

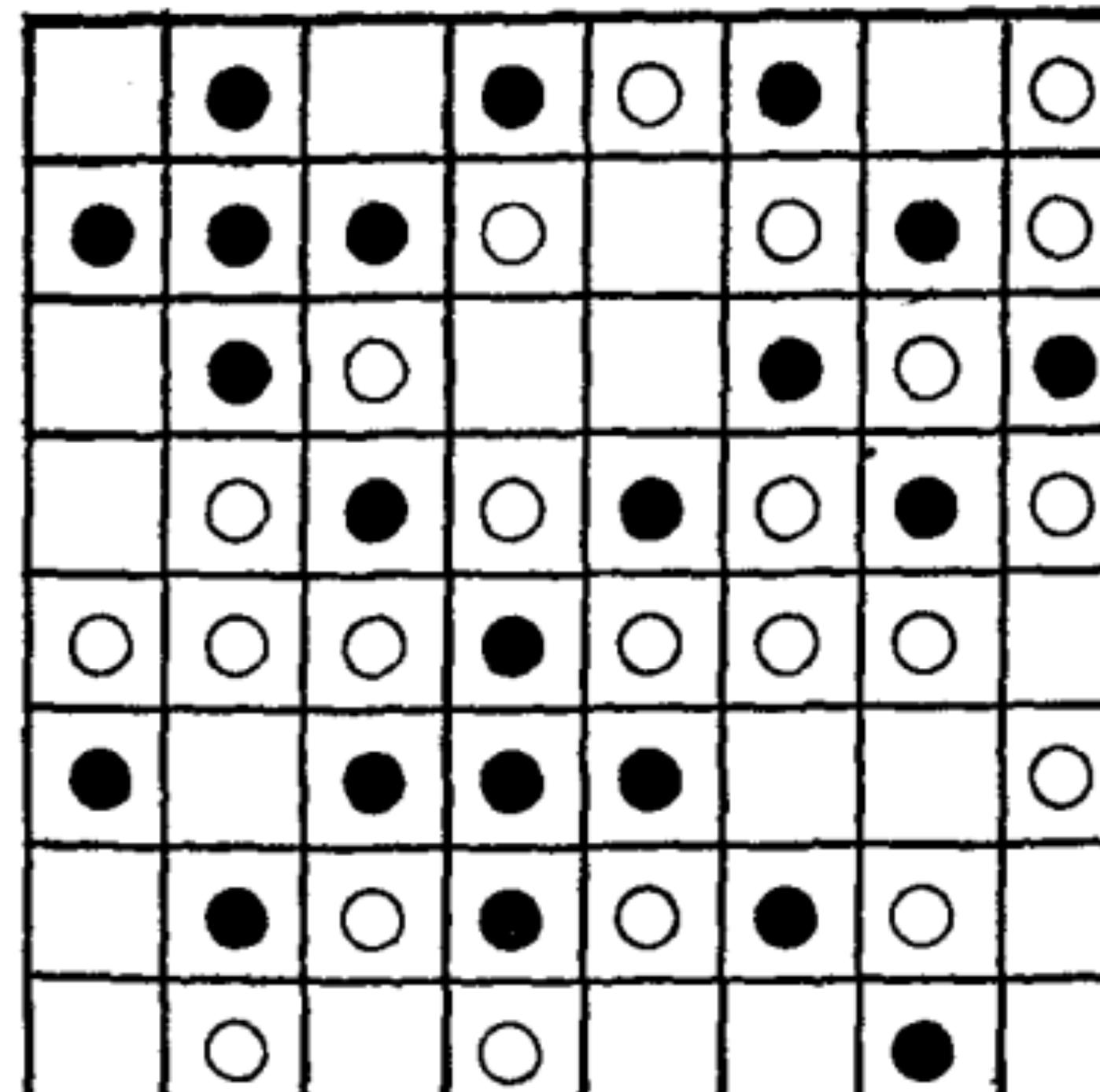
Lecture 11

Looking inside Cities: Spatial Structure and Neighborhoods

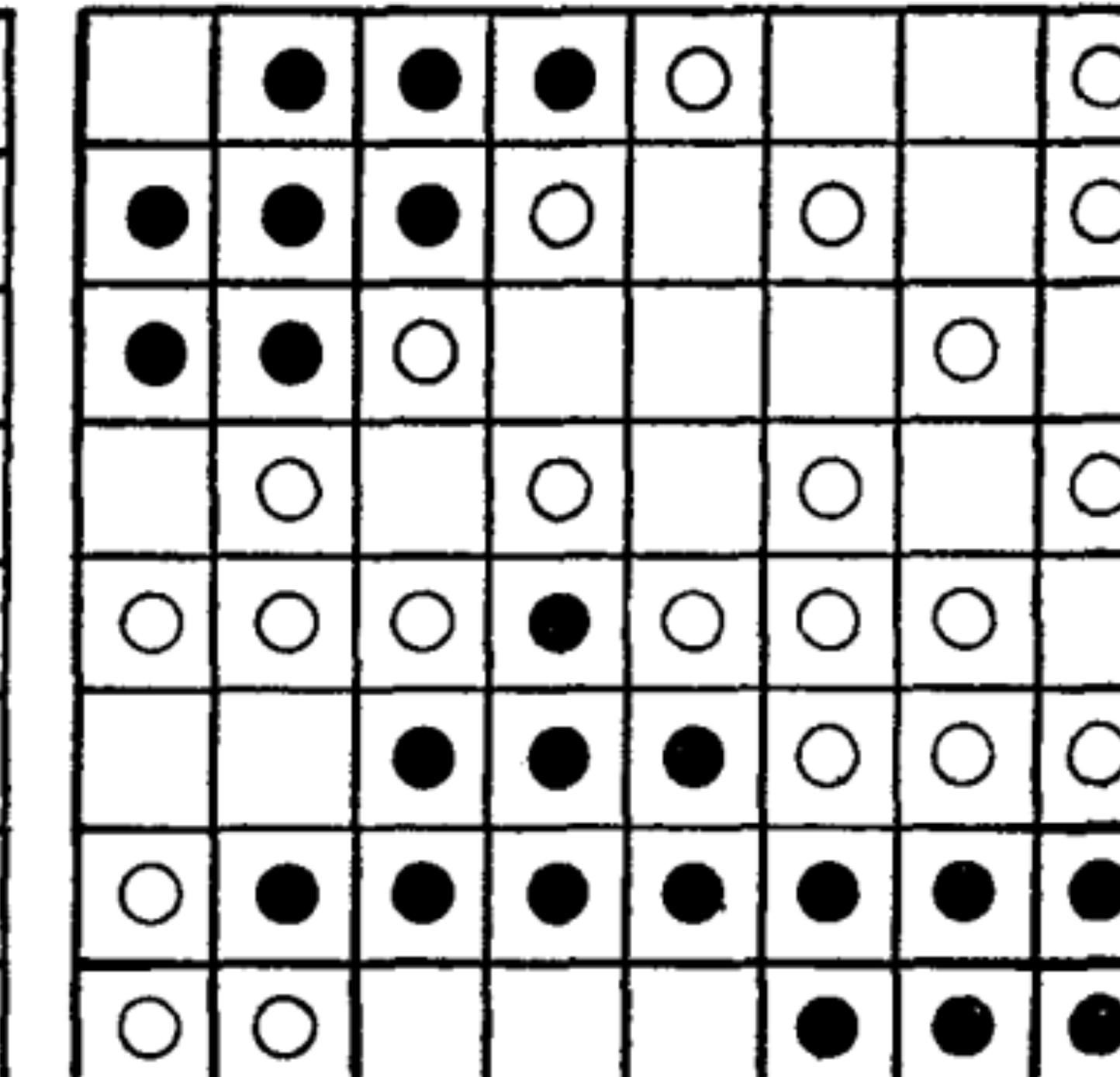
11.2 Models of Neighborhood Segregation, Real Estate Dynamics.

Schelling Classical Model of Residential Segregation

IUS 6.1.2



(a)



(b)

Rules:

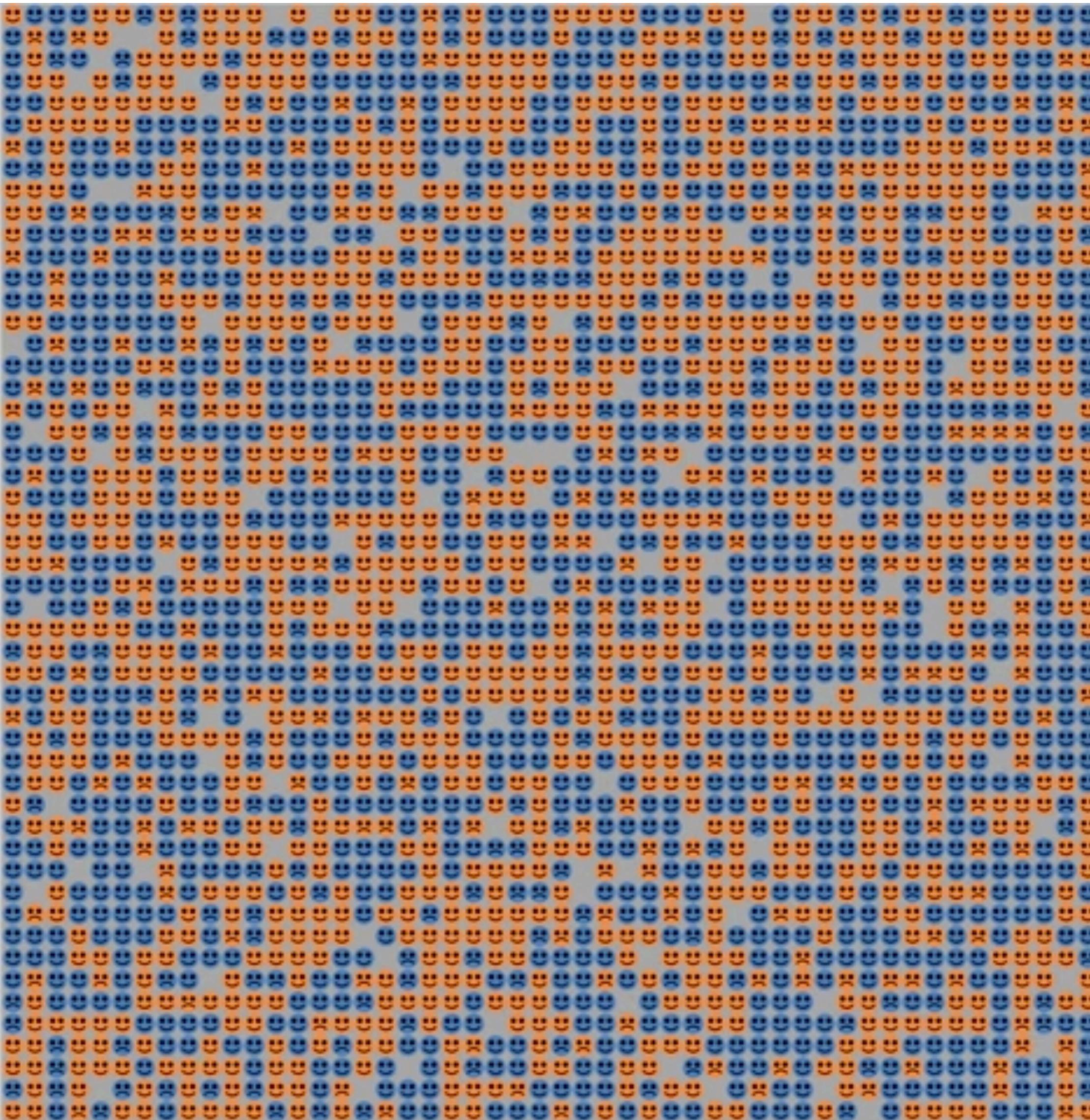
- 1) Agents belong to one of two groups
- 2) Decision to relocate according to the fraction of friends (i.e., agents of their own group).
- 3) An agent, located where the fraction of friends f is less than a predefined tolerance threshold F (i.e., $f < F$), will relocate to a neighborhood for which the fraction of friends is at least f

$F \sim 1/3$ can be small

small preferences can have huge consequences for global dynamics

Schelling 1971

Time Evolution Schelling Model



credit: Michael Maes via youtube

Spatially concentrated (dis)advantage



A disused building near the Sherman Park neighborhood in Milwaukee, Wisconsin // Aaron P. Bernstein/Reuters

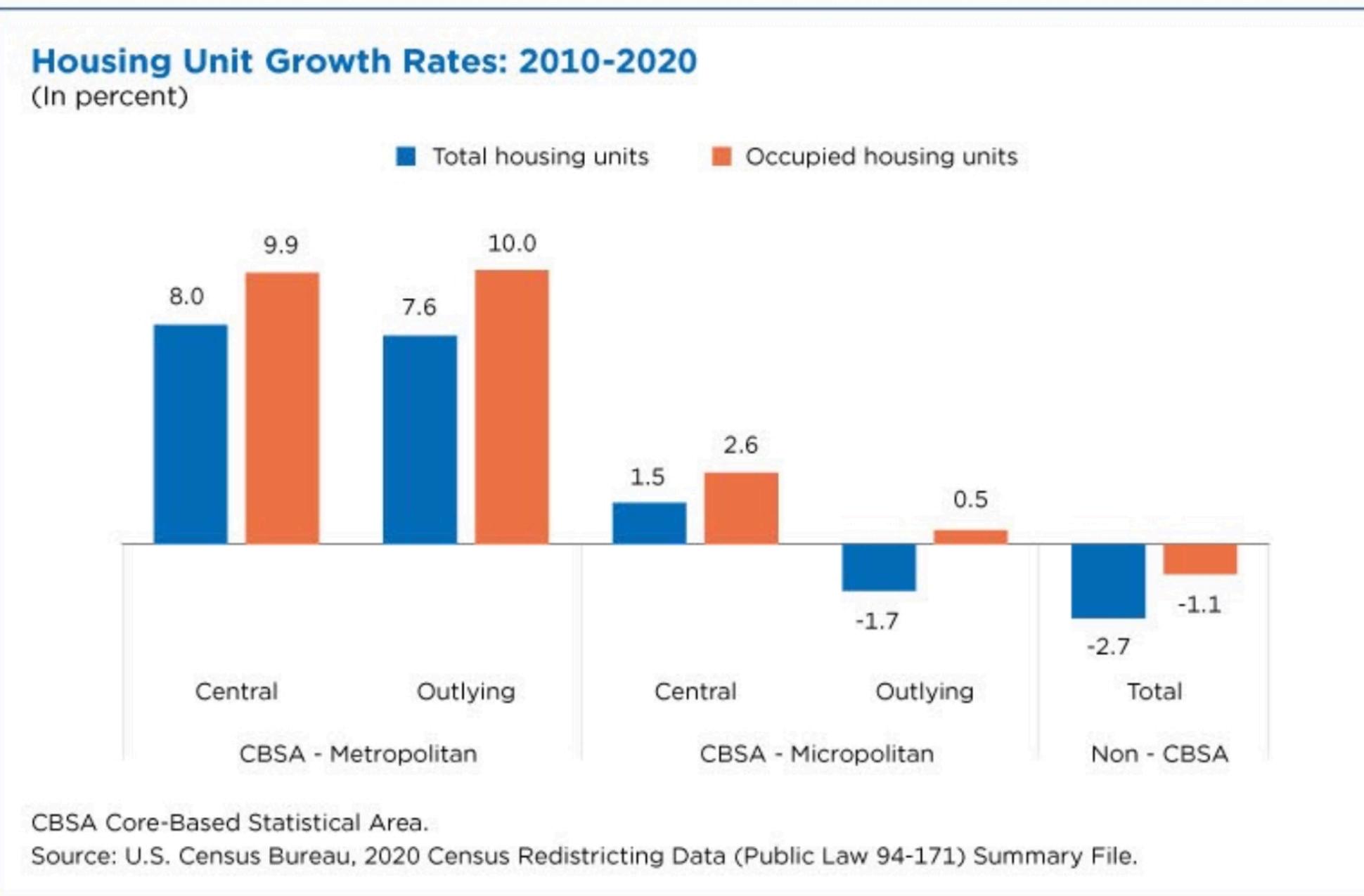
Where Segregation Makes America's Housing Divide Worse

RICHARD FLORIDA MAR 9, 2017

An analysis finds metros with more polarized housing values are also more segregated.

Over the last two decades, America has become increasingly polarized by both class and geography. As the middle class and its neighborhoods have declined, our nation has increasingly divided into rich and poor, and neighborhoods of concentrated affluence have become surrounded by larger spans of concentrated disadvantage.

Where is growth?



Housing units in central and outlying parts of metropolitan areas, which encompassed about 84.5% of all housing units in 2020, grew more than 7.9% from 2010 to 2020. Micros and non-CBSAs had less growth and some areas saw dips in the total number of housing units over the decade. Central parts of micropolitan areas experienced a 1.5% increase while outlying pockets of micropolitan areas and non-CBSAs had net losses of 1.7% and 2.7%, respectively.

Table 2.
10 Central Counties of Metropolitan Areas With Largest Percent Growth in Housing Units

County	Core Based Statistical Area (CBSA)	State	2020 Census count of housing units	Net change in housing units (2020-2010)	Percent change (2020-2010)
Hays County	Austin-Round Rock-Georgetown, TX	Texas	93,534	34,117	57.4
Dallas County	Des Moines-West Des Moines, IA	Iowa	41,125	13,865	50.9
Comal County	San Antonio-New Braunfels, TX	Texas	69,939	22,831	48.5
Lincoln County	Sioux Falls, SD	South Dakota	26,227	8,352	46.7
Williamson County	Austin-Round Rock-Georgetown, TX	Texas	237,680	74,907	46.0
Sumter County	The Villages, FL	Florida	75,304	22,278	42.0
Fort Bend County	Houston-The Woodlands-Sugar Land, TX	Texas	277,910	80,880	41.0
Bryan County	Savannah, GA	Georgia	16,703	4,861	41.0
Broomfield County	Denver-Aurora-Lakewood, CO	Colorado	31,298	8,652	38.2
Rockwall County	Dallas-Fort Worth-Arlington, TX	Texas	38,219	10,280	36.8

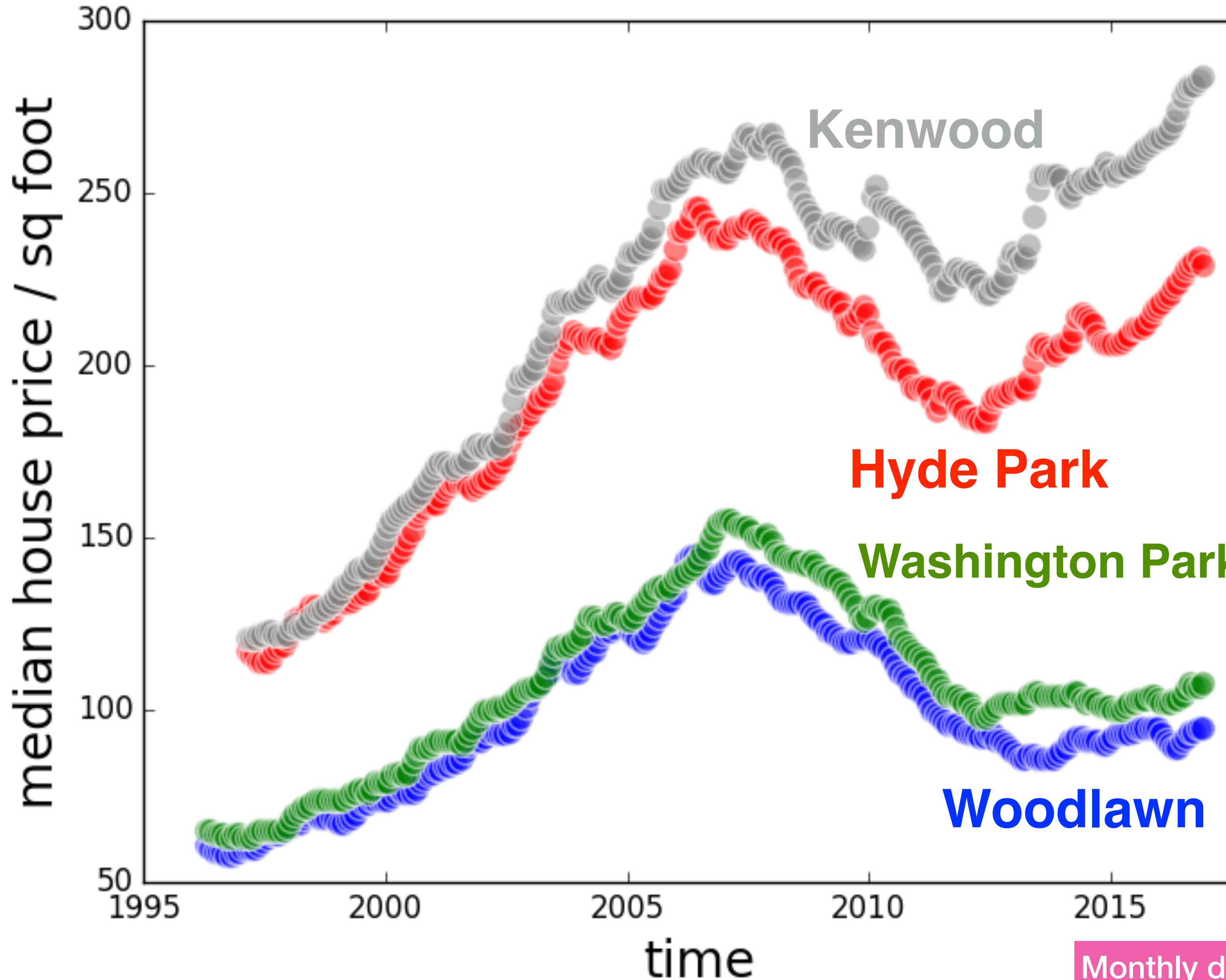
Source: U.S. Census Bureau, 2020 Census Redistricting Data (Public Law 94-171) Summary File.

Table 5.
10 Outlying Counties of Metropolitan Areas With Largest Percent Loss in Housing Units

County	Core Based Statistical Area (CBSA)	State	2020 Census count of housing units	Net change in housing units (2020-2010)	Percent change (2020-2010)
McIntosh County	Brunswick, GA	Georgia	6,615	-2,605	-28.3
Hudspeth County	El Paso, TX	Texas	1,107	-420	-27.5
Alexander County	Cape Girardeau, MO-IL	Illinois	2,946	-1,060	-26.5
Calhoun County	St. Louis, MO-IL	Illinois	2,282	-553	-19.5
Wirt County	Parkersburg-Vienna, WV	West Virginia	2,702	-529	-16.4
Greene County	Tuscaloosa, AL	Alabama	4,205	-802	-16.0
Marion County	Columbus, GA-AL	Georgia	3,497	-659	-15.9
Anson County	Charlotte-Concord-Gastonia, NC-SC	North Carolina	9,834	-1,742	-15.0
Clay County	Charleston, WV	West Virginia	3,907	-665	-14.5
Bollinger County	Cape Girardeau, MO-IL	Missouri	5,037	-841	-14.3

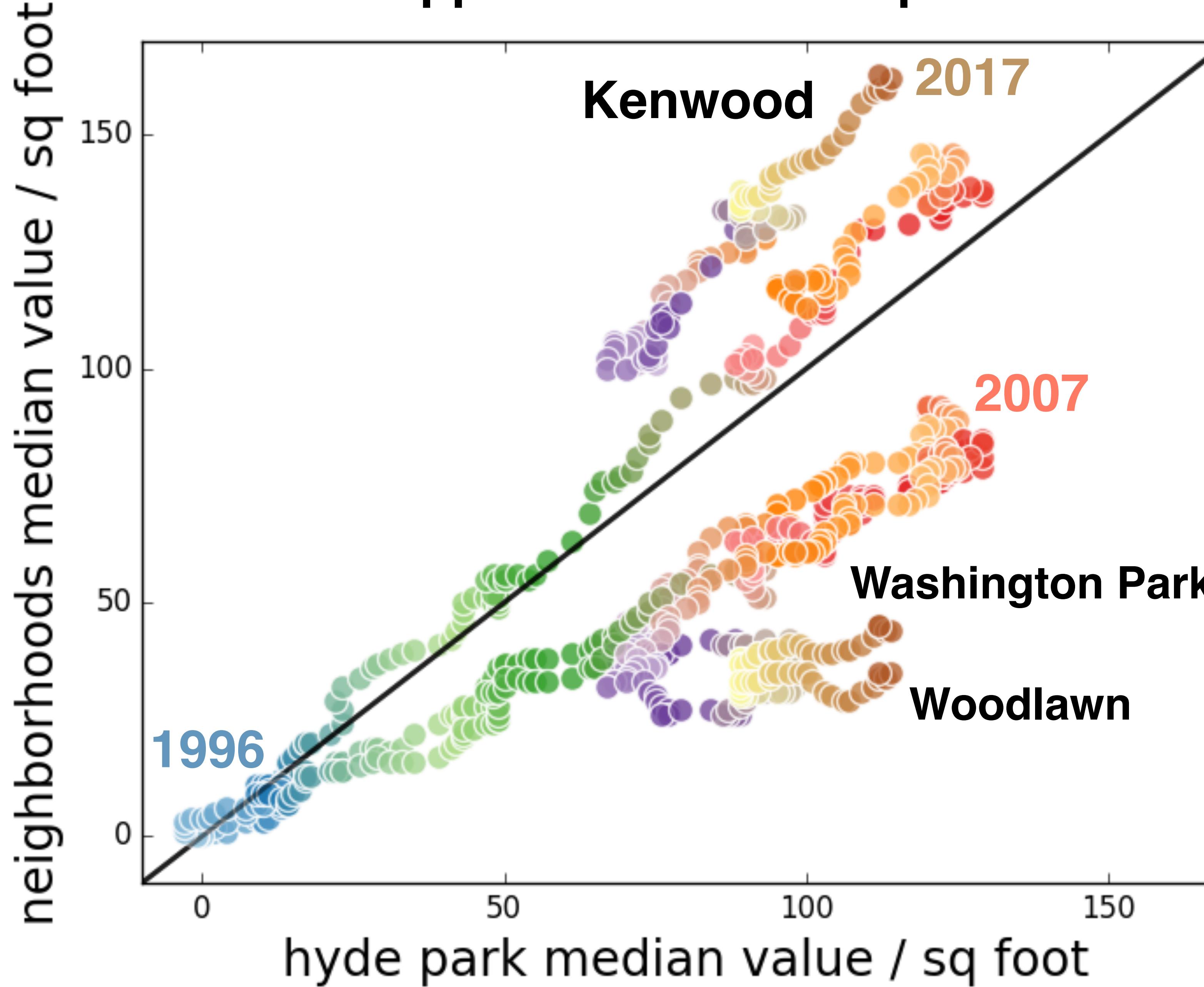
Source: U.S. Census Bureau, 2020 Census Redistricting Data (Public Law 94-171) Summary File.

Median prices / sq foot since April 1996

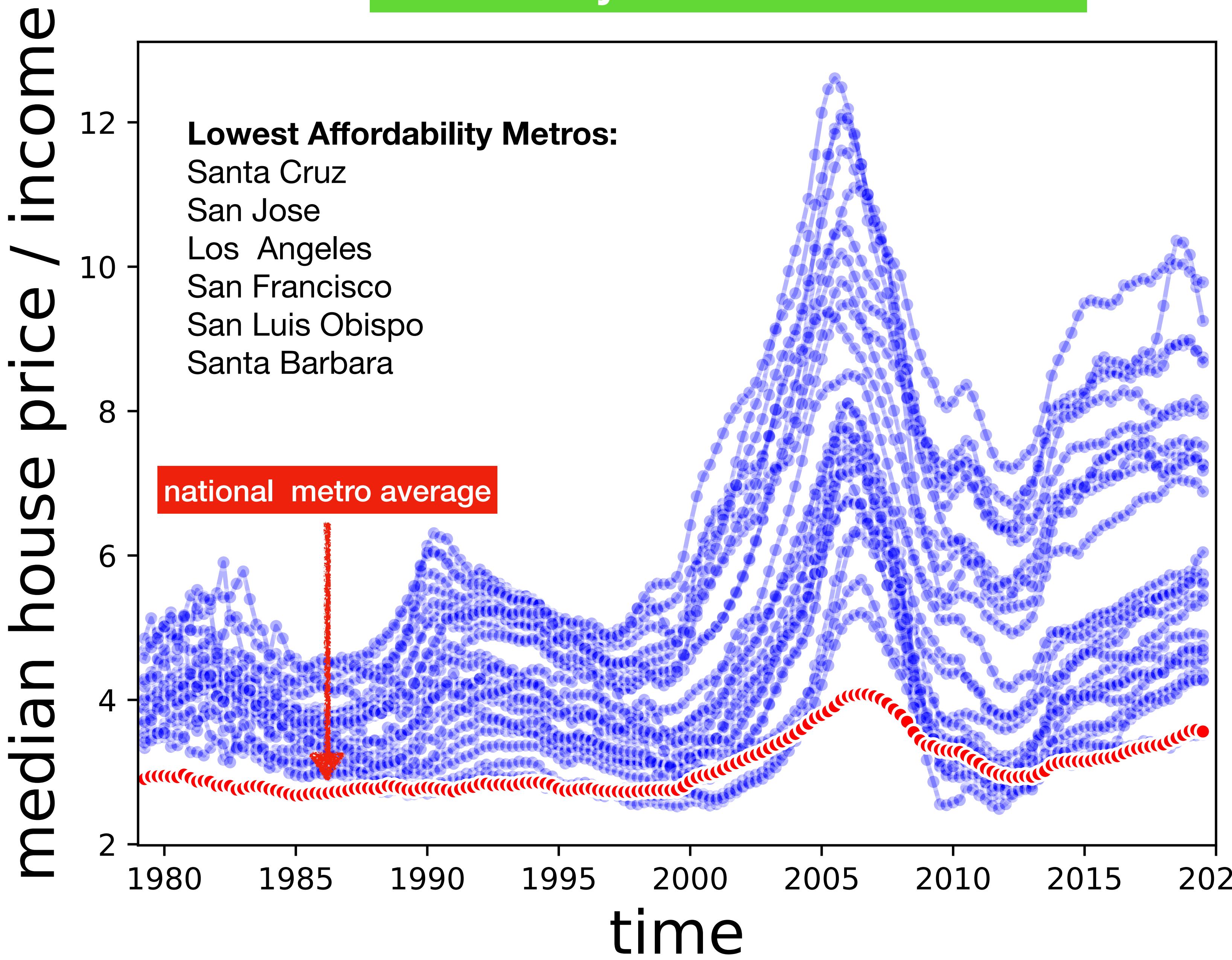


Monthly data from zillow

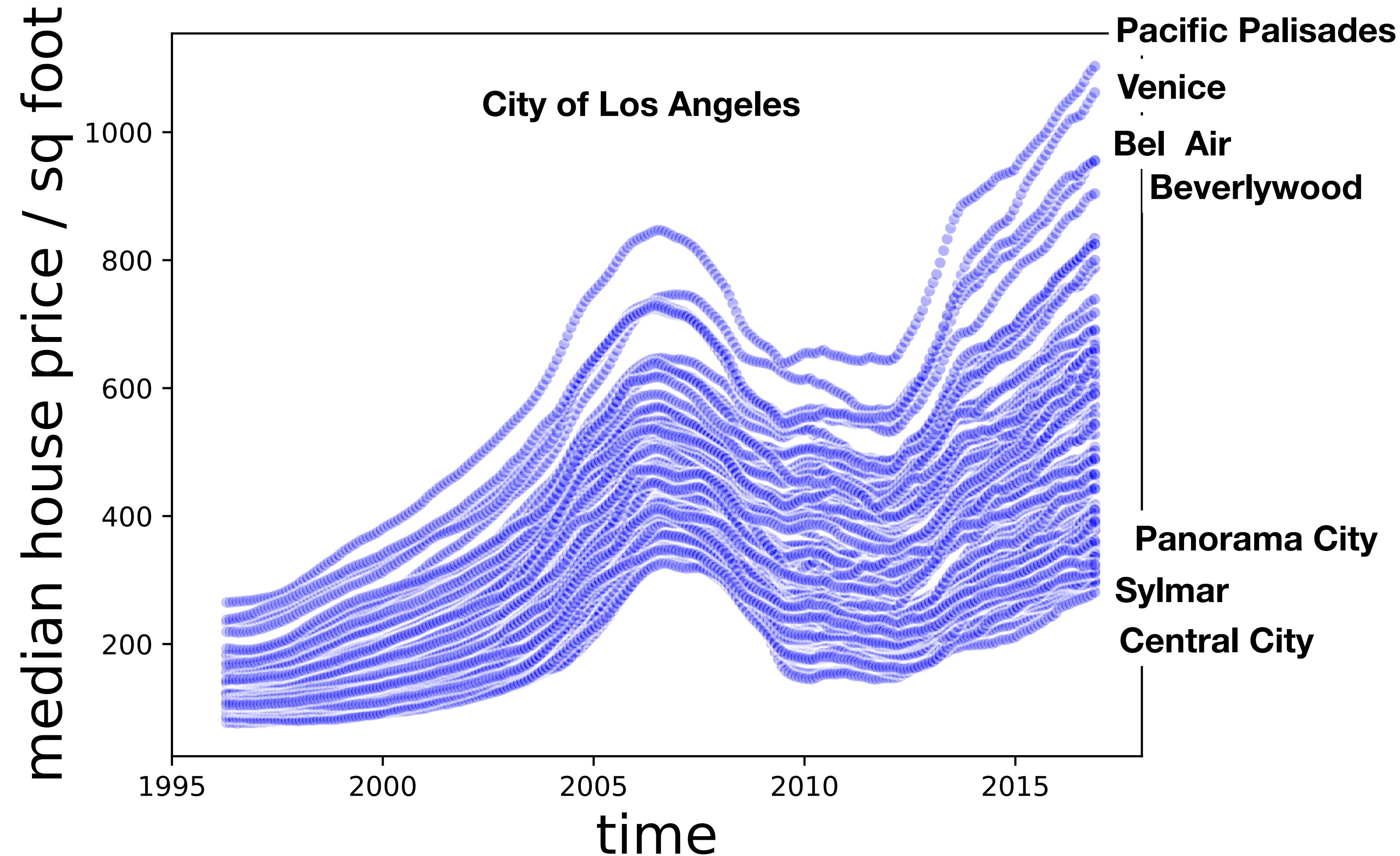
Price appreciation since April 1996



Affordability of CA Metros vs Nation



Neighborhoods



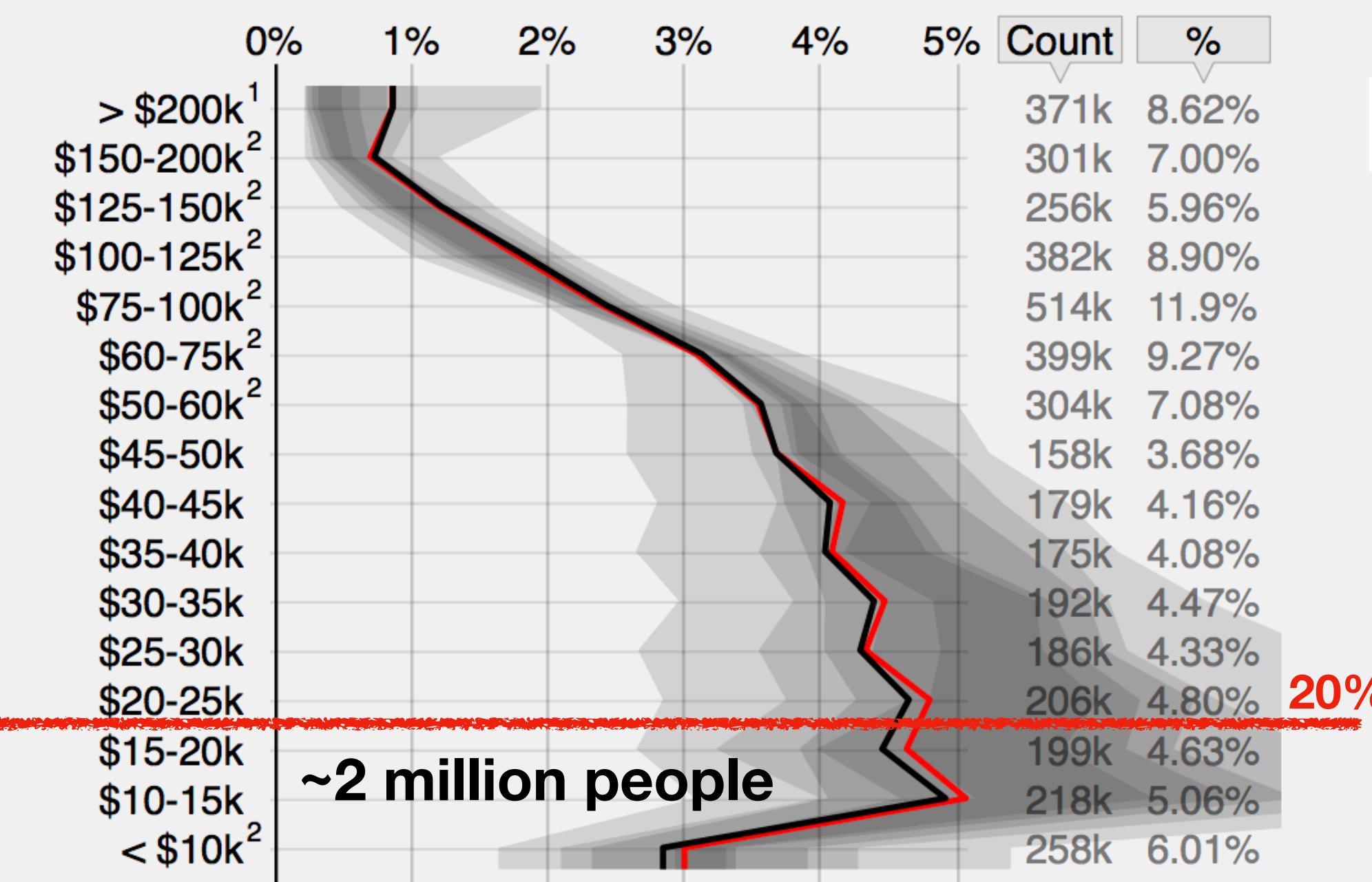
Los Angeles Metropolitan Area

Household Income Distribution #7

Normalized with respect to a standard interval of \$5k. Gray areas represent percentile bands from the metro areas in California.

Scope: households in California, the Los Angeles Area, and other metro areas in California

— Los Angeles Area — California
 Percentile:
 0th - 100th 10th - 90th
 20th - 80th 30th - 70th
 40th - 60th



Count number of households with incomes in the interval

% unnormalized percentage of households with incomes in the interval

¹ normalized assuming interval of \$50k ² normalized

\$20K/year/12 x 0.4 = \$667/month ~20% population

Household Income Interval Means #3

Scope: households in California and the Los Angeles Area

Los Angeles Area California

	\$0k	\$100k	\$200k	\$300k	\$400k	%
Mean of Top 5%				\$434.1k		698%
Mean of Top 20%			\$239.2k			384%
Mean of 4th Quintile		\$102.0k				164%
Mean of 3rd Quintile			\$62.7k			101%
Mean of 2nd Quintile				\$35.8k		57.6%
Mean of Bottom 20%					\$13.1k	21.0%

% as percentage of median household income

City of Los Angeles

Household Income Interval Means #3

Scope: households in California and Los Angeles

Los Angeles California

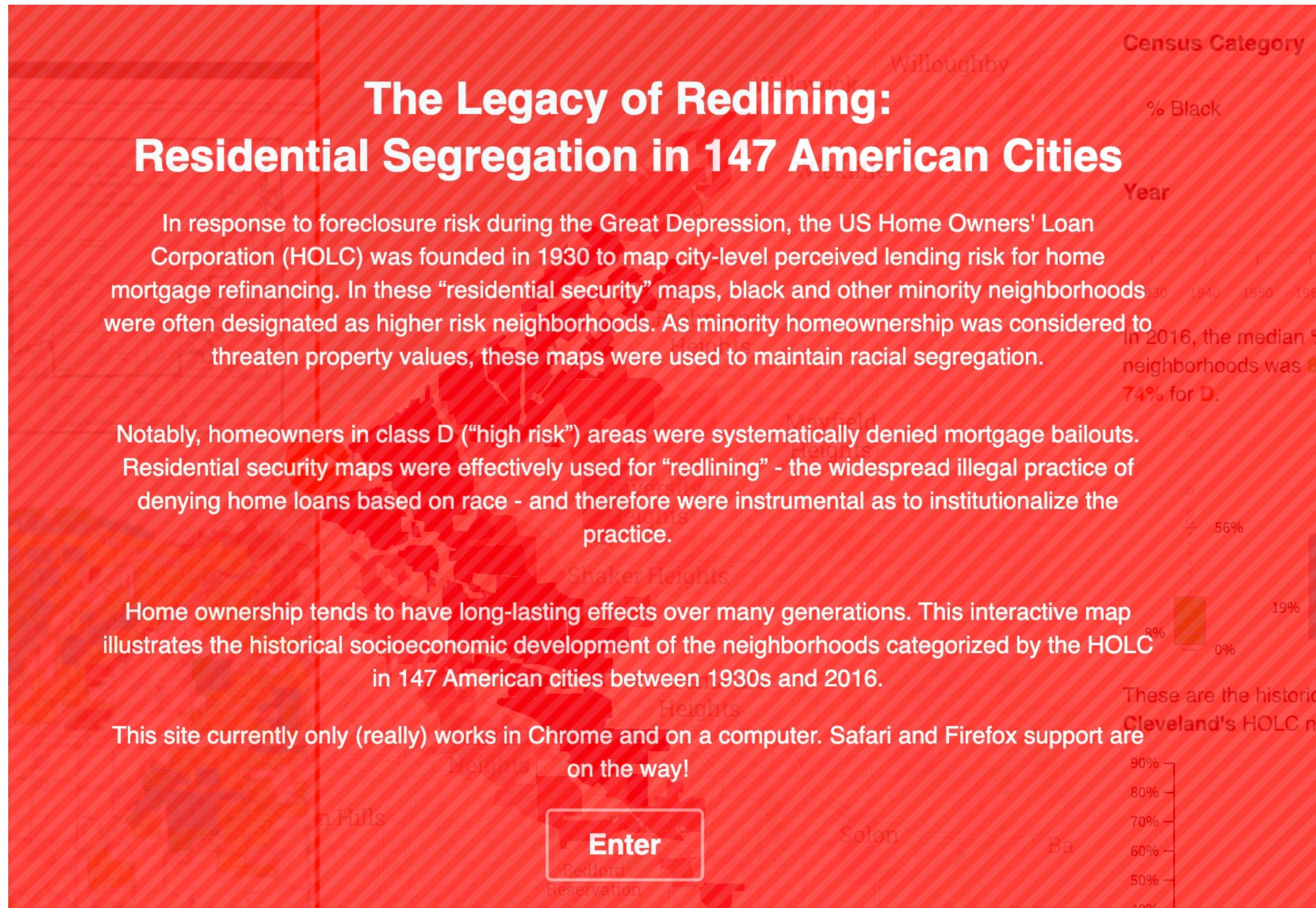
	\$0k	\$100k	\$200k	\$300k	\$400k	%
Mean of Top 5%				\$444.1k		862%
Mean of Top 20%			\$231.1k			448%
Mean of 4th Quintile		\$87.9k				171%
Mean of 3rd Quintile			\$51.9k			101%
Mean of 2nd Quintile				\$28.9k		56.0%
Mean of Bottom 20%					\$10.4k	20.2%

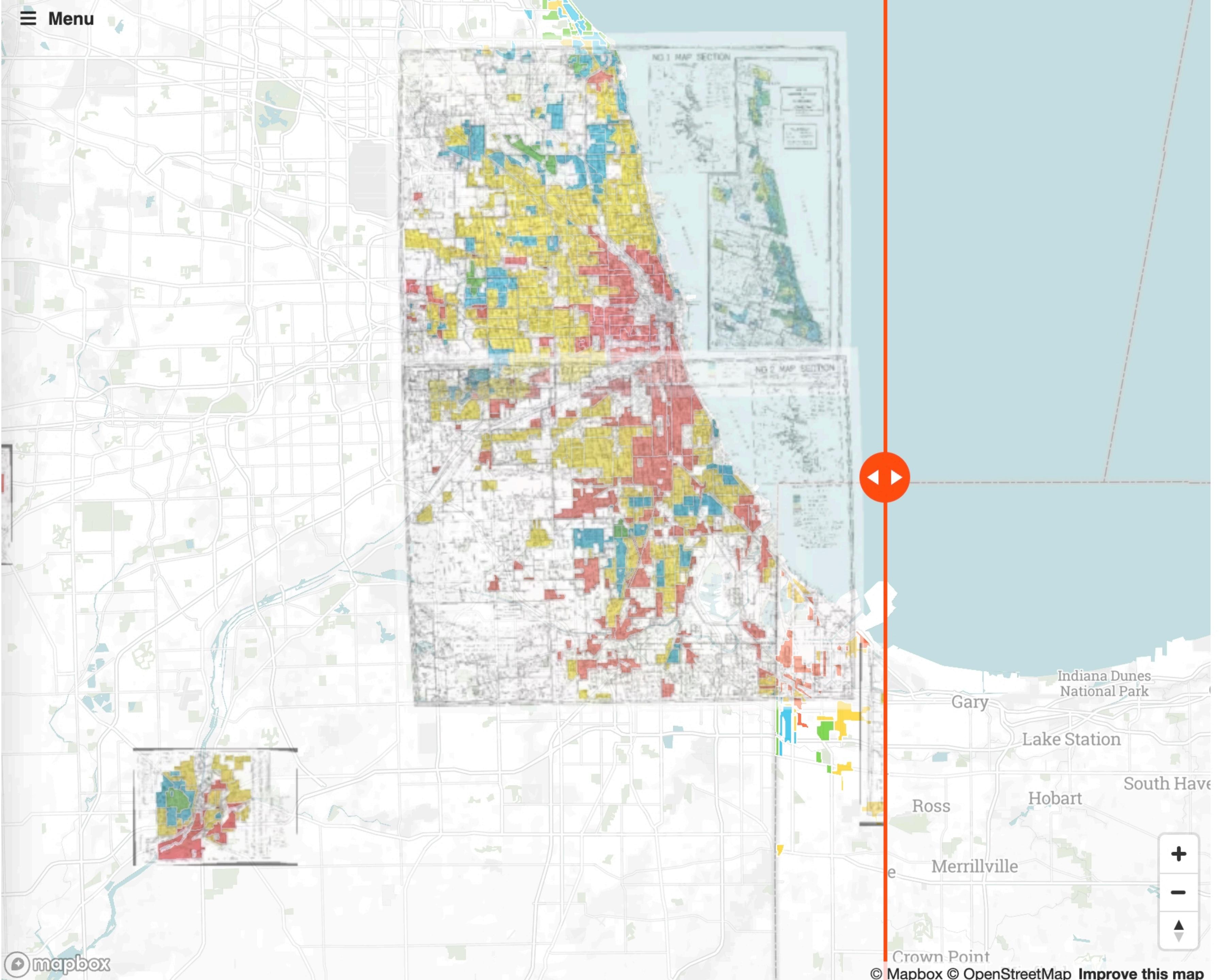
% as percentage of median household income

\$52K/year/12 x 0.4 = \$1733/month

~50% population

assuming 40% income expenditure in housing





City <https://www.wenfeixu.com/redliningmap/>

Chicago

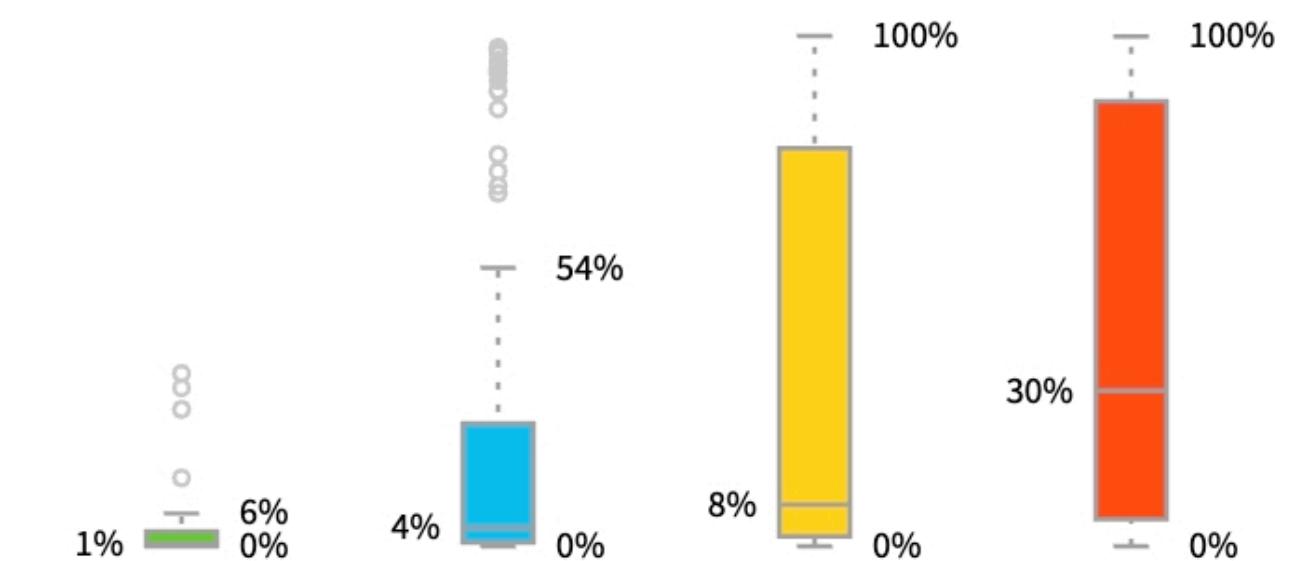
Census Category

% Black

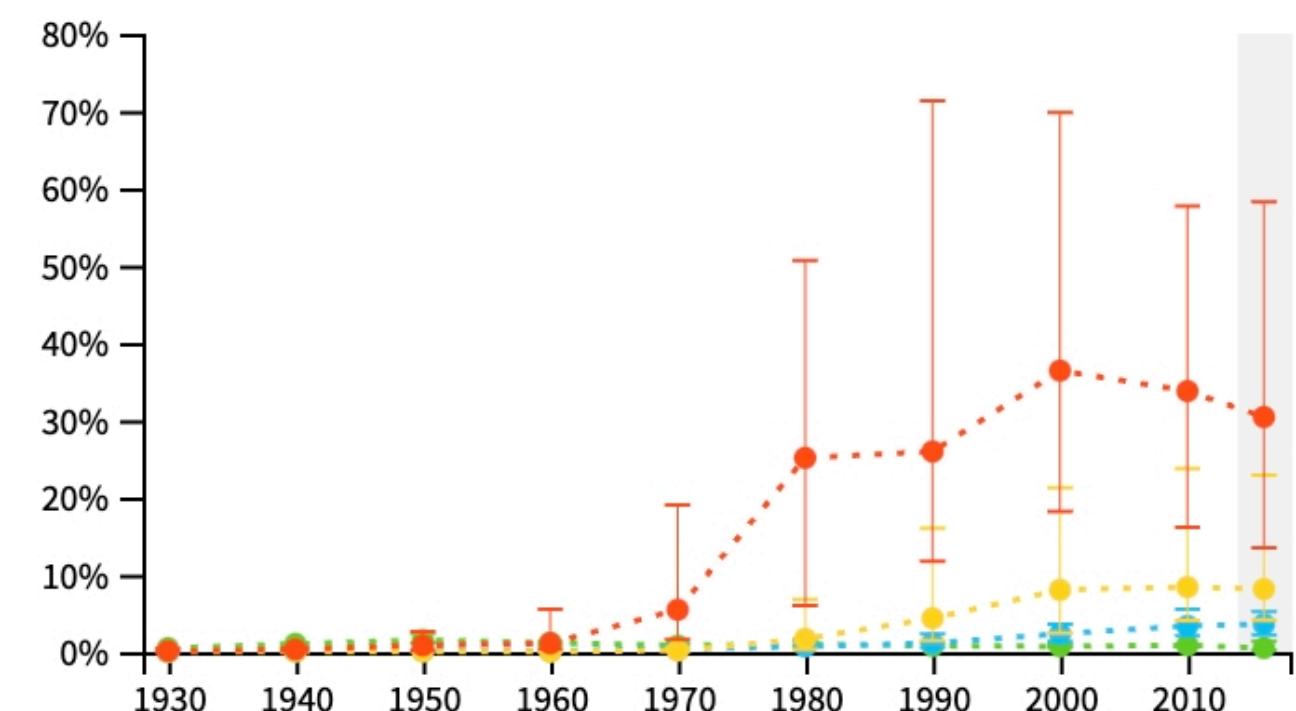
Year



In 2016, the median % black for Chicago's HOLC neighborhoods was 1% for class A, 4% for B, 8% for C, 30% for D.

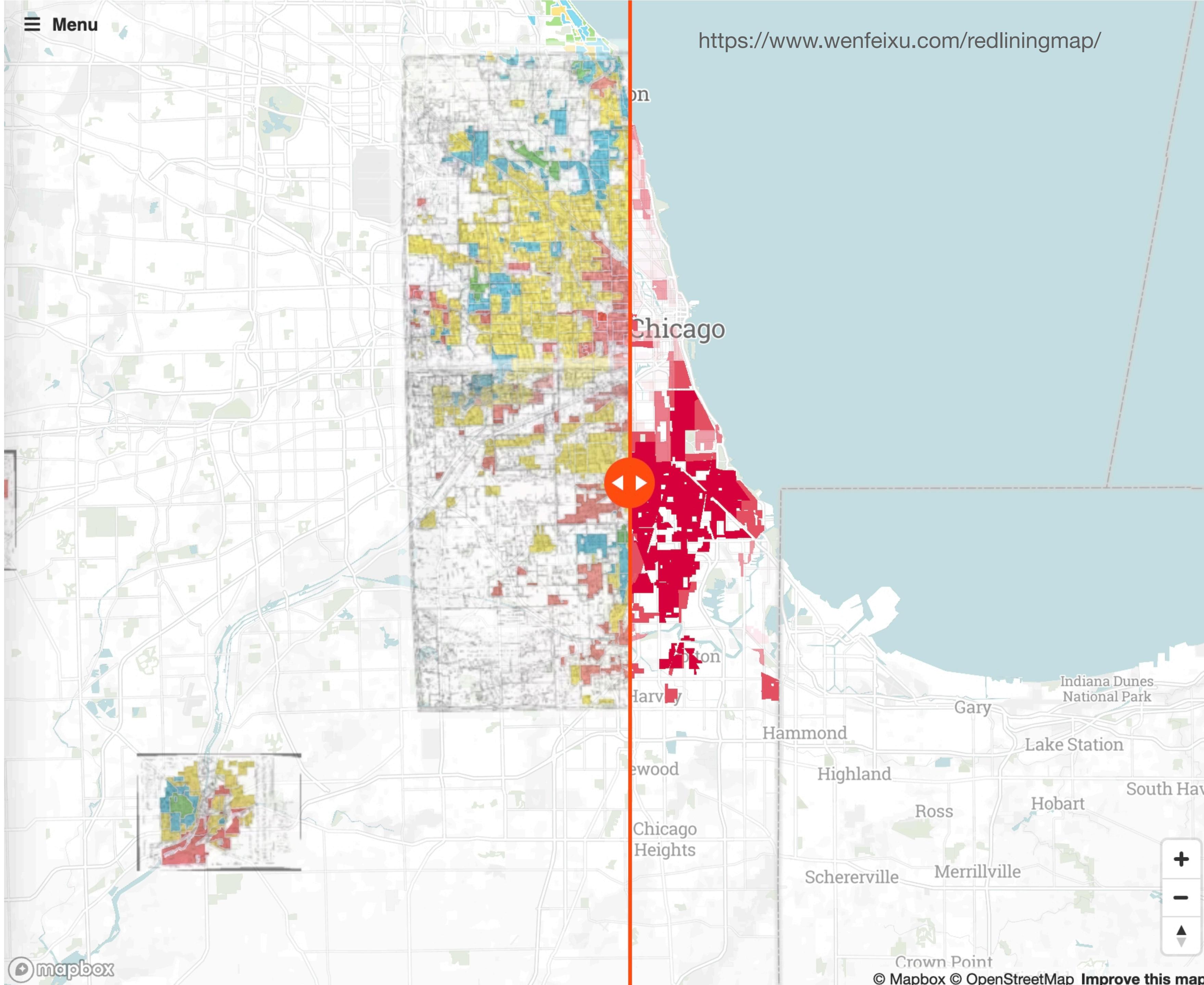


These are the historical trends for median % black in Chicago's HOLC neighborhoods.**



**The lower and upper percentiles are 40% and 60% for legibility.

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City

Chicago

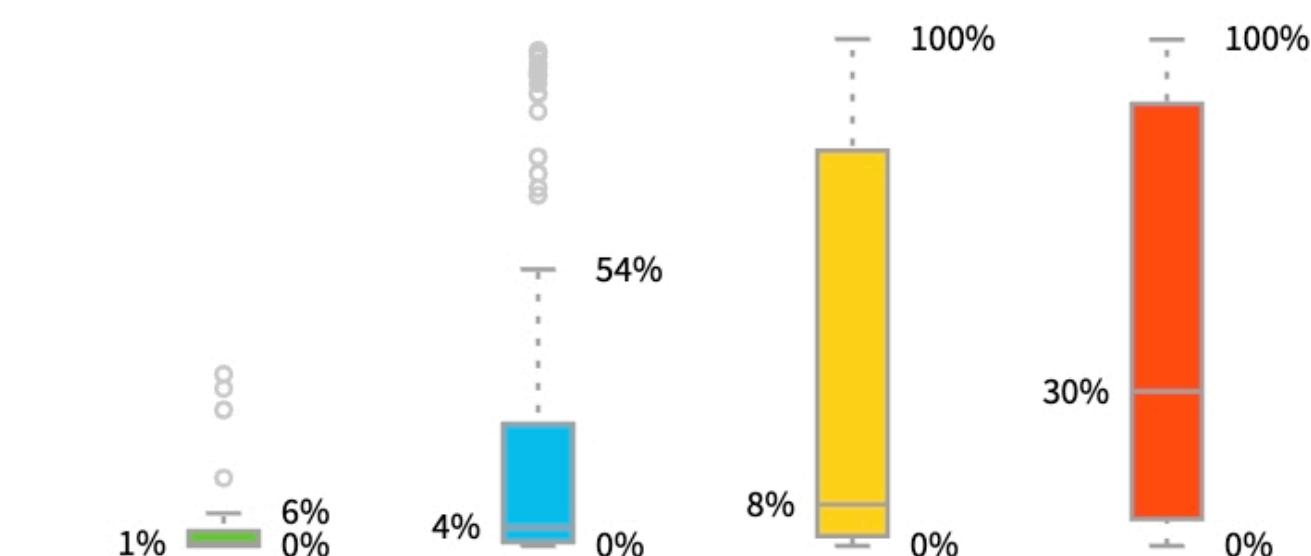
Census Category

% Black

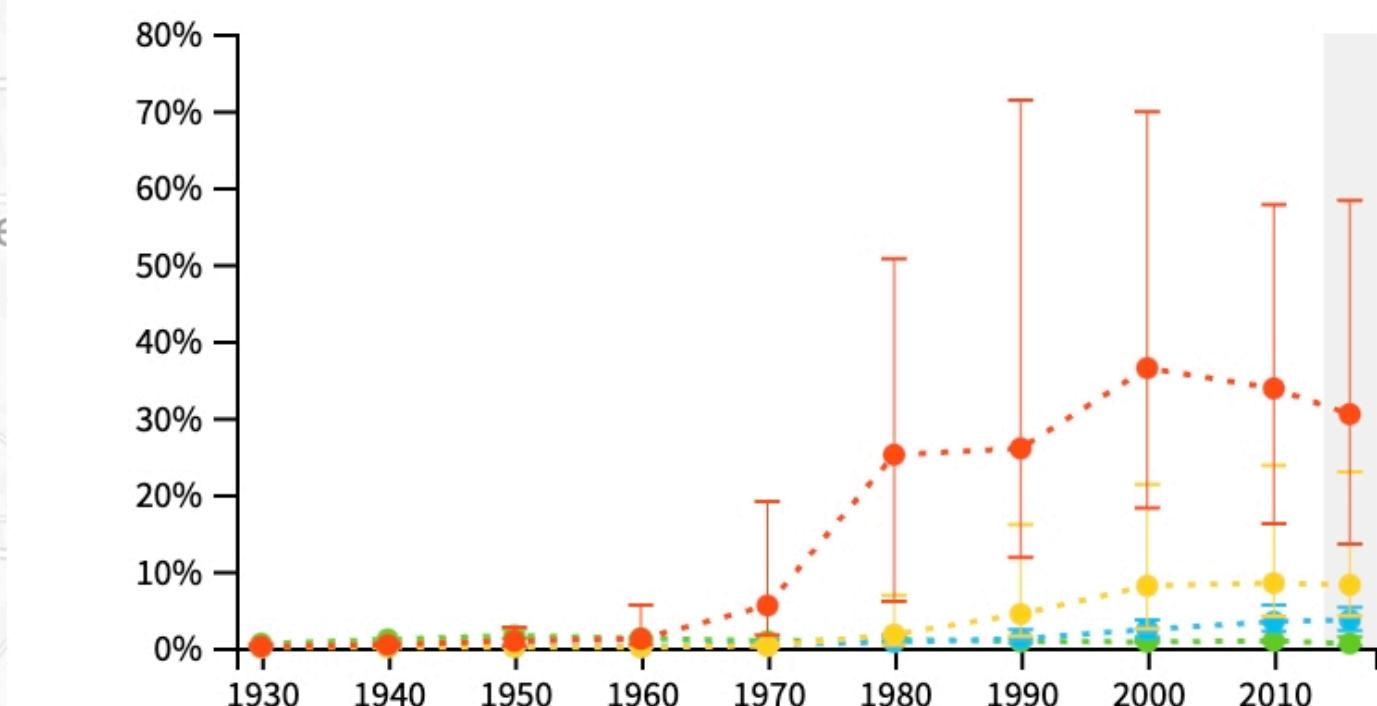
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