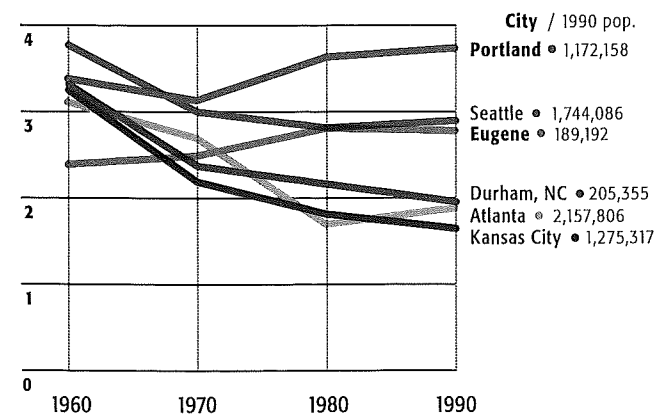


# The Debate Over Density: Do Four-Plexes Cause Cannibalism?

First in an occasional series about density

Densities have been falling steadily in America's metropolitan regions, except in Oregon.

People per Square Mile by Metropolitan Region  
(in thousands)



Source: US Census data as analyzed by David Rusk, Washington DC

## Hypersexuality. Homosexuality. Child neglect. Assault. Cannibalism.

These were the "social pathologies" caused by the crowding of Norway rats, according to research by John R. Calhoun, published in *Scientific American* in February, 1962.

Calhoun's rat crowding research reinforced longstanding anti-urban prejudices held by Americans. By the beginning of the 20th century, when many Americans thought of big cities, they thought of disease, government corruption, and tenements teeming with un-American foreigners — Italians, Slavs and Jews from Central Europe. Norway rats themselves symbolized urban slums.

Within a few years of Calhoun's article, America's inner cities erupted in riots. The press and pop psychologists looked to Calhoun's rat research for an explanation of these urban conflicts based on human psychology and urban density, ignoring the obvious roots

of unrest in racism and unfair public policies.

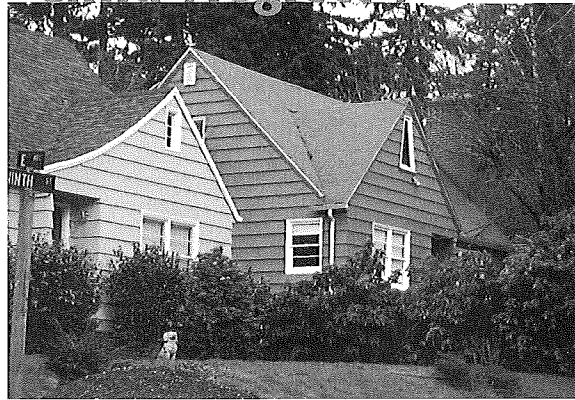
Today, in debates over the strategy of promoting more compact urban development, critics make — and the media accepts — unchallenged assertions that increases in density lead to social problems and crime, invoking the common memory of Calhoun's famous article.

### Density pathologies debunked

But Calhoun's research, as applied to human settlements, has been largely discredited in the last twenty years. In 1966, Robert Schmitt used statistics from Honolulu to support his thesis that higher (indoor) densities were associated with mental illness, illegitimacy and infant mortality. But in 1978 he reconsidered the data and reported the "disappointingly low degrees of association between density and the various health and disorganization rates. . . ."

The proposition that increases in population density are related to increases in crime, especially violent crime, has been disproven by many researchers. For example, a 1985 article by Kathryn Kelley found no relationship between aggressive assault and population density or the size of the urban area. In fact, nonviolent crimes of theft were more frequent with lower urban densities.

## 9 units/acre Child Neglect?



International comparisons of crime rates also called Calhoun's thesis into question, since large and much denser cities in Europe and Asia (including poor, dense, Bombay/Mombai) had lower violent crime rates than less dense cities in America. Higher U.S. crime rates could thus be traced to cultural, political, and economic conditions, not urban density.

### America's falling densities: in our cities, our neighborhoods, and our homes

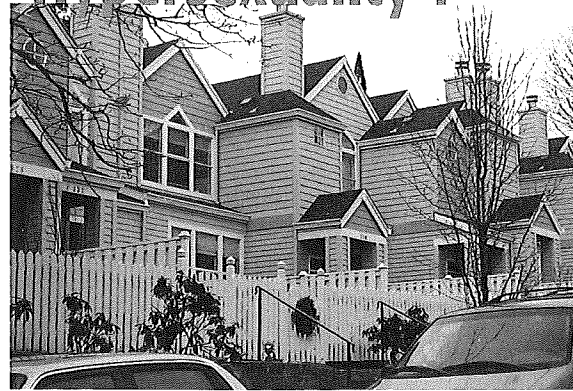
The debate over changing policy to promote more dense urban development is occurring in the context of a long trend of decreasing densities — in our houses, our neighborhoods, and our metropolitan areas.

In most metropolitan areas in America, densities in 1990 were lower than in 1960. Interestingly, the densities of Oregon's metropolitan areas have bucked this trend . . . slightly (see page 2).

Neighborhood densities have fallen as well, for several reasons:

■ Residential lot sizes in our cities have grown over the last several decades. In the Portland area in the 1920s, the average lot size for a new single family

## 17 units/acre Hypersexuality?



home was about 6,300 square feet. In the 1950s it was about 10,000 square feet; it peaked at almost 13,000 square feet in the late 1960s and early 1970s before falling to 8,150 square feet in the mid-1990s. The "higher density" target for the year 2040 in the regional framework plan calls for average single family lot sizes of 6,620 square feet, larger than the average lot sizes in the 1920s.

■ Another reason densities have fallen in neighborhoods is that the families inside each house are smaller. The average household in Oregon dropped from 3.09 in 1960 to 2.54 in 1990; household size has been falling at the same rate in rural counties like Umatilla and urban counties like Marion. Forty years ago, houses in many neighborhoods had 5 or more people living in them; today these houses are home for 2 or 3 people.

■ As the average family size has fallen, the average size of houses has increased. New single family homes in the Portland region averaged about 1,650 square feet in the 1920s, 1,500 square feet in the 1950s, and 2,250 square feet in the 1990s.

Research does suggest that severe urban and indoor crowding, especially in noisy and polluted environments, is not good for people. But that is not what is being proposed for Oregon's cities and towns. The emphasis on more compact development is merely an effort to return to Oregon's modest

Oregonians are not afraid that higher residential densities will turn them into sex fiends and cannibals. Families who could easily afford to buy a single family house with a big yard or move to the country are instead choosing to live in the city and are buying homes with small lots (see accompanying articles). The brisk sales of multifamily housing demonstrate that people will pay a lot of money for higher density if it is well designed and part of a successful neighborhood, with good schools, in an attractive region.

### Test the theory yourself . . . but buy insurance first!

If you still believe that density causes social problems, you can test Calhoun's

urban residential densities during the first part of the 20th century, rather than to convert Salem into Tokyo.

More and more

## 35 units/acre Cannibalism?



hypothesis yourself. But to achieve densities similar to those in Calhoun's experiment, you will have to do a lot more than adding a four-plex in your neighborhood, or shrinking lot sizes from 8,000 to 6,000 square feet—the kinds of changes required to meet Oregon's compact urban growth proposals.

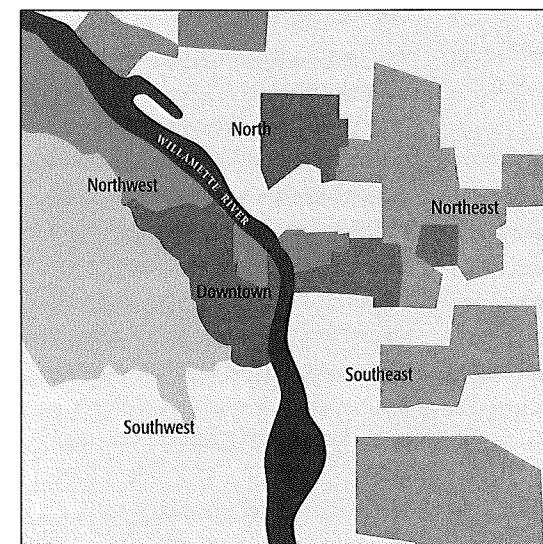
Instead, you will have to invite 25 of your relatives to stay in your house. Perhaps there really will be some "social pathologies" . . . among the people standing in line to use the bathroom.

### Sources:

Christopher Bagley, "Urban crowding and the murder rate in Bombay, India," *Perception & Motor Skills* Vol. 69:3 part 2, pages 1241-1242 (December 1989); John R. Calhoun, "Population density and social pathology," *Scientific American* Vol. 206:2, page 139 (February 1962); Sonny Condor, Metro Data Resource Center, "Housing Need Analysis Technical Appendix I" (May 1997), "1996-97 Homes Sales Data - Descriptive Statistics (April 1998); Kathryn Kelley, "Nine social indices as functions of population size or density," *Bulletin of the Psychonomic Society* Vol. 23:2, pages 124-126 (1985); Robert C. Schmitt, Lynn Y.S. Zane, Sharon Nishi, "Density, health, and social disorganization revisited," *Journal of the American Institute of Planners* (April 1978); Myron Orfield, *Portland Metropolitans: A Regional Agenda for Community and Stability*, Figures 18 and 18 (1998)

Thanks to Sarah Beasley at Portland State University for research assistance.

### Does Density Cause Crime?



Source: Myron Orfield (1998)

High density does not cause high crime rates. As the map shows, there are many high density neighborhoods with low crime rates. (Concentrations of poverty, at any density, have a much greater relationship to crime rates.)

Density: People per Square Mile  
Low: Less than 2,500  
Medium: 2,500 - 4,500  
High: more than 4,500

Crimes: per 100,000 Population  
Low: 1,000 - 7,500  
Medium: 7,500 - 12,000  
High: more than 12,000

\*FBI Part I Crimes; violent crimes including murder, arson, rape, armed robbery.