

Study shows urban sprawl continues to gobble up land

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Despite reports to the contrary, urban sprawl has continued to grow significantly for the past several decades, new research suggests.

A study of changing land use patterns in the state of Maryland found substantial and significant increases in sprawl between 1973 and 2000.

The results are in contrast to a well-publicized study last year that concluded that the extent of sprawl remained roughly unchanged in the United States between 1976 and 1992.

“We found that the areas where sprawl increased the most were in the exurban areas – out beyond even the suburbs,” said Elena Irwin, co-author of the study and associate professor of environmental economics at Ohio State University.

The study looked for evidence of fragmented land use – areas where housing was juxtaposed with agriculture or forested areas, for example. That's one of the basic hallmarks of sprawl.

Results showed the level of peak land-use fragmentation was 60 percent greater in 2000 as it was in 1973, and shifted outward from the central cities to a distance of 55 miles in 2000, up from about 40 miles in 1973.

Fragmented land use increased the most in non-urban areas located about 80 miles from the nearest city, the researchers found.

“People are moving further and further away from the center of cities and increasingly more people are living on larger lots,” she said. “That's increasing the level of sprawl.”

The study was published online this week in the *Proceedings of the National Academy of Sciences*. Irwin conducted the study with Nancy Bockstael of the University of Maryland .

Irwin said it is very difficult to measure sprawl because of the limitations of data available to researchers. That's one problem with the study published last year in the *Quarterly Journal of Economics*, claiming that sprawl has not increased in the United States .

That study used high altitude photos and satellite images to track land use changes between 1976 and 1992.

“However, satellite data is not very good at recording low-density residential development, which we find is the essential footprint of sprawl,” Irwin said. “Low-density housing is the type of land use that is most strongly associated with fragmentation.”

As part of their study, Irwin and Bockstael used land use data from Howard County to examine at a more finely detailed level how individual patches of land in the county were used. When they compared their data with the satellite image data, they found that the satellite data captured only 26 percent of low-density residential development that occurred in the county.

“If you use only the satellite data, you're missing a lot of the sprawl story,” she said.

Irwin said the new reality of sprawl is not conforming to the commonly accepted models of how metropolitan areas develop. The basic theory

has been that when pockets of land just beyond the suburbs are developed, the area nearer the central city will be “filled in” before development moves even further out.

“We find lots of evidence for increases in sprawl further out, but very little evidence for infill development closer to the central city,” she said. “It contradicts the basic idea of an orderly development process.”

“The results reflect the diminished pull of city centers,” Irwin said. More people have jobs in suburban areas, or are telecommuting, and no longer have the need or desire to live close to the major cities, she explained.

While people are less interested in living in or near large cities, they are also being drawn out by natural amenities in rural areas, such as lakes, oceans, forests or mountains.

For example, in this study the researchers found less fragmented areas closer to the edge of Chesapeake Bay , suggesting an attraction to the coast.

Irwin said the study also found a link between sprawl and the building of roads and zoning regulations that require larger lot sizes. However, it was not possible to distinguish whether large-lot zoning and roads cause sprawl, or vice versa.

While this study was done only for the state of Maryland , Irwin said she would expect the results to be applicable to other states that have witnessed substantial urbanization.

“What's driving these fragmentation patterns in Maryland does not appear to be specific to Maryland ,” she said. “Exurban, low-density development has been well-documented across the United States .”

Source: Ohio State University

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