

Urban and Rural Residential Uses

The Census Bureau reported an **urban area** total of 56 million acres in 1990 and, based on a revised definition, 59.2 million acres in 2000 and 59.6 million acres in 2002 (see Appendix for detailed descriptions of terms in **bold**). This estimate of urban land area for 2002 is below the 66 million urban acres previously reported by Major Land Uses (MLU) for 1997 (table 2). This difference does not indicate an actual decline in urban acreage. Instead, it reflects a change in the definition of urban and rural areas used for the 2000 Census. The Census Bureau calculates that 1990 urban area would have been 51.8 million acres under the new definition, compared with 55.9 million acres under the previous definition. Estimates based on the new definition imply that urban area increased about 7.8 million acres (13 percent) from 1990 to 2000.

Most significantly, the Census Bureau created a new set of geographic entities termed “urban clusters,” in order to more precisely delimit areas of high population density outside major “urbanized areas.” These urban clusters replaced the previous criteria, which classified whole Census-designated places as urban based on average population density. The new geographic units included high-population-density areas previously defined as rural and excluded low-density areas previously defined as urban. Other changes in the criteria include the removal of a grandfathering requirement to retain areas as urban if they fell within previously designated urbanized areas. On net, these and other changes in the Census criteria led to the downward revision of urban area estimates.¹²

In 2002, urban land in the United States was less than 3 percent of total land area, but housed 79 percent of the U.S. population. Rural **residential area** is an estimate of the acres of land and associated lots in rural areas used for housing. Data on rural residential acreage at the national level are available from several periodic American Housing Surveys (AHS) published by the U.S. Department of Housing and Urban Development (HUD) and the Census Bureau. AHS data are not available by State. In deriving the MLU estimates, housing units for which AHS assigns an acreage weight but no lot size (apartment houses, condominiums) were assigned the smallest lot size in the sample to account for all housing area. Area associated with farm housing units was subtracted to account for land in productive farms (with more than \$1,000 in annual agricultural income).

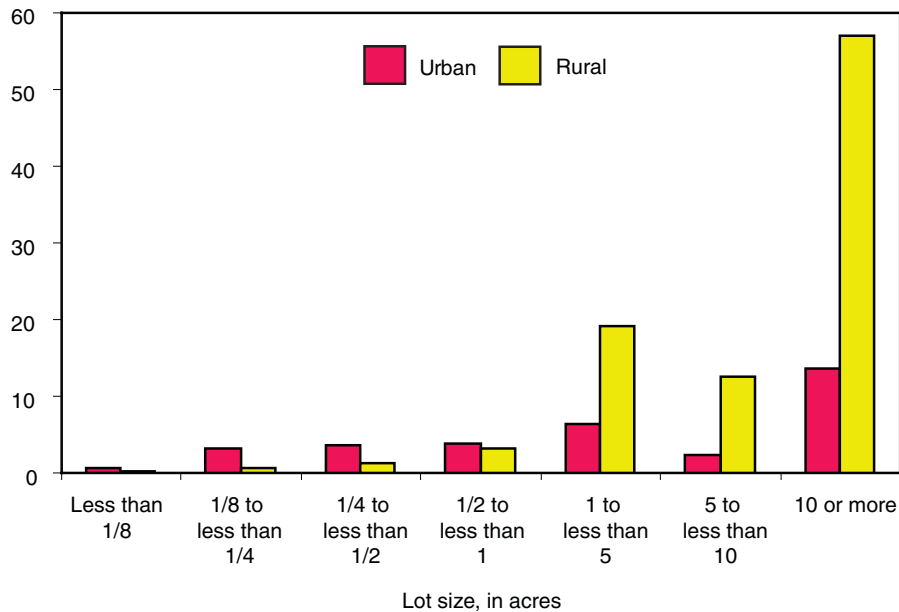
The MLU estimate for the nonfarm, rural residential area is 94 million acres in 2002, up from the 1997 estimate of 73 million acres and the 1980 estimate of 56 million acres. Urban land plus rural residential areas together comprise 154 million acres, or almost 7 percent of total U.S. land area. Given the information provided by AHS, it is not possible to clearly distinguish land used for residential purposes from land in other uses. Land in the rural residential category could be classified under the “miscellaneous other” land category in the MLU series (see “Major Uses of Land, by Class of Ownership,” p. 35). However, land classed under rural housing lots could also be classed as forests or grassland pasture and range, particularly given the prevalence of large lots that could serve multiple uses (fig. 7).

¹² The new Census definition of urban area, and updates, can be found in the *Federal Register* (DOC/BOC, 2002).

Figure 7

U.S. urban and rural residential area, by lot size, 2002

Million acres



Notes: Estimates are an average of 2001 and 2003 American Housing Survey micro-data, weighted according to 2000 Census geography. Farm housing units and housing units with unreported lot sizes (e.g., apartments) are not included in these estimates.

Sources: HUD/BOC, 2002; 2004.

Large lot sizes occur more frequently in rural areas than in urban areas (fig. 7). Rural residential area encompassed 57.1 million acres of lots 10 acres and more, versus 13.5 million acres in urban areas. However, in the smaller lot sizes, urban land occurred in greater frequency. Urban land occupied 711,000 acres of lots less than an eighth of an acre, while rural land encompassed only 189,000 such acres. These small-size lot numbers do not reflect residential units, such as apartments, which are not assigned lot sizes by the AHS. Land in rural areas is generally less expensive, which may account for larger lot sizes in rural areas.

The National Resources Inventory (NRI) is an alternative source for estimates of urban and rural residential areas. The NRI uses a consistent definition for **urban and built-up areas**, although it differs from the definition used by the Census Bureau. According to the NRI, **developed land** totaled 106 million acres in 2001, including 22 million acres in rural transportation uses and 84.3 million acres in small and large urban and built-up areas. The MLU estimates for 2002 are 60 million urban acres, with 27 million acres in transportation areas (highways/roads, railroads, and airports) and 94 million acres in rural residential uses.

NRI's estimate of built-up areas exceeds the Census urban area estimate, as NRI's classification includes some rural housing tracts (typically over 10 acres) and some developed land used for nonhousing purposes in rural areas (not included in MLU's rural residential category). On net, NRI's built-up classification excludes more land than it includes relative to the sum of the Census urban plus rural residential categories.

Trends in Urban and Rural Residential Uses

Urban land area has quadrupled from roughly 15 million acres in 1945 to an estimated 60 million acres in 2002. The Census Bureau reports that the U.S. population nearly doubled over this same period. Thus, urban land area has increased at about twice the rate of population growth. Rural residential land, as estimated by MLU, increased by 17 million acres (30 percent) from 1980 to 1997, and by 21 million acres (29 percent) from 1997 to 2002. However, even with large percentage increases in urban and rural residential areas, percentage decreases in the remaining rural area are small given the available land base.

Although the definition changes may have improved the precision of the Census' urban area estimates, the estimated 7.8-million-acre (13 percent) change in urban area during the 1990s cannot be directly compared with changes in previous periods. Based on the previous definitions, the Census estimates that urban area increased 8.6 million acres (18 percent) over the 1980s, 12.8 million acres (37 percent) over the 1970s, and 9.1 million acres (36 percent) over the 1960s.

The NRI's use of a consistent definition across survey years makes it useful for calculating the rate of urbanization or development of land. Between 1982 and 2001, the average rate of increase in large and small built-up areas was 1.7 million acres per year. Between 1997 and 2001, the average rate of increase was 2.1 million acres per year. According to the NRI, built-up land increased by 13 million acres (26 percent) over 1982-92 and by 19 million acres (33 percent) over 1992-2001.

The average annual rate of increase in rural residential land has been 1.7 million acres per year since 1980. Combining the total urban annual rate of 230,000 acres and the rural residential rate of 1.72 million acres, the average rate of increase in these categories is about 2 million acres per year. Evidence suggests that the yearly rate of increase of residential land use may have been higher over shorter periods of time. For example, land used for all single-family housing, urban and rural, increased by about 2.3 million acres per year from 1994 to 1997 (HUD, 2000).