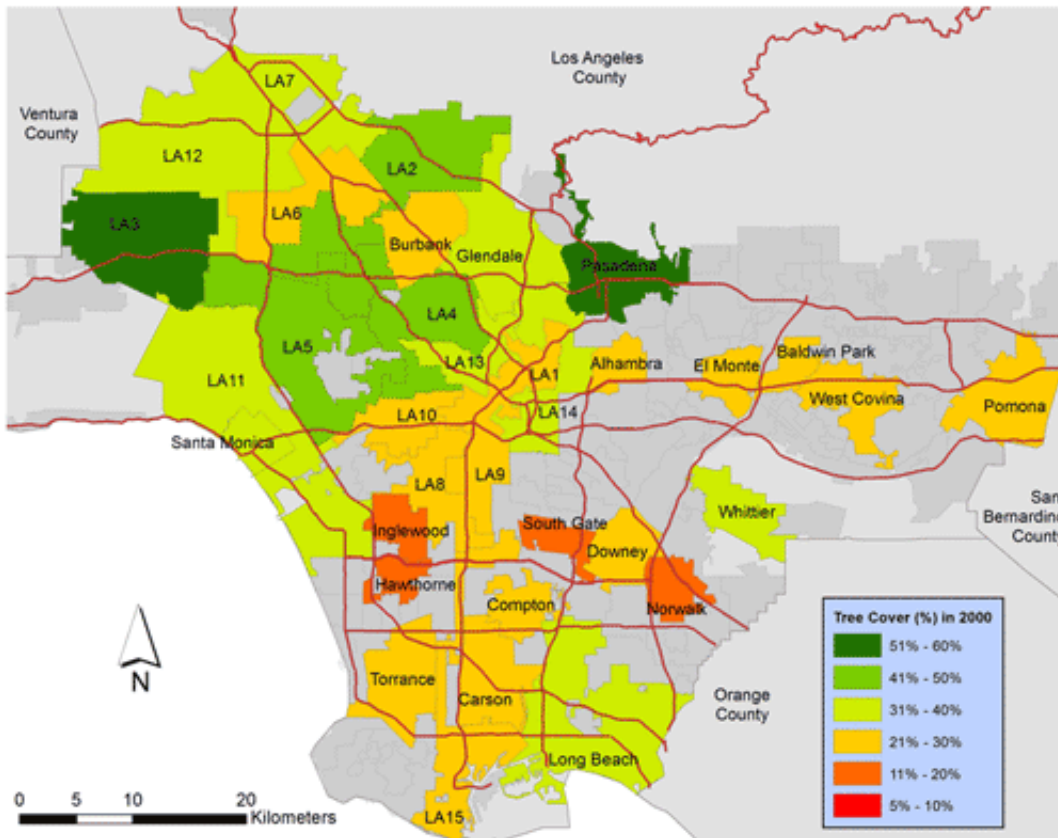


When single-family homes killed L.A.'s urban forest

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No area in Southern Calif. was immune from home remodeling, add-ons, redevelopment and the 'hardscaping' of residential lots, destroying trees and other plant life Credit: USC and Spatial Sciences Institute

Plant a tree, save the world?

Maybe, but preventing the chopping down of [trees](#) for single-family home add-ons or the paving of shrubbery for driveways and other "hardscaped" property features would go a lot further, say researchers with the USC Spatial Sciences Institute.

In the Los Angeles area, green cover for single-family home lots declined anywhere from 14 to 55 percent, with almost no single area spared from the decline, according to a study published online in the journal *Urban Forestry & Urban Greening* by a team of researchers led by USC Dornsife College of Letters, Arts and Sciences lecturer in spatial sciences Su Jin Lee and including USC Dornsife and USC School of Architecture Assistant Professor Travis Longcore.

Much of this "de-greening" took place as the city of Los Angeles famously kicked off its "Million Trees" tree-planting campaign in 2007. Other major cities like New York, Shanghai and London have undertaken similar campaigns in recent years.

For its study, the Spatial Sciences Institute researchers looked at tree, building and other land cover for the 20 largest cities in the Los Angeles Basin for the period of 2000 to 2009.

The researchers did this by first noting all the single-family parcels in these cities where additional square footage from 2000-09 was recorded.

Then they digitized high-resolution aerial imagery of these parcels provided by the Los Angeles Region-Imagery Acquisition Consortium, identifying six different types of land cover—buildings, hardscape, swimming pools, shade, grass and trees/shrubs.

Finally, the researchers compared the change in imagery over these six types of cover from the two points in time—2000 and 2009.

The entire area examined by the researchers saw a 1.2 percent annual decrease in tree and shrub cover year-to-year.

Baldwin Park: Half the "park" it used to be

Baldwin Park led all [areas](#) in reduction, seeing a 55 percent loss of green cover on single-family residential lots in the mere span of nine years.

Other areas in the study that had at least 20 percent loss in cover included Pomona, Downey, Sylmar, Compton, and San Pedro/Port of Los Angeles.

The Pasadena area was a notable exception. The city found a way to minimize tree loss in what is already a fairly verdant community. Longcore also cites the regulations of neighboring South Pasadena, especially in protecting its many tree-lined, suburban lots from redevelopment.

Longcore, however, is quick to point out that sacrificing trees for redevelopment cuts across all Southern California neighborhoods, regardless of socioeconomic status.

"We are losing tree shade across economic areas," he says. "Wealthy areas might generally have more trees to start with, but all single-family areas are losing across the board."

The unintended consequences of ambitious redevelopment

Robust urban forests, or "green infrastructure," can reduce energy use, improve water quality and increase overall health and well-being, according to the United States Forest Service.

Longcore believes changing social views on the preferred size of single-family homes is the largest driver of tree cover loss, along with the increase in paved surfaces like walkways, driveways and swimming pools that come with home expansion.

In their report, the researchers note that the average size of single-family homes had steadily increased from 984 square feet in 1950 to 2,349 square feet in 2004.

A decade after the housing bust, property development in the age of home improvement reality television is as ambitious as ever, with new homes reaching 2,687 square feet, and nearly one-third more than 3,000 square feet, according to the U.S. Census Bureau's annual survey in 2016.

Municipalities also often encourage redevelopment as a way to increase tax revenues.

"While the housing expansion throughout the 2000s certainly drove an exceptional amount of construction, the practices that contribute the most to removing tree cover and canopy still remain," Longcore says.

More information: Su Jin Lee et al, Increased home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods, *Urban Forestry & Urban Greening* (2017). [DOI: 10.1016/j.ufug.2017.03.004](https://doi.org/10.1016/j.ufug.2017.03.004)

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