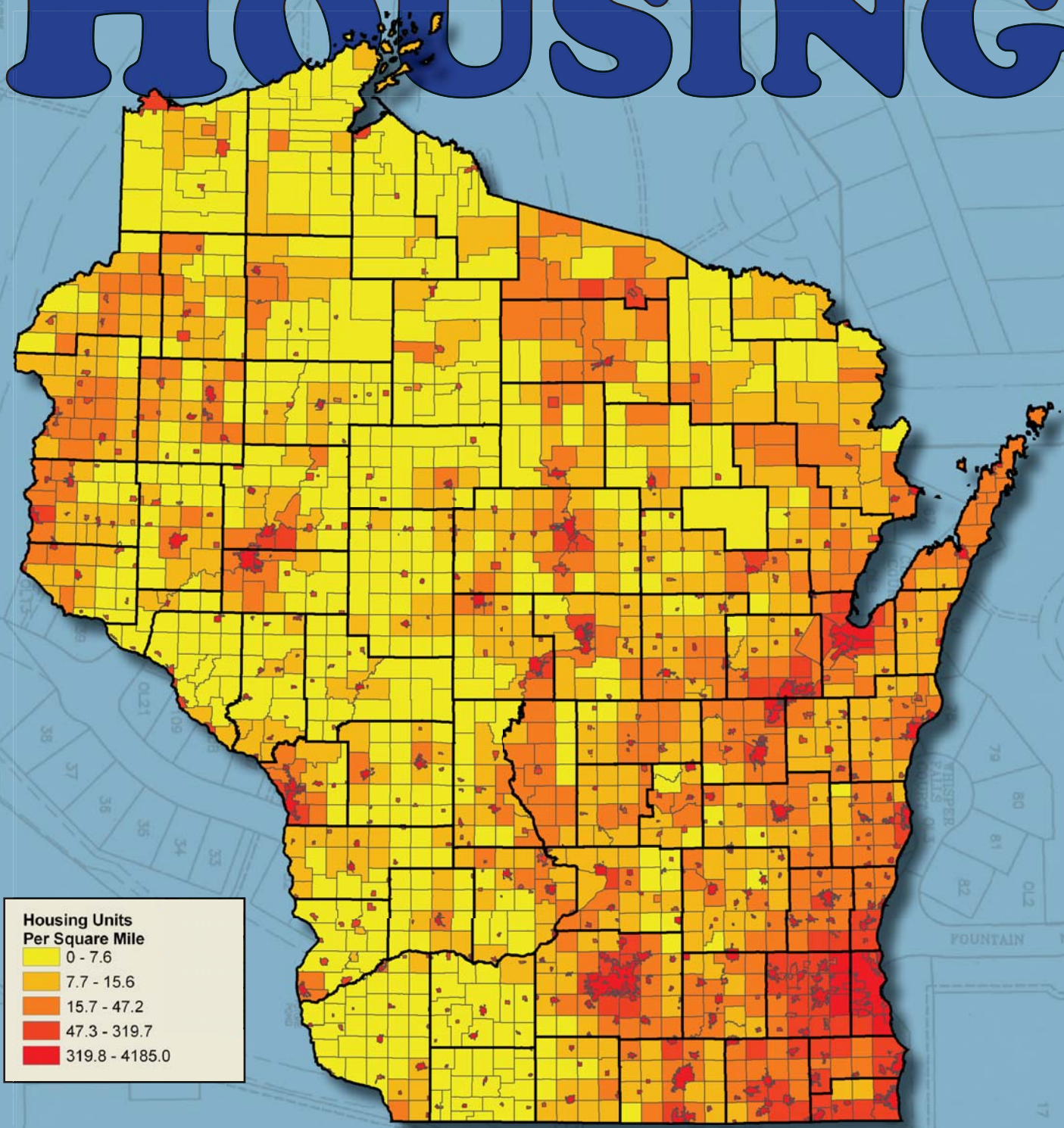


WISCONSIN LAND USE MEGATRENDS:

HOUSING



Map 1: Wisconsin Housing Density, 2000. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied or intended for occupancy as separate living quarters. The map shows the number of housing units per square mile. Not surprisingly, the regions of the state with the highest population, southeast Wisconsin and the Fox River Valley, show the highest housing densities. Other areas to note with medium to high housing density are western Wisconsin, which is due to Twin Cities growth, and amenity-rich areas, such as Adams, Juneau, Oneida and Vilas Counties. Each color consists of 380 cities, villages, or towns.

Introduction

The goal of this brochure is to illustrate statewide land use trends related to housing in Wisconsin. Since the age of European settlement in the 19th century, the number of residents and the need for housing has steadily increased. Shrinking household size, growing incomes and local zoning regulations have facilitated the demand for more and larger homes on larger lots, requiring a greater share of Wisconsin's total land base. We hope that the information in this brochure will help local communities, government officials, planning professionals, and individual landowners engage in meaningful dialogues about the role of housing as a land use and the trends that may shape Wisconsin's future.

Regional Housing Growth

Wisconsin's current housing pattern is a reflection of early settlement patterns that were largely driven by the quality of Wisconsin farmland and proximity to eastern markets. The majority of the state's housing is located in the southeast region of the state (see Figure 1),¹² delineated here by an arc extending from Green Bay to Madison. Housing growth in the driftless region of southwest Wisconsin has been relatively slow and today this region accounts for only 8% of the total population, about half of what it was one hundred years ago. The percent increase in the cutover region has kept pace with the southeast, though the seasonal share of these homes is larger than other regions.

Home Ownership

Owning one's home has long been considered a part of the "American Dream." In Wisconsin, home ownership rates have always been fairly strong. At the turn of the 19th century, 2 in 3 Wisconsin householders owned their own home, compared with just 1 in 2 nationwide. During the early part of the 1900s home ownership rates declined slightly before dropping to an all-time low during the Great Depression. By 1940, just over 1 in 2 Wisconsin householders owned their own home. A booming economy, favorable tax laws, easier financing and a rejuvenated home building industry encouraged a surge in home ownership in the post-World War II period. By 1950, Wisconsin home ownership rates had recovered to pre-Depression levels and continued to climb during the 1960s and 70s. During the 1980s, Wisconsin home ownership rates dropped slightly but then continued to rise through 2005. During the post-War period, nationwide home ownership rates rose steadily, closing the gap on Wisconsin's historically high rates (see Figure 2).⁹ In 2005, 71% of Wisconsin householders owned their own home compared with 69% of householders nationwide.⁷ Roughly 6% of Wisconsin's total housing stock is devoted to seasonal use, compared with just 3% nationwide (see Figure 3).¹¹ Seasonal homes dominate Wisconsin's northern lake and forest communities and are scattered throughout central parts of the state.

Figure 1: Regional Housing Growth 1890-2000¹²

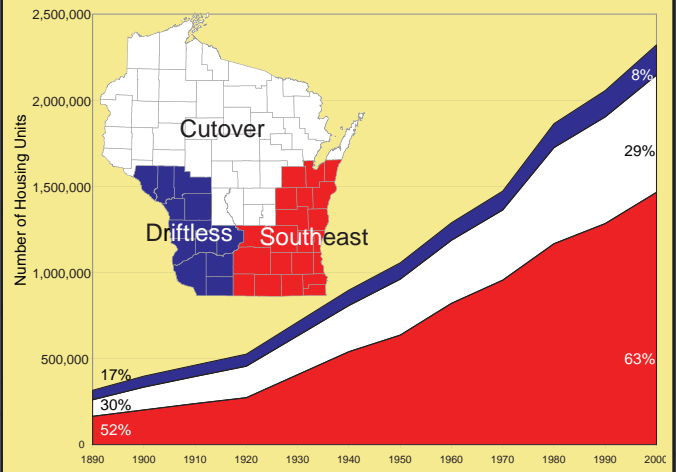


Figure 2: Home Ownership Through the Decades⁹

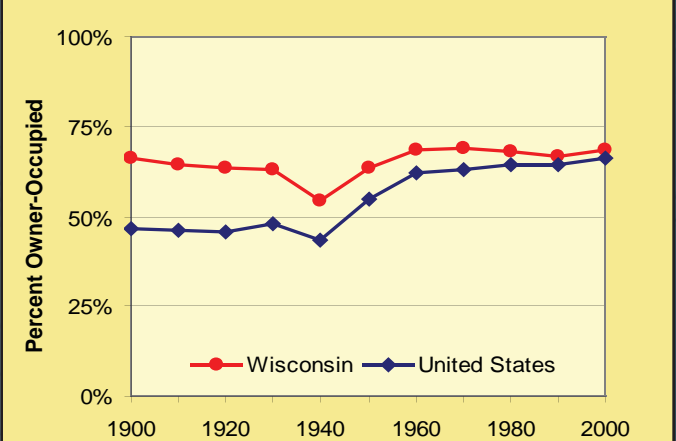
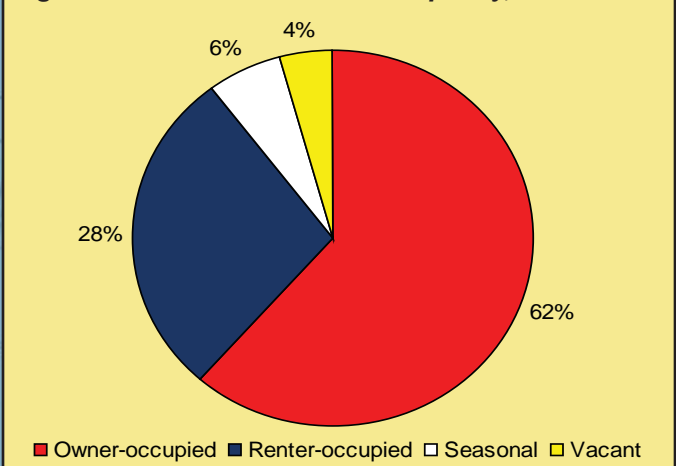


Figure 3: Wisconsin Home Occupancy, 2000¹¹



Housing Prices and Property Values

The growth in housing values represents another significant trend for residential land use. Housing values are comprised of two different but related components: the value of improvements (residential structure and any associated buildings such as garages and swimming pools), and the value of the underlying land.

Median home values adjusted for inflation nearly quadrupled over the 60-year period since the first housing census in 1940. The median value of a single-family home in Wisconsin rose from \$33,600 in 1940 to \$112,200 in 2000, after adjusting for inflation. Median home values in Wisconsin dropped significantly in the 1980s. Although median home values are on the rise again, they have not regained their competitive edge when compared to the nation as a whole (see Figure 4).¹⁰

Land prices have increased in large part due to the total overall demand for residential property. In Wisconsin, demand has been growing as the number of households has increased. Demand for vacation homes is another force feeding the growth in Wisconsin residential land demand. The value of residential land also increases whenever local and state governments extend or improve public infrastructure such as highways, local roads, sewer and water.

The value of residential improvements has also been increasing, due largely to the growth in housing unit size and the quality of construction and materials. This comes not only in the form of newly minted “McMansions” on recently subdivided cornfields, but also from millions of modest improvements to older homes made each year, such as kitchen renovations, room additions, and electrical upgrades.

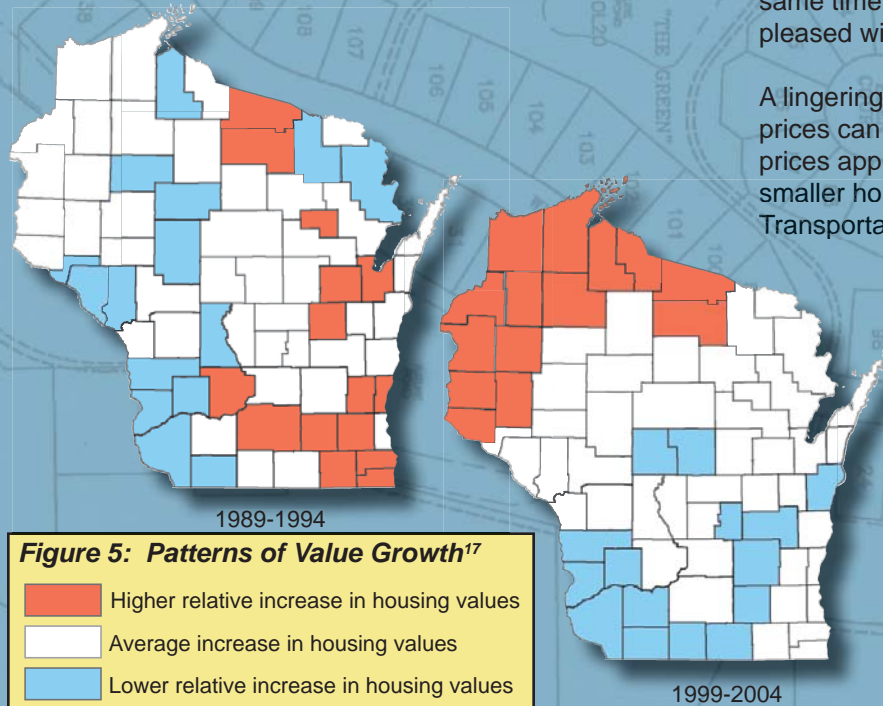
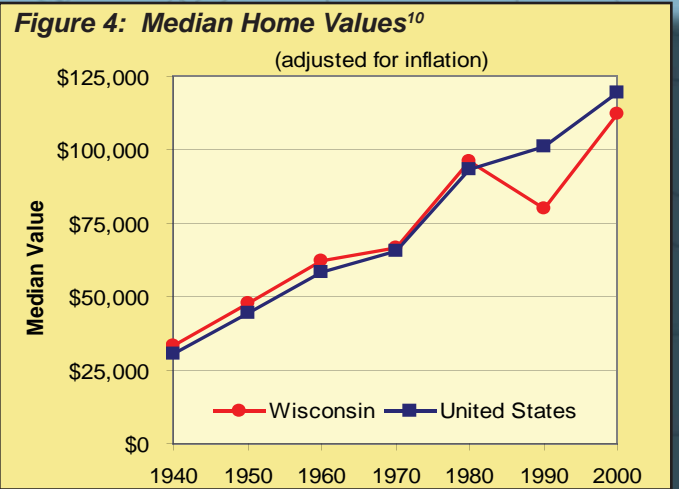


Figure 5: Patterns of Value Growth¹⁷
 Higher relative increase in housing values
 Average increase in housing values
 Lower relative increase in housing values

Maps reprinted courtesy Wisconsin Taxpayers Alliance



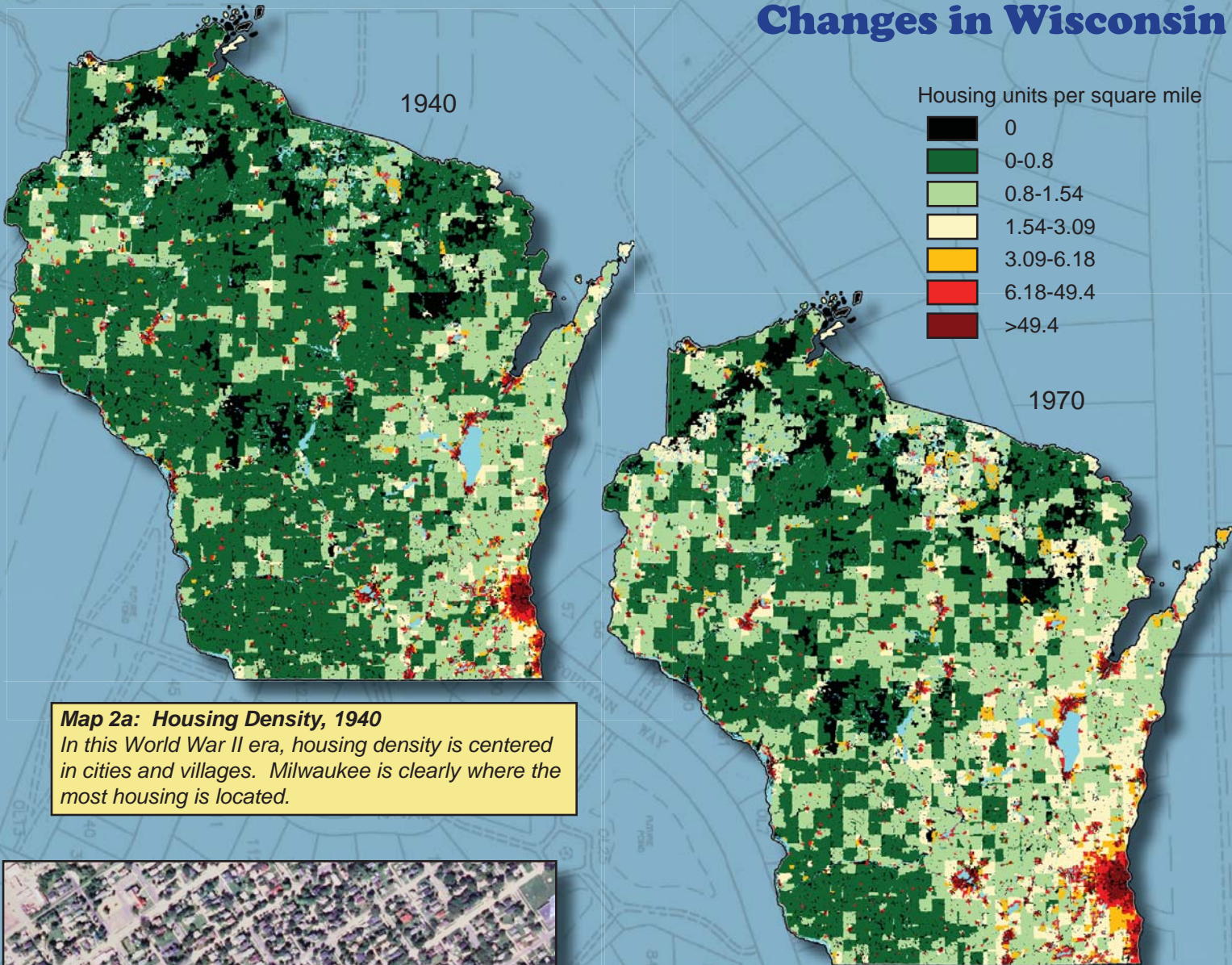
For homeowners and investors in real estate, residential properties represent a significant portion of total wealth. The demand-driven growth in residential land values raises personal wealth by increasing homeowner equity in real estate. Homeowners often tap into this equity to either improve their structures or move to a different, more valuable property. This creates a positive feedback loop, wherein the growth of land prices and housing equity leads to future growth in real estate investment.

The results of this feedback loop are evident in northern Wisconsin, where families and retirees from big cities are taking their urban real estate equity and spending it on cabins and retirement properties (see Figure 5).¹⁷ Local residents whose spending power is more closely tied to the rural economy compete poorly in such housing markets, creating some frustration among long-time locals that they are being “priced out” by out-of-towners. At the same time, home sellers in such communities are likely pleased with the dollar amounts they are getting.

A lingering question is whether this growth in value and prices can continue. The fundamentals of residential land prices appear strong, as population is likely to grow into smaller households with more second-home owners. Transportation costs and mortgage rates are additional factors people consider when choosing home sites, and gasoline price increases potentially could cool the market for far-flung residential development.

Improvement values seem likely to hold strong, particularly if the cost of materials grows. For instance, higher prices for copper wire, concrete and timber can make the existing home inventory more valuable, since those materials are already in place. All told, residential land uses will continue to be seen as both necessary to ensure access to shelter and desirable as a form of investment and wealth enhancement.

Changes in Wisconsin

**Map 2a: Housing Density, 1940**

In this World War II era, housing density is centered in cities and villages. Milwaukee is clearly where the most housing is located.



Aerial Photo 1: This 2004 aerial photo shows the housing density in Ashland, WI. Much of the housing in Ashland was developed prior to the advent of the automobile.

Aerial Photo 2: Another aerial photo from 2004, taken at roughly the same scale as the Ashland photo. This subdivision is located on Highway 29, several miles east of Eau Claire. Notice how many fewer homes are found on the same amount of land.

Map 2b: Housing Density, 1970

In this post war and baby boom era, housing units have spread out beyond cities and villages into towns. Housing density in the northwoods has increased due to the construction of cottages.



Housing Density 1940-2030

In Wisconsin, housing development is not limited by factors that constrain growth in other areas of the country, such as extensive public landownership, topography or water availability. Additionally, road networks are dense and well established. Thus, there is little to impede sprawl.

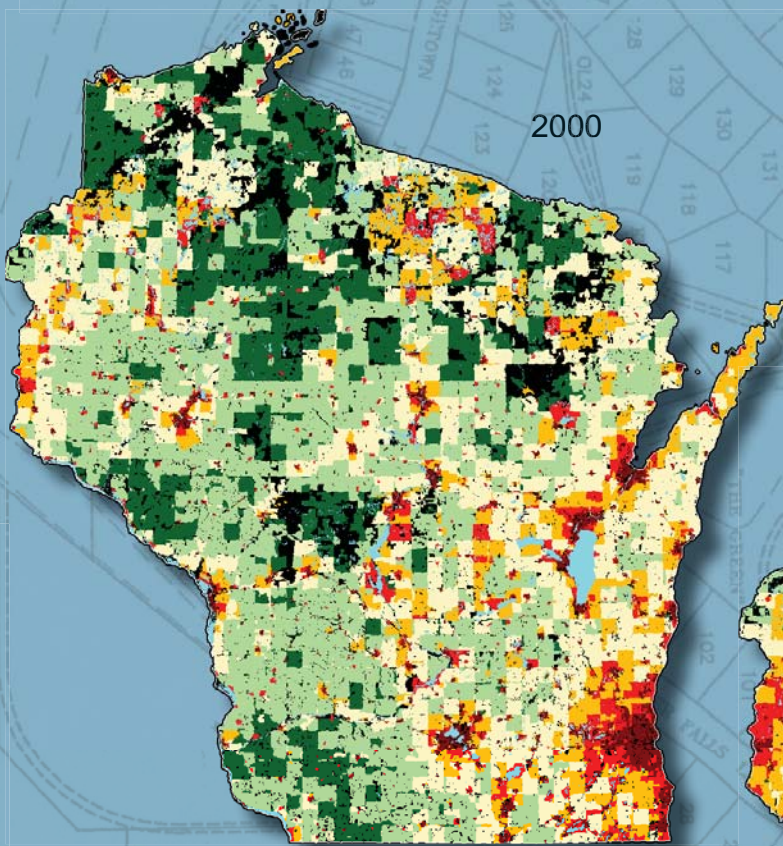
Between 1940 and 2000 housing growth resulted in two types of sprawl: suburban sprawl and rural sprawl in areas that are rich in amenities such as lakes and forests. Suburban housing growth was especially high in the post-World War II decades. Rural sprawl was highest in the 1970s and 1990s, driven primarily by the net migration of people from urban to rural areas. The widespread and pervasive nature of sprawl shown in this data is cause for conservation concern.

Suburban sprawl has greater impacts on smaller areas because of the higher number and density of housing units, whereas rural sprawl affects larger areas with less intensity because associated housing densities

are usually lower. The conservation effects per house, however, are arguably higher because much larger areas are affected and it occurs in less-altered landscapes, thereby causing higher levels of habitat loss and fragmentation, disproportionate increases in roads, and magnified potential for introduction of exotic species.

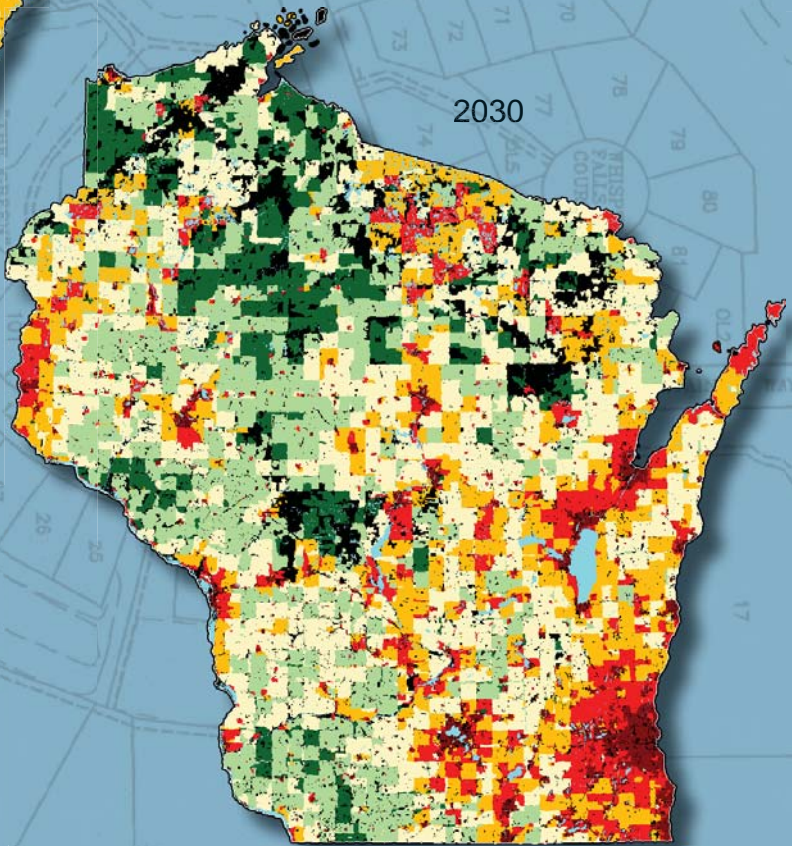
Relatively low land prices and weak land-use regulations in rural areas can result in rural sprawl with its disproportionate ecological impacts. This combination leads to the “commodification of nature” in which developers and landowners use natural rural landscapes as a marketable product in response to consumers’ preferences for rural living. Ironically, the lakes, rivers and forests attract people, which drives home building, ultimately degrading the resources that attracted people in the first place. Coordinated planning processes across jurisdictions can ensure regulatory consistency, avoid conflict among municipalities, and discourage spillover growth.⁶

Is it time to develop a new “American Dream” regarding the location and consequences of our homes?



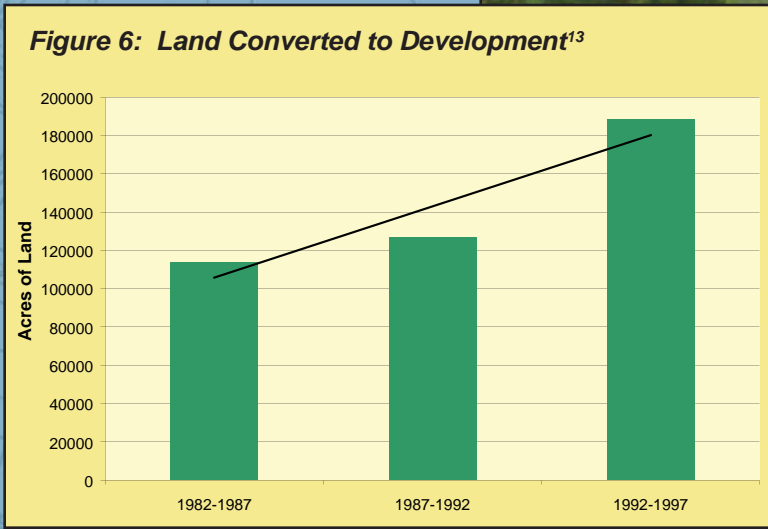
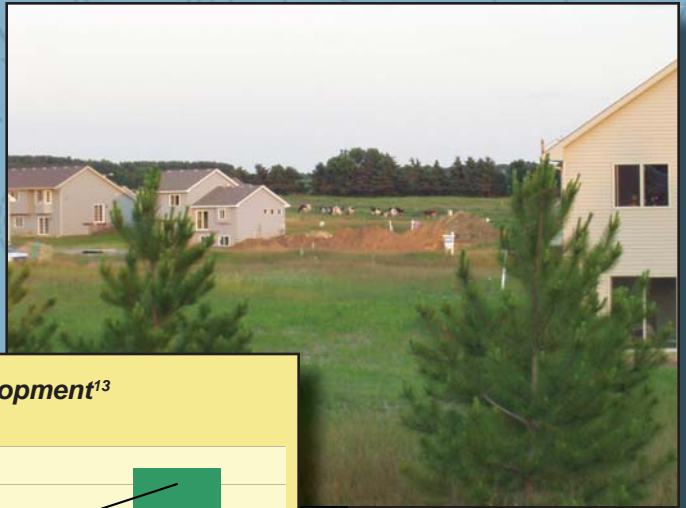
Map 2c: Housing Density, 2000
 Since 1970, housing units continued to spread out beyond core cities and villages. Notable is the housing density in the northwoods, particularly in Oneida and Vilas Counties.

Map 2d: Housing Density, 2030
 This map forecasts future housing density in 2030. Southeast Wisconsin, the Fox River Valley and Dane County continue a trend towards higher housing densities. Amenity-rich areas, such as Door, Oneida, and Vilas Counties show higher density housing. Many of the areas that remain very low density are public lands, either national or state forests and parks.



Land Conversion

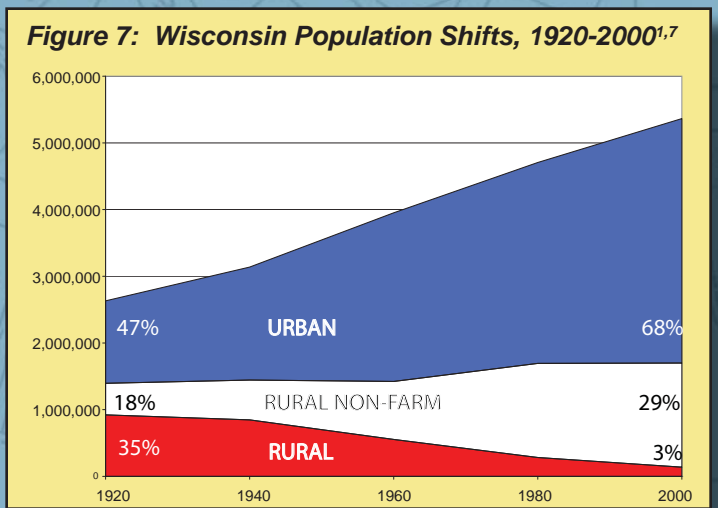
Most of us notice land conversion taking place at a fairly regular pace. Most of us can remember a field or two, or some wooded areas that sprouted houses, office space or shops in recent years. The Natural Resource Conservation Service has measured and tracked this development phenomenon. Figure 6 shows the amount of land conversion over a period of fifteen years in five-year increments.¹³ It shows that over time Wisconsin is converting more and more undeveloped land (crop, forested, pasture) into development (housing, commercial, industrial). From 1982 to 1997, Wisconsin converted a total of 670 square miles of undeveloped land into developed land. This amount is equivalent to an entire county the size of Adams, Buffalo, or Eau Claire being developed every fifteen years. In addition, the amount of land that is converted from undeveloped to developed has increased over time. Given the trends in increased housing size, larger lots sizes and larger and more big box stores, it is likely that the conversion trend will continue. If conversion trends from the 1992-1997 period continue, in fifteen years (1997-2012), another 882 square miles would be converted from undeveloped to developed land or a county equivalent in size to Dodge County.



Population Shifts

During the early part of the 20th century, the majority of Wisconsin's population was rural and lived an agrarian lifestyle.¹ Drawn by the amenities of city life, Wisconsin's urban population expanded from roughly 800,000 in 1900 to 3.7 million in 2000. During the same time period, Wisconsin's rural population grew from 1.3 million to 1.7 million. In the era following the Great Depression, there was a sharp decline in the number of rural residents living on farms and a subsequent trend toward suburbanization of urban and rural areas. By 2000, only 3% of Wisconsin's population resided on farms, compared with 29% in rural non-farm areas, and 68% in rural areas.

(Rural is defined as a census designated place of less than 2,500 persons.)

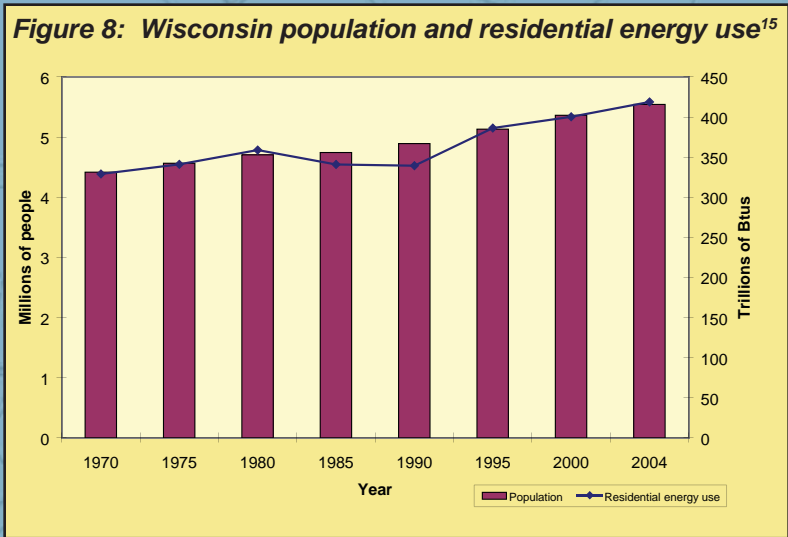


Residential Energy Use

Residential energy use in Wisconsin in 2004 accounted for 23% of the total energy consumption of the state. As shown in Figure 8, residential energy use has increased by 27% from 1970 to 2004, closely tracking increasing population.¹⁶ The amount of energy per capita has remained nearly constant during the same time period, while the amount of energy used per household has decreased significantly (23%) due to fewer people per household and updated building codes that require increased insulation and high efficiency furnaces.

Energy use for heating constitutes the single biggest energy cost for most Wisconsin homes, making up 42 percent of total energy costs for the average home. How much energy a home needs for heating depends on a variety of factors. Homes that are smaller, better insulated and have more efficient heating systems use less energy.^{3,4,5}

Another factor affecting home energy use is whether a home is in a single-family or multi-family building. Most large multifamily buildings were built after 1970. Partly because of this—but also because they enclose a larger volume per square foot of surface area—these apartment buildings use far less heating energy per square foot than smaller buildings. Moreover, homes in these buildings tend to be occupied by smaller households with fewer energy-using appliances, other than for heating and cooling.³



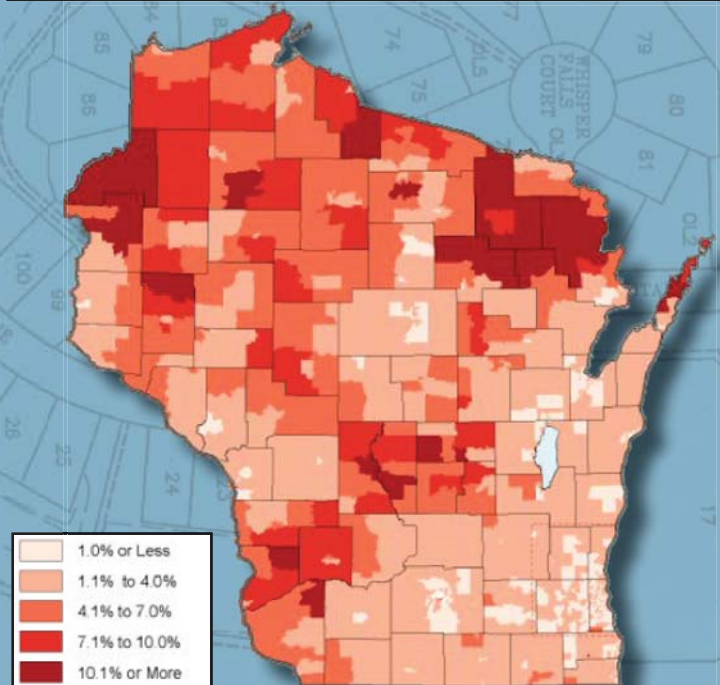
Renewable energy accounted for 7% of residential energy use in 2004 with the majority of the renewable energy coming from wood heating.¹⁶ To heat all Wisconsin homes with wood would require approximately 9 million acres of sustainably harvested forests which is 57% of the forest land in the state.¹⁷

Commuting

Since 1970, the number of miles traveled by vehicles in Wisconsin has more than doubled.¹⁴ The energy used for transportation, at 25% of state energy use, is slightly higher than residential energy use.¹⁶ Commuting is responsible for 28% of all miles traveled, with 89% of workers driving to work. The money spent on gasoline represents dollars that “leak” out of the local community, out of the state, and largely out of the country. Looking across Wisconsin, commuters living in non-metro counties tend to commute farther than their metro counterparts. Consequently, increasing gas prices have greater impacts on non-metro areas. For instance, a \$1 per gallon increase in gas prices amounts to an average increase in gasoline costs of \$162 per commuter in Green Bay, while it averages \$700 per commuter in Muscodia (southwest Wisconsin).²

Map 3 illustrates the percentage of stretch commuters in Wisconsin. Stretch commuters are people that travel more than 50 miles each way to work and Wisconsin has over 50,000 of them.² Not surprisingly, the greatest percentage of stretch commuters are found in the non-metro parts of the state, with clusters centered around Iron, Burnett, Adams and Crawford counties.

Map 3: Stretch Supercommuters²
Percent of Commuters Driving 50+ Miles to Work (each way) in each Census Tract (2.1% of all Wisconsin Commuters).



Map Created by Matt Kures
UW-Extension Center for Community and Economic Development

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Errata: Copies of the Wisconsin Land Use Megatrends: Housing, printed or downloaded before April, 2009 contained the wrong legend for the maps on pages 4-5.

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