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The Rise of Residential Segregation by Income

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The Rise of Residential Segregation by Income

By Richard Fry and Paul Taylor

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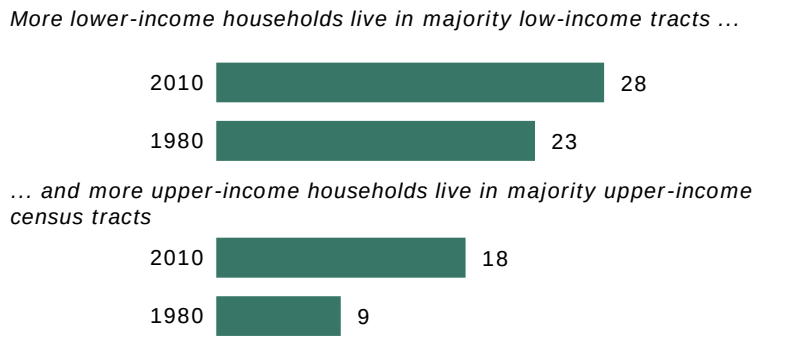
OVERVIEW

Residential segregation by income has increased during the past three decades across the United States and in 27 of the nation's 30 largest major metropolitan areas[1], according to a new analysis of census tract[2] and household income data by the Pew Research Center.

The analysis finds that 28% of lower-income households in 2010 were located in a majority lower-income census tract, up from 23% in 1980, and that 18% of upper-income households were located in a majority upper-income census tract, up from 9% in 1980.[3]

Share of Lower-Income and Upper-Income Households Who Live Mainly Among Themselves, 1980 and 2010

%



Notes: Based on census tracts in the nation's 942 metropolitan and micropolitan statistical areas. The upper bars report the share of lower-income households that reside in a census tract in which at least half of the households were lower income. The lower bars show the share of upper-income households that reside in majority upper-income census tracts.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file and Geolytics 1980 Census data in 2000 boundaries

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These increases are related to the long-term rise in income inequality, which has led to a shrinkage in the share of neighborhoods across the United States that are predominantly middle class or mixed income—to 76% in 2010, down from 85% in 1980—and a rise in the shares that are majority lower income (18% in 2010, up from 12% in 1980) and majority upper income (6% in 2010, up from 3% in 1980).

[1] For this report, the 30 largest metropolitan areas were measured based on the metro areas with the largest number of households, not based on total population.

[2] The nation's 73,000 census tracts are the best statistical proxy available from the Census Bureau to define neighborhoods. The typical census tract has about 4,200 residents. In a sparsely populated rural area, a tract might cover many square miles; in a densely populated urban area, it might cover just a city block or two. But these are outliers. As a general rule, a census tract conforms to what people typically think of as a neighborhood.

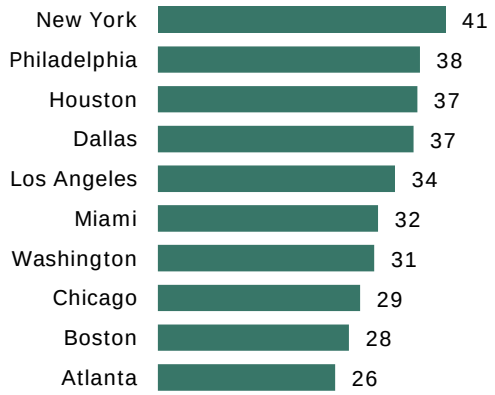
[3] For the purpose of this analysis, low-income households are defined as having less than two-thirds of the national median annual income and upper-income households as having more than double the national median annual income. Using these thresholds, it took an annual household income of less than $34,000 in 2010 to be labeled low income and $104,000 or above to be labeled upper income. The Center conducted multiple analyses using different thresholds to define lower- and upper-income households. The basic finding reported here of increased residential segregation by income was consistent regardless of which thresholds were used.

Despite the long-term rise in residential segregation by income, it remains less pervasive than residential segregation by race, even though black-white segregation has been falling for several decades.

The Pew Research analysis also finds significant differences among the nation's 10 most populous metropolitan areas in the patterns and degree of residential segregation by income. For example, 41% of the lower-income households in the New York metropolitan area are situated in a majority lower-income census tract, compared with 26% of the lower-income households in the Atlanta area.

Share of Lower-Income Households Residing in Majority Lower-Income Census Tract, 10 Largest Metros, 2010

%



Notes: The geographic area refers to the entire metropolitan area, not just the city. So, for example, New York refers to the three-state area included in the New York metro area, home to 19 million people in 2010.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file

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As for residential concentration among upper-income households, here, too, there are variations across the 10 largest metro areas, but the patterns and rankings are different. On this measure, Houston and Dallas sit atop the chart, with 24% and 23%, respectively, of their upper-income households situated in a census tract in which a majority of all households are also upper income. (And when the universe of analysis is expanded to include the nation's 30 largest metropolitan areas, another Texas metro area, San Antonio, joins those two atop the chart, with 25%.)

By contrast, just 8% of the upper-income households in the Boston metropolitan area are located in a majority upper-income tract, as are 12% in Chicago and 13% in Philadelphia.

The RISI Score

By adding together the share of lower-income households living in a majority lower-income tract and the share of upper-income households living in a majority upper-income tract, this Pew Research analysis has developed a single Residential Income Segregation Index (RISI) score for each of the nation's top 30 metropolitan areas.

(The maximum possible RISI score is 200. In such a metropolitan area, 100% of lower-income and 100% of upper-income households would be situated in a census tract where a majority of households were in their same income bracket.)

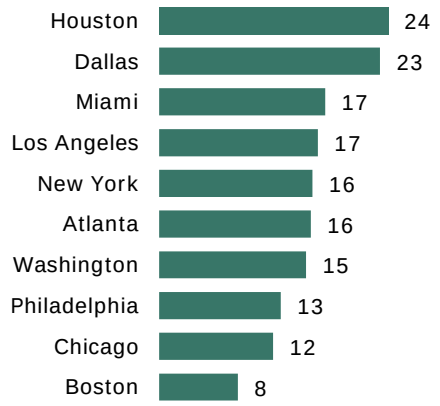
Among the nation's 10 largest metro areas, Houston (61) and Dallas (60) have the highest RISI scores, followed closely by New York (57). At the other end of the scale, Boston (36), Chicago (41) and Atlanta (41) have the lowest RISI scores among the nation's 10 largest metro areas.

It is beyond the scope of this report to analyze in any detail the causes of these metro area differences. Among the factors that may play a role are historical settlement patterns; local housing policies, zoning laws, real estate practices and migration trends; and the characteristics of the local economy and workforce.

Two broad patterns seem worthy of note. First, in looking at the changes over time in the nation's top 30 metropolitan areas, one finds

Share of Upper-Income Households Residing in Majority Upper-Income Census Tract, 10 Largest Metros, 2010

%



Notes: The geographic area refers to the entire metropolitan area, not just the city. So, for example, New York refers to the three-state area included in the New York metro area, home to 19 million people in 2010.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file.

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Defining the RISI

The Residential Income Segregation Index (RISI) for a given metropolitan area is computed by adding the share of low-income residents of that area who live in a majority low-income census tract to the share of upper-income residents in that area who live in a majority upper-income census tract. For example, in 2010, 37% of low-income households in Houston were situated in census tracts in which a majority of households are low income, and 24% of upper-income households in Houston were situated in census tracts in which a majority of households are upper income. This produces a RISI score of 61. Low-income households are defined as having less than two-thirds of the median annual household income in their metro area, and high-income households are defined as having more than double the metro area median household income.

that most of the metros whose RISI scores have had the largest increases have also experienced significant population growth fueled by in-migration.

For example, Houston, Dallas, San Antonio, Phoenix and Miami have all been among the nation's fastest-growing large metropolitan areas during the past three decades—a growth that has been fueled in part by an influx of low-skill, low-wage immigrants from south of the border and in part by an influx of high-skill, high-wage workers and well-to-do retirees. These dual migration streams could well have contributed to a rise in residential segregation by income.

Residential Income Segregation Index (RISI) in the 10 Largest Metros, 1980 and 2010

	1980	2010	Change 1980 to 2010
Houston	32	61	29
Dallas	39	60	21
New York	49	57	9
Los Angeles	47	51	4
Philadelphia	39	51	11
Miami	30	49	20
Washington	43	47	4
Atlanta	42	41	0
Chicago	35	41	6
Boston	31	36	5

Notes: The RISI score for a metro area is derived by adding the share of its lower-income households located in majority lower-income census tracts to the share of its upper-income households located in majority upper-income census tracts. "Change 1980 to 2010" calculated prior to rounding.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file and Geolytics 1980 Census data in 2000 boundaries.

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However, not all fast-growing metropolitan areas conform to this pattern. Among the 10 largest metros, Atlanta is the main outlier. It has a low RISI score (41) that is virtually unchanged from 30 years ago (42), but during this period it led all of the top 10 metros in its population growth (168%).[4]

Meantime, at the other end of the RISI scale for the top 10 metro areas, the Boston and Chicago metropolitan areas have experienced more modest population growth from 1980 to 2010, with an increase during that period of 56% in Boston and just 17% in Chicago. The RISI scores in both of these metro areas have risen only modestly from 1980 to 2010.

Regional Patterns

The other noteworthy pattern is regional. Looking at the nation's 30 largest metro areas (see the table on page 6), one finds that the metro areas in the Southwest have the highest average RISI score (57), followed by those in the Northeast (48), Midwest (44), West (38) and Southeast (35). The analysis also shows that the level of residential segregation by income in

[4] The metropolitan population change figures were based on tabulations of the Decennial Census and the 2010 American Community Survey (ACS) five-year file in the Integrated Public Use Micro Samples (IPUMS). The metro boundaries in the IPUMS roughly conform to the metro boundaries used in the residential segregation analysis.

the big Southwestern metro areas have, on average, increased much more rapidly from 1980 to 2010 than have those in other parts of the country. But all regions have had some increase. Here is a brief summary of the regional patterns. In each case, the cities are the ones from that region that are in the top 30 metro areas. The numbers following each metro area are its 2010 and 1980 RISI scores, respectively:

Southwest. 2010 RISI average: 57; 1980 RISI average: 35. San Antonio (63/39), Houston (61/32), Dallas (60/39), Denver (55/34) and Phoenix (48/33).

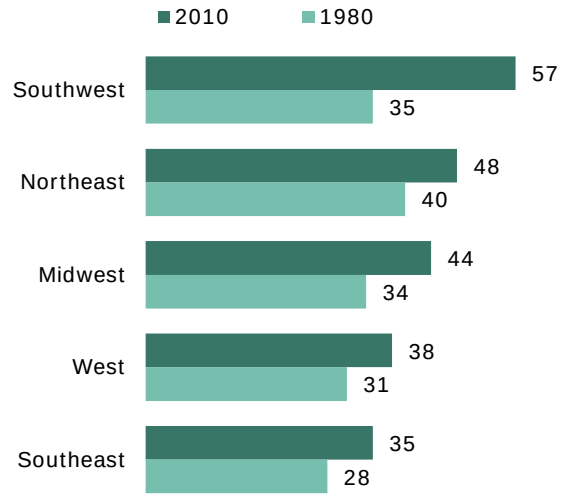
Northeast. 2010 RISI average: 48; 1980 RISI average: 40. New York (57/49), Philadelphia (51/39), Baltimore (48/36), Washington (47/43) and Boston (36/31).

Midwest. 2010 RISI average: 44; 1980 RISI average: 34. Detroit (54/43), Columbus, OH (53/37), Kansas City (47/38), Cincinnati (47/31), Cleveland (46/34), Chicago (41/35), Pittsburgh (38/25), St. Louis (38/34) and Minneapolis (28/29).

West. 2010 RISI average: 38; 1980 RISI average: 31. Los Angeles (51/47), San Francisco (43/38), San Diego (40/34), Riverside (38/28), Sacramento (35/24), Seattle (34/27) and Portland (25/19).

Southeast. 2010 RISI average: 35; 1980 RISI average: 28. Miami (49/30), Atlanta (41/42), Tampa (29/19) and Orlando (22/23).

Residential Income Segregation Index (RISI) by Region, 1980 and 2010



Notes: The regional RISI is computed by averaging the RISI scores for the large metros in the region. The averages shown are the simple unweighted averages.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file and Geolytics 1980 Census data in 2000 boundaries.

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Residential Income Segregation Index (RISI) for Nation's 30 Largest Metropolitan Areas, 1980 and 2010

Listed by the 2010 level in descending order

Metropolitan area	1980	2010	Change 1980 to 2010	Population change 1980 to 2010
San Antonio-New Braunfels, TX	39	63	24	89%
Houston-Sugar Land-Baytown, TX	32	61	29	96%
Dallas-Fort Worth-Arlington, TX	39	60	21	102%
New York-Northern New Jersey, NY-NJ-PA	49	57	9	20%
Denver-Aurora-Broomfield, CO	34	55	21	56%
Detroit-Warren-Livonia, MI	43	54	10	1%
Columbus, OH	37	53	16	47%
Los Angeles-Long Beach-Santa Ana, CA	47	51	4	35%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	39	51	11	13%
Miami-Fort Lauderdale-Pompano Beach, FL	30	49	20	76%
Baltimore-Towson, MD	36	48	12	21%
Phoenix-Mesa-Glendale, AZ	33	48	15	148%
Kansas City, MO-KS	38	47	9	38%
Cincinnati-Middletown, OH-KY-IN	31	47	16	22%
Washington-Arlington-Alexandria, DC-VA-MD-WV	43	47	4	78%
Cleveland-Elyria-Mentor, OH	34	46	12	15%
*National**	*32*	*46*	*14*	*39%*
San Francisco-Oakland-Fremont, CA	38	43	5	33%
Atlanta-Sandy Springs-Marietta, GA	42	41	0	168%
Chicago-Joliet-Naperville, IL-IN-WI	35	41	6	17%
San Diego-Carlsbad-San Marcos, CA	34	40	7	62%
Riverside-San Bernardino-Ontario, CA	28	38	10	284%
Pittsburgh, PA	25	38	13	-2%
St. Louis, MO-IL	34	38	4	21%
Boston-Cambridge-Quincy, MA-NH	31	36	5	56%
Sacramento—Arden-Arcade—Roseville, CA	24	35	11	88%
Seattle-Tacoma-Bellevue, WA	27	34	7	60%
Tampa-St. Petersburg-Clearwater, FL	19	29	9	75%
Minneapolis-St. Paul-Bloomington, MN-WI	29	28	-1	52%
Portland-Vancouver-Hillsboro, OR-WA	19	25	6	62%
Orlando-Kissimmee-Sanford, FL	23	22	-1	198%

Notes: *"National" refers to the nation's 942 metropolitan and micropolitan areas. The RISI score for a metro area is derived by adding the share of its lower-income households located in majority lower-income census tracts to the share of its upper-income households located in majority upper-income census tracts. "Change 1980 to 2010" calculated prior to rounding.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file and Geolytics 1980 Census data in 2000 boundaries; population change figures are based on tabulations of the Decennial Census and the 2010 American Community Survey (ACS) five-year file in the Integrated Public Use Micro Samples (IPUMS). The metro boundaries in the IPUMS roughly conform to the metro boundaries used in the residential segregation analysis.

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About this Report

This report describes trends over time in the household income composition of America's neighborhoods or census tracts. The focus is on the tract characteristics of lower-income households, middle-income households and upper-income households.

Households are classified as lower, middle, or upper income on the basis of the household's income compared to the median household income. Households with an income between two-thirds and twice the median household income were classified as middle income.

At the tract level, data are available for household income only without adjustment for the size of the household, so the entire report is based on unadjusted household income data.

The tract level data for 2010 is from the Census Bureau's 2010 American Community Survey (ACS) five-year file. Comparable data for 2000, 1990 and 1980 are in the SF3 files of the respective decennial censuses.

See the appendix for additional details on data sources and methodology.

The report was edited and the overview written by Paul Taylor, executive vice president of the Pew Research Center and director of its Social & Demographic Trends project. Senior economist Richard Fry researched and wrote the report. Research assistant Eileen Patten helped with the preparation of charts and formatting the report. The report was number-checked by Patten and Pew Research Center intern Antonio Rodriguez. The report was copy-edited by Marcia Kramer. The authors are grateful for the contributions of senior demographer Jeffrey S. Passel in interpolating the tract-level household income data. The Center appreciates the comments of outside reviewers John Logan of Brown University and William Frey of the Brookings Institution on an earlier draft.

CHAPTER 1: RISING INCOME AND RESIDENTIAL INEQUALITY

Over the past 30 years income has become less equally distributed among the nation's households. One widely used measure of inequality, the Gini index, ranges between 0 and 1, with 0 denoting complete equality (every household has the same income) and 1 complete inequality (one household receives the entire national income and all others receive nothing). The U.S. Census Bureau reports that income inequality based on the Gini index has increased by about 16% in the past three decades, from 0.404 in 1980 to 0.469 in 2011.

U.S. Household Income Inequality

Year	Gini index of income inequality
2011	0.469
2000	0.458
1990	0.431
1980	0.404

Source: U.S. Census Bureau, *Income, Poverty, and Health Insurance Coverage in the United States: 2010*, Current Population Report P60-239

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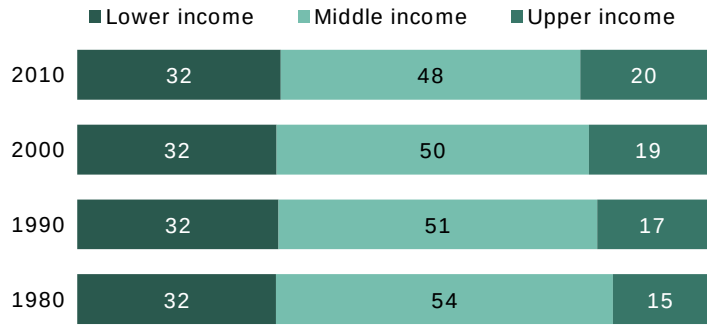
Consistent with this increase, there has been shrinkage over time in the share of households in the U.S. that have an annual income that falls within 67% to 200% of the national median, which are the boundaries used in this report to define middle-income households. In 1980, 54% of the nation's households fell within this statistically defined middle; by 2010, just 48% did. The decline in the share of middle-income households is largely accounted for by an increase in the share of upper-income households. The share of households in the upper end of the income distribution rose from 15% in 1980 to 20% in 2010.

With fewer households now in the middle income group, it's not surprising that there are now also more census tracts in which at least half of the households are either upper income or lower income. In 2010, 24% of all census tracts fell into one category or the other—with 18% in the majority lower-income category and 6% in

Distribution of Households by Income Group

% of households that are ...



Notes: Based on households in the nation's 942 metropolitan and micropolitan statistical areas.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file, 2000 Decennial Census SF3 data, Geolytics 1990 long-form data in 2000 boundaries, and Geolytics 1980 Census data in 2000 boundaries.

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the majority upper-income category. Back in 1980, 15% of all census tracts fell into one category or the other—with 12% majority lower and 3% majority upper.

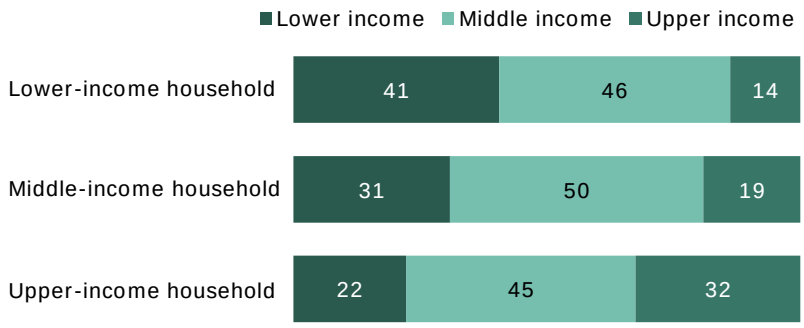
To be sure, even with these increases over time in the shares of tracts that have a high concentration of households at one end of the income scale or the other, the vast majority of tracts in the country—76%—do not fit this profile. Most of America's neighborhoods are still mostly middle income or mixed income—just not as many as before.

CHAPTER 2: TRENDS IN RESIDENTIAL SEGREGATION

In 2010, the average lower-income household resided in a tract composed of 41% lower-income households and 14% upper-income households. In contrast, the typical upper-income household resided in a tract composed of 22% lower-income households and 32% upper-income households. The typical middle income household resided in a census tract that had 31% lower-income households and 19% upper-income households.

Household Income Distribution of Typical Census Tract of Lower-, Middle- and Upper-Income Households, 2010

Among each household income group, % of households in their typical census tract that are …



Notes: Based on census tracts in the nation's 942 metropolitan and micropolitan statistical areas.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file

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Since 1980, lower-income households have become increasingly likely to live in tracts with more lower-income households. In 2010, the average lower-income household resided in a tract with 41% lower-income households, an increase from 39% in 1980.

Likewise, since 1980 upper-income households have become increasingly likely to live in a tract with other upper-income households. In 2010, the average upper-income household resided in a tract composed of 32% upper-income households, an increase from 25% in 1980.

However, the Pew Research Center analysis of the composition of census tracts by income class is not entirely consistent with what some observers[5] have dubbed a "secession of the successful" to describe the changing configuration of neighborhoods in recent decades. Though the typical upper-income household is more likely to live alongside other upper-income

[5] For example, author Charles Murray asserted in his 2012 book, *Coming Apart: The State of White America, 1960-2010*, that "residential segregation enables large portions of the new upper class to live their lives isolated from everyone else." Murray's analysis differs from this one in part because it focuses on the smaller and more top-heavy slice of socio-economic elites who inhabit what he calls "SuperZips"—neighborhoods that are in the 95th percentile and above in their measured levels of median household income and educational attainment.

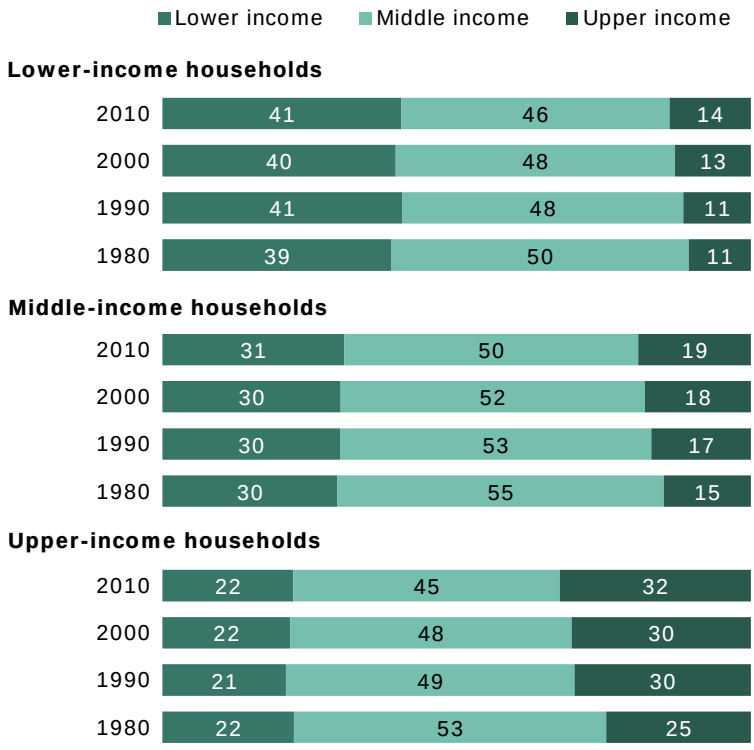
households, more than two-thirds of the neighbors of the typical upper-income household in 2010 were either middle income or lower-income households.

Moreover, rather than distancing themselves from the poor, upper-income households have the same degree of exposure to lower-income households as in 1980. In 2010, the typical census tract of upper-income households was composed of 22% lower-income households, unchanged from the 1980 level.

Finally, upper-income households are not the only group that is increasingly exposed to other upper-income households. Lower and middle-income households are also increasingly likely to live in a census tract with more upper-income households. For example, in 2010 the typical lower-income household was located in a tract having 14% upper-income households, an increase from 11% in 1980. Upper-income households have grown at a faster rate than other income groups over the past several decades, and thus all groups are more likely to be exposed to them.

Household Income Distribution of Census Tracts of Lower, Middle- and Upper-Income Households

Among each household income group, % of households in their typical census tracts that are ...



Notes: Based on census tracts in the nation's 942 metropolitan and micropolitan statistical areas.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file, 2000 Decennial Census SF3 data, Geolytics 1990 long-form data in 2000 boundaries, and Geolytics 1980 Census data in 2000 boundaries.

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CHAPTER 3: MAJORITY LOWER-, MIDDLE- AND UPPER-INCOME TRACTS

In this section of the report, we turn the frame of analysis from the household (which was the unit of analysis in chapters 1 and 2) to the census tract. We also compare trends in residential segregation by income with trends in residential segregation by race.

Households in Majority Lower-Income and Majority Upper-Income Tracts

	1980		1990		2000		2010	
Majority lower-income tracts	8,936,166	12%	12,701,971	15%	13,131,021	13%	15,849,671	15%
Majority upper-income tracts	1,658,888	2%	3,966,867	5%	4,880,040	5%	6,522,817	6%
Other tracts	63,628,836	86%	68,668,832	80%	80,119,185	82%	84,251,808	79%
Total	74,223,890		85,337,670		98,130,246		106,624,296	

Notes: Based on census tracts in the nation's 942 metropolitan and micropolitan statistical areas.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file, 2000 Decennial Census SF3 data, Geolytics 1990 long-form data in 2000 boundaries, and Geolytics 1980 Census data in 2000 boundaries.

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In 2010, most households (79%) lived in a tract in which at least half of the households were middle income or in which no income group comprised a majority of households. An additional 15% of the nation's households resided in a majority lower-income tract, and 6% of the nation's households resided in a majority upper-income tract. The share of the nation's households residing in majority lower-income tracts and majority upper-income tracts has risen since 1980. In 1980, 12% of households were in majority lower-income tracts and 2% were in majority upper-income tracts.

Though it remains the case that most (72%) lower-income households do not live in a majority lower-income tract, the tendency of the nation's lower-income households to live in majority lower-income census tracts has risen since 1980. In 2010, 28% of lower-income households lived in majority lower-income tracts, an increase from 23% in 1980.

Most upper-income households did not live in a majority upper-income census tract, but more do now than did in 1980. In 2010, 18% of the nation's upper-income households resided in a majority upper-income tract. Thirty years earlier, 9% of upper-income households resided in majority upper-income tracts.

The number of majority lower-income census tracts has grown over time, from 12% of all tracts in 1980 to 18% in 2010. But, on average, these majority lower-income tracts have not grown more highly concentrated with lower-income households. In 1980, the average majority lower-

Households in Majority Lower-Income and Majority Upper-Income Tracts, by Income Group

	1980		1990		2000		2010	
Lower-income households								
Majority lower-income tracts	5,357,033	23%	7,706,981	28%	7,854,011	25%	9,592,343	28%
Majority upper-income tracts	119,089	1%	291,482	1%	411,861	1%	623,611	2%
Other tracts	17,929,931	77%	19,243,589	71%	22,765,455	73%	24,214,767	70%
Total	23,406,053		27,242,052		31,031,327		34,430,721	
Middle-income households								
Majority lower-income tracts	3,241,997	8%	4,486,528	10%	4,643,403	10%	5,498,158	11%
Majority upper-income tracts	548,268	1%	1,273,229	3%	1,544,312	3%	1,989,336	4%
Other tracts	35,947,356	90%	37,448,264	87%	42,522,615	87%	43,264,207	85%
Total	39,737,621		43,208,021		48,710,330		50,751,701	
Upper-income households								
Majority lower-income tracts	337,820	3%	508,486	3%	633,706	3%	759,254	4%
Majority upper-income tracts	991,564	9%	2,402,143	16%	2,923,868	16%	3,909,874	18%
Other tracts	9,755,155	88%	11,975,617	80%	14,831,466	81%	16,772,966	78%
Total	11,084,539		14,886,246		18,389,040		21,442,094	

Notes: Based on census tracts in the nation's 942 metropolitan and micropolitan statistical areas.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file, 2000 Decennial Census SF3 data, Geolytics 1990 long-form data in 2000 boundaries, and Geolytics 1980 Census data in 2000 boundaries.

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income tract was composed of 60% lower-income households. In 2010, the majority of lower-income tracts were 61% lower income. Thus it appears that more lower-income households live in majority lower-income tracts simply because there are more such tracts, not because a growing number of lower-income households are more densely packed into a stable number of such tracts.

Looking at the trends from 1980 to 2010, it is also clear that residing in a majority upper-income tract has not reduced the exposure of its residents to neighbors who are lower income. In 1980, the average majority upper-income tract was made up of 7% lower-income households. By 2010, the typical majority upper-income tract had 10% lower-income households.

Comparisons with Racial and Ethnic Isolation

Residential isolation by race is more prevalent than residential isolation by income. In 2010, 42% of blacks lived in a census tract that was majority black, compared with 28% of low-income households living in a majority low-income tract and 18% of upper-income households living in a majority upper-income tract.[6]

Another way to look at racial segregation is to analyze the racial makeup of the census tract where the typical person of a given race lives. In 2010, the typical African American resided in a census tract whose population was 45% African American, though African Americans comprised only 12% of the population. The typical white person (63% of the population) lived in a tract that was 77% white; the typical Hispanic (17% of the population) resided in a tract that was 45% Hispanic; and the typical Asian or Pacific Islander (5% of the population) resided in a tract that was 21% Asian or Pacific Islander.

Applying this same metric to residential segregation by income, one finds that in 2010 the typical lower-income household (32% of the population) was located in a tract that was 41% lower income and the typical upper-income household (20% of the population) was located in a tract that was 32% upper income. In other words, although these two minority income groups are larger than Hispanics (17%) and African Americans (12%), the two income groups are less likely to be clustered among themselves.

As for trends over time in racial segregation, one of the major findings arising from the 2010 Census is that black-white segregation continues to decline in America (Glaeser and Vigdor, 2012; Logan and Stults, 2011; Frey, 2011). In 1980, the typical black American lived in a census tract that was 58% black; by 2010, that share dropped to 45%.

However, residential segregation of Hispanic and Asian Americans may not have decreased—in part because the populations of these two minority groups have grown during this period, thereby creating larger pools for potential ethnic and racial clustering. In 1980, the typical Hispanic resided in a tract that was 38% Hispanic (compared with 45% in 2010) and the typical Asian or Pacific Islander resided in a tract that was 19% Asian or Pacific Islander (compared with 21% in 2010). [7]

[6] Black or African American refers to non-Hispanic individuals identifying as African American or black alone. The tabulation is based on census tracts in the nation's 942 metropolitan and micropolitan areas using 2010 Decennial Census SF1 data.
[7] Again, these tabulations are based on census tracts in the nation's 942 metropolitan and micropolitan areas using 2010 Decennial Census SF1 data and the Geolytics 1980 long-form data in 2000 boundaries.

CHAPTER 4: METROPOLITAN VARIATION

The Pew Research Center analysis of the nation's 30 largest metropolitan areas finds wide variation in the extent of residential segregation by income.[8]

New York, Denver, San Antonio and Philadelphia lead the 30 largest metros in the share of lower-income households residing in majority lower-income tracts. As of 2010, 41% of lower-income households in New York lived in a majority lower-income tract. In Denver, 39% of lower-income households were in such tracts. In San Antonio and Philadelphia, 38% of lower-income households resided in majority lower-income tracts. By contrast, less than 20% of lower-income households were in majority lower-income tracts in Orlando and Tampa.

When it comes to high concentrations of upper-income households in upper-income neighborhoods, San Antonio, Houston and Dallas lead the nation's top 30 metropolitan areas. In 2010, a quarter of upper-income households in San Antonio were located in majority upper-income tracts, followed closely by Houston (24%) and Dallas (23%). By contrast, 7% or fewer upper-income households were in majority upper-income tracts in Sacramento, Orlando, Seattle, Portland and Minneapolis.

[8] This metropolitan analysis employs a local cost-of-living adjustment to correct for the fact that lower-, middle- and upper-income thresholds are different in different parts of the country.

Share of Lower-Income Households in Majority Lower-Income Tracts, Rankings of Nation's 30 Largest Metropolitan Areas, 2010

Metropolitan area (2010 population)	% of lower-income in majority lower-income census tracts	Maximum household income to be deemed lower income	% of all households that are lower income
New York-Northern New Jersey-Long Island, NY-NJ-PA (18,919,983)	41	$42,999	35
Denver-Aurora-Broomfield, CO (2,560,529)	39	$39,999	33
San Antonio-New Braunfels, TX (2,157,897)	38	$32,999	34
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD (5,971,483)	38	$39,999	34
Houston-Sugar Land-Baytown, TX (5,977,092)	37	$36,999	34
Dallas-Fort Worth-Arlington, TX (6,402,922)	37	$37,999	33
Detroit-Warren-Livonia, MI (4,291,843)	36	$34,999	34
Baltimore-Towson, MD (2,714,183)	36	$43,999	33
Cleveland-Elyria-Mentor, OH (2,075,758)	35	$31,999	33
Los Angeles-Long Beach-Santa Ana, CA (12,849,383)	34	$39,999	34
Columbus, OH (1,840,631)	34	$34,999	33
Cincinnati-Middletown, OH-KY-IN (2,133,203)	33	$35,999	34
Phoenix-Mesa-Glendale, AZ (4,211,213)	33	$35,999	32
Kansas City, MO-KS (2,035,747)	32	$36,999	33
Miami-Fort Lauderdale-Pompano Beach, FL (5,582,351)	32	$32,999	34
San Francisco-Oakland-Fremont, CA (4,345,320)	32	$49,999	34
Washington-Arlington-Alexandria, DC-VA-MD-WV (5,610,082)	31	$56,999	32
San Diego-Carlsbad-San Marcos, CA (3,105,989)	29	$41,999	33
Riverside-San Bernardino-Ontario, CA (4,245,773)	29	$37,999	33
Chicago-Joliet-Naperville, IL-IN-WI (9,474,211)	29	$39,999	33
Sacramento—Arden-Arcade—Roseville, CA (2,154,391)	28	$39,999	33
Boston-Cambridge-Quincy, MA-NH (4,560,689)	28	$46,999	35
Seattle-Tacoma-Bellevue, WA (3,449,059)	27	$43,999	33
St. Louis, MO-IL (2,815,168)	26	$34,999	33
Atlanta-Sandy Springs-Marietta, GA (5,288,302)	26	$37,999	32
Minneapolis-St. Paul-Bloomington, MN-WI (3,286,195)	25	$42,999	32
Pittsburgh, PA (2,356,381)	25	$31,999	34
Portland-Vancouver-Hillsboro, OR-WA (2,232,496)	20	$37,999	33
Tampa-St. Petersburg-Clearwater, FL (2,789,116)	18	$30,999	32
Orlando-Kissimmee-Sanford, FL (2,140,795)	15	$33,999	32

Notes: Designation of the cut point for "lower income" varies across metropolitan areas to reflect differences in the cost of living. Lower income is defined as a household with an income below 67% of the metro's median household income. A majority lower-income census tract has at least half the tract's households with a household income below 67% of the metropolitan median household income.

A metropolitan area is a set of counties centered around at least one urbanized area that has a population of at least 50,000. The adjacent outlying counties have a high degree of social and economic integration with the central county or counties as measured through commuting.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file

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Share of Upper-Income Households in Majority Upper-Income Tracts, Rankings of Nation's 30 Largest Metropolitan Areas, 2010

Metropolitan area (2010 population)	% of upper-income in majority upper-income census tracts	Minimum household income to be deemed upper income	% of all households that are upper income
San Antonio-New Braunfels, TX (2,157,897)	25	$98,000	19
Houston-Sugar Land-Baytown, TX (5,977,092)	24	$110,000	21
Dallas-Fort Worth-Arlington, TX (6,402,922)	23	$113,000	19
Columbus, OH (1,840,631)	19	$106,000	18
Detroit-Warren-Livonia, MI (4,291,843)	18	$105,000	19
Miami-Fort Lauderdale-Pompano Beach, FL (5,582,351)	17	$98,000	21
Los Angeles-Long Beach-Santa Ana, CA (12,849,383)	17	$120,000	20
New York-Northern New Jersey-Long Island, NY-NJ-PA (18,919,983)	16	$128,000	21
Atlanta-Sandy Springs-Marietta, GA (5,288,302)	16	$115,000	19
Denver-Aurora-Broomfield, CO (2,560,529)	16	$120,000	18
Washington-Arlington-Alexandria, DC-VA-MD-WV (5,610,082)	15	$171,000	17
Kansas City, MO-KS (2,035,747)	15	$111,000	17
Phoenix-Mesa-Glendale, AZ (4,211,213)	15	$109,000	18
Cincinnati-Middletown, OH-KY-IN (2,133,203)	14	$107,000	18
Pittsburgh, PA (2,356,381)	13	$95,000	19
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD (5,971,483)	13	$121,000	19
Baltimore-Towson, MD (2,714,183)	12	$132,000	18
Chicago-Joliet-Naperville, IL-IN-WI (9,474,211)	12	$121,000	18
St. Louis, MO-IL (2,815,168)	12	$106,000	18
San Francisco-Oakland-Fremont, CA (4,345,320)	11	$151,000	20
Cleveland-Elyria-Mentor, OH (2,075,758)	11	$97,000	19
Tampa-St. Petersburg-Clearwater, FL (2,789,116)	11	$93,000	19
San Diego-Carlsbad-San Marcos, CA (3,105,989)	11	$126,000	19
Riverside-San Bernardino-Ontario, CA (4,245,773)	9	$114,000	18
Boston-Cambridge-Quincy, MA-NH (4,560,689)	8	$140,000	18
Sacramento—Arden-Arcade—Roseville, CA (2,154,391)	7	$121,000	18
Orlando-Kissimmee-Sanford, FL (2,140,795)	7	$101,000	18
Seattle-Tacoma-Bellevue, WA (3,449,059)	7	$131,000	16
Portland-Vancouver-Hillsboro, OR-WA (2,232,496)	5	$113,000	17
Minneapolis-St. Paul-Bloomington, MN-WI (3,286,195)	3	$130,000	16

Notes: Designation of the cut point for "upper income" varies across metropolitan areas to reflect differences in the cost of living. Upper income is defined as a household with an income above 200% of the metro's median household income. A majority upper-income census tract has at least half the tract's households with a household income above 200% of the metropolitan median household income.

A metropolitan area is a set of counties centered around at least one urbanized area that has a population of at least 50,000. The adjacent outlying counties have a high degree of social and economic integration with the central county or counties as measured through commuting.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file

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This Pew Research analysis also finds considerable variation among the nation's 30 largest metros in the increase from 1980 to 2010 in the share of households residing in majority lower- or upper-income tracts.

San Antonio, Houston and Denver had the largest increases in the share of lower-income households residing in majority lower-income tracts among the 30 largest metros (12 percentage points). For example, in 1980 in San Antonio, 26% of lower-income households resided in majority lower-income tracts, but by 2010 that figure had risen to 38%. Overall, 25 of the nation's 30 largest metropolitan areas experienced at least some increase during the past 30 years, while four had a decrease and one had no change. Atlanta, St. Louis and Orlando experienced the greatest decreases during this period.

As for the share of the upper income residing among the upper income, the direction of change was even more pervasive than the change for lower-income concentration. All of the nation's 30 largest metropolitan areas experienced at least some increase during the past 30 years in the share of upper-income living among the upper income. Houston experienced the largest increase (in percentage point terms). In 1980 in Houston, 7% of upper-income households resided in majority upper-income tracts. By 2010, 24% of Houston's upper-income lived in such tracts. In other metros, the increases were much more modest. For example, in 1980 in the Portland metropolitan area there were no majority upper-income census tracts. By 2010, 5% of Portland's upper-income households resided in majority upper-income census tracts.

Change in Lower-Income Households in Majority Lower-Income Tracts, Nation's 30 Largest Metropolitan Areas, 1980 and 2010

Metropolitan area	1980 (%)	2010 (%)	Percentage point change
San Antonio-New Braunfels, TX	26	38	12
Houston-Sugar Land-Baytown, TX	25	37	12
Denver-Aurora-Broomfield, CO	28	39	12
Miami-Fort Lauderdale-Pompano Beach, FL	21	32	10
Dallas-Fort Worth-Arlington, TX	28	37	9
Riverside-San Bernardino-Ontario, CA	22	29	7
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	30	38	7
Phoenix-Mesa-Glendale, AZ	26	33	7
Sacramento—Arden-Arcade—Roseville, CA	22	28	6
Cincinnati-Middletown, OH-KY-IN	27	33	6
Columbus, OH	28	34	6
New York-Northern New Jersey-Long Island, NY-NJ-PA	36	41	6
Pittsburgh, PA	20	25	5
Cleveland-Elyria-Mentor, OH	30	35	5
Boston-Cambridge-Quincy, MA-NH	23	28	4
Detroit-Warren-Livonia, MI	32	36	4
Seattle-Tacoma-Bellevue, WA	23	27	4
San Diego-Carlsbad-San Marcos, CA	26	29	4
Los Angeles-Long Beach-Santa Ana, CA	32	34	3
San Francisco-Oakland-Fremont, CA	29	32	2
Baltimore-Towson, MD	34	36	2
Kansas City, MO-KS	31	32	1
Tampa-St. Petersburg-Clearwater, FL	17	18	1
Washington-Arlington-Alexandria, DC-VA-MD-WV	30	31	1
Portland-Vancouver-Hillsboro, OR-WA	19	20	1
Chicago-Joliet-Naperville, IL-IN-WI	29	29	0
Minneapolis-St. Paul-Bloomington, MN-WI	27	25	-2
Orlando-Kissimmee-Sanford, FL	20	15	-4
St. Louis, MO-IL	30	26	-4
Atlanta-Sandy Springs-Marietta, GA	33	26	-7

Notes: The metropolitan tabulations define lower income using each metro area's median household income. Lower-income households have a household income that is less than 67% of the metropolitan median household income. "Percentage point change" calculated prior to rounding.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file and Geolytics 1980 Census data in 2000 boundaries

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Change in Upper-Income Households in Majority Upper-Income Tracts, Nation's 30 Largest Metropolitan Areas, 1980 and 2010

Metropolitan area	1980 (%)	2010 (%)	Percentage point change
Houston-Sugar Land-Baytown, TX	7	24	17
Dallas-Fort Worth-Arlington, TX	11	23	12
San Antonio-New Braunfels, TX	13	25	12
Columbus, OH	9	19	11
Baltimore-Towson, MD	2	12	10
Cincinnati-Middletown, OH-KY-IN	4	14	10
Denver-Aurora-Broomfield, CO	6	16	9
Miami-Fort Lauderdale-Pompano Beach, FL	8	17	9
Pittsburgh, PA	5	13	8
St. Louis, MO-IL	3	12	8
Tampa-St. Petersburg-Clearwater, FL	3	11	8
Kansas City, MO-KS	7	15	8
Phoenix-Mesa-Glendale, AZ	7	15	8
Cleveland-Elyria-Mentor, OH	4	11	7
Atlanta-Sandy Springs-Marietta, GA	9	16	7
Chicago-Joliet-Naperville, IL-IN-WI	6	12	6
Detroit-Warren-Livonia, MI	12	18	6
Portland-Vancouver-Hillsboro, OR-WA	0	5	5
Sacramento—Arden-Arcade—Roseville, CA	2	7	5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	9	13	4
Orlando-Kissimmee-Sanford, FL	3	7	3
New York-Northern New Jersey-Long Island, NY-NJ-PA	13	16	3
San Francisco-Oakland-Fremont, CA	9	11	3
Seattle-Tacoma-Bellevue, WA	4	7	3
San Diego-Carlsbad-San Marcos, CA	8	11	3
Washington-Arlington-Alexandria, DC-VA-MD-WV	13	15	3
Riverside-San Bernardino-Ontario, CA	6	9	2
Los Angeles-Long Beach-Santa Ana, CA	15	17	2
Boston-Cambridge-Quincy, MA-NH	7	8	1
Minneapolis-St. Paul-Bloomington, MN-WI	2	3	1

Notes: The metropolitan tabulations define upper income using each metro area's median household income. Upper-income households have a household income that is more than 200% of the metropolitan median household income. "Percentage point change" calculated prior to rounding.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file and Geolytics 1980 Census data in 2000 boundaries

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REFERENCES

Congressional Budget Office. *Trends in the Distribution of Household Income Between 1979 and 2007*. October 2011. http://www.cbo.gov/publication/42729

Frey, William H. August 2011. The New Metro Minority Map: Regional Shifts in Hispanics, Asians, and Blacks from Census 2010. Washington, DC: Brookings Institution State of Metropolitan America series. http://www.brookings.edu/~/media/research/files/papers/2011/8/31%20census%20race%20frey/0831_census_race_frey

Glaeser, Edward, and Jacob Vigdor. *The End of the Segregated Century: Racial Separation in America's Neighborhoods, 1890-2010*. Manhattan Institute (January 2012). Civic Report 66. http://www.manhattan-institute.org/html/cr_66.htm

Logan, John R., and Brian J. Stults. March 2011. *The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census*. Project US2010 series. http://www.s4.brown.edu/us2010/Data/Report/report2.pdf

Massey, Douglas S., and Mary J. Fischer. "The Geography of Inequality in the United States, 1950-2000," *Brookings-Wharton Papers on Urban Affairs* (2003): 1-40.

Murray, Charles. *Coming Apart: The State of White America, 1960-2010*. (New York: Crown Forum, 2012).

Pew Research Center. Social & Demographic Trends project. *Inside the Middle Class: Bad Times Hit the Good Life*. April 2008. http://www.pewsocialtrends.org/2008/04/09/inside-the-middle-class-bad-times-hit-the-good-life/

Siegel, Jacob S., and David A. Swanson, editors. 2008. *The Methods and Materials of Demography*, 2nd edition. United Kingdom: Emerald Group.

APPENDIX: DATA SOURCES AND GEOGRAPHY

Tract-level data on household income are available in the SF3 files of the decennial census and the 2006 to 2010 American Community Survey (ACS) five-year file. For 1990 and 1980, the Geolytics data products that normalize the long-form data into 2000 geographical boundaries were utilized.

In the 2010 ACS five-year data (available on the Census Bureau's American Fact Finder), there are 73,057 census tracts in the 50 states and District of Columbia. For 2010 this analysis examined the 67,462 census tracts in metropolitan and micropolitan areas. For 1980 to 2000 the analysis does not examine the same 67,462 census tracts. As the population grows over time, the Census Bureau delineates more census tracts so the number of census tracts grows across censuses. However, the 942 metropolitan and micropolitan areas are composed of counties. Counties change very little across censuses. For the earlier years, the tracts in the same counties that were analyzed in 2010 are included in the analysis. So though we are not analyzing a constant number of census tracts, we are analyzing uniformly the tracts in the counties that comprise the 2010 metropolitan and micropolitan areas.

Census Tracts Analyzed

Year	Tracts in the 942 metropolitan and micropolitan areas
2010	67,462
2000	59,915
1990	59,916
1980	59,915

Source: 2006-2010 American Community Survey (ACS) 5-year file, 2000 Decennial Census SF3 data, Geolytics 1990 long-form data in 2000 boundaries, and Geolytics 1980 Census data in 2000 boundaries.

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The methodology used is very similar to the widely noted study by Massey and Fischer (2003). They examined neighborhood change in 60 metropolitan areas, including the 50 largest in population.

In each year, "lower income" refers to households with a household income less than 67% of the national median household income. "Middle-income" households have a household income between 67% and 200% of the national median household income. "Upper-income" households have incomes more than twice (200%) the national median household income. These income thresholds were used in this report by the Pew Research Center because they result in a class distribution that roughly comports with the way that Americans self-identify as members of different socio-economic classes. (However, we also ran our analyses with other thresholds and found the same patterns and trends, regardless of which cut points we used).

For the national analysis, the following household income cut points define lower-, middle- and upper-income households:

Definition of Household Income Groups

	In nominal $			*In 2010 $*		
Year	**Lower**	**Middle**	**Upper**	**Lower**	**Middle**	**Upper**
2010	Below $34,000	$34,000 to $103,999	$104,000 and above	Below $34,000	$34,000 to $103,999	$104,000 and above
2000	Below $28,000	$28,000 to $83,999	$84,000 and above	Below $36,639	$36,639 to $109,916	$109,917 and above
1990	Below $20,000	$20,000 to $59,999	$60,000 and above	Below $33,955	$33,955 to $101,865	$101,866 and above
1980	Below $11,000	$11,000 to $33,999	$34,000 and above	Below $30,789	$30,789 to $95,164	$95,165 and above

Note: For the purpose of this analysis, low-income households are defined as having less than two-thirds of the national median annual income and upper-income households as having more than double the national median annual income.

Source: Pew Research Center tabulations of 2006-2010 American Community Survey (ACS) 5-year file, 2000 Decennial Census SF3 data, Geolytics 1990 long-form data in 2000 boundaries, and Geolytics 1980 Census data in 2000 boundaries.

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Note that the Census Bureau tract-level household income data are available only in bracketed form—meaning that counts of households are shown within income ranges. For some parts of the income distribution the brackets can be fairly wide. For example, census data show that the total number of households with an income between $150,000 and $199,999 are located in a given census tract—but no finer detail than that.

To conduct a more precise analysis that allowed for estimates to be made on the basis of household income to the nearest $1,000 interval, the Pew Research Center applied a statistical technique known as osculatory interpolation. Our interpolation of the income data was achieved by applying a well-established formula known as the Sprague method. This formula reproduces the original data, meaning that the sum of the interpolated data always adds up to the published group data. See Siegel and Swanson (2008) for an explanation of the Sprague method.