file with the Commission a Certificate on Form MCF 17 certifying that there is in effect a valid bond or insurance policy of a surety company or of an insurance company currently authorized to issue bonds or policies or insurance covering risks in Oklahoma to protect the public against loss of life, injury and property damage in amounts as follows:

- (1) Not less than \$10,000 for any one person injured.
- (2) Not less than \$25,000 for any one accident.
- (3) Not less than \$5,000 property damage.

I.D. Device:

Every motor vehicle operated by the escort service must bear a current identification device. The annual fee for each identification device shall be three dollars (\$3.00).

Rates:

All operators will file rates with the Corporation Commission of Oklahoma.

Self Escort:

Certificated or private carrier may furnish his own escort if the vehicle being used as an escort vehicle belongs to the owner of the carrier or the owner of the over-size load and the driver is an employee of the carrier or the owner of the over-size load, but this escort vehicle must meet all safety rules and regulations.

Driver:

1. Driver must be a minimum of twenty-one (21) years of age.

REGULATIONS:(Cont'd)Escort Vehicles: (Cont'd)

2. Driver must possess a valid drivers license.
3. Driver or flagman shall be a person capable of stopping or directing traffic when approaching a narrow bridge, underpass, in making turns, entrances and exits and on to and off four lane highways.

Vehicle:

1. Escort vehicle shall be a car or pickup or not less than 3,000 lbs.
2. Signs and Flags for escort vehicle (See next page)
3. Escort vehicle shall be equipped with two (2) outside rear view mirrors, to provide vision to assure movement is progressing safely.
4. Escort vehicle shall be equipped with at least one fire extinguisher of minimum size two and one-half pound carbon dioxide (CO₂) extinguisher or dry chemical type or extinguisher of other types having equivalent or better extinguishing capacities. Extinguishers are to be mounted in escort vehicle so as to be readily accessible.
5. Escort vehicle shall be equipped with at least three (3) red emergency reflectors and three (3) fuses.

Safety:

1. Escort vehicle must be in safe operating condition and must comply with all safety rules and regulations of the Department of Public Safety and Oklahoma Commission.

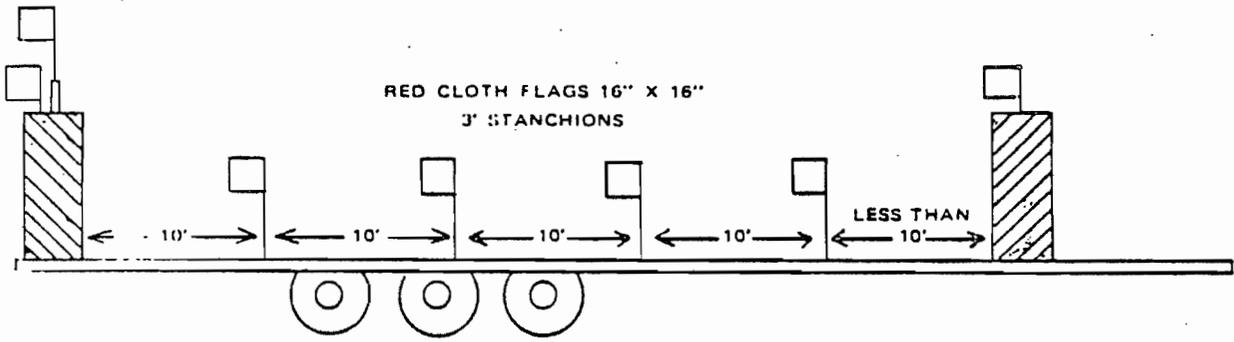
LEGAL
HOLIDAYS

Jan. 1, May 30, July 4, Labor Day (1st Monday Sept.), Nov. 11, Thanksgiving Day (4th Thursday Nov.), Dec. 25.

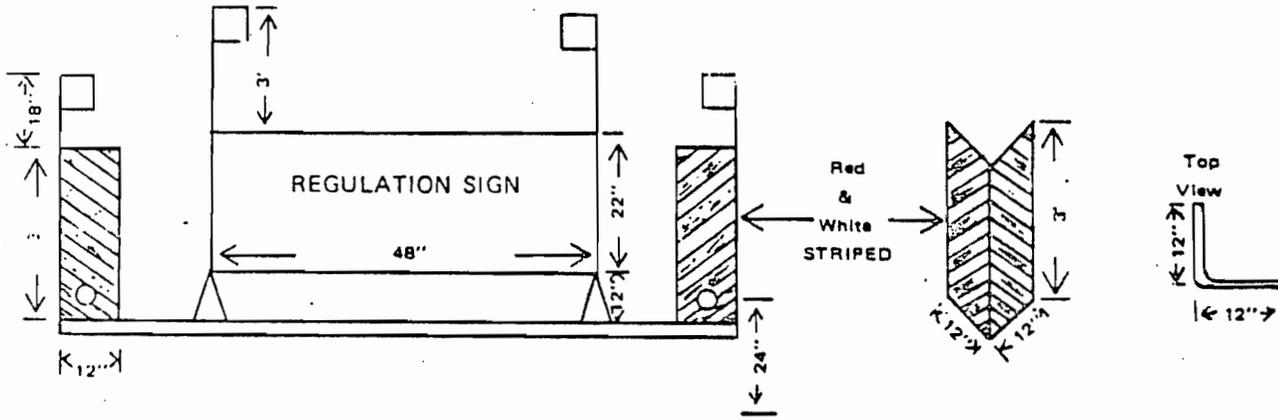
LICENSE
RECIPROCITY

Oklahoma has license reciprocity with the following states allowing such states to run their vehicles into or through Oklahoma, but not to haul from one point within Oklahoma to another point with that state:

Alabama	Indiana	Missouri	Virginia
Alaska	Iowa (\$1.00 permit required)	Nebraska	West Virginia
Arkansas	Kentucky	North Carolina	Wisconsin
Delaware	Louisiana	North Dakota	Wyoming
District of Columbia	Maryland	Ohio	
Florida	Mississippi	Tennessee	
		Texas	

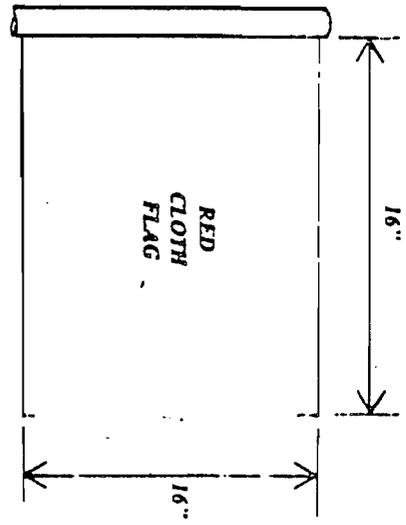
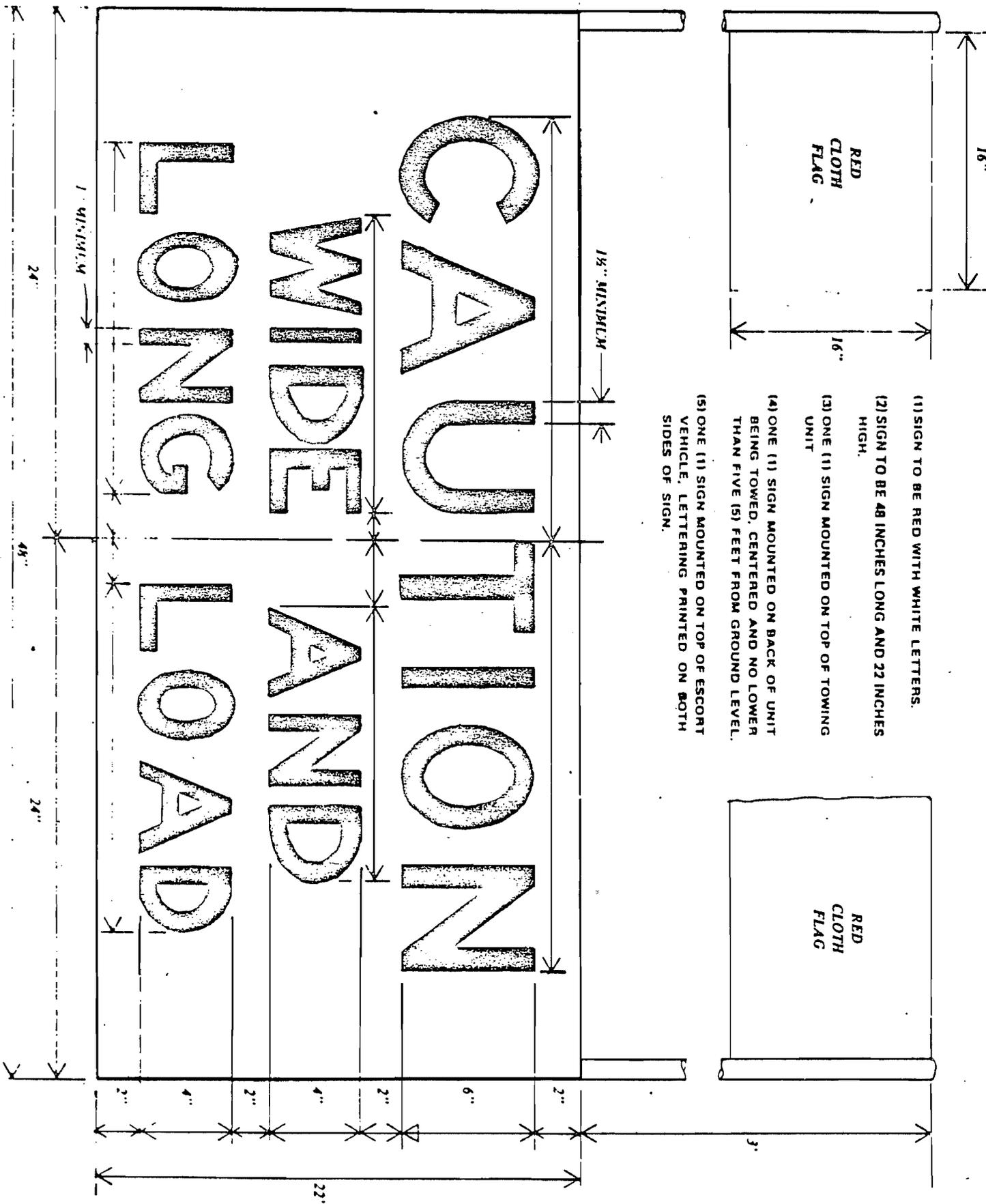


SIDE VIEW

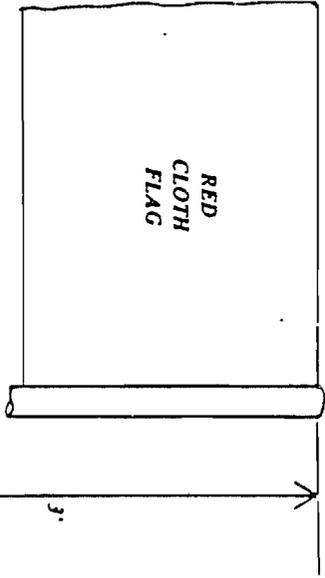


REAR VIEW

NOTE: THE REGULATIONS ABOVE APPLY TO ALL MOBILE HOME FRAMES WHEN BEING TOWED SINGLY



- (1) SIGN TO BE RED WITH WHITE LETTERS.
- (2) SIGN TO BE 48 INCHES LONG AND 22 INCHES HIGH.
- (3) ONE (1) SIGN MOUNTED ON TOP OF TOWING UNIT
- (4) ONE (1) SIGN MOUNTED ON BACK OF UNIT BEING TOWED, CENTERED AND NO LOWER THAN FIVE (5) FEET FROM GROUND LEVEL.
- (5) ONE (1) SIGN MOUNTED ON TOP OF ESCORT VEHICLE, LETTERING PRINTED ON BOTH SIDES OF SIGN.



LICENSE RECIPROcity: (Cont'd)

Georgia	Michigan	Pennsylvania	Alberta
Illinois	Minnesota	South Carolina	Manitoba

Following license reciprocity for two trips per operation per month:

Connecticut	Maine	New Jersey	Rhode Island
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Proration:

Arizona	Colorado	Montana	Utah
California	Idaho	New Mexico	Washington
	Kansas	Oregon	

In transit plates must be on mobile home, cost \$25.00 per set.

No reciprocity (Permits or Licenses must be purchased):

Massachusetts	Nevada	New York	Vermont
	New Hampshire	South Dakota	

INSURANCE REQUIREMENTS The minimum insurance requirements in the State of Oklahoma are \$5,000, \$10,000, \$5,000 public liability and property damage.

MISC. INFORMATION Gas Tax 8 1-2¢.

Gasoline must be purchased in Oklahoma to cover operations. Retain gasoline receipts.

OKLAHOMA TURNPIKE & INTERSTATE SYSTEM

PERMITS

REGULATIONS:

All fees, restrictions and policies are the same as for state highways.

No 12-wide mobile homes are allowed on Turner and Will Rogers Turnpikes (144).

MISC.
INFORMATIONIMPORTANT:

Before leaving Oklahoma via turnpike to enter Missouri, it is required by Missouri to have permit before entering the state. If this permit is not issued, you are subject to arrest.

The permits may be obtained at the Office of the Missouri Highway Department at 4th Street and Range Line in Joplin. This address is just north of the junction of US 166 and US 71, at the east edge of Joplin.

It would not be advisable to pull an oversize or overweight vehicle into Missouri without a permit as arrest will occur at the weight station on US 166 three miles east of the Toll Gate. If there is no permit in your possession, park trailer on the right shoulder between the Toll Gate and the State Line and go to Joplin and get a permit.

Missouri will allow movement of mobile homes up to 12 feet, 4 inches wide under permit.

STATE OF OKLAHOMA

DEPARTMENT OF PUBLIC SAFETY

MOBILE HOME PERMIT APPLICATION

The legal length of a car and 8ft. wide mobile home combination is 65 ft. The legal length of a truck, 3/4 ton or more with dual rear wheels, and 8 ft. wide mobile home is 65 ft. Any combination in excess of the above dimensions must obtain a special permit to travel on any public street or road.

Please fill out all information on this form and return to this office with \$5.00 fee (Postal or Western Union Money Order) PERSONAL CHECKS NOT ACCEPTED. The permit may then be issued and forwarded to you by return mail, or if desired, by Western Union to any point to be picked up before entering the State. If mailed, enclose a self-addressed, stamped envelope.

MAIL TO:

DEPARTMENT OF PUBLIC SAFETY
SIZE AND WEIGHT DIVISION
BOX 11415
OKLAHOMA CITY- OKLAHOMA 73111

PHONE:

AREA CODE 405
424-4011 Extension 201

MAIL TO: _____

or

WIRE TO: _____

NAME _____

ADDRESS _____

MAKE OF CAR/TRUCK _____

HOUSETRAILER _____
(Make and Serial Number)

LICENSE ON CAR/TRUCK _____

LICENSE ON HOUSETRAILER _____

OVERALL COMBINATION LENGTH _____

OVERALL WIDTH _____ HEIGHT _____

STARTING POINT _____

DESTINATION _____

ROUTE THROUGH STATE _____

(highways)

DATES OF TRAVEL _____

(REFER TO OTHER SIDE FOR RULES & REGULATIONS)

2.

Kansas Regulations

KANSAS

	<u>Legal Size Without Permits</u>	<u>Oversize Permit Limitations</u>
Combination Length	55 Feet*	85 Feet
Mobile Home Length	No Regulation	No Regulation
Width	8 Feet No Tolerance	14 Feet*
Height	13 Feet 6 Inches	

- * Up to 65 Feet on highways and routes designated by Highway Commission.
 * Special requirements - approval with special permit Departments, for designated routes.

PERMITS

WHERE OBTAINED:

Special Permit Division, State Highway Commission
 State Office Building
 Topeka, Kansas

Telephone: 913/296-3551

All permits can be obtained at Ports of Entry and State Highway Commission Field Offices.

HOW OBTAINED:

By telephone, telegram or written application. Applications must be made three days prior by signed original permit in this office.

COST:

\$5.00 per permit. Credit cards will be issued to responsible firms.

REGULATIONS:

All oversize vehicles must stop at port of entry - even with special permits.

Each overwidth unit must have a notice to the owner placed permanently in the unit on the inside of a cabinet door that reads:

"This mobile home is _____ feet wide. It is designed and intended primarily for residential use within mobile home parks. It shall be unlawful to transport this mobile home upon the highways of any state unless a special permit has been obtained from that state, and the operation is in compliance with the terms and conditions of such permit."

REGULATIONS: (Cont'd)

When towing or pulling a mobile home under special permit on roads and highways outside the city limits of any incorporated city or town, the minimum speed shall be 35 miles per hour, and the maximum speed shall be 50 miles per hour unless otherwise specified by speed limit signs or due to weather conditions.

Before a special permit will be issued for the movement of a mobile home, the mobile home must have a current license plate and the driver of the towing unit must have a valid chauffeur's license and carry with him evidence that the mobile home and the vehicle pulling it are covered by liability insurance with limits of no less than \$100,000 for injury to any one person, and \$300,000 for injury to persons in any one accident, and \$25,000 for injury to property. The evidence required to be carried by the driver will be either the insurance policy or card issued by the insurance company showing the insurance company's address, the amount of insurance, the policy number and the expiration date of such policy.

In case of breakdown, the vehicle must be moved off the traveled portion of the highways. In the event the breakdown is such that the vehicle cannot be moved at once, flagmen must be placed and kept on duty on the highway 500 feet in each direction from said vehicle until it is moved off the traveled portion of the road.

The move is subject to all rules and regulations set forth on the application for special permit to move overweight and over-size equipment over state and federal highways.

Mobile Homes Up to 10'4" wide:

Red flags, 16 inches square, must be attached to each side and on the widest part of all overwidth equipment and to the rear of all over-length equipment.

All mobile homes, towed on their own wheels, over 30 feet in length, must have at least two full axles and four wheels that are spaced and centered so as to properly support the weight of the mobile home and must have a separate braking system, when over 50 feet long.

All units under permit must have turn signals, stop signals, tail lights, clearance lights and reflectors of a type approved by the State Highway Commission of Kansas.

REGULATIONS: (Cont'd)Mobile Homes up to 10'4" wide (Cont'd):

All units under permit must have an approved stop light at least 4 inches in diameter on rear of coach.

All mobile homes over 50 feet long and operating under a permit must have a towing vehicle of at least 1-1/2 ton rating with a wheel base of not less than 99 inches and with the rear axle of towing truck being equipped with dual wheels.

No movement permitted if ground wind exceeds 25 miles per hour in the vicinity or on the highway or highways over which the unit is to be pulled.

When extra-wide vehicles cross bridges or overpasses, or at a place where the vehicle consumes more than one-half of the traveled portion of the highway, a flagman must be used to have all oncoming traffic stopped at the far end before the load may proceed across.

Combination units over 70 feet long require telephone authority from Topeka office and require a flagman to precede load in separate vehicle, except on all four-lane divided and undivided highways and the sections of 2-lane highways listed below:

U.S. 24 from the west terminus of I-70 to the Colorado line
U. S. 50 from Newton to Hutchinson
U.S. 56 from McPherson west to Sublette, using U.S. 50 by-pass
at Dodge City
U.S. 83 from Sublette to Liberal
U.S. 54 from Liberal to the Oklahoma line
U.S. 81 from Newton to McPherson
U.S. 156 from junction with U.S. 56 to junction with I-70
U.S. 183 from Rush Center to the Nebraska line
U.S. 283 from I-70 at WaKeeney to Nebraska line
K 96 from Great Bend to Colorado line
K 196 from U.S. 81 to El Dorado

Said escort vehicles, where required, must not be over 300 feet to the front of the mobile home displaying a "CAUTION WIDE LOAD" sign readily legible from a distance of 500 feet to the front of the flag vehicle. Said sign must comply with the requirements. However, in areas where the speed limit is restricted to not more than 45 miles per hour, the flag vehicle shall precede at a distance not to exceed 100 feet to the front of the mobile home.

REGULATIONS: (Cont'd)Mobile Homes up to 10'4" wide (Cont'd):

If the 10-foot wide mobile home travels on any section of Kansas highways or any pavement or road that is under 20 feet wide, it will be necessary for a flagman to precede the unit and on overpasses, underpasses, and bridges under 20 feet wide to flag traffic on the far side of the bridge or overpass directing oncoming traffic to a complete stop before the unit is allowed to proceed across the structure.

When flagmen are deemed necessary as in the case of all extrawide loads, arrangements should be made prior to arrival at the port of entry to avoid delay.

Movement prohibited on Saturday afternoon, Sunday, legal holidays or during the hours of darkness. Movement is not allowed during inclement weather or when snow, sleet, rain or ice make the roads hazardous. The mobile home must carry a current license plate.

Mobile Homes over 10'4" wide and under 12'6" wide:

Permits may be issued for single trip movements of mobile homes over certain specified routes and during hours designated by the Special Permit Department, subject to all regulations herein contained and all state traffic laws and regulations. Such permits can be issued only by the Special Permit Office in Topeka, Kansas. These movements may be made on any specified highway subject to any special routing or conditions that are necessary for traffic safety.

Permits cannot be issued when the traffic volume, roadway width, bridge width, or road conditions are such that the movement might create a serious or an unsafe condition. However, in addition to movements on the routes designated by the special permit office, a limited special permit may be granted for distances not to exceed 25 miles from the point of manufacture or from the nearest railroad siding or from any point along the routes designated, in instances where a regular special permit cannot be issued due to road conditions. A special permit will not be issued for a second move, 25 miles or less, for the same mobile home.

Over-dimension permits for all 12-foot wide mobile homes may be obtained from field agents of the Special Permit Department, but will continue to require telephone authorization from the Special Department in Topeka before these permits can be issued. The permit will be

KANSAS (Cont'd)

O-5

REGULATIONS: (Cont'd)

good for a period of only five days. If any city requires a special permit for the movement of such mobile home, a permit must also be obtained from such city for movement within the city limits.

Normally, no travel will be allowed at night, on Saturday afternoons, Sundays, or legal holidays. When towing or pulling a mobile home on roads and highways outside the city limits of any incorporated city or town, the minimum speed shall be 35 miles per hour, except on interstate highways, and the maximum speed shall be 50 miles per hour unless otherwise specified by speed limit signs or due to rain, snow sleet, fog, or other weather conditions. No mobile home will be allowed to travel when the ground wind, in the vicinity or on the highways over which the unit is being pulled or is to be pulled, exceeds a velocity of 25 miles per hour, or during rain, snow, sleet or fog. Movements shall be made only during those hours of least traffic and on days and hours as designated on the special permit.

All mobile homes up to 12 feet 6 inches wide and 85 feet combination length can be towed, under special permit, upon all 4-lane divided and undivided highways of the state highway system, without being required to have an escort vehicle.

All 12-foot wide mobile homes shall be protected by an escort vehicle traveling at a distance not to exceed 300 feet to the front of the truck towing the mobile home on all 2-lane highways of the state highway system, except the sections of highways listed as follows:

U.S. 24 from the west terminus of I-70 to the Colorado Line
U.S. 50 from Newton to Hutchinson
U.S. 56 from McPherson west to Sublette, using U.S. 50 by-pass
at Dodge City
U.S. 83 from Sublette to Liberal
U.S. 54 from Liberal to the Oklahoma Line
U.S. 81 from Newton to McPherson
U.S. 156 from junction with U.S. 56 to junction with I-70
U.S. 183 from Rush Center to the Nebraska line
U.S. 283 from I-70 at WaKeeney to Nebraska line
K 96 from Great Bend to Colorado line
K 196 from U.S. 81 to El Dorado

The escort vehicle shall carry a "CAUTION WIDE AND LONG LOAD" sign of approved type on the top of such vehicle and have red flags, 16 inches square in size, located on each of the extreme corners of the front of such vehicle. The towing vehicle must carry a "CAUTION WIDE AND LONG LOAD" sign on the top of the cab and have red flags,

REGULATIONS: (Cont'd)Mobile Homes over 10'4" and under 12'6" wide (Cont'd):

16 inches square, located on each of the extreme corners of the front of such vehicle. Also there must be a "CAUTION WIDE AND LONG LOAD" sign on the rear of the mobile home located at a height not less than 72 inches from the bottom edge of the sign to the road bed.

These "CAUTION WIDE AND LONG LOAD" signs must conform in exact detail as to size of sign, size of lettering, and color, and must be placed on waterproof material and maintained in a rigid manner, facing traffic in the proper direction so the sign is legible at all times to approaching traffic.

The towing vehicle must be a manufacturer's rated 2-ton truck with dual rear wheels, with a wheel base of not less than 99 inches, and with a four-speed transmission or its equivalent. All drawbar connections and safety hitches must comply with the requirements set forth in K.S.A. 8-5, 118. Brakes in good condition must be on all mobile homes and of a type that are controlled from the towing unit by its operator and have automatic application in case of breakaway. The brakes on both the towing unit and mobile home must comply with the requirements for brakes, including stopping distances, as set forth in K.S.A. 8-5, 101. Approved directional signals are required on the rear of the mobile home and on the front of the towing unit. All mobile homes, towed on their own wheels, over 60 feet in length must have at least three full axles and six wheels that are spaced and centered so as to properly support the weight of the mobile home when attached to the towing unit. Those 60 feet and under in length, may be moved on two full axles, properly spaced and centered for proper balance. These axle locations must be approved by the Special Department.

All serial numbers, makes and models of mobile homes transported must be shown on the special permit.

EMERGENCY REGULATIONS:

Movement of Mobile Homes Over 12 Feet, 6 Inches and not Over 14 Feet in Width, on Kansas Highways.

(1) For the purposes of this section, "mobile home" is defined as a mobile home over 12 feet 6 inches and not over 14 feet in width and the length, when coupled with the towing unit, does not exceed 85 feet.

EMERGENCY REGULATIONS: (Cont'd)

- (2) Permits may be issued for single trip movements of mobile homes over certain specified routes and during hours designated by the Special Permit Department, Subject to all regulations herein contained and all state traffic laws and regulations. No travel will be allowed in metropolitan areas during the periods from 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m. These movements may be made on a specified highway subject to any special routing or conditions that are necessary for traffic safety.
- (3) These permits cannot be issued when the traffic volume, roadway width, bridge width or road conditions are such that the movement might create a serious traffic congestion or an unsafe condition.
- (4) The permit will be good for a period of only five days. If any city requires a special permit for the movement of such mobile home, a permit must also be obtained from such city for movement within the city limits. If any county requires a permit, then such permit must be obtained from the county where a county road is being used as part of the trip.
- (5) No travel will be allowed at night (from sundown to sunrise) on Saturday, Sunday, legal holidays, or on days preceding and following a legal holiday. When towing or pulling a mobile home on roads and highways outside the city limits or any incorporated city or town, the minimum speed shall be 35 miles per hour, except on Interstate highways, unless otherwise specified by speed limit signs or due to rain, snow, sleet, fog or other weather conditions, and the maximum speed limit shall be 50 miles per hour. No permit will be issued and no mobile home will be allowed to travel when the ground wind, in the vicinity or on the highway or highways over which the unit is being pulled or is to be pulled, exceeds a velocity of 25 miles per hour or during rain, snow, sleet or fog. Movements shall be made only during those hours of least traffic and on days and hours as designated on the special permit.
- (6) Before a special permit will be issued for the movement of a mobile home, the mobile home must have a current license plate and the driver of the towing unit must have a valid chauffeur's license. The driver or operator of the towing unit must carry with him evidence that such house trailer or mobile home and the vehicle pulling it are covered by liability insurance with limits of not less than hundred thousand dollars (\$100,000) for injury to any one person and three hundred thousand dollars (\$300,000) for injury to any persons in any one accident, and twenty five thousand dollars (\$25,000) for injury to property. The evident required to

EMERGENCY REGULATIONS: (Cont'd)

be carried by the driver will be either the insurance policy or a card issued by the insurance company showing the insurance company's name and address, the amount of insurance, the policy number and the expiration date of the policy.

(7) The towing vehicle must be a manufacturer's rated two ton truck, or a truck having a gross vehicle weight capacity rating of 19,000 pounds or more, with dual rear wheels, with a wheel base of not less than 99 inches and with a four-speed transmission or its equivalent. All draw-bar connections and safety hitches must comply with the requirements set forth in K.S.A. 8-5, 118 and Interstate Commerce Commission regulations. Brakes in good condition must be on all mobile homes and of a type that are controlled from the towing unit by the operator and have automatic application in case of breakaway. The brakes on both the towing unit and the mobile home must comply with the requirements for brakes, including stopping distances, as set forth in K.S.A. 1969 Supp. 8-5, 101.

(8) The towing vehicle must carry a "CAUTION WIDE AND LONG LOAD" sign on the top of the cab and have red flags of water-proof material, 16 inches square, located on each of the extreme corners of the front to such vehicle. The sign must conform in exact detail to the specifications attached as to size of sign, size of lettering and color and must be placed on water-proof material and maintained in a rigid manner facing traffic in the proper direction so that the sign is legible at all times to the approaching traffic.

(9) Approved directional signals, as well as stop lights and tail lights, are required on the rear of the mobile home and on the front of the towing unit. All lights must be designed to be operated from the towing unit. These signals must be of a type previously approved by the Safety Department of the State Highway Commission. The mobile home must have red flags, 16 inches square, located on each of the extreme corners and the mobile home must have a "CAUTION WIDE AND LONG LOAD" sign located on the rear of the mobile home at a height not less than 72 inches from the bottom edge of the sign to the road bed. The sign must conform in exact detail to the specifications attached as to size of sign, size of lettering and color and must be placed on water-proof material and maintained in a rigid manner facing traffic in the proper direction so that the sign is legible at all times to the approaching traffic. All mobile homes, towed on their own wheels, must have at least three full axles and six wheels that are spaced and centered so as to properly support the weight of the mobile home when attached to the towing unit. These axle locations must be approved by the Special Permit Department.

EMERGENCY REGULATIONS: (Cont'd)

(10) All 14 foot wide mobile homes shall be protected by two escort vehicles. One escort vehicle shall be required to travel at a distance not to exceed 300 feet to the front of the towing vehicle. One escort vehicle shall be required to travel at a distance not to exceed 300 feet to the rear of the mobile home being towed. The driver of the lead escort vehicle shall have all on-coming traffic stopped at the far end of all bridges and/or culverts that are, when measured from inside edges, less than 28 feet wide. The driver of the escort vehicle following the mobile home shall stop all traffic from passing the mobile home while it is crossing any bridges and/or culverts that are, when measured from inside edges, less than 28 feet wide. Each escort vehicle shall have mounted on the top of that vehicle, or on the same horizontal plane as the top of said vehicle, a flashing amber light that is located in such position that it can be readily seen from all directions. The above mentioned flashing light shall be lighted only when the vehicle to which it is attached is being used to escort a 14 foot wide mobile home. The flashing amber light shall have a globe or lens measuring not less than 6 inches in diameter and shall be one approved by the Safety Department of the State Highway Commission for use as a flashing light on escort vehicles. Kansas has adopted the Interstate Commerce Commission regulations which prohibit the use of simultaneous flashing of turn signal or hazard warning lights on moving vehicles. Thus the use of the same is prohibited.

(11) The load escort vehicle shall have a sign bearing the legend "CAUTION WIDE LONG LOAD" mounted above the front bumper of the escort vehicle, and have red flags of waterproof material, 16 inches square, located on each of the extreme corners of the rear of such vehicle. The same required sign shall be on the rear of the rear escort vehicle, and have red flags of water-proof material, 16 inches square, located on each of the extreme corners of the rear of such vehicle. The sign shall be removed or designed so that the lettering is covered when the vehicle to which it is attached is not being used as an escort vehicle.

The "CAUTION WIDE AND LONG LOAD" sign shall conform in exact detail to the specifications attached as to size of sign of lettering and color and must be placed on waterproof material and maintained in a rigid manner, facing traffic in the proper direction so that the sign is legible at all times to the approaching traffic.

(12) All serial numbers, makes and models of mobile homes transported must be shown on the special permit.

KANSAS (Cont'd)

O-10

EMERGENCY REGULATIONS: (Cont'd)

(13) In case of breakdown, the mobile home must be moved off the traveled portion of the highway. In the event the breakdown is such that the vehicle cannot be moved at once, flagmen must be placed and kept on duty of the highway 500 feet in each direction from said vehicle until it is moved off the traveled portion of the road. Then the proper flags and flares, of an approved type, must be placed as required under the laws of the State of Kansas.

(14) The movement of mobile homes is subject to all rules and regulations governing the movement of mobile homes as set forth in the regulations on the special permit form (SHC Form 533 or SHC Form 1626) and all the laws of the State of Kansas applicable to such movements. (Authorized by K.S.A. 1968 Supp 8-5, 114 K.S.A. 1969 Supp. 8-5, 122, effective December 8, 1969, 2:20 p.m.)

LEGAL
HOLIDAYS

Jan. 1, May 30, July 4, Labor Day (1st Monday Sept.), Nov. 11, Thanksgiving Day (4th Thursday Nov.), Dec. 25.

INSURANCE
REQUIRE-
MENTS

Insurance coverage must be at least \$100,000 public liability, \$300,000 personal injury, \$25,000 property damage.

LICENSE
RECIPROCITY

Kansas has license reciprocity with the following states:

Alabama	Iowa	South Dakota
Arkansas	Minnesota	Utah
Colorado	New Mexico	Wisconsin
Illinois	Oklahoma	

MISCELLANEOUS
INFORMATION

For authority to enter Kansas, if vehicles do not have license, write to Motor Vehicle Department, Kansas Corporation Commission, State Office Building, Topeka, Kansas. (Phone: CE5-0011)

Gas Tax, 7¢.

KANSAS TURNPIKE

	<u>Legal Size Without Permits</u>	<u>Oversize Permit Limitations</u>
Combination Length	65 Feet	65 Feet
Mobile Home Length	No Regulation	No Regulation
Width	No Regulation	12 Feet
Height	14 Feet	

PERMITS

WHERE OBTAINED:

Kansas Turnpike Authority
Box 18007 - Southeast Station
Wichita, Kansas 67218

Telephone: MU2-4537

HOW OBTAINED:

In person or by letter.

REGULATIONS:

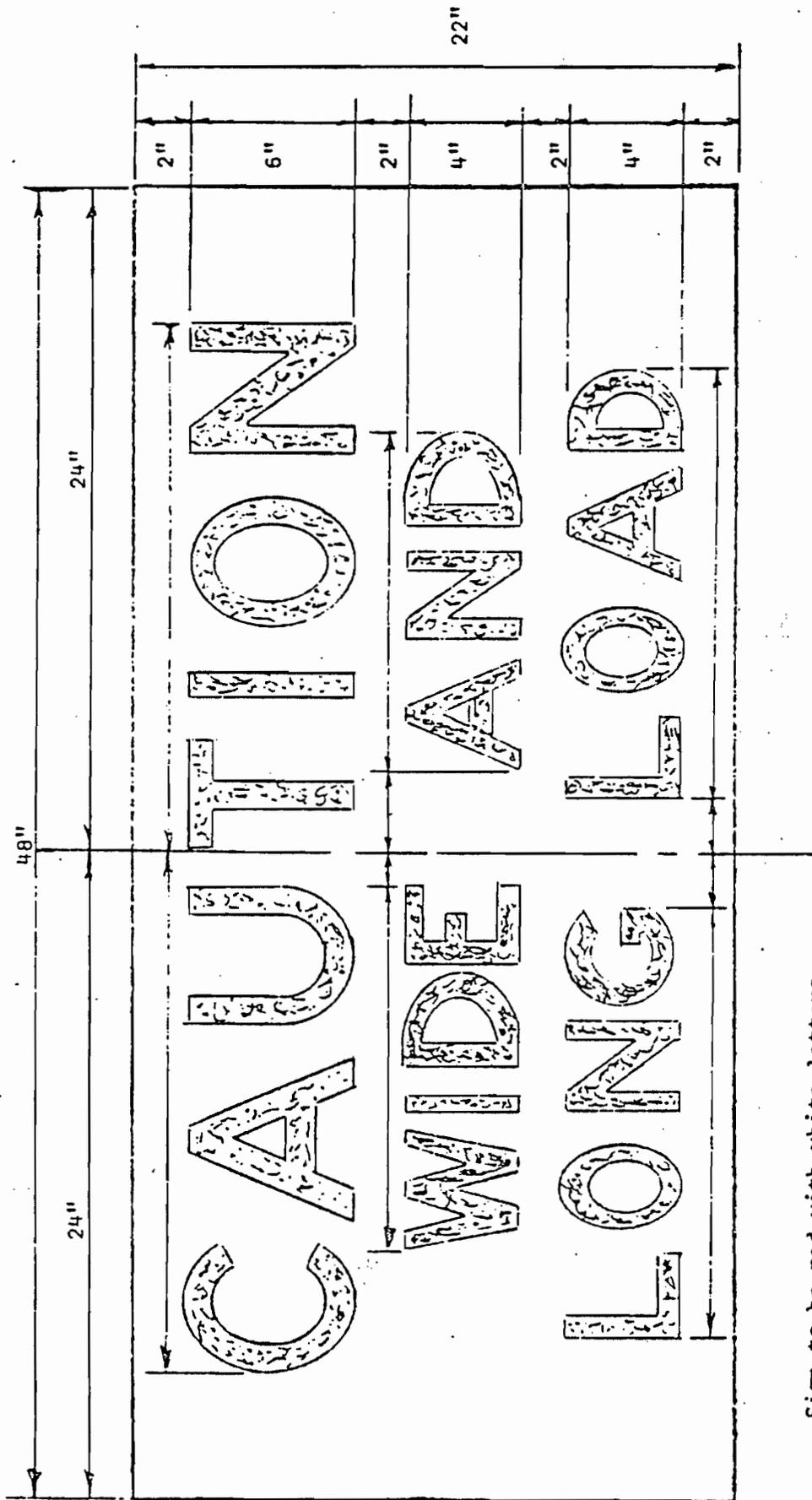
Must be able to maintain a minimum speed of 40 miles per hour.

Must agree to put flagman on duty or flares, in case of breakdown.

Movement limited on extremely windy days.

Overlength permission needed from toll collector or trooper for movement on Kansas Turnpike when length exceeds 65 feet except for "double-bottoms."

No escort required for units up to 12 feet wide. For units over 12 feet wide an escort is needed with "WIDE LOAD" sign in rear of both escort vehicle and mobile home.



Sign to be red with white letters.

Sign to be 48 inches long and 22 inches wide.

3.
Accounting Sheets

Accounting Sheets

General Estimates

LABOR

WAGES: Long Distance Truck Driver: Estimated annual earnings \$15,800.¹

Based on a 40 hour work week, 50 weeks a year,

Hourly Rate: \$7.90

Clerical-Administrative Labor: Most of the updating and mapping work can be done by a competent secretary. Average monthly earnings (secretaries to middle management in large companies) \$703.² Based on a 40 hour work week, 4 weeks a month,

Hourly Rate: \$4.40

Escort Vehicle Drivers: Are commonly students, retirees, etc., due to the low entry criteria, and command a low pay scale.

Hourly Rate: \$2.50

OVERHEAD AND-EMPLOYEE BENEFITS: As a conservative estimate, 70 percent overhead and 18 percent employee benefits.

TOTALS: Long Distance Truck Drivers \$14.85/hour
Clerical-Administrative Labor \$ 8.27/hour
Escort Vehicle Drivers \$ 4.70/hour

ESCORT COSTS:Self Escort

GAS: Estimated Cost of Gas: \$.55 per gallon. At an average gas mileage of 15 miles per gallon, an escort vehicle will cost

\$.037 per mile

LABOR: Escorting: While escorting a mobile home, the escort vehicle will average 40 miles per hour. At \$4.70/hour,

\$.12 per mile

Not Escorting: While returning to the plant or meeting the mobile home, the escort will average 55 mph. At 4.70/hour,

\$.09 per mile

UPKEEP: The average upkeep is estimated at \$400/year

$$\frac{\$400/\text{escort}/\text{year}}{900 \text{ trips}/\text{year}} = \underline{\$.44/\text{escort}/\text{trip}}$$

DEPRECIATION: Assuming an average depreciation of \$800 per vehicle per year,

$$\frac{\$800/\text{escort}/\text{year}}{900 \text{ trips}/\text{year}} = \underline{\$.89/\text{escort}/\text{trip}}$$

Commercial Escort: \$.35 per mile, 100 mile minimum. ³

MANUFACTURER'S COST - PRESENT SYSTEM (Estimates)

INFORMATION COSTS:

Permits and Procedures:

Labor: Assume 3 minutes per trip - .05 hours/trip x \$8.27

per hour = \$.41/trip

Materials: = \$.05/trip

Equipment Requirements:

Labor: Assume 5 minutes per trip; .08 hours/trip

x \$8.27/hour = \$.66/trip

Materials: = \$.05/trip

Route Restrictions, Mapping:

Labor: Assume 60 minutes per trip; 1 hour/trip

x \$8.27/hour = \$8.27/trip

Materials: = \$1.00/trip

Escort Requirements:

Labor: Assume 15 minutes per trip; .25 hours

per trip x \$8.27/hour

= \$2.07/trip

Materials: = \$.50/trip

Other:

Labor: Assume 5 minutes per trip; .08 hours

per trip x \$8.27/hour

= \$.66/trip

Materials: = \$.05/trip

PERMITS:

Application Process:

Labor: Assume ½ hour/trip; .5 hours/trip

x \$8.27/hour = \$4.14/trip

Materials: = \$.30/trip

Actual Cost: \$5 / Kansas
\$1 / Oklahoma = \$ 6.00/trip

TRAFFIC REGULATIONS

EQUIPMENT REQUIREMENTS:

Hauling Vehicles:

Home State: Estimated Cost, \$50 each (varies from state to state with amount required). In the peak month of September, the manufacturer ships approximately 10% of the mobile homes he produces each year, or 90 of 900. At 20 shipping days per month (mobile homes may not be shipped weekends), 4.5 will be shipped each day.

An average trip is 250-500 miles out and 250-500 miles back, so an average of 3 days per trip is reasonable:

3 days/trip x 4.5 trips/day = 14 harnesses.

$$\frac{14 \text{ harnesses} \times \$50/\text{harness}}{900 \text{ trips}} = \underline{\$.78/\text{trip}}$$

$$\text{Labor: } \frac{1 \text{ hour} \times 14.85/\text{hour} \times 14 \text{ harnesses}}{900 \text{ trips}} = \underline{\$.20/\text{trip}}$$

Out-of-State: The manufacturer will need a harness

for each state he delivers to. In this case study, he may use his Oklahoma harness in Kansas with only minor changes.

Negligible Expense

Labor: $\frac{.5 \text{ hours/harness} \times \$14.5/\text{hour} \times 14 \text{ harnesses}}{900 \text{ trips}}$

= \$.10/trip

Total Labor: = \$.30/trip

ESCORT VEHICLES:

Home State: Estimated cost, \$100 each (varies). Assuming the manufacturer needs 1.5 escorts per trip, he will need 18 safety harnesses.

$\frac{18 \text{ harnesses} \times \$100/\text{harness}}{900 \text{ trips}}$

= \$2.00/trip

Labor: $\frac{1.5 \text{ hours/harness} \times \$4.70/\text{hour} \times 14 \text{ harnesses}}{900 \text{ trips}}$

= \$.11/trip

Out-of-State: Again, the manufacturer can use his Oklahoma harness in Kansas with minor position changes, plus the addition of two red flags and one flashing amber light. If he makes 1/3 of his

658

deliveries to Kansas he will need 6 sets. Estimated cost, \$20 each.

6 harnesses x \$20/harness
450 trips

= \$.26/trip

ESCORTS:

Self Escort:

The transporter needs:

2 escorts for 65 miles on US66
1 escort for 145 miles on I35
2 escorts for 15 miles on I235
2 escorts for 20 miles on US81
2 escorts for 30 miles on US81
2 escorts for 25 miles on I35W

or 455 miles of escort

Gas: 455 miles x \$.037/mile = \$16.84

Labor: 455 miles x \$.12/mile = \$54.60

Maintenance: 11 escorts
6 sections = 1.83 escorts/section

1.83 escorts x \$.44/escort
= \$.81

Depreciation: 1.83 escorts x \$.89/escort
= \$1.63

\$.81 + \$1.63 = \$ 2.44

Return Trip:

1 escort must return 65 miles
2 escorts must return 300 miles

or 665 miles

Gas: 665 miles x \$.037/mile = \$24.60

Labor: 665 miles x \$.09/mile = \$59.85

Sending Costs:

1 escort must be sent ahead 210 miles

Gas: 210 miles x \$.037/mile = \$ 7.77

Labor: 210 miles x \$.09/mile
= \$18.90

+ 2 hours waiting time and changing harness: 2 hours x \$4.70/hour
= \$9.40

\$18.90 + \$9.40 = \$28.30

Commercial Escort

With the 100 mile minimum, the transporter must hire:

1 escort 100 miles on US 66
1 escort 100 miles on US 81 and I35W
1 escort 300 miles for the entire trip

or 500 miles of escort.

At \$.35 per mile = \$175.00

MANUFACTURER'S COST - PROPOSED SYSTEM (estimated)

INFORMATION COSTS: (Assume $\frac{1}{2}$ of present system cost, as only one standard must be researched, rather than 2)

Permits and Procedures:

Labor: = \$.20/trip

Materials: = \$.03/trip

Equipment Requirements:

Labor: = \$.33/trip

Materials: = \$.03/trip

Route Restrictions, Mapping:

Labor: = \$ 4.13/trip

Materials: = \$.75/trip

Escort Requirements:

Labor: = \$ 1.03/trip

Materials: = \$.25/trip

Other:

Labor: = \$.33/trip

Materials: = \$.03/trip

ESCORTS:

Self Escort:

The transporter needs:

1 escort for 65 miles on US66
 1 escort for 145 miles on I35
 1 escort for 15 miles on I235
 1 escort for 20 miles on US81
 2 escorts for 30 miles on US81
 1 escort for 25 miles on I35W

or 330 miles of escort

If the manufacturer sends the 2nd escort:

Gas: 330 miles x \$.037/mile = \$12.47Labor: 330 miles x \$.12/mile = \$39.60Return Trip:

1 escort 300 miles

Gas: 300 x \$.037/mile = \$11.10Labor: 300 x \$.09/mile = \$27.00

- plus -

If the manufacturer sends 2nd escort:

1 escort 275 miles

Gas: 275 x \$.037/mile = \$10.18Labor: 275 x \$.09 = \$24.75

SENDING COSTS:

If Manufacturer sends:

1 escort 245 miles

Gas: 245 x \$.037/mile = \$ 9.06Labor: 245 x \$.09 = \$22.05

Commercial Escort:

1 escort for 300 miles and an additional escort for
30 miles. Due to the 100 mile minimum,

400 escort miles.

400 miles x \$.35/mile = \$140.00

FOOTNOTES

1. Occupational Outlook Handbook 1974-75 Edition, U.S. Department of Labor--Bureau of Labor Statistics, 1974. Bulletin 1785 U.S. Government Printing Office, Washington, D.C. p. 323
2. Ibid., p. 109
3. W.D.Glauz, B.M.Hutchison, D.R.Kobett Economic Evaluation of Mobile and Modular Housing Shipments by Highway, April, 1974, prepared for the U.S. Department of Transportation and the U.S. Department of Housing and Urban Development. Volume I, p. 125