Drilling Down in Baltimore's Neighborhoods: Changes in racial/ethnic composition and income from 2000 to 2017

by Alan Mallach

Prepared for the Abell Foundation
Baltimore, Maryland
April 2020

CONTENTS

The opinions in this report are those of the author and do not represent the position of either the Abell Foundation or the Center for Community Progress.

INTRODUCTION

Urban neighborhoods—their dynamics, their effects, and their transformation in the 21st century—have become one of the most heatedly contested issues in the ongoing discussion about the present and future of American cities. Few discussions about urban neighborhoods fail to bring in the issue of gentrification, which has become one of the most widely used (and, I would suggest, misused) words in the urban lexicon. At the same time, research has increasingly shown the power of neighborhood effects, and how devastating living or growing up in a distressed, concentrated poverty area can be on people's health and well-being, their life expectancy, and their prospects for better earnings and upward mobility later in life.

All of these issues are powerfully present in Baltimore, a city that in many respects is experiencing strong revival, and in others, continuing decline. Baltimore is a city intensely polarized by race and economic status. What happens in Baltimore's neighborhoods, whether they are gentrifying or declining, continuing to struggle or growing in strength, not only is critical for framing public policy, but also defines what kind of a city Baltimore is, and what kind of city its residents want it to be. And yet, little is known about what is actually going on. In recent news posts, Baltimore has been portrayed by President Trump as a "rat and rodent infested mess,"[1] and by a highly publicized national study as one of the five most rapidly gentrifying cities in the United States.[2] Neither is true, of course, although Baltimore undoubtedly has some neighborhoods that are in deep distress, and some neighborhoods that are gentrifying.

The purpose of this report is to fill in part of that knowledge gap by providing an initial picture of what has actually been happening in Baltimore's neighborhoods since the beginning of the 21st century—that is, to what extent have neighborhoods moved upward economically, moved downward, or stayed largely the same, and what does that mean in terms of population change, economic condition, and housing markets. Specifically, this report looks at Baltimore's roughly 200 census tracts, breaking them down into categories by race and by economic level in 2000 (as described in the next section) and presenting how they've changed since. For example, have neighborhoods that were similar economically but different racially in 2000 followed similar or different trajectories from then until now? And if their trajectories were different, in what ways?

I look at how neighborhoods have changed; whether they moved upward or downward economically; whether they gained or lost population; how their racial composition did or did not shift; and how their housing market conditions, including home ownership rates and sales prices, changed. I tried to get a sense of how many and which neighborhoods were gentrifying versus declining, and how those trends relate to population change, particularly in the city's black population.

Although I look closely at gentrification in Baltimore, this report is not about gentrification as such. It is about the larger picture of neighborhood change. Gentrification is one part of that picture—a significant part, but one that affects only a small minority of Baltimore's neighborhoods. Most of Baltimore's neighborhoods are changing, but in different ways. Those changes are being driven by major demographic shifts in the city's population, which are in turn driving major changes in Baltimore's housing market. This local change parallels the hollowing of the middle class and the increasing polarization of wealth and poverty seen at the national level.

The largest single factor driving change in Baltimore is that Baltimore is losing its working- and middle-class families. That factor plays out very differently across the city's racial divide. While Baltimore is losing white as well as black middle- and working-class families, it is gaining a young, highly skilled and high-earning white—but not black—population through in-migration. As a result, the white population is becoming more affluent,

1 Tweet on July 27, 2019; the exact wording was "[Rep. Elijah] Cumming District is a disgusting, rat and rodent infested mess."

2 National Community Reinvestment Coalition, Shifting Neighborhoods: Gentrification and Cultural Displacement in American Cities (March 2019); e.g., "Baltimore and Philadelphia metro areas are in the top 10 list, with the fourth and fifth largest number of gentrified tracts in the study" (p.15).

and the black population is becoming poorer. That shift reverberates through the housing market. In those areas to which young, affluent white households are moving, housing demand is strong and prices are rising. In those areas from which working- and middle-class black families are leaving, housing demand is weak, prices are largely flat, and abandonment is distressingly common.

All of those who are engaged in working to make Baltimore a healthier, stronger city need to ask the question: Why is Baltimore losing its working- and middle-class families, particularly its African American ones? I hope this report will encourage conversation around that question.

The relationship between demographic change and market change underlies most of what is happening to Baltimore's neighborhoods. Markets may not be fair, but they are powerful, and they tend to work in ways little affected by political decisions and community aspirations. They can be influenced, but only if they are thoroughly understood. This is particularly relevant to the subject of gentrification. In light of the role that this issue plays in many discussions of neighborhood change in Baltimore, I will address it briefly in this introduction, and then in more detail later.

While gentrification may have different meanings for different people, I define it here, as do almost all researchers who study and write about it, as a combination of significant increases in both house prices and household incomes in a given area.[3] This reflects the understanding that gentrification is about both the influx of more affluent households into an area and the increase in that area's house prices above some citywide or regional benchmark. It is not the same as displacement. Displacement is a difficult term because as with gentrification itself, it can mean different things to different people in different contexts. Most precisely, displacement refers to an involuntary process—that is, people being forced to leave their homes, for any number of reasons—as opposed to people voluntarily moving, again for any number of reasons.

The data cannot tell us whether displacement, in the sense given above, is happening in Baltimore's relatively small gentrifying area, but the data suggest, in the words of progressive journalist Jarrett Murphy, that "the issue isn't displacement of the poor, it's replacement."[4] The one available statistical measure of displacement, the rate of evictions, shows no correlation with any indicator of gentrification. It is a product, above all, of poverty and high rental cost burden. I am not arguing that there is no displacement, as defined above, connected to gentrification in Baltimore. As philosophers and scientists have long pointed out, proving the absence of something is often impossible. I find, however, that the changes taking place in those neighborhoods are fully explained by replacement, not displacement. In the course of that process, far more lower-income white households have been replaced than black households, while in many cases out-moving larger black households have been replaced by smaller black households.

This report is not a complete picture of Baltimore's neighborhoods. Neighborhoods are complicated things. A neighborhood is more than its economic trajectory; it is a product of the commitment of its residents and property owners, or the absence of that commitment; the presence or absence of neighborhood organizations and institutions; the levels and character of the interactions among its residents, and much more. At the same time, understanding economic and demographic trends and how they then drive housing markets is fundamental to understanding neighborhoods, while many market-related factors, such as trends in homeownership rates or population movements, powerfully affect the social as well as the economic dynamics of the neighborhood.

---

3 In some cases, researchers add significant increase in educational attainment (particularly the percentage of adults with a bachelor's or higher degree) to the first two factors. This is the basic framework that was adopted by the National Community Reinvestment Coalition in the study cited earlier; I do not disagree with the framework, although I question how it was applied.

4 Jarrett Murphy, "The Complicated Research on how Gentrification Affects the Poor," CityLimits, November 20, 2015. https://citylimits.org/2015/11/20/the-complicated-research-on-how-gentrification-affects-the-poor/

Finally, this report is not about pointing fingers. The picture painted here is in large part the reflection of powerful and long-term changes in our nation's demographic and economic character and reflects historical patterns of discrimination, segregation, redlining, and white flight. The ability of the city's current community leaders and advocates to rapidly undo the city's underlying social, economic, and physical challenges is severely limited. That said, there are many things that can be done to redress inequity, and the strategic framework recently adopted by the city's Department of Housing and Community Development represents a serious, thoughtful effort to begin grappling with many of them.[5]

I look first at the larger city picture, and the patterns of variation in neighborhood change by race and economic condition, followed by a discussion of the implications of change for population change, as well as change in house values, home ownership rates, and other key neighborhood indicators. The next section looks at particular patterns of neighborhood change, including gentrification and the decline of middle-income neighborhoods. The following section looks at three neighborhood clusters of particular significance in Baltimore, and a final section offers some key takeaways with particular implications for public policy.

Some of the findings presented in this report may be surprising, and some may be upsetting. That said, it is important to lay out the facts as dispassionately as possible, so that they can be understood, and so they can help further the discussion among people who care about the city and its neighborhoods to bring about change for the better to Baltimore's neighborhoods. The thrust of this report, however, is not to recommend what those changes should be, but to lay out, as best I can, the picture of neighborhood change in a dynamic, beautiful, but deeply challenged city.

To study Baltimore's neighborhoods, I used census tracts, the unit created and used by the U.S. Census Bureau for small area analysis. With the city divided into nearly 200 tracts, they are small enough to be meaningful and relatively homogenous, and they have the advantage that nearly all datasets are available by census tract. Census tracts are not the same as the Neighborhood Statistical Areas (NSAs) used by the city, but the two are often roughly comparable. Thus, when I refer to a neighborhood by name in this report, the reader should understand that I am referring to areas that are similar but not identical to that named neighborhood.

I then segmented the city's census tracts into categories based on race and economic condition. With respect to race, I used the percentage of black population, and with respect to economic level, I used the median[6] tract household income. I looked at data for 2000, 2010, and 2017. The breakdown in race and income is shown in the matrix in Table 1 (income ranges are relative to the citywide median household income). I use the descriptive terms for the economic and racial composition of the city's neighborhoods shown in the matrix frequently in the report.

5 Baltimore City Department of Housing and Community Development, A New Era of Neighborhood Investment: A Framework for Community Development, November 2018.

6 Median refers to the midpoint of a range of numbers (i.e., that number where half of the numbers are lower and half are higher). It is different from average, which is the sum of the numbers divided by the number in the range.

Table 1: Neighborhood Category Matrix By Economic Level and Racial Composition

ECONOMIC COMPOSITION		RACIAL COMPOSITION		
Neighborhood Type	Range	0-29.9% Black	30-69.9% Black	70-100% Black
		Predominantly White	Mixed	Predominantly Black
Low Income	0-59.9%			X
Moderate Income	60-99.9%	X	X	X
Middle Income	100-149.9%	X	X	X
Upper-Middle Income	150-199.9%	X	X	X
Upper Income	200%+	X		

The matrix offers a total of 15 possible neighborhood categories. The actual number of categories is 11, as shown by "X" in the table. There are no census tracts (e.g., predominantly white low-income tracts) in the other categories. The income ranges—those within which the tract median falls—for the three time periods I looked at are shown in Table 2. A tract that had a median income of $40,000 in 2000 would be considered middle income, and if its median fell to $35,000 in 2010, it would be considered moderate income at that point. A more detailed description of my methodology is provided in Appendix 1.

Table 2: Income Ranges by Neighborhood Type for 2000, 2010, and 2017

NEIGHBORHOOD TYPE	RANGE	2000	2010	2017
Low Income	0-59.9%	$0-$18,046	$0-23,631	$0-27,984
Moderate Income	60-99.9%	$18,047-30,078	$23,632-39,386	$27,985-46,641
Middle Income	100-149.9%	$30,079-45,117	$39,387-59,079	$46,642-69,961
Upper-Middle Income	150-199.9%	$45,118-60,156	$59,082-78,772	$69,962-93,282
Upper Income	200%+	$60,157+	$78,773+	$93,283+
Citywide Median		$30,078	$39,386	$46,641

I. NEIGHBORHOOD CHANGE IN BALTIMORE: AN OVERVIEW

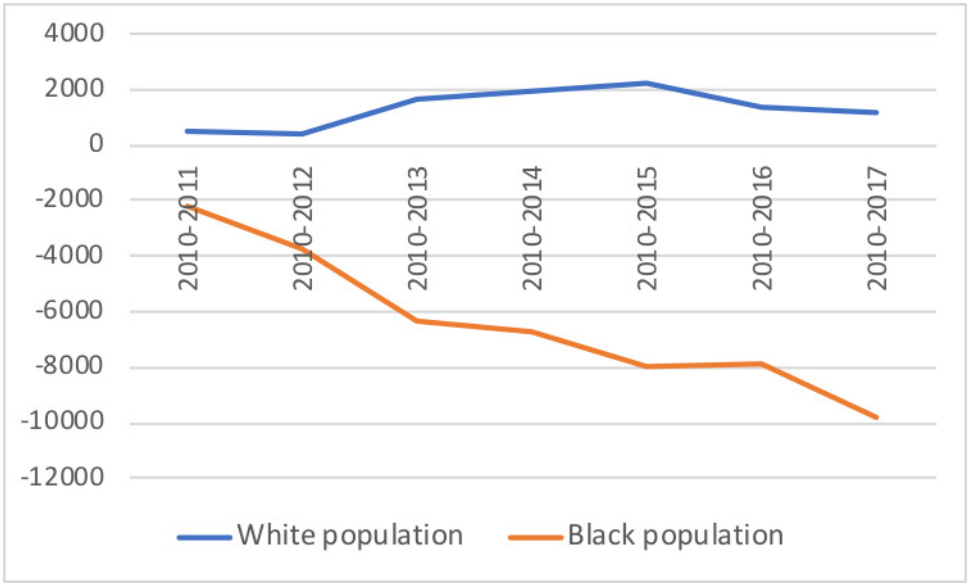
This section will look at how each of the 11 neighborhood types has shifted since 2000—which types of neighborhood have moved upward, which have moved downward, and which have stayed largely the same. When I talk about upward and downward, I am talking about movement from one income range to another;

that is, when a census tract that was middle income in 2000 becomes an upper-income tract in 2017, or vice versa. Upward movement is an indicator of potential gentrification, but does not in itself demonstrate that an area is gentrifying. I explore additional factors that can point to gentrification in a later section of the report.

A. Citywide trends

Before looking at neighborhood categories, though, it is useful to take a quick look at the overall pattern of change in the city of Baltimore since 2000, as shown in Table 3. Baltimore is a majority-minority city, with 62.1% identifying as black or African American, 30.6% white, 0.26% American Indian and Alaskan Native, 3% Asian, 1.7% other races and 2.5% two or more races. Five and a quarter percent of the population identifies as Latinx of any race.[7] The city lost 30,000 people between 2000 and 2010, but its population has been roughly stable since then. Specifically, since 2000, the city has lost roughly 30,000 black residents and 30,000 white residents, while gaining nearly 20,000 Latinx and 5,000 Asian residents. Since 2010, however, Baltimore has lost nearly 10,000 black residents, while its white population has stabilized, largely as a result of in-migration. Figure 1 shows the cumulative change by year from 2010 to 2017 for the city's white and black populations.

Figure 1: Cumulative Population Change by Race 2010-2017



Baltimore has seen solid economic growth in recent years. Since 2010, the city has added nearly 20,000 jobs. Household incomes in Baltimore have grown at a rate nearly 50% greater than the national rate over that period; as a result, the median Baltimore household's income has risen from 72% to 81% of the national median. Income growth, however, has been greater among white households, whose incomes have grown at more than double the rate of black households. As a result, the city's income distribution has become more polarized. In 2000, the median black household income was 71% of the median non-Latinx white household income; by 2017, it had dropped to 49% of the median non-Latinx white household income.

7 Data from the 2014-2018 American Community Survey.

Table 3: Citywide Trends

	2000	2010	CHANGE 2000-2010	2017	CHANGE 2010-2017	CHANGE 2000-2017
Total Population (1)	651,154	620,538	-4.7%	619,796	-0.1%	-4.9%
Black Population	418,951	399,121	-4.7%	389,222	-2.5%	-7.1%
Latinx Population	11,061	22,821	+106.2%	30,729	+34.7%	+177.8%
White Non-Latinx Population	201,566	173,972	-13.7%	170,916	-1.8%	-15.2%
Median Household Income	$30,078	$39,386	+30.9%	$46,641	+18.4%	+55.1%
Average Annual Rate of Change			+2.7%		+2.4%	
Black Median Household Income	$26,202	$33,260	+26.9%	$36,428	+9.5%	+39.0%
White Median Household Income	$37,113	$55,249	+48.9%	$72,085	+30.5%	+94.2%
% in Poverty	22.9%	21.3%	-1.6%	22.4	+1.1%	-0.5%
Homeowners	129,079	118,655	-8.1%	113,558	-4.3%	-12.0%
Renters	128,117	119,737	-6.5%	126,233	+5.4%	-1.5%
Homeownership Rate	50.2%	49.2%		47.4%		
Median Sales Price (2)	$60,000	$91,000	+51.7%	$106,000	+16.5	+76.7%
Sales Volume	10,211	6,647	-34.9%	10,433	+57.0%	+2.2%
Median Monthly Gross Rent	$498	$859	+72.5%	1,009	+17.5%	+102.6%
Average Annual Change		+$36	+5.6%	+$21	+2.3%	

SOURCE: 2000 Decennial Census, 2006-2010 and 2013-2017 American Community Survey, CoreLogic (sales price and volume)

(1) Breakdown of population by race/ethnicity does not include other racial groups and people indicating two or more racial group membership.

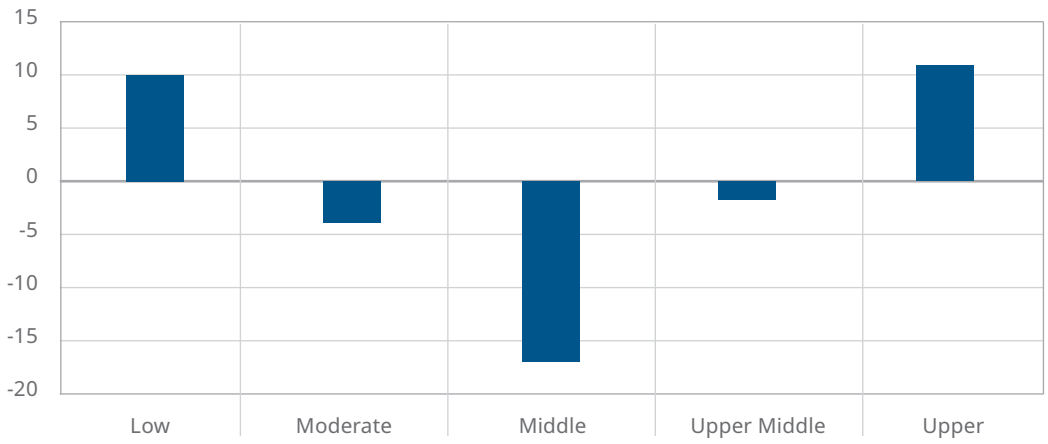
(2) Median of sales by census tract

Sales prices in Baltimore, after collapsing with the foreclosure crisis and the Great Recession, have been slowly recovering, but in most parts of the city, they are still well below national levels[8] or their 2007 peak. Since 2000, rents have increased more rapidly than sales prices, and are now slightly above the national median rent. One byproduct of this is that the percentage of Baltimore renters who are cost-burdened (spending over 30% of their income for rent) went from 43% to 53% between 2000 and 2017. The most rapid rent rise and growth in cost-burdened households took place between 2000 and 2010, and both have been largely stable since then. Despite rising rents and affordable sales prices, Baltimore is losing homeowners. Since 2000, the city has lost 15,000 homeowners, and the homeownership rate has dropped from 50% to 47%, falling below 50% for the first time since 1930.

This short description makes clear that there is not one Baltimore. Baltimore is a large city, within which many inconsistent, even conflicting trends exist side by side. As a result, its neighborhoods are moving in many different directions: some upward, some downward, and some staying much the same. This is to be expected, but it reflects an important overarching point about neighborhood change that is often overlooked. Change is the norm. The majority of urban neighborhoods are engaged in an ongoing process of change. Change can be upward, downward, or back again, driven by a complex mix of local, regional, and national economic, demographic, and social trends and consumer preferences.[9] There is nothing inevitable either about gentrification or neighborhood decline.

Table 4 shows how the distribution of the city's neighborhoods has shifted since 2000 by race and economic level. Reflecting the national trends both with respect to a diminishing middle class and an increasing process of "economic sorting" by income group, the number of neighborhoods in the middle in Baltimore has declined, while the number of those at either end has risen. The number of upper-income areas has nearly tripled. This shift can be seen vividly in Figure 2.

Figure 2: Change in Number of Baltimore Neighborhoods by Economic Level 2000 TO 2017



8 The median price for existing homes in the United States during 2017 was approximately $246,000, or more than double the median price in Baltimore.

9 For a comprehensive discussion of the dynamic processes of neighborhood change, and the factors involved, see my paper What Drives Neighborhood Trajectories in Legacy Cities? Understanding the Dynamics of Change (2015), published by the Lincoln Institute of Land Policy, and available at https://www.lincolninst.edu/publications/working-papers/what-drives-neighborhood-trajectories-legacy-cities.

Table 4: Change in Number of Neighborhoods Over Time by Race and Economic Level

ALL NEIGHBORHOODS			
	2000	**2010**	**2017**
Low Income	22	28	32
Moderate Income	88	84	84
Middle Income	72	59	55
Upper-Middle Income	12	17	10
Upper Income	6	12	17
TOTAL	200	200	198

PREDOMINANTLY BLACK NEIGHBORHOODS			
	2000	**2010**	**2017**
Low Income	20	22	26
Moderate Income	59	63	62
Middle Income	31	27	16
Upper-Middle Income	2	1	0
Upper Income	0	0	0
TOTAL	112	113	104

PREDOMINANTLY WHITE NEIGHBORHOODS			
	2000	**2010**	**2017**
Low Income	0	1	0
Moderate Income	11	9	9
Middle Income	29	17	13
Upper-Middle Income	5	9	8
Upper Income	6	12	17
TOTAL	51	48	47

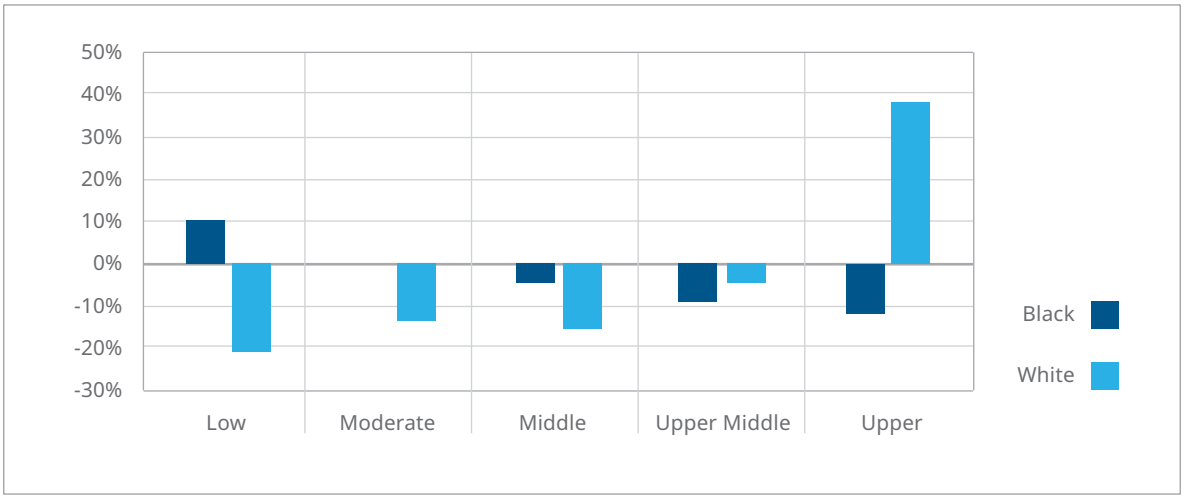
MIXED NEIGHBORHOODS			
	2000	2010	2017
Low Income	2	5	6
Moderate Income	18	12	13
Middle Income	12	15	26
Upper-Middle Income	5	7	2
Upper Income	0	0	0
TOTAL	37	39	47

When one looks at how neighborhoods have shifted by both economic level and race, however, a startling contrast appears. Predominantly white neighborhoods tend to move upward in their trajectories, while predominantly black neighborhoods tend to move downward. In 2000, there were 31 predominantly black middle-income census tracts in Baltimore, or not quite 1 out of every 6 tracts. By 2017, there were only 16, or half as many. As noted later, these neighborhoods did not gentrify, and many are in decline.

While the number of predominantly white middle-income census tracts also went down, the ones that changed mostly moved upward. Indeed, the great majority of Baltimore's gentrifying neighborhoods come from the ranks of largely white formerly moderate- and middle-income neighborhoods. Indeed, a close look at the shift in the distribution of predominantly white census tracts shows dramatic change: In 2000, only 1 out of 5 of these tracts was upper-middle or upper income, but by 2017, over half fell into those categories.

This shift reflects a major change in the makeup of Baltimore's white population. While that population was historically distributed fairly evenly across the full income spectrum from rich to poor, it is increasingly becoming one of affluent households. At the same time, the income distribution of the city's black population is moving in the opposite direction, reflecting the out-migration of much of the city's black middle class. Both are shown in Figure 3.

Figure 3: Citywide Change in Income Distribution of Households by Race 2000 TO 2017



The only economic segment of the city's black population that is growing (either in share or numbers) is the low-income population, while the only segment of Baltimore's white population that is growing is the upper-income population, reflecting the differential in- and out-migration taking place. Relative to their share of the existing population, white in-migration to Baltimore is significantly greater than black in-migration,[10] and as I discuss later, white in-migration is disproportionately made up of well-educated (bachelor's or higher degree) and high-earning people in their 20s and 30s, who are clustering in a small number of areas in the city.

As I discuss in a later part of this report, a large part of the loss of white low-income households in Baltimore is associated with gentrification. Between 2000 and 2017, the city lost 8,200 low-income white households, of which 3,800 were in gentrifying census tracts. While some of this loss may potentially be considered displacement, with these households moving elsewhere,[11] a significant part of the loss may also be attributable to mortality; over the same period, the number of white Baltimoreans over 65 dropped by 10,000, or nearly 30%.

B. Neighborhood trajectories

Given these citywide trends, what does it mean for individual neighborhoods? For an initial answer, I asked a simple question: For each neighborhood in each of the 11 categories in 2000, where did they stand, in terms of both race and economic level, in 2010 and 2017? Once I had the data, in order to present answers to that question in a visually meaningful form, I color-coded each neighborhood based on its 2000 economic level and racial distribution, and where it stood in both respects in 2010 and 2017.

Table 5: Economic Trajectories of Middle-Income Neighborhoods by Racial Category

NUMBER	YEAR	UP	DOWN	ALL CHANGE	SAME
PREDOMINANTLY BLACK					
31	2010	0	12	12	19
	2017	0	18	18	13
MIXED					
12	2010	2	1	3	9
	2017	0	1	1	11
PREDOMINANTLY WHITE					
28	2010	12	3	15	13
	2017	15	4	19	9

10 For the period 2013 through 2017, the average annual number of white in-migrants was equal to 10% of the underlying white population base, while the average annual number of black in-migrants was equal only to 4% of the underlying black population base. Average annual Latinx in-migration was nearly 12% of their population base. Latinxs were the only group with a net positive migration balance, although the white net loss was far smaller than the black net loss.

11 Between 2000 and 2017, although the white population of Baltimore County dropped by over 50,000, the number of white residents over 65 increased by 3,200, suggesting the possibility of some migratory effects.

Table 6 and Table 7 show the trajectories for predominantly white and predominantly black middle-income neighborhoods (with median incomes between 100% and 150% of the citywide median income in 2000). The color-coding key appears at the bottom of Table 6. By scanning across the three sets of columns, one can quickly get a sense of the extent and direction of change in the cluster of census tracts from 2000 to 2010, and from 2010 to 2017. Table 8 summarizes the data from the two tables below and also shows the trajectories for the smaller number of racially mixed middle-income neighborhoods.

Table 6: Trajectories of Predominantly White Middle-Income Neighborhoods by Black Population Share and Economic Level

2000			2010			2017	
CATEGORY	% BLACK		CATEGORY	% BLACK		CATEGORY	% BLACK
24510010100	4%		24510010100	4%		24510010100	7%
24510010200	18%		24510010200	11%		24510010200	5%
24510010300	1%		24510010300	5%		24510010300	2%
24510010400	3%		24510010400	5%		24510010400	2%
24510010500	7%		24510010500	6%		24510010500	4%
24510020100	14%		24510020100	11%		24510020100	7%
24510030200	21%		24510030200	35%		24510030200	31%
24510120100	10%		24510120100	8%		24510120100	9%
24510130600	3%		24510130600	4%		24510130600	7%
24510130700	6%		24510130700	9%		24510130700	7%
24510130803	11%		24510130803	14%		24510130803	10%
24510130806	18%		24510130806	26%		24510130806	19%
24510230200	3%		24510230200	5%		24510230200	1%
24510230300	2%		24510230300	7%		24510230300	4%
24510240100	0%		24510240100	2%		24510240100	3%
24510240400	2%		24510240400	3%		24510240400	1%
24510250206	3%		24510250206	14%		24510250206	13%
24510250401	11%		24510250401	26%		24510250401	29%
24510260404	26%		24510260404	31%		24510260404	31%
24510260605	14%		24510260605	19%		24510260605	17%
24510260900	3%		24510260900	5%		24510260900	8%
24510270402	25%		24510270402	53%		24510270402	58%
24510270501	13%		24510270501	32%		24510270501	42%
24510270502	22%		24510270502	51%		24510270502	58%
24510270703	19%		24510270703	36%		24510270703	36%
24510271101	20%		24510271101	36%		24510271101	34%
24510272004	10%		24510272004	15%		24510272004	15%
24510272005	10%		24510272005	16%		24510272005	10%

- 0-29% African American
- 30-69% African American
- 70-100% African American

- Very Low Income (0-59% citywide median)
- Low Income (60-99% citywide median)
- Middle Income (100-149% citywide median)
- Upper-Middle Income (150-199% citywide median)
- Upper Income (200%+ citywide median)

The majority of Baltimore middle-income neighborhoods in 2000 were no longer middle-income neighborhoods by 2017 (39 out of 71). But the trajectories of predominantly white and predominantly black neighborhoods were very different. **The great majority of predominantly white neighborhoods that changed moved upward economically, while all of the predominantly black neighborhoods that changed moved downward economically.** Mixed neighborhoods showed much less change. By 2017, nine of the predominantly white middle-income neighborhoods had become upper-income (200% or more of the city median income), and another six had become upper-middle income. These are the neighborhoods in which the great majority of Baltimore's gentrification has taken place. The geographic distribution of predominantly black and predominantly white middle neighborhoods, and their trajectories from 2000 to 2017, are shown in Map 1.

Table 7: Trajectories of Predominantly Black Middle-Income Neighborhoods by Black Population Share and Economic Level

	2000			2010			2017	
24510080102	94%		24510080102	97%		24510080102	98%
24510090100	89%		24510090100	88%		24510090100	84%
24510090300	79%		24510090300	77%		24510090300	68%
24510090600	98%		24510090600	97%		24510090600	89%
24510130805	76%		24510130805	78%		24510130805	86%
24510150701	98%		24510150701	98%		24510150701	92%
24510150702	98%		24510150702	98%		24510150702	96%
24510150900	97%		24510150900	97%		24510150900	95%
24510151100	100%		24510151100	98%		24510151100	99%
24510160801	100%		24510160801	99%		24510160801	97%
24510160802	99%		24510160802	98%		24510160802	97%
24510200702	97%		24510200702	97%		24510200702	97%
24510250101	85%		24510250101	90%		24510250101	81%
24510250102	84%		24510250102	89%		24510250102	96%
24510260203	90%		24510260203	90%		24510260203	95%
24510260301	80%		24510260301	92%		24510260301	89%
24510260302	81%		24510260302	92%		24510260302	91%
24510260403	97%		24510260403	94%		24510260403	92%
24510270802	86%		24510270802	94%		24510270802	91%
24510270803	82%		24510270803	89%		24510270803	89%
24510270805	84%		24510270805	87%		24510270805	84%
24510270901	94%		24510270901	97%		24510270901	96%
24510270902	92%		24510270902	93%		24510270902	91%
24510270903	90%		24510270903	89%		24510270903	74%
24510271002	97%		24510271002	96%		24510271002	95%
24510271900	72%		24510271900	76%		24510271900	73%
24510280101	89%		24510280101	92%		24510280101	88%
24510280102	97%		24510280102	97%		24510280102	97%
24510280200	96%		24510280200	95%		24510280200	91%
24510280401	82%		24510280401	85%		24510280401	79%
24510280402	93%		24510280402	98%		24510280402	97%

Table 8: Economic Trajectories of All Other Neighborhoods by Racial Category

NUMBER	YEAR	UP	DOWN	ALL CHANGE	SAME
LOW PREDOMINANTLY BLACK					
19	2010	6 (note 1)	NA (note 2)	6	13
	2017	6 (note 1)	NA (note 2)	6	13
MODERATE PREDOMINANTLY BLACK					
59	2010	4	8	12	46
	2017	3	14	17	42
MODERATE MIXED					
18	2010	6	2	8	10
	2017	6	3	9	9
MODERATE PREDOMINANTLY WHITE					
11	2010	5	0	5	6
	2017	5	0	5	6
UPPER-MIDDLE PREDOMINANTLY BLACK					
3	2010	0	1	1	2
	2017	0	3	3	0
UPPER-MIDDLE MIXED					
4	2010	0	2	2	2
	2017	0	4	4	0
UPPER-MIDDLE PREDOMINANTLY WHITE					
5	2010	2	1	3	2
	2017	2	1	3	2
UPPER PREDOMINANTLY WHITE					
6	2010	NA (note 2)	0	0	6
	2017	NA (note 2)	1	1	5

NOTES TO TABLE 8

(1) This "upward" movement, with the exception of one census tract, represents movement from low to moderate, which is not necessarily a meaningful change in neighborhood conditions, but is likely to represent little more than the statistical phenomenon known as regression to the mean. One tract did, however, move from low to middle over the study period; this census tract, which roughly corresponds to the Greenmount West neighborhood, is unique in that respect, and will be discussed further later.

(2) Because the low-income and upper-income categories occupy the bottom and top of the category scale, and because the methodology used to define upward and downward movement is movement between categories, no downward movement for the former, or upward movement for the latter, can take place.

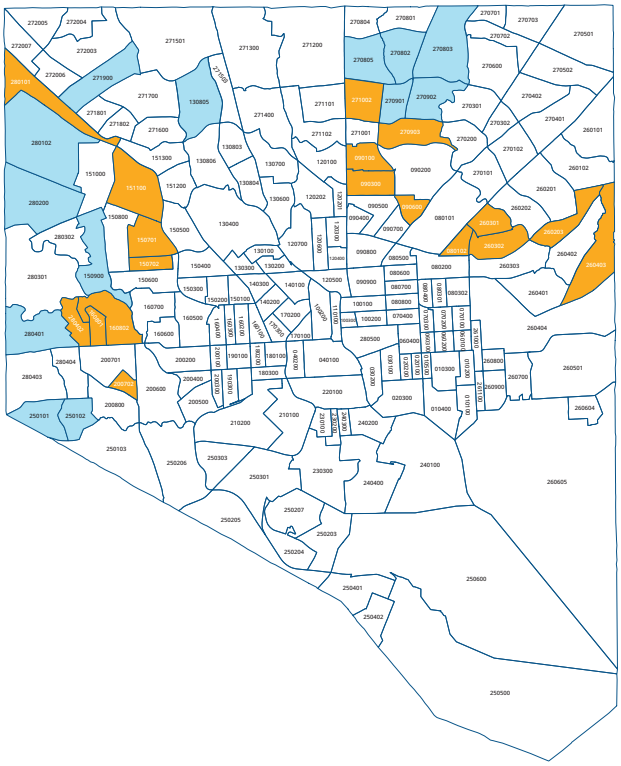
During the same period, the black population living in what had been predominantly white middle-income neighborhoods increased by 6,300, or roughly 72%, as seven of the census tracts in this category moved from being predominantly white to racially mixed. Most of these tracts were in the northeastern part of the city, an

area to which large numbers of African American families have moved since 2000. By comparison, only one of the 31 predominantly black middle-income census tracts saw any change in its racial distribution.

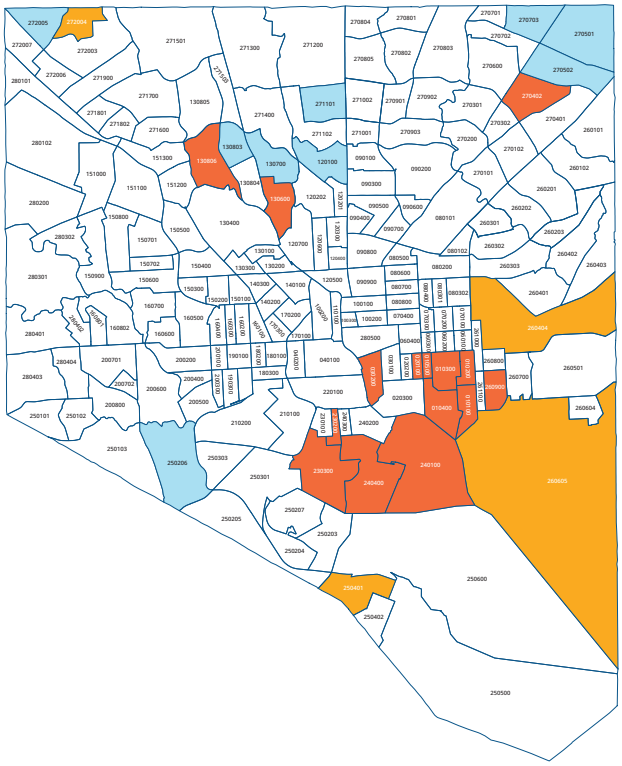
Table 8 shows the same information for the other neighborhood categories. The pattern that can be seen in the middle-income neighborhoods generally holds true across economic levels. The majority of predominantly black low- and moderate-income census tracts showed little or no change, but far more moderate-income tracts moved downward, falling below 60% of the citywide median income between 2000 and 2017, than moved upward. By contrast, nearly half of the predominantly white moderate-income tracts moved upward. Similarly, all three of the largely black upper-middle income tracts in 2000 had moved downward by 2017. Figure 4 summarizes and compares the overall neighborhood trend pattern for predominantly white and predominantly black moderate, middle, and upper-middle neighborhoods, which could go either up or down, from 2000 to 2017.

MAP 1: TRAJECTORIES OF MIDDLE NEIGHBORHOODS FROM 2000 TO 2017

Predominantly Black Neighborhoods

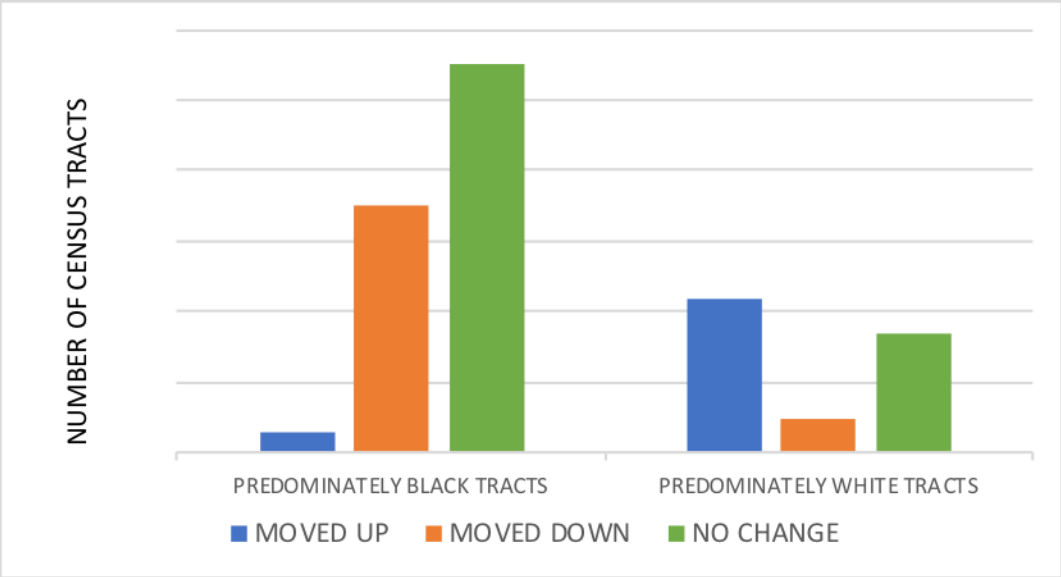


Predominantly White Neighborhoods



- Remained middle-income neighborhoods in 2017
- Moved downward to low or moderate income
- Moved upward to upper-middle or upper income

Figure 4: Summary of Neighborhood Trajectories From 2000 to 2017 by Race



To summarize, neighborhood change is a fundamental reality in Baltimore. Large numbers of neighborhoods are moving both upward and downward economically, a few moved in one direction from 2000 to 2010, and then reversed direction after 2010. Within the three middle-income categories—which represent the great majority of Baltimore neighborhoods—nearly half changed category, either up or down, between 2000 and 2017.

In the next section, I will explore the significance of these changes, and how they affect such factors as population change, house values, and homeownership rates.

II. THE DIMENSIONS OF NEIGHBORHOOD CHANGE IN BALTIMORE

Economic change has powerful implications for other dimensions of neighborhood change. In this section, I will explore how change affects two critical dimensions of Baltimore's neighborhoods:

- Demographic change, including gains, losses, and population shifts by race, ethnicity, and income; and
- Housing market change, including sales prices and sales volumes, and changes in homeownership rates.

A. Demographic change

In this section, I will look at population shifts by race and by income, for the city's African American, white, and Latinx populations.

1. Black population change

Understanding trends affecting Baltimore's African American population is particularly important for a number of reasons. First, it is by far the city's largest racial or ethnic group. Second, as I have shown, Baltimore's

African American population has benefited proportionately less from the city's strong but uneven revival than Baltimore's white population, exacerbating the racial wealth gap. Third, despite progress over the years, African Americans face racialized disadvantage owing to structural racial and socioeconomic segregation, and they are still more likely to experience discrimination and uneven treatment than others. Fourth, at least some documents have treated population loss and gentrification-driven displacement as being effectively one and the same, an assumption that needs to be critically examined.

As shown in Table 3, despite a natural increase (excess of births over deaths) of more than 20,000,[12] Baltimore's black population declined by nearly 20,000 from 2000 to 2010, and by an additional 10,000 from 2010 to 2017, an overall decline of 7% since 2000. While I may not be able to answer the question of "why" with any precision, the relationship between neighborhood trends and population change may suggest some answers.

Table 9: Change in Black Population 2000 to 2017 by 2000 Neighborhood Type

NEIGHBORHOOD TYPE IN 2000	PREDOMINANTLY BLACK		MIXED		PREDOMINANTLY WHITE	
	NUMBER	%	NUMBER	%	NUMBER	%
Low Income	-10,716	-22.7%				
Moderate Income	-34,408	-18.8%	-1,781	-7.1%	+2,273	+52.8%
Middle Income	-231	-0.2%	+5,055	+21.7%	+6,301	+72.4%
Upper-Middle Income	+195	+3.5%	+1,378	+20.9%	-293	-21.4%
Upper Income					+1,372	+84.7%
TOTAL CHANGE	45,160	-13.1%	+4,652	+8.5%	+9,653	+60.3%

Table 9 shows the gain or loss in black population by 2000 neighborhood type. Neighborhoods that were low-income, predominantly black neighborhoods in 2000 lost 10,716 black residents, or nearly 1 out of 4 of those living in those neighborhoods.

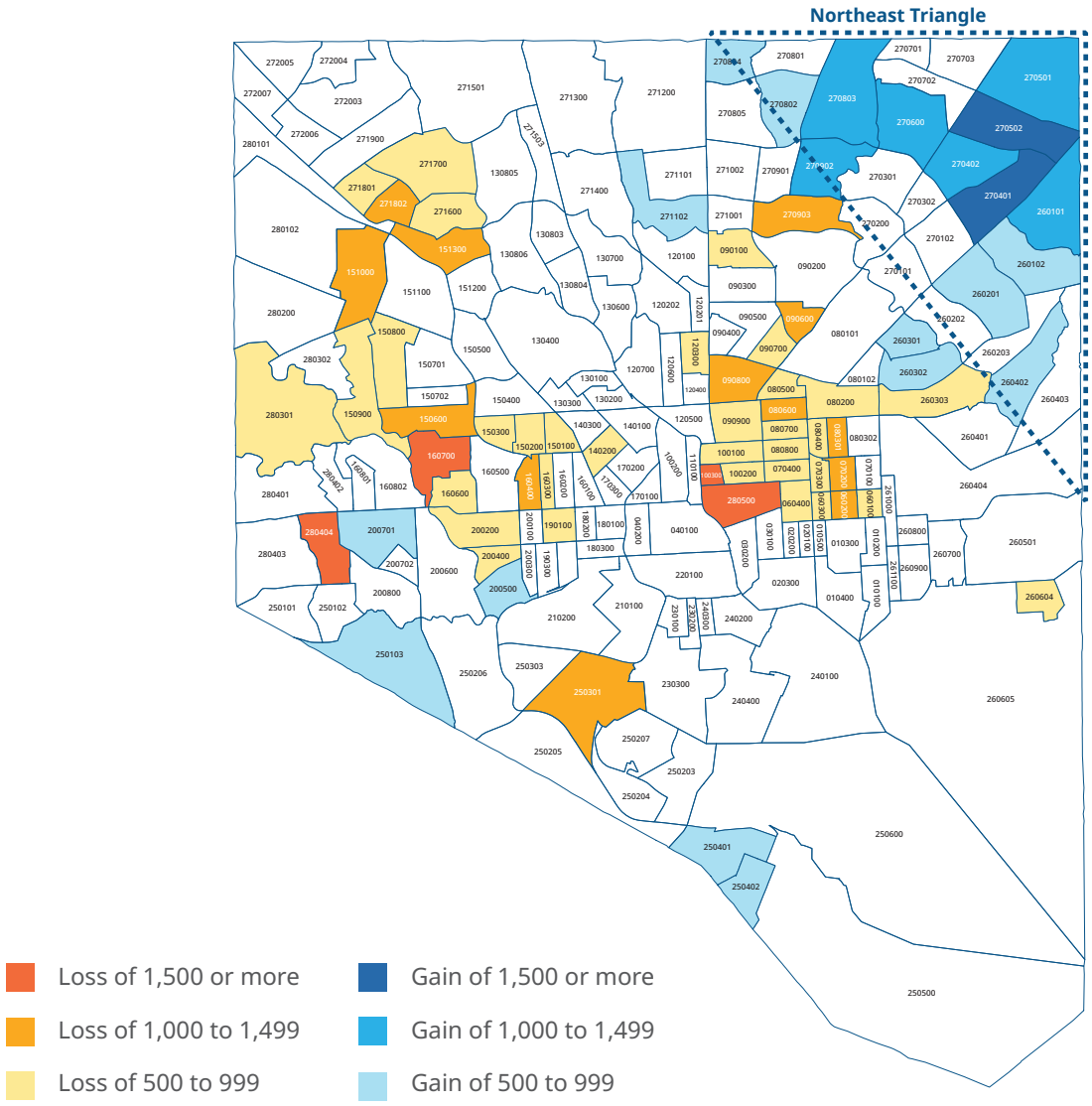
With minor exceptions, black population decline in Baltimore is the result of black households moving out of predominantly black low- and moderate-income neighborhoods. That does not mean that there are no other census tracts that saw declines in black population. There are a small number of such tracts, including some that are gentrifying. But taken as a whole, movement out of predominantly black low- and moderate-income neighborhoods unrelated to gentrification is driving black population decline in Baltimore. As I noted earlier, this loss is disproportionately made up of middle- and upper-income households.

The table also shows a strong pattern of black households moving into neighborhoods that were either racially mixed or predominantly white in 2000. These areas saw an increase of more than 14,000 in black residents from 2000 to 2017. That inflow, however, offset less than one-third of the outflow from predominantly black

12 The positive natural increase balance is shrinking, however, as the number of births to black parents in Baltimore has dropped sharply since 2000 from 7,034 to 4,828 in 2017. This is a decline of 31%, far greater than the proportional decline in the overall population.

low- and moderate-income neighborhoods. The others can be assumed to have left Baltimore City.[13] While their destinations are not known, it is notable that over the same period, the black population of Baltimore County grew by nearly 82,000 and that of Anne Arundel County by 26,000, growth that was likely to have been fueled in part by out-migration from Baltimore City.

Map 2: Spatial Distribution of Black Population Gains and Losses 2000 to 2017



These trends have led to a dramatic shift in the spatial distribution of the city's black population, as shown in Map 2. Most tracts in East and West Baltimore are losing population, while most of the gain in black population is taking place in an area that I call the "Northeast Triangle" shown on the map, including Loch Raven, Overlea, Glenham-Belhar, Cedonia, and Frankford. That area saw its black population grow by 17,500 from 2000 to 2017.

13 The net out-migration was actually substantially larger than the reported population loss, since Baltimore's black population maintained a positive although gradually shrinking birth/death ratio throughout the period, resulting in a natural increase in the city's black population since 2000 of 20,000 to 25,000. Notably, however, the number of births to black parents in Baltimore has dropped sharply since 2000 from 7,034 to 4,828 in 2017, a decline of 31%, far greater than the proportional decline in the overall population.

The broad trend in Baltimore's black population is the movement out of low- and moderate-income neighborhoods, largely in East and West Baltimore, and movement toward the Northeast Triangle, but even more so, outside Baltimore City entirely.

2. White and Latinx population change

As noted earlier, both black and white populations in Baltimore have declined by roughly 30,000 each since 2000. Since the city's white population is much smaller than its black population, however, the proportionate decline has been far greater, 15% compared to 7%. In contrast to the population decline in the city's black population, which is concentrated in predominantly black low- and moderate-income neighborhoods, white population decline is widely distributed across most neighborhood types, except for small increases in predominantly white upper-middle and upper-income tracts, as shown in Table 10. The increase in white population in predominantly black moderate-income tracts is largely attributable to white population growth in one census tract containing part of the Charles Village and Harwood NSAs near the Johns Hopkins campus.

Table 10: Change in White Population 2000 to 2017 by 2000 Neighborhood Type

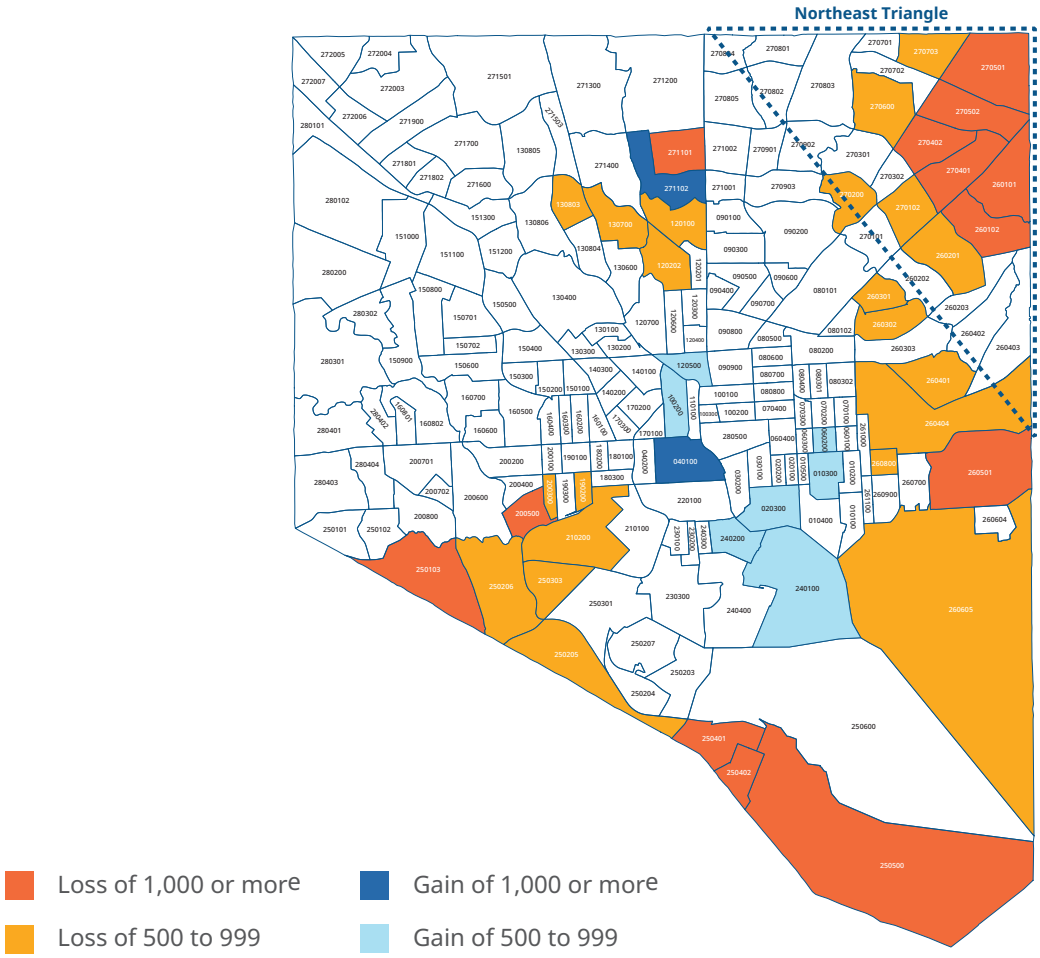
NEIGHBORHOOD TYPE IN 2000	PREDOMINANTLY BLACK		MIXED		PREDOMINANTLY WHITE	
	NUMBER	%	NUMBER	%	NUMBER	%
Low Income	-67	-2.3%				
Moderate Income	+475	+5.3%	-4,231	-15.5%	-7,667	-27.2%
Middle Income	-1,746	-17.6%	-6,921	-35.4%	-7,947	-4.7%
Upper-Middle Income	-661	-39.2%	-2,616	-24.6%	+305	+3.4%
Upper Income					+387	+3.3%
TOTAL CHANGE	-1,999		-13,868		-14,922	

Census tracts where the white population declined by more than 500 people greatly outnumbered those that gained by a similar amount, as shown in Map 3. The greatest white population loss was in South Baltimore and in the Northeast Triangle, while a handful of tracts showed significant gain, principally downtown and around the Inner Harbor.

As noted earlier, Baltimore's white population has stabilized in recent years as a result of strong white in-migration, visible both in census data and in homebuying activity. Ongoing replacement of the city's white population appears to be taking place, as long-time residents, many moderate- and middle-income, leave or pass away, and are replaced by generally younger and more affluent new arrivals, who are largely concentrated in a smaller part of the city.

Baltimore's Latinx population is the fastest growing segment of the city's population, although only 5% of the total. The area of greatest Latinx concentration is in Highlandtown and eastward, where they make up 30% to 45% of the total population of six census tracts. Overall, however, the city's Latinx population is fairly dispersed; only 25% of the city's Latinx population lives in that area of Latinx concentration.

Map 3: Spatial Distribution of White Population Gains and Losses 2000 to 2017



B. Housing market change

Up to this point, I have focused on the population of Baltimore's neighborhoods: how they are distributed by income and race, and how populations have shifted from one part of the city to others since 2000. In this section, I explore changes in Baltimore's neighborhood housing markets—the dynamics of buying, selling, and renting homes and apartments in the city's neighborhoods. Before digging into the numbers, a brief discussion of why housing markets—particularly the patterns of homebuying and selling—are so important to understanding the dynamics of Baltimore's neighborhoods may be useful.

While the housing market is far from the only thing that determines whether or not a neighborhood is a vital, thriving community, it powerfully affects neighborhood outcomes. The demand for housing in a neighborhood reflects the extent to which people choose to live there rather than elsewhere, given their means and their locational preferences. When people choose to buy a home in a particular neighborhood, they are making a longer-term commitment to that neighborhood that often leads to behaviors that enhance neighborhood vitality. Conversely, if people only live in a neighborhood because they lack other locational choices, and leave if they can, their behavior is likely to reflect that perspective and the neighborhood is likely to suffer as a result. Housing markets are a critical underpinning of neighborhood strength and vitality.

Where market demand is weak, prices are low and sales are few. Houses sit empty for a long time, and those that sell are more likely to attract investors than owner-occupant buyers. Homeowners make fewer improvements because they are unlikely to get their money back if they sell, while property owners are more likely to fall behind on mortgage or property tax payments and let their houses go into tax sales or mortgage foreclosure. All of those forces, in turn, often lead to houses eventually becoming abandoned, and in many cases, economically unfeasible to rehabilitate and restore to use. Conversely, too rapid growth in demand and prices can destabilize a neighborhood, encouraging speculation and undermining neighborhood stability and cohesion.

This study is not a neighborhood-level market analysis of Baltimore. Such an analysis already exists, as for a number of years, Baltimore City has commissioned regular analyses of small-area market conditions from the Philadelphia-based Reinvestment Fund, and used those analyses to create neighborhood market typologies.[14] That information has been used to help design a number of city strategies, including the Vacants to Value program. The purpose of this report is to look at the market dimensions of neighborhood change, and to relate them to the shifts in household incomes and population movements described earlier.

To measure market strength and weakness, I look at three factors:

- ***Sales price***

  The price at which houses sell is the single most powerful measure of market strength or weakness. This is particularly true in Baltimore, where most neighborhoods are dominated by row houses and where many different neighborhoods contain houses of largely similar size, vintage, and construction. A three- story row house can sell for over $500,000 in Bolton Hill, and a physically all-but-identical[15] one may sell for less than one-tenth that price less than a mile to the west.

- ***Sales volume***

  For a housing market to be healthy, there have to be enough buyers to absorb the supply. If there are too few buyers, properties may sit empty and ultimately be abandoned. Conversely, too many buyers can overheat the market, or be a sign of speculation and flipping.

- ***Percentage of investor buyers***

  A high share of investor buyers in a neighborhood made up largely of single-family homes is a warning sign. Not only is a reasonably high level of owner-occupants important for a stable neighborhood, but the absence of owner-occupant buyers is also a sign that there are few people willing to make a personal commitment to the neighborhood, as distinct from buyers who see the neighborhood purely as a profit opportunity.

Finally, I look at change in the number of homeowners and the homeownership rate, which is an important indicator of market conditions and neighborhood strength. Not only is there evidence that homeownership may be an important factor in fostering neighborhood stability and community engagement, but there is also evidence that declines—particularly if rapid—in homeownership can have a destabilizing effect on neighborhoods.[16]

---

14 These analyses are available at https://planning.baltimorecity.gov/maps-data/housing-market-typology.

15 Identical in the sense of having a similar architectural appearance, structural quality, square footage, and interior configuration. The Bolton Hill row house is likely, however, to be in substantially better condition.

16 There is a substantial body of research on the impacts of homeownership. Much of the research is summarized in Lawrence Yun and Nadia Evangelou, "Social Benefits of Homeownership and Stable Housing," published by the National Association of Realtors (2016) and available at https://realtoru.edu/wp-content/uploads/2014/06/Homeownership-Stable-Housing.pdf. The evidence for family and behavior effects of homeownership is much stronger than the direct evidence of neighborhood effects, which to some extent must be inferred from the former. The effects of declines in homeownership have been studied less, but one solid study is Chengri Ding and Gerrit-Jan Knapp, "Property Values in Inner-City Neighborhoods: The Effects of Homeownership, Housing Investment and Economic Development," Housing Policy Debate 13:4 (2003) 701–727. Clearly, however, there is no generalizable "magic number" as to what a homeownership rate should be.

As I will discuss later, these factors—particularly increases in sales price—are relevant to evaluating whether and where gentrification may be taking place.

1. Real estate market dynamics

Baltimore shared in the housing bubble that consumed the United States from 2000 to 2007 and in the subsequent bust. As Figure 5 shows, home sales prices in Baltimore more than doubled from 2000 to 2007, going from $60,000 to $132,000, and then plummeted, falling to $75,000 by 2011. After flat prices for a few years, prices have started to recover, reaching a median of $106,000 in 2017.[17] As with other trends, the change in prices was not experienced evenly across the city. Indeed, the most dramatic price phenomenon since 2000 has been the extraordinary variation in price change from one part of the city to another.

Figure 5: Citywide Median Sales Price by Year 2000 to 2017

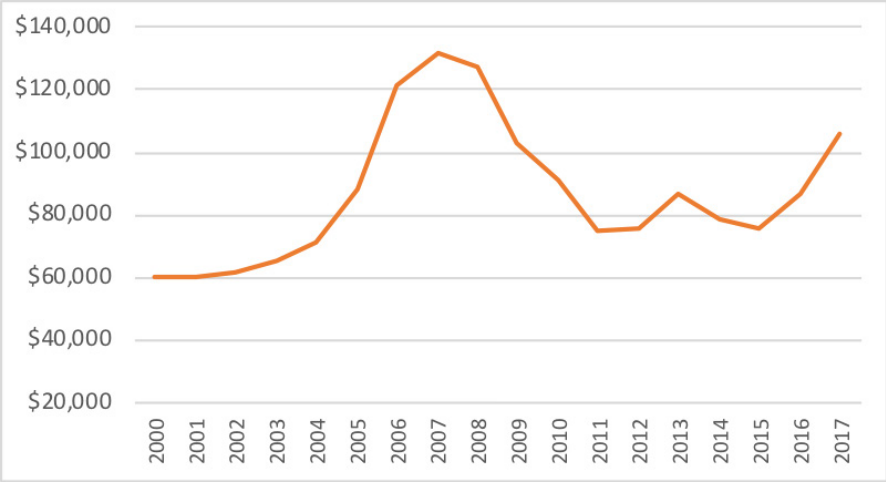
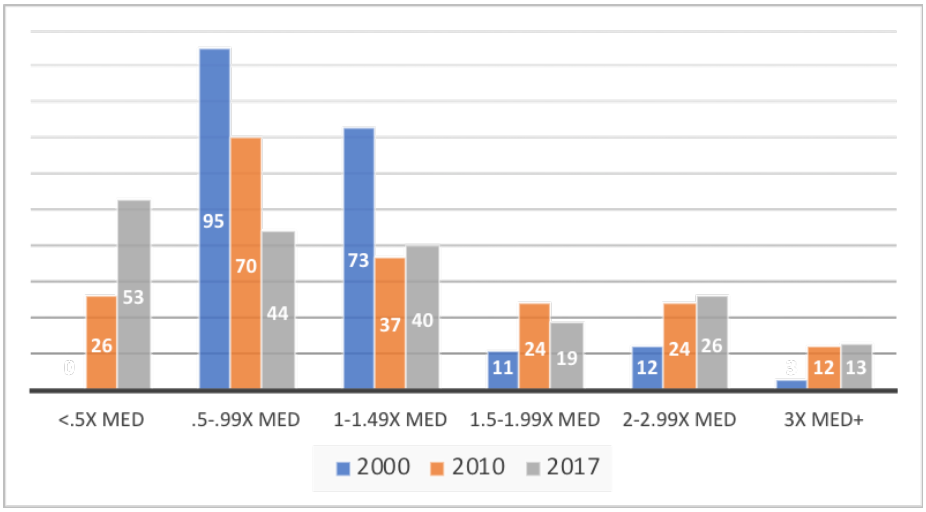


Figure 6: Distribution of Sales Prices by Census Tract Relative to the Citywide Median 2000, 2010, and 2017



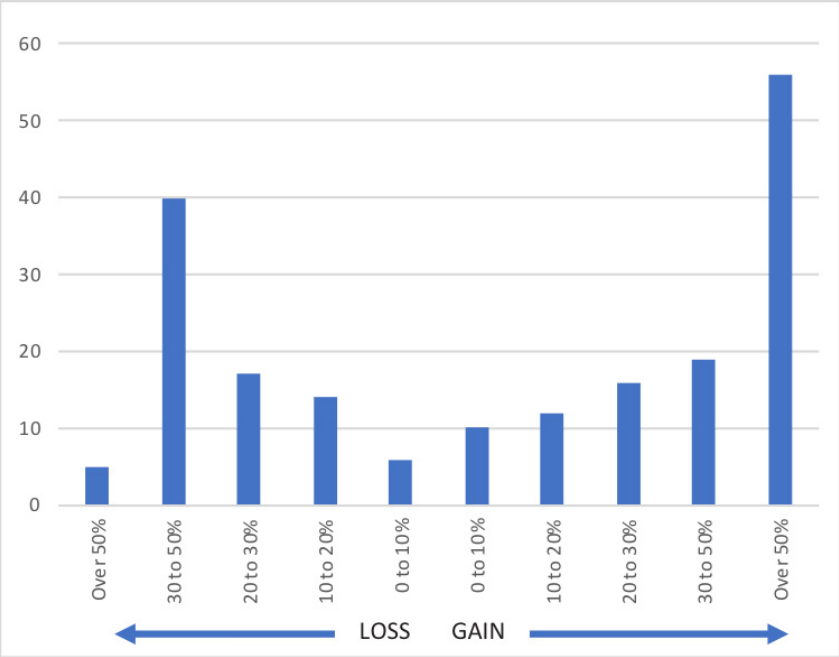
17 Preliminary 2018 data provided by CoreLogic shows a solid increase from the 2017 figures used in this report.

What is striking about house prices in 2000 by census tract is how little price variation there was in Baltimore's housing market at the time. The lowest-priced census tract had a median that was more than half the citywide median, and sales prices more than double the citywide median were found in only 15 tracts (7.5% of the total). There were few tracts where the market was not functioning, and few upscale tracts where prices were high. Prices in over 80% of the city's census tracts fell in the relatively narrow range between 50% and 150% of the citywide median price, as shown in Figure 6.

By 2010, this had already changed dramatically. The number of census tracts in the middle-income range had dropped from 168 to 107, and the number continued to drop—to 84—from 2010 to 2017. More and more tracts were at the bottom and the top of the home price range, and fewer and fewer were in the middle.[18]

Another perspective on home sales price change comes by looking at the gain or loss in value in constant dollars; that is, prices adjusted for inflation.[19] From 2000 to 2017, the median sales price in Baltimore increased by 24% in constant dollars, a respectable performance in light of the city's boom-bust price cycle. Overall, 58% of the city's tracts gained value, and 42% lost value. The change, however, was not evenly distributed. Ordinarily, one would expect the gains and losses to be distributed along a bell-shaped curve,[20] with most of the gains and losses clustered close to the middle. In actuality, as Figure 7 shows, the distribution was the opposite. Few tracts changed only a little in house value. Far more gained a lot or lost a lot. Nearly a quarter of the city's tracts lost 30% or more in median house value in constant dollars, while over a quarter gained more than 50% in value, and 1 out of 7 tracts saw their median house value in constant dollars more than double. This is perhaps the single most vivid illustration of the economic polarization that has taken place in Baltimore over the past two decades.

Figure 7: Distribution of Sales Price Change in Constant Dollars 2000 to 2017 (Number of Census Tracts)



18 For the statistically minded, the standard deviation of sales prices went from $42,417 in 2000 to $85,844 in 2010, and $103,056 in 2017.

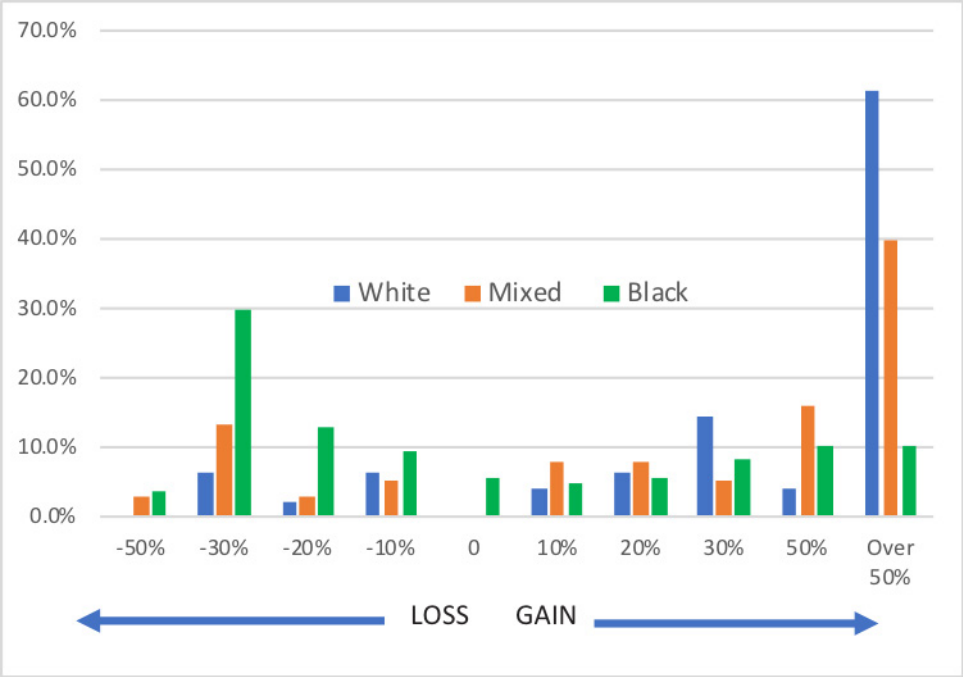
19 For purposes of calculating inflation, I used the change in the Consumer Price Index, which increased by 42.1% from June 2000 to June 2017.

20 This distribution is so common that it is also referred to as a "normal distribution."

This polarization relates closely to the racial composition of the neighborhood. As Figure 8 shows, 3 out of 5 predominantly white census tracts saw house prices increase by more than 50% in constant dollars, compared to 2 out of 5 racially mixed, and only 1 out of 10 largely black tracts. Conversely, house prices declined by 20% or more in nearly half of all predominantly black tracts, compared to less than 1 out of 5 mixed and 1 out of 12 predominantly white tracts. It is also strongly linked to the distribution of population losses and gains.

This has two powerful implications for the future of Baltimore's predominantly black neighborhoods. First, it has led to massive loss of wealth for many of the city's black homeowners, for whom home equity typically represents the greater part of their overall household wealth. Second, because stability and potential appreciation in house value are an important consideration in homebuying decisions, it discourages homebuyers, whether black or white, from buying homes in these neighborhoods. There is strong evidence, with a handful of exceptions, that this is currently taking place.

Figure 8: Percentage Distribution of Sales Price Change from 2000 to 2017 by Racial Composition of Census Tract



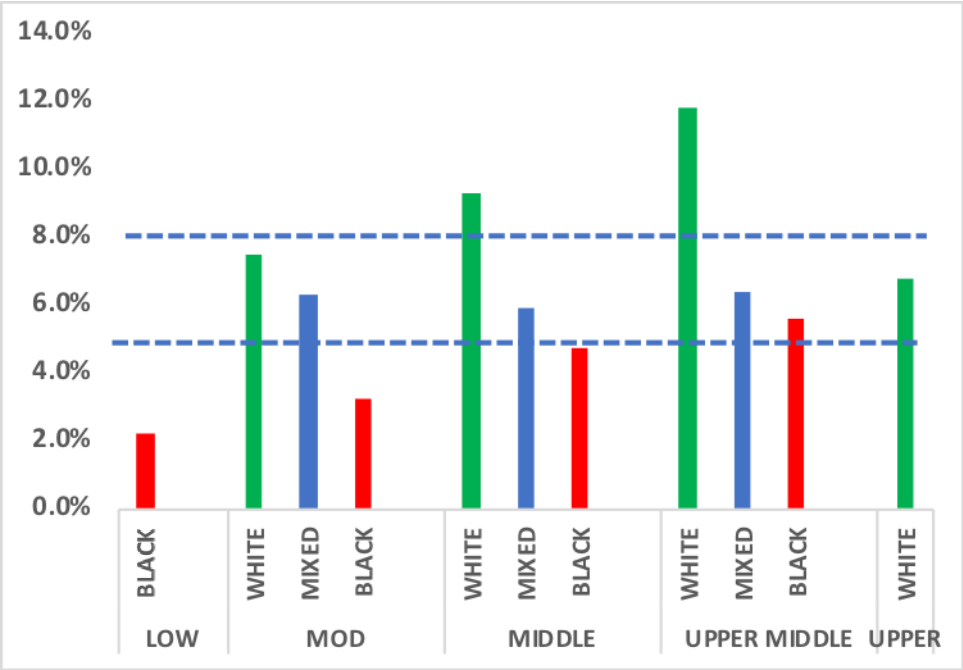
The pattern is similar, but somewhat more complicated, for sales prices and sales volumes by both the racial and income category of the census tract. Starting with the proposition that the average turnover in an existing pool of residential properties typically runs 6% to 7% per year,[21] and allowing room for annual fluctuations, suggests that an annual volume of home sales in the range of 5% to 8% of the existing houses in a given neighborhood (the "sales ratio") can be considered the "Goldilocks" range—not too cold, and not too hot. Ratios significantly below that level are likely to lead to property deterioration, and in many cases abandonment, as movers are unable to find buyers or renters to replace them.[22]

21 See, e.g., F.J.Fabozzi, The Handbook of Mortgage-Backed Securities, New York, NY: McGraw-Hill (2005); M. Piazzesi and M. Schneider, "Housing and macroeconomics," Handbook of Macroeconomics, 2, Elsevier, 2016: 1547-1640.

22 In a neighborhood where a significant amount of new construction or substantial rehabilitation of houses for sale is taking place, the Goldilocks range will be potentially significantly higher, as the optimal number of buyers is the sum of those buying in the existing stock (i.e., 5% to 8% of that stock) and the buyers of the new units coming on the market.

Overall, the sales ratio for Baltimore in 2017 was 5.3%, meaning that residential sales in 2017 were equal to 5.3% of the city's single-family housing inventory. While on the low side, it is within the Goldilocks range and suggests that the housing market, on the whole, is functioning fairly well. As with other measures, however, the citywide statistics mask considerable variation by neighborhood. Figure 9 shows the picture by census tract racial and income category, while Table 11 shows detail for both sales prices and sales volumes for each of the neighborhood categories.

Figure 9: Sales Ratios for Census Tracts by Racial and Income Category, 2017



The greatest market weakness is concentrated in predominantly black neighborhoods where the median household income is at or below the citywide median—that is, low- and moderate-income neighborhoods. Those neighborhoods have also seen significant loss in house value in constant dollars. Black middle-income neighborhoods are "hanging in" in terms of sales volumes, although barely, and seeing only nominal appreciation in sales price. Adjusted for inflation, house values in predominantly black middle-income neighborhoods have been increasing at well under 1% per year since 2000, while predominantly white middle-income neighborhoods saw an average increase of 4% per year over that period. Sales volumes in the city's mixed and predominantly white neighborhoods are consistently within the Goldilocks range, except for the five largely white upper-middle census tracts. On closer look, however, this reflects unusually high volumes in two areas: One is the Village of Cross Keys, and the second is to the west and south of the Inner Harbor, where a great deal of new construction is taking place, pushing optimal sales volumes upward.

Table 11: Sales Prices and Sales Volumes by Neighborhood Category

NUMBER	2000	2010	2017	2017 SALES RATIO	CHANGE 2000-2017	CHANGE IN CONSTANT $$
LOW PREDOMINANTLY BLACK						
Median price	$52,450	$51,250	$69,125		+33%	-7%
Number of sales	445	191	297	2.2%		
MODERATE PREDOMINANTLY BLACK						
Median price	$49,950	$61,000	$50,625		+1%	-29%
Number of sales	1,934	1,621	1,831	3.2%		
MODERATE MIXED						
Median price	$53,950	$84,225	$94,759		+76%	24%
Number of sales	914	746	1,006	6.3%		
MODERATE PREDOMINANTLY WHITE						
Median price	$56,000	$145,000	$148,600		+165%	87%
Number of sales	591	474	751	7.5%		
MIDDLE PREDOMINANTLY BLACK						
Median price	$62,000	$97,000	$101,550		+64%	12%
Number of sales	1,621	1,066	1,826	4.7%		
MIDDLE MIXED						
Median price	$78,750	$120,375	$137,436		+75%	23%
Number of sales	982	590	890	5.9%		
MIDDLE PREDOMINANTLY WHITE						
Median price	$86,375	$187,250	$237,250		+175%	93%
Number of sales	2,301	1,550	2,517	9.3%		
UPPER-MIDDLE PREDOMINANTLY BLACK						
Median price	$75,975	$130,200	$146,950		+93%	36%
Number of sales	124	78	149	5.6%		
UPPER-MIDDLE MIXED						
Median price	$76,000	$145,000	$156,000		+105%	41%
Number of sales	310	179	324	6.4%		
UPPER-MIDDLE PREDOMINANTLY WHITE						
Median price	$124,000	$206,606	$296,675		+139%	68%
Number of sales	408	266	375	11.8%		
UPPER PREDOMINANTLY WHITE						
Median price	$201,500	$426,250	$424,298		+111%	48%
Number of sales	545	322	442	6.8%		

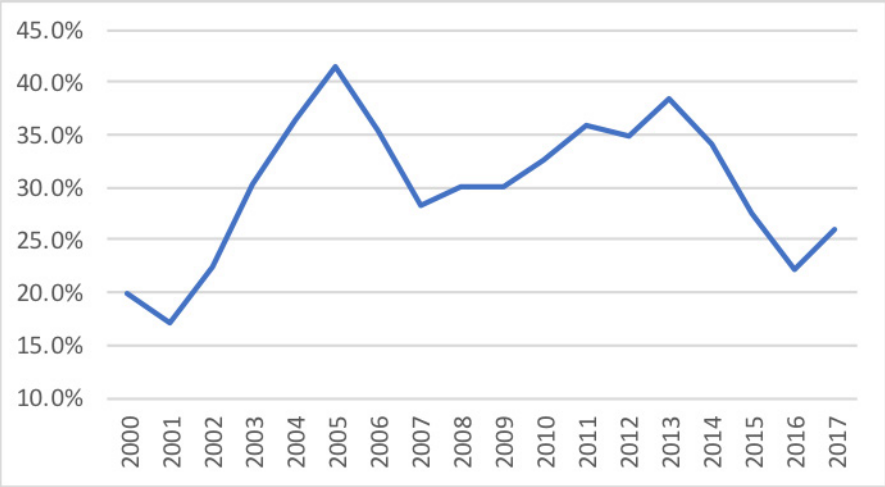
Sales prices and sales volumes are powerfully correlated. As Table 12 shows, the median sales price in tracts that had a sales ratio of 2% or less was barely $44,000, or roughly 40% of the citywide median; by contrast, prices in tracts with sales ratios of 10% or more were $268,500, or roughly 2.5 times the citywide median, which also reflects the fact that these are the areas where most new construction is taking place.

Table 12: Relationship of Median Sales Price to Sales Ratio

	<2%	2%-2.99%	3%-4.99%	5%-7.99%	8%-9.99%	10%+
Median sales price	$44,081	$53,512	$71,500	$129,500	$184,700	$268,500

Turning to the third measure, the percentage of investor buyers in the market, the patterns are similar to those described above, but with a key difference. The long-term trend since 2000 reflects the effects of the housing bubble and bust, and the slow recovery. Figure 10 shows that the investor share peaked at over 40% in 2005, remained generally over 30% through 2013, and has declined as the Baltimore housing market has recovered since then.[23]

Figure 10: Share of Investor Buyers in Baltimore Market 2000 to 2017



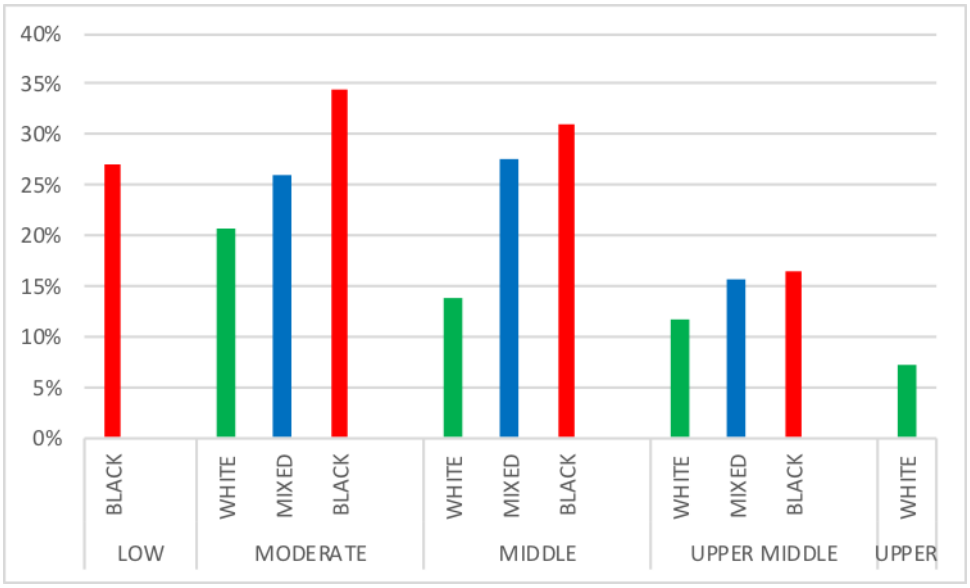
As Figure 11 shows, the share of investor buyers is higher in predominantly black census tracts. Roughly 1 out of 3 buyers in predominantly black census tracts is an investor buyer, compared to less than 1 out of 5 in predominantly white tracts.

Investor buyers, however, still make up more than 40% of all buyers in 1 out of every 5 census tracts in the city, and more than 50% in nearly 1 out of 10, as shown in Map 5. While this is a significant improvement since the 2005 peak, when that was true of over half of the city's tracts, it is still a serious concern. These tracts tend to

23 Preliminary 2018 data shows a further decline in the investor buyer share of the market.

be areas with very low house sales prices. While some investors may be buying substandard or vacant houses to rehabilitate and then sell or rent them, others may be buying houses at very low prices in order to "milk" them—that is, rent them as is, make minimal if any repairs, perhaps not even pay property taxes, and plan to walk away after a few years, having made a decent return from cash flow alone.[24]

Figure 11: Percentage of Investor Buyers in 2017 by Tract Racial and Income Category

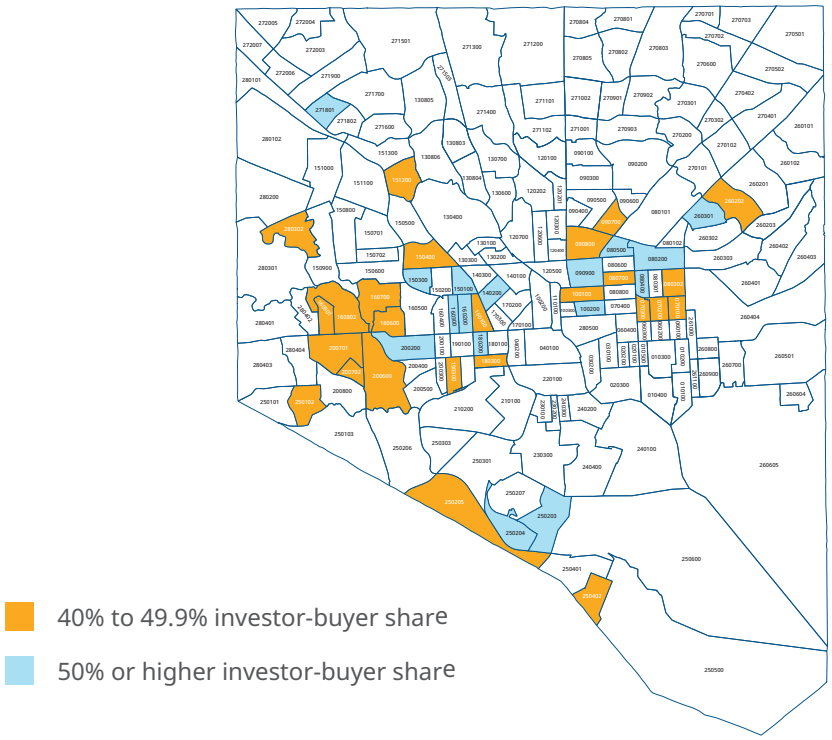


While milking, a predatory form of landlord behavior, is far from the norm in Baltimore, the likelihood of a given building being treated in that fashion is a straightforward reflection of the economics of owning and operating rental housing, and is typically found only where rents are very high relative to house values—in other words, locations where it is possible to make a return entirely from the cash flow from the dwelling unit, with little concern for the ultimate value of the property. This is measured by a simple equation, the ratio between the annual gross rent and the value of the property, which can be approximated by comparing the annual gross rent for 2017 as reported in the American Community Survey with the median 2017 sales price for homes in that census tract.

Using as a rule of thumb that tracts where the median house value is less than five times the median annual rent are at risk of milking, I found that 54, or slightly more than one-quarter of the census tracts in Baltimore, meet that criterion, as shown in Map 5. Of these, the great majority are predominantly black census tracts, with the majority of these being moderate-income census tracts. I am not suggesting that all or most of the landlords in these areas are in fact predatory in their behavior, but that the market characteristics of those areas place the areas at risk of drawing potentially predatory investors. It is notable, however, that there is considerable overlap between Map 4 and Map 5, which shows those parts of the city where investors have the largest share of the housing market.

24 I discuss investor strategies and the conditions under which milking is likely to take place in detail in my paper "Lessons from Las Vegas: Housing markets, neighborhoods, and distressed single-family property investors," Housing Policy Debate 24, no. 4 (2014): 769-801.

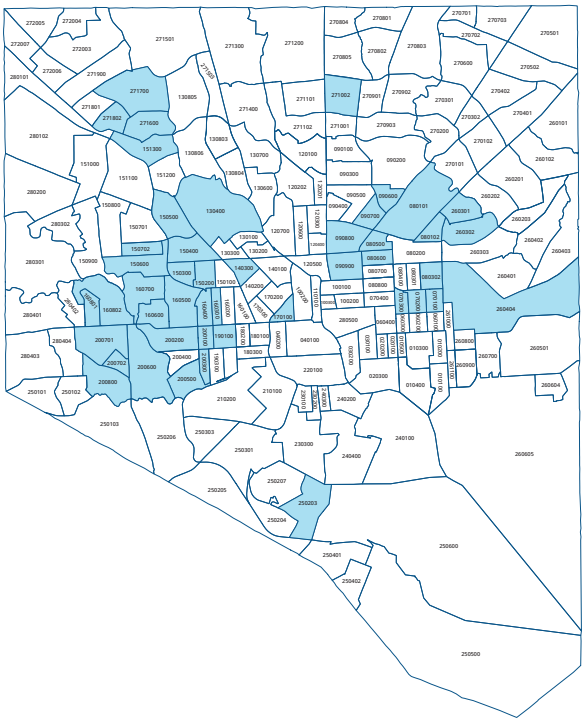
Map 4: Areas with High Investor Buyer Share in 2017



40% to 49.9% investor-buyer share

50% or higher investor-buyer share

Map 5: Areas at Greater Risk of Predatory Milking Practices



2. Homeownership

As briefly noted earlier, the homeownership rate has been dropping steadily in Baltimore in recent years, falling below 50% for the first time since 1930. Since 2000, the number of homeowners in the city has dropped by roughly 15,500 (12%), potentially contributing to the destabilization of many city neighborhoods. The number of homeowners has dropped much more than the number of renters, which also reflects in part the extent to which much of the new housing being created in Baltimore is rental, rather than owner-occupied housing. This is true in high-density, upscale areas like Harbor East as well as in residential neighborhoods where vacant houses are being rehabilitated. The great majority of homes rehabilitated through the city's Vacants to Value program are reused as rental rather than owner-occupied housing. This reflects the significantly more favorable returns available from rental housing in many parts of the city.[25]

It also reflects a shortfall in homebuying in many parts of the city. To sustain homeownership, one must have a steady flow of new homebuyers to replace those who move or pass away. Knowing that the average length of stay of homeowners in Baltimore is 15 years, one can infer that 6%-7% will move or pass away each year, which in turn dictates that the number of new homebuyers will be roughly equal to 6%-7% of the number of existing owners. The actual number is substantially less than that, particularly with respect to black homeowners. In 2010, there were 64,242 black homeowners in Baltimore, but in 2018, there were only 1,873 black homebuyers, or 2.9% of the number of owners.[26] Although a significant improvement from the post-recession low point of 2011, when only 715 mortgages to black homebuyers were made in Baltimore, it is far too few to sustain current black homeownership rates. Those buyers, moreover, as I will discuss further in a later section, are concentrating in a few areas, particularly the area I have called the Northeast Triangle.

The shortfall is not a function of lack of access to mortgages. Indeed, the dramatic increase in buyers since 2011 reflects growing access to mortgages for large numbers of African American homebuyers.[27] At the same time, the data also reflect the growing movement toward the suburbs, as more mortgages to black buyers—particularly relative to the existing number of black homeowners—are being made in Baltimore and Anne Arundel counties. Over 3,000 black homebuyers received mortgages to buy homes in those two counties in 2018. In both of those counties, homebuying is close to or exceeds what might be considered the minimum replacement rate to sustain or grow the existing homeowner pool.

As Map 6 shows, however, the loss of homeownership has been uneven. While some areas (particularly East and West Baltimore) have lost 30% or more of their homeowners since 2000, others have remained relatively stable and a few have even seen an increase, mainly in neighborhoods around the Inner Harbor and downtown.

25 For a more detailed discussion of this point, see pages 35-37 of Tackling the Challenge of Blight in Baltimore: An Evaluation of Baltimore's Vacants to Value Program, prepared by the Center for Community Progress (2017), available at https://www.communityprogress.net/filebin/Baltimore_Vacant_to_Value_Report_Final.pdf.

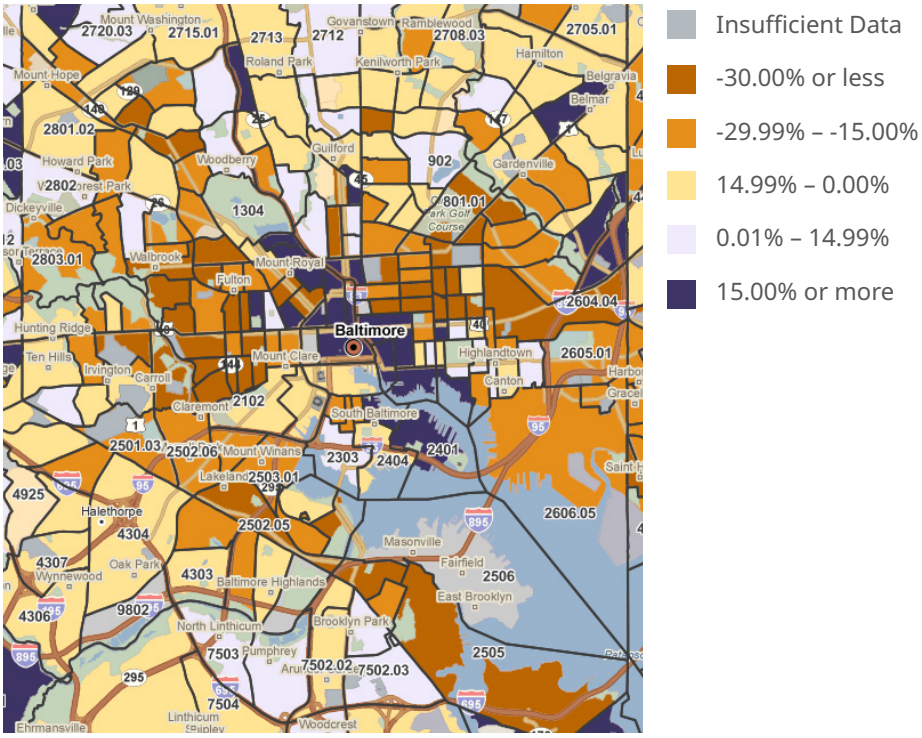
26 This is the number of purchase mortgages made to black owner-occupant buyers, not the total number of buyers, which include cash buyers and people financing houses through means not reflected in HMDA data such as seller financing. Those numbers, however, are likely to be fairly small.

27 This does not mean that all race-based mortgage disabilities have been eliminated. They have been reduced, however, and growing numbers of black homebuyers have been able to navigate the mortgage system. That said, a significant constraint still exists that disproportionately affects low property value areas with respect to appraisal procedures generally and lenders' reluctance to make small mortgage loans, typically for amounts below $50,000.

Table 13: Black Homebuyers and Homeowners in Baltimore and Surrounding Counties

	Number of homebuyer mortgages in 2018	Number of homeowners in 2010	Mortgages as % of homeowners
Baltimore City	1,873	64,242	2.9%
Baltimore County	2,058	37,302	5.5%
Anne Arundel County	1,421	15,123	9.4%
% in Baltimore City	35%	55%	

Map 6: Percentage Change in Number of Homeowners 2000 to 2017



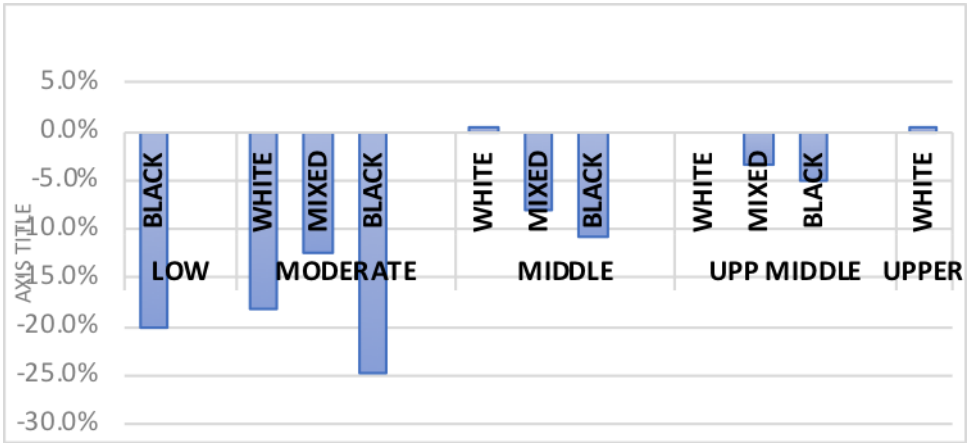
SOURCE: Map created by PolicyMap

As Figure 12 shows, the greatest losses were in predominantly black low- and moderate-income areas, where the number of homeowners dropped 20% and 25%, respectively. Largely black middle-income neighborhoods also saw significant losses; all in all, roughly 80% of the net loss in homeownership in Baltimore came from the city's predominantly black neighborhoods, much more than their share of the city's homeowners.

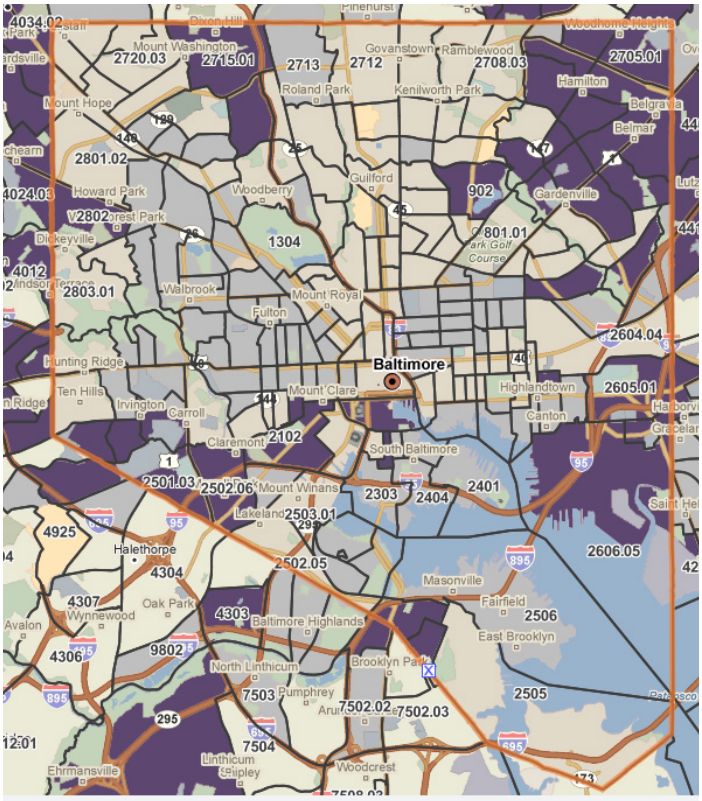
This does not mean, however, that the loss of the city's homeowners was mostly made up of black households; indeed, the decline in the number of white households over the same period was greater. It highlights the spatial shift among black households in Baltimore. As large numbers of black families have bought homes in other parts of the city, particularly in the Northeast Triangle, their gains have offset losses in the number of white homeowners in those areas. Map 7 shows the areas where the number of black homeowners increased

by 10% or more and the number of white homeowners declined by 10% or more from 2000 to 2017, with the Northeast Triangle highlighted. In addition to that area, similar trends can be seen in the southwest part of the city, in neighborhoods such as Violetville and Morrell Park.

Figure 12: Change in Number of Homeowners from 2000 to 2017 by Tract Category



Map 7: Areas with Both Black Homeownership Growth ***and*** White Homeownership Decline 2000 to 2017



SOURCE: Map created by PolicyMap

Table 14 provides a summary of the neighborhood data presented in this section of the report. A discussion of relationships and correlations between the various data elements presented in this section appears as Appendix 2.

Table 14: Summary Characteristics By Neighborhood Category

CATEGORY		Number of Tracts (2000)	Black Population Change 2000-2017	White Population Change 2000-2017	Sales Price Change 2000-2017	Investor Buyer Change 2017	Homeowner Change 2000-2017	Home Ownership Rate 2017	Poverty Rate 2017	Other Vacant* Share 2017
Low Income	Black	19	-10,716	-67	31.8%	27.1%	-20.0%	20.8%	41.6%	16.9%
Moderate Income	Black	59	-34,408	+475	1.4%	34.4%	-24.8%	37.8%	29.1%	20.3%
	Mixed	18	-1,781	-4,231	75.6%	26.1%	-12.4%	29.4%	25.2%	13.1%
	White	11	+2,273	-7,667	165.4%	20.7%	-18.1%	47.8%	20.0%	6.4%
Middle Income	Black	31	-231	-1,746	63.8%	31.0%	-10.9%	58.9%	19.2%	8.1%
	Mixed	12	+5,055	-6,921	74.5%	27.6%	-8.1%	60.1%	14.3%	5.4%
	White	28	+6,305	-7.947	174.7%	13.9%	+0.4%	58.1%	17.2%	5.5%
Upper-Middle Income	Black	2	+195	-661	93.4%	16.4%	-5.0%	78.0%	11.3%	4.9%
	Mixed	5	+1,378	-2,616	105.0%	15.8%	-3.3%	73.7%	12.4%	4.3%
	White	5	-293	+305	139.3%	11.8%	No	43.3%	10.4%	3.7%
Upper Income	White	6	+1,372	+587	110.6%	7.2%	+0.3%	71.5%	4.5%	4.8%

*Other vacant is a category used by the U.S. Census Bureau to denote those vacant properties that are neither offered for rent or sale, held pending occupancy by tenants or buyers, or used for seasonal or temporary occupancy. While it is not limited to vacant and abandoned properties, it can be seen as a rough surrogate for long-term vacant, abandoned properties.

III. KEY NEIGHBORHOOD CLUSTERS

In the preceding section, I looked at the trends in each of the different categories that make up Baltimore's neighborhoods, segmented by household income and race. In the course of that analysis, three different neighborhood clusters stand out as representing the most significant trends in neighborhood change in Baltimore since 2000:

- Predominantly Black moderate-income neighborhoods. These neighborhoods, which make up 30% of the city's census tracts, account for the greatest part of the city's black population loss, as well as the sharpest declines in property values and homeownership in the city.
- The Northeast Triangle. These neighborhoods, which make up 11% of the city's census tracts, were mostly predominantly white in 2000. They are undergoing significant change with an influx of black homebuyers as well as an exodus of white households.

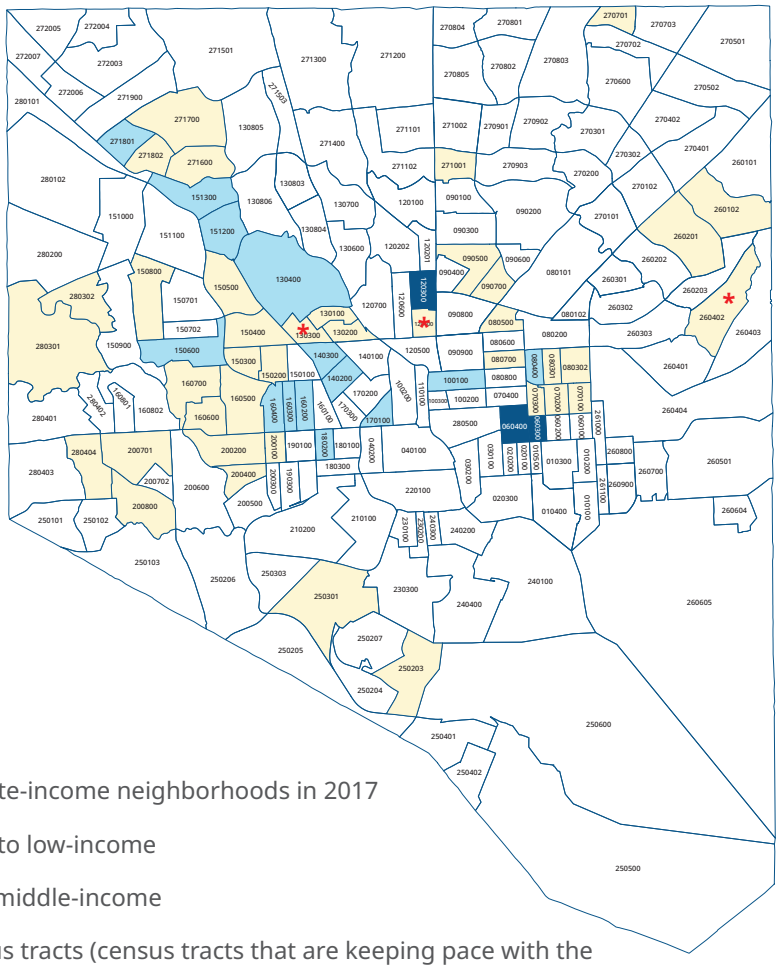
- Gentrifying neighborhoods. These neighborhoods, which are estimated to represent 14% of the city's census tracts, are clustered around the Inner Harbor, Johns Hopkins University, and downtown. They constitute the most visible and highly publicized manifestation of neighborhood change in Baltimore today.

These are not the only neighborhood clusters in Baltimore, although collectively they make up more than half of the city's neighborhoods. Each represents, however, a different and distinct challenge facing the city—the challenge of decline, the challenge of maintaining stability, and the challenge of managing growth. This section will drill down into the dynamics of each of these three neighborhood clusters.

A. Predominantly black moderate-income neighborhoods

This cluster is the largest single neighborhood cluster in Baltimore, making up both in 2000 and 2017 roughly 30% of the city's census tracts, and roughly half of all predominantly African American tracts. In 2000, they were not the city's poorest areas, but nonetheless had median incomes between 60% and 100% of the citywide median. As shown in Map 8, 42 (71%) of these tracts remained moderate income in 2017, 14 (24%) moved downward into the low-income category, and three moved upward into the middle-income category. Four, including the three that moved upward, moved from predominantly black to racially mixed; the overwhelming majority, however, remained predominantly black.

Map 8: Trajectories of Predominantly Black Moderate-Income Neighborhoods 2000 to 2017



Remained moderate-income neighborhoods in 2017

Moved downward to low-income

Moved upward to middle-income

* "Hanging in" census tracts (census tracts that are keeping pace with the overall citywide trajectory of growth)

On its face, that description suggests relative stability. The actual picture, however, is quite different:

- These neighborhoods account for roughly three-quarters of the total loss in black households in Baltimore.
- These neighborhoods account for half of the loss in homeowners in Baltimore.
- The typical home in these neighborhoods has lost 30% of its value since 2000 in constant (inflation-adjusted) dollars.

The three upwardly moving census tracts are outliers in this category; two are on the edge of the increasingly upscale Harbor East area, and may be potentially headed toward gentrification, and the third falls within the orbit of the Johns Hopkins University campus. The characteristics of tract 604 have been affected by the demolition of the Broadway Homes housing project and the construction of new housing on part of the site since 2000. These three areas are seeing increases in household income and house prices, as well as an increase in homeownership in the tracts close to Harbor East resulting from rehabilitation of vacant properties and some infill construction. They have also seen a decline in their black population. While there has been some growth in white residents, it has been far less than the decline in the black population. These tracts, however, contained only 4% of the population of this neighborhood cluster. The trajectory of the remaining 96% is the story of this cluster.

Table 15: Selected Indicators for Predominantly Black Moderate-Income Neighborhoods

	TRACT REMAINED MODERATE INCOME	TRACT MOVED DOWNWARD TO LOW INCOME
Median income change in constant $$ 2000-2017	-8.3%	-26.3%
Change in black population 2000-2017	-23,042	-8,980
% change in black population 2000-2017	-17.0%	-12.1%
Median sales price in 2017	$50,000	$50,980
% change in sales price in constant $$ 2000-2017	-30.8%	-30.7%
Sales ratio 2017	2.9%	3.2%
Investor buyer share in 2017	35.7%	43.1%
Change in number of homeowners 2000-2017	-6,165	-1,547
% change in number of homeowners 2000-2017	-25.9%	-26.9%
Homeownership rate in 2017	39.2%	33.0%

It is striking that there is little difference in the key indicators except for income change between the tracts that remained moderate income and those that moved downward. Given the greater difference, however, between the two subclusters in Table 15 in their homeownership rate and investor buyer share, it is possible that either or both of those factors may have affected the relative income stability of those tracts that remained moderate income.

I stress relative stability because the broad income ranges obscure a key issue: The great majority of the "stable" tracts actually declined relative to the city of Baltimore as a whole. While in this cluster, the 2000 median income was 86% of the citywide median; by 2017, it was only 75% of the citywide median. Although precise statistics on migration by income range are not available, it can reasonably be assumed that the black families that moved out of these areas were of higher incomes than those who remained behind.

One question remains: Of these 42 census tracts, did all decline, or did some hang in, in the sense of keeping pace with the overall citywide trajectory of growth? To answer that question, I looked to see which tracts, if any, saw both income change and sales price change from 2000 to 2017 at least on par with citywide change over the same period—that is, tracts that did not fall behind citywide levels on either measure. Only three tracts met those criteria, which are shown in Map 8.[28] One is the Penn North neighborhood (tract 1303), south of Druid Hill Park; a second is the Barclay area (tract 1204), immediately north of Greenmount West; and the third is tract 2604.02, a small part of the large Frankford area near the city's eastern border. The Barclay neighborhood has been the focus of major investment supported by the city, state, and federal government and the community, as has Penn North although to a lesser extent, and these investments both appear to have had some impact. The circumstances affecting the other area is unclear. It is important to note, however, with respect to the "hanging in" portion of Frankford, that the entire growth, in both income and sales price, took place between 2000 and 2010. Since 2010, that neighborhood has been losing ground at levels paralleling its peers.

The upshot is that almost all of Baltimore's largely black moderate-income neighborhoods, many of which were relatively healthy in 2000, are losing ground, and many are in crisis. Families continue to leave, and household incomes are in sharp decline, while the housing market is on the edge of market failure. While the median house value in these neighborhoods in 2000 was over 80% of the citywide median, it is now below 50%. The number of new buyers is far too low to absorb the supply of housing, the share of investor buyers is far above the citywide average, and vacant housing is becoming endemic in some areas. The future of these neighborhoods is one of the most difficult challenges faced by the city of Baltimore.

B. The Northeast Triangle

The role of what I have called the Northeast Triangle as a focus of black homebuying, and as the area of the greatest black population growth in Baltimore, has been noted earlier. This area is also notable because of its relatively high level of racial integration compared to the rest of the city, and because it represents the major remaining reservoir of stable middle-class housing in the city. Its continued stability, therefore, has important implications for the city's future.

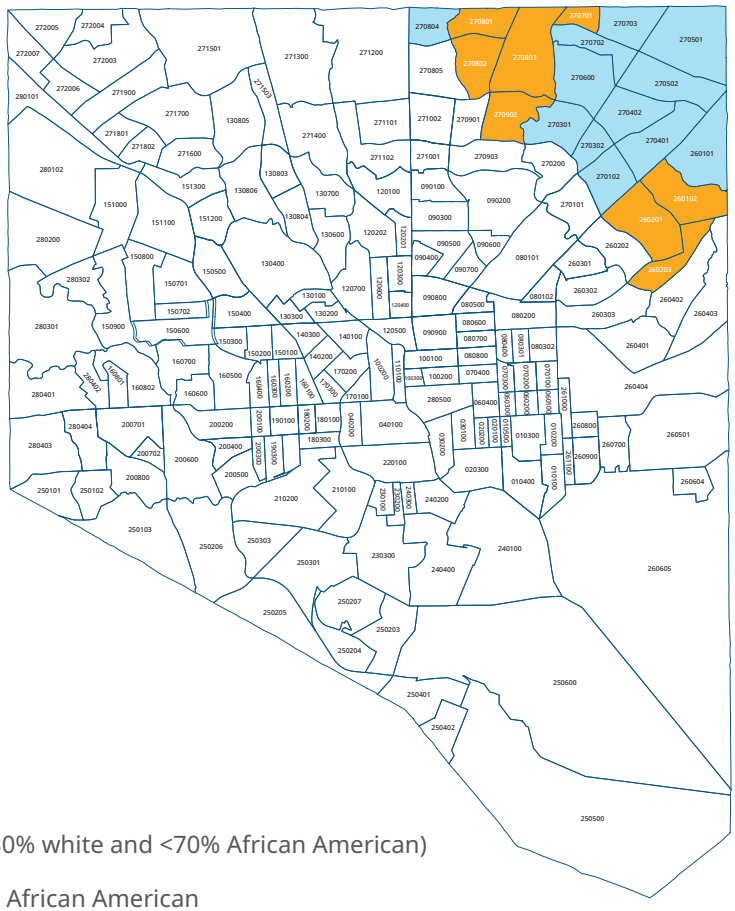
To drill down into this area, I looked at 20 census tracts containing roughly 13% of the city's population, as shown in Map 9. The map also shows which tracts were predominantly black, and which racially integrated in 2017. The significance of that distinction will be discussed below.

The course of change in the Triangle has been uneven. During the decade from 2000 to 2010, this area saw both white flight and significant black in-migration. The area lost 40% of its white population or 13,000 people,

28 Tract 2707.01, which corresponds to the Idlewood NSA, and which by virtue of being entirely renter-occupied could not meet the criteria by definition, showed significant income increase, particularly between 2010 and 2017.

while gaining almost the same number of black residents. Along with a small Latinx increase, the overall population of the area remained stable. Since 2010, however, the decline in the area's white population has slowed significantly from an average of 1,300/year to 200/year; the black population has continued to grow, resulting in an overall increase of population in the area of nearly 4,000 since 2010. The number of households, however, has stayed the same, suggesting that many larger families with children are most probably replacing older empty-nester families.[29]

Map 9: Northeast Triangle Census Tracts



Racially integrated (>30% white and <70% African American)

Predominantly (70%+) African American

Table 16 shows some key market indicators for the Triangle for 2000, 2010, and 2017. Sales prices in the area saw a more pronounced bubble effect than in most of the rest of the city, perhaps driven not only by the rapid influx of black buyers, but also by a sharp increase in the share of investor buyers, which more than doubled from 2000 to 2010. Price increases substantially outpaced income increases during that period.

Price increases have continued—but more slowly—since 2010, and the share of investor buyers has dropped from 29% to 22%. Some neighborhoods have recovered fairly well from the collapse that followed the mortgage bubble, such as the two census tracts that correspond to the Hamilton Hills neighborhood, as shown in Figure 13. Others, such as Frankford, have failed to regain much of the value lost at that time.

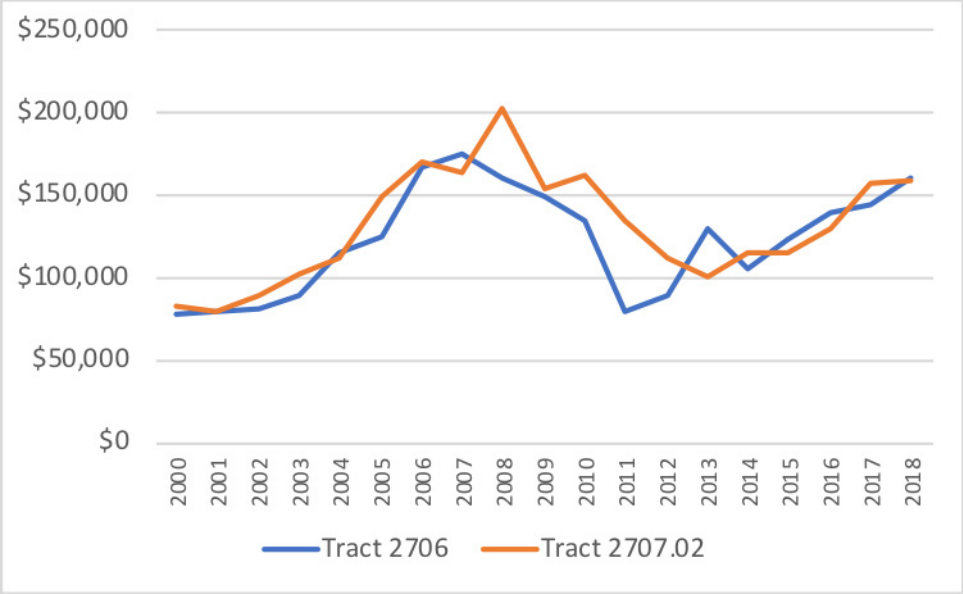
29 An alternative hypothesis is that couples that had previously moved to the area as childless couples are now having children, but that is less likely.

Table 16: Key Market Indicators for Northeast Triangle

	2000	2010	2017
Median sales price	$77,250	$134,700	$137,450
% of citywide median	128.8%	149.7%	130.9%
Investor buyer share	13.5%	29.2%	21.8%
Median income	$38,925	$50,099	$55,936
$ of citywide median	129.4%	127.2%	119.9%
Homeownership rate	63.7%	62.2%	61.0%

The sales ratio (the ratio between the number of sales and the number of single-family units) in the Triangle as a whole in 2017 was a healthy 6%. Although the decline in household incomes and in the home ownership rate are of some concern, the declines are modest. Overall, the areawide data suggest that the Triangle is at a point of relative stability.

Figure 13: Median Sales Price Trends in Hamilton Hills 2000 to 2017



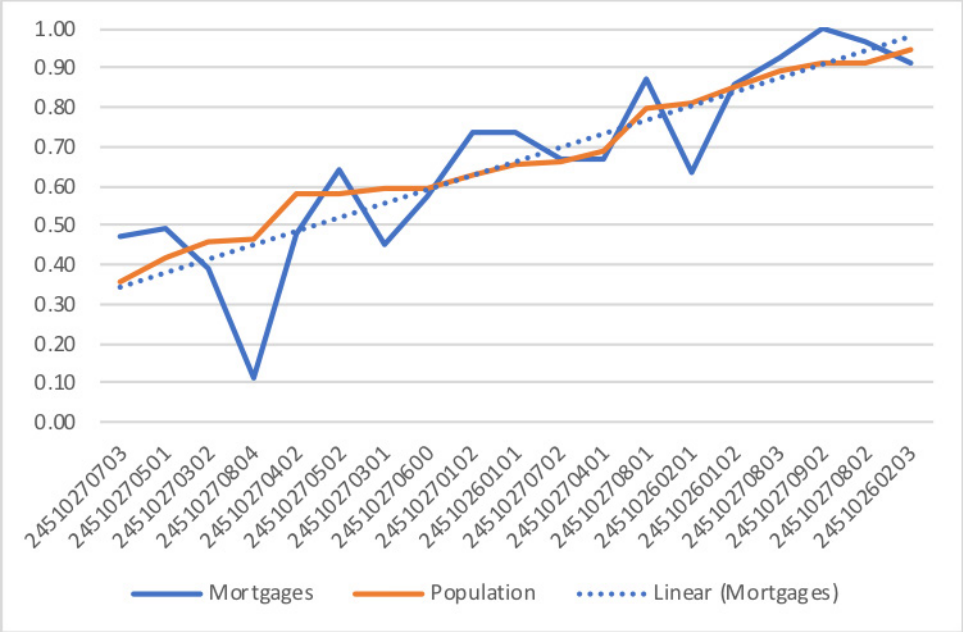
There are significant differences, however, between those parts of the Triangle whose populations are racially mixed, and those that are predominantly black, raising potential future concerns. On a series of key indicators, the seven predominantly black census tracts[30] are doing significantly less well than the 12 racially mixed tracts. Median income growth since 2000 was 24.9%, corresponding to a decline of 15% in constant inflation-adjusted

30 There are actually eight such tracts in the Triangle, but one 2707.01 (Idlewood) has no owner-occupied housing, and thus no real estate market data. As noted earlier, in terms of household income growth, this all-renter neighborhood has done well, particularly since 2010.

dollars, compared to 52.5% in the racially mixed tracts. Sales ratios in 2017 were 4.7% in the predominantly black tracts, just below the bottom of the Goldilocks range, compared to 7% in the mixed tracts, squarely in the middle of the range. The median sales price in six of the seven predominantly black tracts was below the median for the Triangle as a whole.

All three indicators relate closely to a fourth, which is the share of homebuyer mortgages going to black homebuyers. As Figure 14 shows, by superimposing a trend line on the graph, the correlation between the black share of new homebuyers and the black share of the existing population in 2017 was so close as to be nearly absolute.[31] Put differently, the number of white homebuyers declines in direct proportion to the growth in the black population.

Figure 14: Share of Homebuyer Mortgages to Black Homebuyers and Black Population Share by Census Tract 2017



This pattern is deeply distressing but should not come as much of a surprise. As stated earlier, neighborhoods in Baltimore have been strongly affected by historical patterns of discrimination, segregation, redlining, and white flight. The effect of racial perceptions and prejudices on homebuying choices is well known and has been widely documented.[32] It says nothing about the quality of the homebuyers, their desire to sink roots in the neighborhood, or any other attribute that may be associated with homeownership. It says a great deal, however, about the quantity of homebuyers—that is, the size of the homebuyer pool likely to consider buying in a given neighborhood.

Black homebuyers make up between 25% and 30% of the total pool of homebuyers in the city of Baltimore, and about 15% of the total pool in the Baltimore metropolitan area.[33] While not insignificant, that is only a

31 The actual correlation is 0.864545, as close to a perfect 1.0 as any correlation is likely to be in the real world.

32 The research of Maria Krysan, a sociologist at the University of Illinois at Chicago, is particularly notable on this subject, e.g., "Does race matter in the search for housing? An exploratory study of search strategies, experiences, and locations," Social Science Research 37, no. 2 (2008): 581-603, and many other papers.

33 This is based on the black share of total mortgages made and reported under the Home Mortgage Disclosure Act from 2014 through 2016. While a small share of homes are bought by owner-occupants through all-cash deals, the number is small, and in all likelihood, given black/white wealth disparities, the share of black home purchase mortgage borrowers is likely to be slightly higher than their share of all homebuyers.

small part of the total market. With neighborhoods competing with one another throughout the city and metro area, a neighborhood that has access to few of the remaining 85% of potential regional buyers is at an inherent disadvantage. This is compounded by the fact that the trend among black homebuyers is increasingly to buy homes in suburban areas or in largely white or mixed areas in the city, thus further reducing the buyer pool for homes in predominantly black neighborhoods. With less demand for those homes, their price will be less than that of similar homes in neighborhoods treated more favorably by the market, while these neighborhoods will also have more difficulty recovering from shocks like the foreclosure crisis and the Great Recession, a phenomenon that has been referred to as a "discrimination tax" or a "segregation tax."

Thus, over and above the ethical and social imperatives in fostering integration, the city of Baltimore has a strong utilitarian argument in favor of efforts to sustain and, if possible, grow strong integrated communities in the Northeast Triangle, ensuring that those neighborhoodsremain attractive to middle-class homebuyers of all racial and ethnic backgrounds.

C. Gentrifying neighborhoods

The subject of gentrification is highly contentious because there is no real consensus about what "gentrification" means. The term has come to be used in many different ways, many of which go well beyond British sociologist Ruth Glass' meaning when she coined the term over 50 years ago.[34] That said, for purposes of this analysis, treating gentrification solely as a process of measurable neighborhood change, a definition is needed that can measure the process of change in the demographic and housing market characteristics of a neighborhood triggered by the in-migration of the more affluent.

Three measures are widely used in research on the subject: (1) increase in household incomes; (2) increase in sales prices; and (3) increase in educational attainment, namely the percentage of adults with a bachelor's degree or higher.[35] A neighborhood could show change in one of these measures for reasons unrelated to gentrification. Because, for example, elderly households tend to have lower incomes than socioeconomically similar families in their peak earning years, the replacement of elderly homeowners by young families into a residential neighborhood could trigger a significant increase in incomes without any change in social or economic character.[36] Similarly, construction of even a small cluster of new homes in a low-value neighborhood—even if subsidized for low- or moderate-income buyers—could appear in the numbers as a dramatic increase in sales prices in that neighborhood from one year to the next.

For the purposes of this report and in the interest of simplicity, I will use the first two measures, increases in incomes and sales prices. I will discuss educational attainment as well as age distribution as additional factors below. For incomes, I identify the neighborhoods that changed category in the following ways from 2000 to 2017:

Low or moderate ➜ middle, upper middle, or upper

Middle ➜ upper middle or upper

34 Ruth Glass coined the term in her 1964 book, London: Aspects of Change, where she describes in language worth quoting in full how: one by one, many of the working class quarters of London have been invaded by the middle classes – upper and lower. Shabby modest mews and cottages [...] have been taken over when their leases have expired and have become elegant expensive residences. Larger Victorian homes, downgraded in an earlier or recent period [...] have been upgraded once again. The current social status and value of such dwellings are [...] enormously inflated by comparison with previous levels in these neighborhoods. Once this process of 'gentrification' starts in a district, it goes on rapidly until all or most of the original working class occupiers are displaced, and the whole social character of the district is changed (Glass, 1964). Glass was far from the first to notice or give a name to the process she described, but it was her coinage that stuck, and has become the term that dominates the discourse about neighborhood change today.

35 This reflects the reality that in today's American economy, a four-year university degree is arguably the single most powerful proxy for high economic and social status. Incomes and higher education correlate very strongly.

36 This may be taking place in the Glenham-Belhar neighborhood in the Northeast Triangle.

If an upper-middle income neighborhood has moved up to the upper-income category, however, I do not consider that to be gentrification.

For sales prices, the most meaningful measure is price appreciation relative to the citywide rate, rather than the absolute dollar amount. I treat gentrifying tracts as being those where the median sales price rose over that period by 50% more than the citywide rate. Since the median sales price in Baltimore went from $60,000 to $106,000 from 2000 to 2017, for an increase of not quite 77%, tracts that increased by 115% or more meet that criterion. In actuality, in all but four of the 27 census tracts that meet this criterion, sales prices increased at double or more the citywide rate—that is, by 153% or more over the study period. Those 27 census tracts—with approximate neighborhood equivalents, and their changes in income category, black population share, and sales price from 2000 to 2017—are shown in Table 17. The tracts are shown in Map 10.

A number of salient points flow from Table 17 and Map 10:

- There are no major surprises. These neighborhoods tend to be the ones most frequently characterized as gentrifying in the local media. They are all incremental expansion of already strong areas, as in the case of Harbor East, or they extend from major nodes of activity, such as the Inner Harbor, downtown, or the Johns Hopkins Homewood campus.
- Over half of the gentrifying tracts were middle-income tracts in 2000—not wealthy, but not low-income either. Only one gentrifying tract—Greenmount West—was a low-income neighborhood (median income under 60% of the citywide median) in 2000.
- 18, or two-thirds, of the 27 gentrifying tracts were predominantly white in 2000, while only four were predominantly black. Five were mixed.

Map 10: Gentrifying Neighborhoods 2000 to 2017

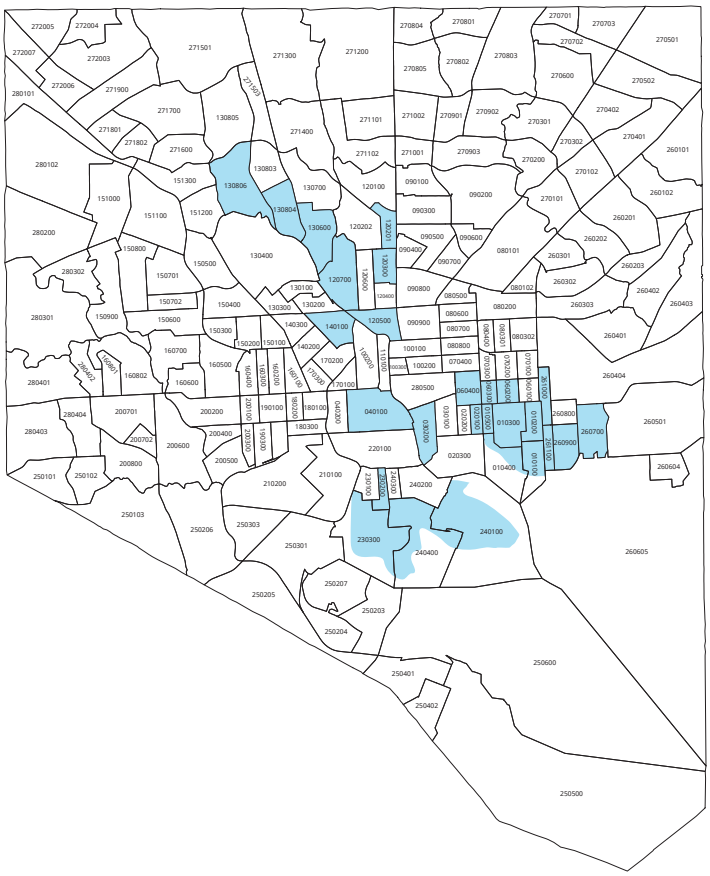


Table 17: Gentrifying Neighborhoods in Baltimore

TRACT	NEIGHBORHOOD	NEIGHBORHOOD CATEGORY			BLACK POP SHARE		MEDIAN SALES PRICE		CHANGE
		2000	2010	2017	2000	2017	2000	2017	
1205	Greenmount West	Low	Mod	Middle	94.3%	57.1%	$82,250	$257,300	2.594
1308.04	Hampden	Mod	Middle	Middle	5.9%	7.6%	$56,000	$210,000	4.136
2607	Highlandtown	Mod	Mod	Middle	8.6%	2.3%	$41,200	$182,950	5.285
401	Downtown	Mod	Middle	Middle	42.9%	14.1%	$90,000	$207,300	2.261
602	Patterson Park Neighbors	Mod	Middle	Middle	69.0%	42.1%	$54,900	$184,700	3.641
1207	Remington	Mod	Middle	Middle	33.5%	22.5%	$48,900	$142,500	3.170
1401	Bolton Hill	Mod	Mod	Middle	37.3%	34.2%	$145,000	$371,500	2.793
2610	Highlandtown/Pat Park North	Mod	Mod	Middle	43.6%	27.8%	$73,000	$325,000	4.603
603	Butchers Hill	Mod	Middle	Middle	74.1%	43.7%	$59,750	$189,000	3.121
604	Washington Hill	Mod	Mod	Middle	85.7%	64.8%	$62,500	$175,000	2.736
1203	Charles Village/ Harwood	Mod	Mod	Middle	70.3%	49.4%	$64,900	$124,000	2.353
1202.01	Abell	Mod	Middle	Upper Mid	13.6%	18.0%	$80,000	$268,500	3.156
2611	Canton	Mod	Upper	Upper	3.6%	7.0%	$73,000	$325,000	4.603
105	Upper Fells Pt/ Butchers Hill	Middle	Upper	Upper Mid	7.3%	4.3%	$95,000	$280,000	3.211
201	Upper Fells Point	Middle	Upper Mid	Upper Mid	1.5%	6.6%	$68,500	$280,000	3.394
302	Little Italy/ Jonestown	Middle	Upper Mid	Upper Mid	20.8%	31.2%	$125,000	$273,750	2.160
1306	Hampden	Middle	Middle	Upper Mid	3.4%	7.0%	$57,450	$225,000	4.352
1308.06	Woodberry	Middle	Middle	Upper Mid	18.1%	18.9%	$47,250	$212,000	3.701
101	Canton	Middle	Upper Mid	Upper	3.7%	6.8%	$129,900	$345,000	2.533
102	Patterson Park	Middle	Middle	Upper	1.8%	5.2%	$63,500	$259,900	4.457
103	Patterson Park	Middle	Upper Mid	Upper	0.9%	2.0%	$67,000	$275,000	3.955
104	Canton	Middle	Upper Mid	Upper	3.2%	2.3%	$133,000	$305,000	2.297
2302	Federal Hill/So Baltimore	Middle	Upper	Upper	3.0%	13.3%	$90,000	$289,950	2.989
2303	So Baltimore/Pt Covington	Middle	Middle	Upper	1.9%	4.4%	$52,000	$265,000	5.173
2401	Locust Point	Middle	Upper	Upper	0.2%	3.1%	$63,500	$371,250	6.614
2404	Locust Point	Middle	Upper Mid	Upper	1.7%	0.6%	$96,715	$331,567	3.081
2609	Brewers Hill	Middle	Upper Mid	Upper	3.3%	7.7%	$65,000	$293,750	4.538

Put differently, as shown in Table 18, of 110 "gentrifiable"[37] predominantly black census tracts in 2000, four had gentrified by 2017. Of 40 "gentrifiable" predominantly white tracts, 18 had gentrified. Outcomes for racially mixed tracts fell in between.

This pattern is consistent with the experience in other cities, where areas most likely to gentrify are not only those that are predominantly white to begin with, but also those that are not deeply impoverished or disinvested areas. This pattern has been found in studies of Chicago, New York City, Philadelphia, and St.

37 For our purposes, a "gentrifiable" tract is one that was neither upper-middle nor upper income in 2000.

Louis.[38] This does not mean that there is no gentrification in predominantly black neighborhoods, but it is the exception rather than the rule. Gentrification tends to take place when such neighborhoods are exceptionally well situated relative to strong neighborhoods or to economic centers, such as Greenmount West, or in cities like Washington D.C. that are experiencing intense gentrification pressures, and where there are few, if any, historically white working-class neighborhoods available to be gentrified.

Table 18: Frequency of Gentrification by Neighborhood Category

	"Gentrifiable" tracts in 2000	Tracts that gentrified by 2017	Percentage of "gentrifiable" tracts
Predominantly white	40	18	45.0%
Mixed	32	5	15.6%
Predominantly black	110	4	3.6%
All tracts	182	27	14.8%

Gentrification in Baltimore, as in many other cities, is largely driven by a very specific group: young predominantly white people, so-called millennials, with university degrees. While they are not the only people moving into the city's gentrifying areas, they are the driving force of change. As Table 19 shows, the transformation of these areas has been paralleled by a massive increase in their number of university graduates, and in the share of their population aged 25 to 34. The share of university graduates in these tracts more than tripled, pushing the citywide share close to the national level. In 2017, 80% of the residents of downtown Baltimore had a bachelor's or higher degree, and 55% were aged 25 to 34. Map 11 shows the areas of greatest millennial concentrations, clustered around the Inner Harbor, downtown, and Johns Hopkins University.

Table 19: Change in Share of Adults with a Bachelor's or Higher Degree and Population Aged 25 to 34, 2000 to 2017

	% of Adults with Bachelor's or Higher Degree			% of Population Aged 25 to 34		
	2000	**2017**	**CHANGE**	**2000**	**2017**	**CHANGE**
Gentrifying census tracts	19.9%	67.0%	237.2%	20.2%	36.3%	79.7%
Baltimore City	19.1%	30.4%	59.2%	14.4%	18.6%	29.2%
United States	24.4%	30.9%	26.6%	14.0%	13.7%	-2.1%

38 For Chicago, see Hwang, Jackelyn, and Robert J. Sampson. "Divergent pathways of gentrification: Racial inequality and the social order of renewal in Chicago neighborhoods." American Sociological Review 79:4 (2014): 726-751.For Philadelphia, see Moselle, Aaron and Annette John-Hall. "The surprising truth behind the racial dynamics of gentrification in Philly" Philadelphia, PA: WHYY, March 13, 2018. https://whyy.org/articles/surprising-truth-behind-racial-dynamics-gentrification-philly/ For New York and Chicago, see Timberlake, Jeffrey M., and Elaina Johns-Wolfe. "Neighborhood ethno-racial composition and gentrification in Chicago and New York, 1980 to 2010." Urban Affairs Review 53:2 (2017): 236-272;. For St. Louis, see Swanstrom, Todd, Henry S. Webber and Molly W. Metzger. "Rebound neighborhoods in older industrial cities: The case of St. Louis" in Brown, Alexandra, David Buchholz, Daniel Davis and Arturo Gonzalez, ed. Economic Mobility: Research & ideas on Strengthening Families, Communities and the Economy. St. Louis, MO: Federal Reserve Bank of St. Louis and Board of Governors of the Federal Reserve System (2016) and Mallach, Alan and Karen Beck Pooley. "What drives neighborhood revival? Qualitative research findings from Baltimore and St. Louis." Cambridge, MA: Lincoln Center of Land Policy, Working Paper WP18AM12018 (2018).

Gentrification in Baltimore has resulted in two separate population declines. The number of black households living in these tracts has dropped slightly, while the lower-income white population in the area has dropped by far more, as both have been increasingly replaced by more affluent white residents.

The number of black residents has dropped from its historic peak in most, although not all, of the gentrifying tracts. To provide a perspective on this, the trends from 1980 to the present for total population and black population, and the average annual change in each by decade, are shown in Table 20. The table shows that the black population in these tracts increased from 1980 to 2000, and has since declined, at a slightly faster but still moderate rate, to where their black population share is now roughly the same as it was in 1980. In contrast, total population (largely non-Latinx white) declined from 1980 to 2000, but it has been growing back since then, adding 6,300 people since 2000.

Map 11: Millennial Concentrations in Baltimore

SOURCE: Map created by PolicyMap

The loss in black population in gentrifying tracts represents a very small part of total black population loss in Baltimore. Since 2000, over 60% of Baltimore's census tracts have seen a decline in black population, losing a total of 64,396 black residents, offset roughly in half by smaller gains in other parts of the city, most notably the Northeast Triangle. The 15 gentrifying tracts that lost black population lost a total of 5,657 black residents, slightly less than 9% of the citywide total, offset by gains of roughly 1,500 black residents in the 12 gentrifying tracts that gained black population.

Table 20: Change in Total Population and Black Population in Gentrifying Census Tracts 1980 to 2017

POPULATION TOTALS	1980	1990	2000	2010	2017
Total population	79,418	74,550	63,821	67,765	70,157
Black population	14,689	16,473	17,382	15,115	13,201
% Black	18.5%	22.1%	27.2%	22.3%	18.8%
AVERAGE ANNUAL CHANGE		**1980-1990**	**1990-2000**	**2000-2010**	**2010-2017**
Change in total population		-487	-1073	394	341
Change in black population		178	91	-227	-273

Looking at the change in the number of black households in these tracts, however, a somewhat different picture emerges. Although the black population dropped by over 4,000 from 2000 to 2017, the number of households dropped by less than 700. The number of black households increased in half of the gentrifying tracts. This reflects a drop in the size of the average black household in these areas from 2.7 to 2.3 people. In other words, much of the change was attributable to the larger black households moving out and being replaced in large part by smaller ones or, alternatively, to existing households becoming smaller, either as a result of children growing up and moving out, or elderly household members passing.

During the same period, however, these areas were losing lower-income white residents at a much more rapid pace. The number of lower-income white households, those earning $25,000 or less in 2000 adjusted for inflation in 2017,[39] dropped by nearly 3,800 households over that period, or 52%. The respective trends are compared in Table 21. Because the population of most of these areas was largely white in 2000, it logically follows that most of the impact of population change and economic change would be felt by the lower-income white population. Some market shifts are colorblind.

Table 21: Change in Number of Households in Gentrifying Census Tracts 2000 to 2017

	Households in 2000	Households in 2017	N change	% change
Black	6,430	5,740	-690	-10.7%
Lower-Income White	7,258	3,463	-3,795	-52.3%

All of this reinforces the point that "what's going on isn't displacement of the poor—it's replacement." In the absence of strong intentional action to counteract the trend, replacement becomes all but inevitable even with no overt displacement.[40] As an area attracts more affluent buyers or renters, those buyers or renters in Baltimore are more likely to be white than black. As a result, as units turn over, a progressively larger share of the new buyers or renters will be white compared to their share of the pre-existing owners or tenants, or they will be affluent white households rather than lower-income ones, white or black. The change is consistent with the premise that that is indeed what is taking place.

39 That income level roughly corresponds to 80% of the citywide median. I compared the number of households earning that level in 2000 with the number earning $35,000 in 2017, a difference that approximately tracks the rate of inflation over that period.

40 As noted earlier, the term "displacement" with its inference that the families involved were involuntarily displaced, e.g., compelled to leave because of rehabilitation, condominium conversion, or some similar reason associated with price appreciation. While I have no information on whether or not this has taken place in any of these neighborhoods, the central point here is that the outcomes visible in the data can easily be explained by turnover processes without any involuntary displacement taking place.

Tenants are more strongly affected by market change than homeowners. Turnover among tenants is far higher than among homeowners. The duration of the average tenant's stay in the same unit in Baltimore is two years, compared to 15 years for homeowners. Moreover, while homeowners may find themselves under pressure to sell, they nonetheless are likely to benefit economically from the appreciation taking place in the neighborhood and have the option to stay in their home. Tenants lack these options.

As a result, these neighborhoods are seeing not only a gradual but steady decline in the number of black tenants as they are replaced by white tenants or buyers, but also a highly uneven and variable pattern in the number of black homeowners. In some neighborhoods, including Greenmount West and Bolton Hill, the number of black homeowners has increased.[41] This is not taking place in other gentrifying tracts, but the data suggest that has less to do with homeowners being more likely to move out and more to do with the fact that there are few black homebuyers moving into these neighborhoods. In 2017, 1,287 homebuyers received mortgages to buy homes in the city's gentrifying neighborhoods; of this total, only 83 (6%) were black homebuyers. Almost half of all white homebuyers in Baltimore that year bought their homes in one or another of these 27 tracts, compared to 1 out of 20 black homebuyers.

Finally, the data presented here describes where gentrification, as defined earlier, has already led to measurable change, although in many areas it remains a work in progress. Over the coming decades, depending on many different factors, gentrification may extend beyond the existing tracts. If so, based on past experience not only in Baltimore but also elsewhere, it will move slowly and incrementally into areas adjacent to those already gentrifying. Whether and to what extent this happens, however, will depend not only on what happens inside Baltimore, but on regional, national and even global economic and demographic trends. While prediction is inherently difficult, careful analysis of year-by-year data on sales prices, building permits, and other measures should allow city officials and others concerned with this issue to identify emerging trends, and begin to frame intentional strategies not to prevent change from happening, but to the extent feasible, mitigate the harms and maximize the benefits of change for existing residents and other lower-income Baltimoreans.[42]

IV. CLOSING COMMENTS

The most powerful single conclusion that flows from the preceding pages is that, when it comes to neighborhood trajectories in Baltimore, race trumps income. If one looked at two Baltimore neighborhoods in 2000 that were all but identical in their social and economic characteristics, but one was largely white and the other largely black, that one piece of information would be enough to predict with high probability where each would stand relative to the other in 2017 or 2020. As a matter of equity and social policy, this is undesirable and unacceptable; in order to address it constructively, however, we must acknowledge its reality.

The second conclusion is the magnitude of the loss of black households from out-migration. Although Baltimore had a net loss of some 30,000 black residents from 2000 to 2017, that is the tip of a much larger iceberg. Looking at roughly 60% of neighborhoods that lost black population, these neighborhoods lost over 60,000 black residents; when one adds that the excess of births over deaths in city's black population was over 20,000 during that period, the sheer magnitude of the population shift becomes apparent. As black households have either moved from inner neighborhoods to outer ones, particularly to the Northeast Triangle, inside the city, or left the city entirely, large numbers of traditionally black neighborhoods have lost population. They have become poorer as their middle-class residents have left, and are seeing the changes that typically follow sustained population loss—dropping house values, declining homeownership rates, higher vacancy rates, and rising abandonment.

41 It is worth noting that, according to the most recent available HUD data, nearly 30% of the households in Greenmount West and slightly more than 50% of the renter households live in subsidized housing, either in affordable housing developments or as holders of Housing Choice Vouchers.

42 Although beyond the scope of this project, careful analysis of some of the datasets used in this report, particularly in terms of recent sales price trends, might potentially provide clues to emerging areas of gentrification.

These shifts are most pronounced in the roughly 30% of the city's census tracts that are predominantly black and where the median household income is between 60% and 100% of the citywide median. Many middle-income largely black areas are also struggling, but by and large are not seeing the extent of decline visible in the moderate-income neighborhoods. Many are showing signs of decline, however, and strategies to arrest their decline are likely to be important in order to help them maintain or regain stability.[43]

At the same time, the city's white population is moving in the opposite direction. While Baltimore is still losing white working-class and middle-class families, it is gaining affluent ones, in particular young so-called millennials with university degrees and highly marketable skills. White households also represent a much larger part of the homebuyer market than black ones. As noted earlier, the rate of white in-migration into Baltimore is significantly higher than that of black in-migration, while in recent years the number of white homebuyers in the city has been much greater than the number of black homebuyers.

Add to this picture the painful reality that white homebuyers are far less likely to buy homes in predominantly African American neighborhoods than in neighborhoods that are either predominantly white or racially mixed, and the full extent of the market disparity becomes clear. The continued reality of racial discrimination, whether with respect to real estate sales, mortgage lending or any other factor, simply adds further pressure to an already severely imbalanced situation.

The upshot is that a relatively small number of neighborhoods are seeing increased investment and homebuying activity, and a much larger number are either treading water or declining. The great majority of white homebuying activity is going into those areas like Roland Park that were stable upper-middle or upper-income areas in 2000 (about 9% of Baltimore's census tracts) and the roughly 14% of the city's tracts that have significantly gentrified since then.

From the standpoint of public and social policy, the city of Baltimore faces three distinct neighborhood challenges. First and foremost among these, I believe, is the challenge of stabilizing and reversing the decline of as many as possible of the city's struggling predominantly black moderate- and middle-income neighborhoods. This is both a physical and an economic problem, and as such, poses a classic conundrum. Without greater income and wealth-building opportunities for their residents, it is unlikely that the neighborhoods can truly become stabilized. At the same time, if their residents gain new skills and better jobs, open successful businesses, and then leave their neighborhoods, they benefit, but their neighborhoods, and for the most part the city of Baltimore, do not.

Along with economic opportunity strategies, this calls for a determined effort to improve the quality of life in these neighborhoods—a term that encompasses their physical environment, public safety, quality education, and more—to make them better places for everyone regardless of their income and education, and to make them places where people who have the ability to choose among neighborhoods, and can afford to move either to other parts of the city or its suburban surroundings, will choose to stay or move into. The strategic framework recently released by the city's Department of Housing and Community Development is an important step in this direction.

This discussion underscores the central role that the loss of working- and middle-class families plays in fostering neighborhood decline in Baltimore. If that loss is to be stemmed, and in time reversed, all public, private, and nonprofit stakeholders must ask the two-part question: Why are they leaving, and what can be done to change the conditions that are prompting them to leave?

---

43 Many of this group of neighborhoods fit into the neighborhood cluster that the City's Department of Housing and Community Development refers to as SCENs, or Strategic Code Enforcement Neighborhoods, and as such, have been a major part of the City's Vacants to Value strategy. While that strategy has been highly effective, in the narrow sense of it having led to rehabilitation and reuse of large numbers of vacant properties in those areas, it has not in most cases changed their trajectory, making clear that the emergence of vacant properties in these neighborhoods is more a symptom than a cause of their underlying problems.

The second challenge is to ensure the long-term stability of the areas where black homebuyers have been moving in recent years. The largest cluster of these areas is in the Northeast Triangle, but a smaller number of other neighborhoods, such as Ashburton and Howard Park in the northwestern part of the city, are also drawing black homebuyers. These neighborhoods are important to the city of Baltimore. Not only are they attractive neighborhoods, in most cases with detached single-family homes very different from the iconic Baltimore row house, but also they are the areas where, to the extent that black middle-class families are staying in the city, most are moving. These areas represent a key reservoir of stable property values, tax revenues, and engaged citizens. Maintaining their vitality, by making sure that they continue to offer a high level of amenity value, including not only good schools and public safety, but also attractive, well-maintained public open space, strong commercial hubs or corridors, and strong neighborhood institutions, should be an ongoing effort. No one should assume that they will "take care of themselves."

Finally, the issue of present and future gentrification represents both an opportunity and a challenge for Baltimore. From many perspectives, the market transformation of the areas around the Inner Harbor, downtown, and the Johns Hopkins campus is a positive trend for the city. Compared to the nation, and even more markedly when compared to its surrounding counties, Baltimore, despite its progress in recent years, remains a very poor city. Household incomes and property values are far lower than in the surrounding area, and the city lacks the resources to address its daunting challenges. For the city's fiscal and economic survival, it needs to draw and hold an economically diverse population, and attract investment in homes, multifamily housing, and commercial properties.

Moreover, it is important to remember a basic principle: neighborhoods change. With the arguable exception of perhaps the most stable high-income and the most distressed areas, neighborhoods are in constant flux. They change economically, they change culturally, and their racial or ethnic mix changes. To hope to freeze any neighborhood in its economic, social, and racial configuration of a particular moment in time is an exercise, whatever one's intentions, that is bound to fail.

Baltimore is arguably fortunate in at least one respect, in that the modest scale and gradual pace of gentrification in Baltimore compared to magnet cities like Washington D.C. or Seattle mean that any household that is priced out of one area may still find housing in other parts of the city, often nearby. That may be poor consolation for a family that has deep roots in a particular neighborhood, but it does make an economic difference. Moreover, it is important to acknowledge the difference, as noted earlier, between displacement and replacement. The process of population change in gentrifying neighborhoods may not involve any overt action to push people out; in a separate 2016 analysis, I found no relationship between the volume of evictions and the rate of increase in rent levels, and a negative relationship between evictions and increases in household income as a proxy for gentrification.[44] Recent research from New York City, a city with far more intense market pressures than Baltimore, found that gentrification did not affect the household mobility rates of low-income families.[45]

Cities cannot freeze neighborhoods or tenants in place, nor is it likely to be a sound strategy even if it were possible. At the same time, the city should encourage production of long-term affordable housing in areas undergoing gentrification, in order to create a pool of units that are not driven by the market pressures on those areas, and work with both tenants and landlords to encourage increased use of housing vouchers in those areas. At present, few of the city's gentrifying neighborhoods have more than a handful of subsidized units. Only in Greenmount West and Bolton Hill do subsidized units, including vouchers, make up more than 25% of the neighborhood's rental housing stock.

---

44 I realize that eviction is far from the only form of action that leads to displacement. It is, however, the one form of action that can be directly measured, and logic would suggest that if involuntary displacement were taking place to any significant degree, it would be reflected in the eviction statistics.

45 Kacie Dragan, Ingrid Ellen, and Sherry A. Glied. "Does Gentrification Displace Poor Children? New Evidence from New York City Medicaid Data." NBER Working Paper No. 25809, May 2019.

In closing, I recognize the magnitude of the city's task in addressing its neighborhood challenges. Although the city and its partners have accomplished a great deal in recent years, far more needs to be done. I hope that this analysis, which I believe is the first detailed, factually grounded analysis of the city's neighborhood conditions and trends, will be a valuable resource in that effort.

APPENDIX I: METHODOLOGY

Whenever one conducts a study of neighborhood conditions and trends, particularly in a city as large as Baltimore, one must begin by making a series of decisions of how to divide the city into neighborhoods, and how to organize those neighborhoods for purposes of the study. There is no simple right or wrong way to do this, as one can offer some rationale for a variety of different approaches. Generally speaking, though, the choices must be reasonable, and they must end up with the data being organized into a small enough set of categories so that it is manageable and comprehensible.

The first step is dividing the city into neighborhoods. The Baltimore Planning Department has divided the city into over 200 Neighborhood Statistical Areas (NSAs). Although at times perhaps arbitrary, this breakdown probably represents the closest parallel to how Baltimoreans define the neighborhoods they live in. However, the NSA boundaries do not correspond to census tracts, the standard unit by which almost all small-area data are compiled. As a result, obtaining and assembling data on neighborhood change by NSA would be an extraordinarily time-consuming and difficult process, which would also require many compromises with data quality and availability. Conversely, the Baltimore Neighborhood Indicators Project has divided the city into 55 Community Statistical Areas, for which it provides an awesome body of datasets. Those areas, however useful they are for many purposes, are too large—and often contain within them subareas of widely varying character—to be most useful for the purposes of this study. In the end, I decided to use census tracts, the unit created and used by the U.S. Census Bureau for small-area analysis. With the city divided into nearly 200 tracts, they are small enough to be meaningful and relatively homogenous and have the advantage that nearly all datasets are available by census tract.[46] While census tracts are not the same as the NSAs, they are often roughly comparable to the neighborhoods designated by the city; thus, when I refer to a neighborhood by name in this report, the reader should understand that I am referring to areas that are approximately the same as that named neighborhood, not identical.

To try to show separately how each of the 200 census tracts did or did not change between 2000 and 2017 would not only be unwieldy and unduly time consuming, but also result in a report that would be so detailed it would be meaningless except as a reference document. In order to provide meaningful results, I segmented the city's census tracts into categories based on race and economic condition. With respect to race, I used the percentage of black population, and with respect to economic level, I used the median[47] tract household income. I looked at data for 2000, 2010, and 2017. After exploring a number of alternatives, I arrived at the breakdown shown in the matrix that follows, based on income ranges relative to the citywide median household income. I will use the descriptive terms for the economic and racial composition of the city's neighborhoods shown in the matrix frequently in the report.

46 Another small advantage of using census tracts is that it allows one to make comparisons with the data provided in the NCRC report cited earlier. In order to be able to compare census tract data over time, I have utilized the Neighborhood Change Data Base created by Geolytics, Inc., which normalizes data by census tract boundaries for each decade from 1970 to those used since 2010.

47 Median refers to the midpoint of a range of numbers, defined as that number where half of the numbers are lower and half are higher. It is different from average, which is the sum of the numbers divided by the number in the range.

Table 1: Neighborhood Category Matrix by Economic Level and Racial Composition

Economic Composition		Racial Composition		
Neighborhood Type	Range[48]	0-29.9% Black	30-69.9% Black	70-100% Black
		Predominantly White	Mixed	Predominantly Black
Low Income	0-59.9%			X
Moderate Income	60-99.9%	X	X	X
Middle Income	100-149.9%	X	X	X
Upper-Middle Income	150-199.9%	X	X	X
Upper Income	200%+	X		

The matrix offers a total of 15 possible neighborhood categories. The actual number of categories is 11, as shown by "X" in the table.[49] There are no census tracts (e.g., predominantly white low-income tracts) in the other categories. The income ranges—that is, the range within which the tract median falls—for the three time periods looked at are shown in Table 2. A tract that had a median income of $40,000 in 2000 would be considered middle income, and if its median fell to $35,000 in 2010, it would be considered moderate income at that point. The greater part of the data that I used comes either from the decennial (every 10 years) census, or from the American Community Survey (ACS), an annual survey of a sample of households conducted by the U.S. Census Bureau.[50] The ACS provides data on demographics and economic condition of residents, as well as housing data, such as homeownership rates or vacancy data. To supplement these data, I used housing market data acquired from CoreLogic, including sales prices and volumes, and the split between owner-occupant and investor buyers, by census tract.

Table 2: Income Ranges by Neighborhood Type for 2000, 2010, and 2017

NEIGHBORHOOD TYPE	RANGE	2000	2010	2017
Low Income	0-59%	$0-$18,046	$0-23,631	$0-27,984
Moderate Income	60-99%	$18,047-30,078	$23,632-39,386	$27,985-46,641
Middle Income	100-149%	$30,079-45,117	$39,387-59,079	$46,642-69,961
Upper-Middle Income	150-199%	$45,118-60,156	$59,082-78,772	$69,962-93,282
Upper Income	200%+	$60,157+	$78,773+	$93,283+
Citywide Median		$30,078	$39,386	$46,641

SOURCE: 2000 Decennial Census, 2006-2010 and 2013-2017 American Community Survey

48 I explored using different ranges, particularly ranges that were distributed more evenly relative to the citywide median (such as 0-49%, 50-79%, 80-119%, 120-149%, and 150%+), but found that because the citywide median is so low relative to the metro-area median as well as the national median, that would result in ranges that were lower than what it reasonably means to be "middle" or "upper" income in that larger context. Baltimore's median income is roughly 80% of the national median, so 100-149% of the Baltimore median is equivalent to 80-120% of the national median.

49 There was a single census tract in the low-income/mixed category. It did not show significant change in either economic level or racial mix over the study period.

50 Because of the small size of the ACS samples, annual data is not provided at the census tract level. Instead, the U.S. Census Bureau combines data for five-year periods (referred to as the "Five-Year American Community Survey"), which it provides for census tracts. With respect to income data, the data for earlier years are inflated to the last year in the series; therefore, the data shown in Table 2, even though they are for a five-year period, measure the income for the years shown in the table.

APPENDIX 2: CORRELATIONS BETWEEN ECONOMIC, DEMOGRAPHIC, AND HOUSING-MARKET FACTORS

Over the preceding pages, we've described how change in a variety of areas—population change, change in house values, homeownership, and more—varies depending on the type of neighborhood, based on neighborhood income and racial distribution.

But the important thing about all of these different factors is that they are not independent of one another—they are related. How one changes affects, to varying degrees and in varying directions, what happens to the others. Homeownership rates, sales prices, incomes, vacant properties, and the share of investor buyers all affect each other in different ways. In order to tease out these relationships, statisticians use a simple measure known as correlation, which measures the extent to which the relationship between the distributions of two factors, or variables, is likely to be the product of chance, or reflects some actual relationship or connection between the factors. A correlation can be positive, when both variables move in the same direction, such as the proximity of a place to the equator and the average temperature in that place; or it can be negative, when both variables move in the opposite direction, such as the proximity of a place to the equator and its average annual snowfall. A correlation of 0 reflects pure chance, or no relationship; a correlation of 1 reflects absolute identity between the distribution of two factors. In real life, of course, nothing is likely to have a correlation of either 0 or 1, but the higher the number, the stronger the relationship between the two variables.[51]

As is well known, correlation does not mean causality. Just because there is a relationship between two factors does not prove that Factor A caused Factor B, or vice versa. Figuring out what factors caused other factors is far more complicated and uncertain than simply showing that they are related to each other. That said, finding a strong correlation between two factors tells us that something meaningful is going on here, and that it may be worthwhile to look more closely at them, and to think about what that relationship may indeed mean regarding the future of the city's neighborhoods.

To illustrate this point, I have calculated correlations for a cluster of factors in Baltimore's middle-income neighborhoods, which I show in Table 1 for each of the subcategories of middle-income neighborhoods, with correlations color-coded in three categories: weak (more than 5% probability of chance), moderately strong (1%-5% probability of chance), and very strong (less than 1% probability of chance).

Looking first at the cluster of predominantly white middle-income neighborhoods, I see that the correlations between the factors are, with few exceptions, very strong. As incomes go up, white populations go up, sales prices go up, homeownership levels go up, and the share of investor buyers goes down. These are all quite consistent with what is known about the dynamics of change, and the conditions in Baltimore. That sales prices should go up with higher incomes is clearly to be expected, while, because I've shown the city's white population is becoming increasingly affluent, the further correlation between increase in white population, incomes, and sales prices is logical. As sales prices go up, the share of investor buyers goes down, perhaps because if prices are too great a multiple of the rent roll, the investor's return on an investment will become too small. Investors typically look for markets where the ratio between the sales price and the annual rent roll is low enough to ensure a decent return on equity.

51 The way the strength of a relationship is measured in correlation is by determining the probability or likelihood that the relationship is the product of chance from 100% to, say, 0.00001%. So, when I say that a relationship is significant at the 0.01 (or 1%) level, the probability that the relationship is the result of pure chance is only 1%; in other words, there is a 99% probability, or likelihood, that there is a relationship between the two variables and only a 1% likelihood that it is pure chance. For practical purposes, statisticians generally consider anything with a probability of the relationship being a product of chance of 10% or more as not being statistically meaningful.

Table 1: Correlations Between Selected Variables for Middle-Income Neighborhoods

PREDOMINANTLY WHITE MIDDLE-INCOME NEIGHBORHOODS

	INCOME Δ	BLACK POP Δ	WHITE POP Δ	SALES PRICE Δ	SALES VOLUME 2017	INVESTOR BUYERS 2017
BLACK POP Δ	-.4257					
WHITE POP Δ	.6506	-.5018				
SALES PRICE Δ	.8303	-.4540	.6199			
SALES VOLUME 2017	.3158		.7129	.3735		
INVESTOR BUYERS 2017	-.6370	.3942	-.5072	-.6642	-.3758	
HOMEOWNER Δ	. 4475		.6772	.5501	.6537	-.3492

MIXED MIDDLE-INCOME NEIGHBORHOODS

	INCOME Δ	BLACK POP Δ	WHITE POP Δ	SALES PRICE Δ	SALES VOLUME 2017	INVESTOR BUYERS 2017
BLACK POP Δ	-.1708					
WHITE POP Δ	.3718	-.8005				
SALES PRICE Δ	.7525	-.4224	.4217			
SALES VOLUME 2017	.5611	.2158	-.2452	.5064		
INVESTOR BUYERS 2017	-.4176	.1229	. 2712	-.5223	.0841	
HOMEOWNER Δ	.4871	.6018	-.3230	.2780	.4098	-.4394

PREDOMINANTLY BLACK MIDDLE-INCOME NEIGHBORHOODS

	INCOME Δ	BLACK POP Δ	WHITE POP Δ	SALES PRICE Δ	SALES VOLUME 2017	INVESTOR BUYERS 2017
BLACK POP Δ	.2201					
WHITE POP Δ	.1882	-.5686				
SALES PRICE Δ	.3402	. 3346	.1043			
SALES VOLUME 2017	.2001	-.3142	.2452	. 1559		
INVESTOR BUYERS 2017	-.3202	-.2965	-.0452	-.7333	-.0203	
HOMEOWNER Δ	.4596	-.1410	.6954	. 3322	. 0738	-.3196

Relationship statistically significant at the .01 level

Relationship statistically significant at the .05 level

Relationship not significant at the .05 or stronger level

The correlations in the mixed and predominantly black middle-income neighborhoods are far less strong than in the predominantly white middle-income neighborhoods. So, while there is a similar relationship between rising incomes, higher sales prices, and fewer investor buyers in predominantly black middle-income neighborhoods, it is weaker—particularly with respect to sales price—than in the white middle-income neighborhoods. That reflects the painful reality that predominantly black neighborhoods throughout the United States pay what could be called a "discrimination tax" or "segregation tax," indicating how the real estate market perceives predominantly black neighborhoods, in which homes in largely black neighborhoods will carry lower market values than those in predominantly white neighborhoods of comparable social and economic character.[52]

Along similar lines, it is worth noting that greater sales activity measured by sales volume in largely white tracts is strongly linked to higher prices, along with significant declines in the share of investor buyers and increases in the share of homeowners, but the same is not true in predominantly black tracts. This suggests that the housing markets are working quite differently in the two categories of neighborhood, and indeed, may raise a question about the efficacy of some possible strategies to increase market activity in the latter areas.

While the relationships between these and other variables could be explored in far greater detail, that would be beyond the scope of this report. The key point I want to make here, though, is that there are many relationships between the different elements that go into neighborhood change, that they are complex, and above all, that they do not work the same way in all situations or conditions. This, in turn, reinforces the important policy point that a given neighborhood stabilization or revitalization strategy will not work the same way in different neighborhoods, because its outcomes are not simply a product of the strategy itself, but a product of the interaction between the strategy and the particular conditions of the neighborhood.

52 For a recent report documenting this reality nationally, see Andre Perry, Jonathan Rothwell and David Harshbarger, "The Devaluation of Assets in Black Neighborhoods," Washington DC: Brookings Institution (2018), available at https://www.brookings.edu/research/devaluation-of-assets-in-black-neighborhoods/.