



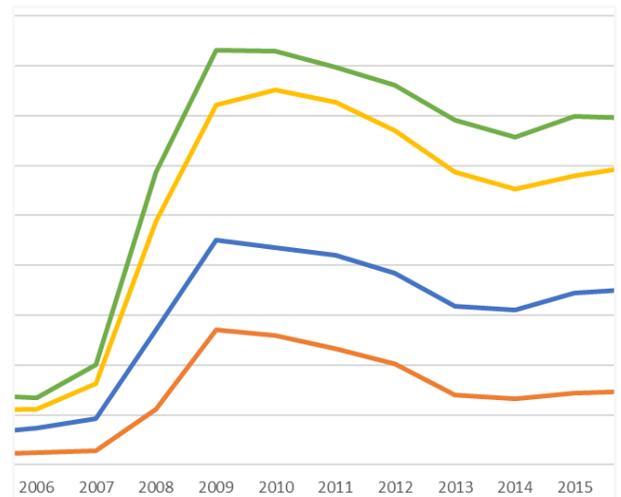
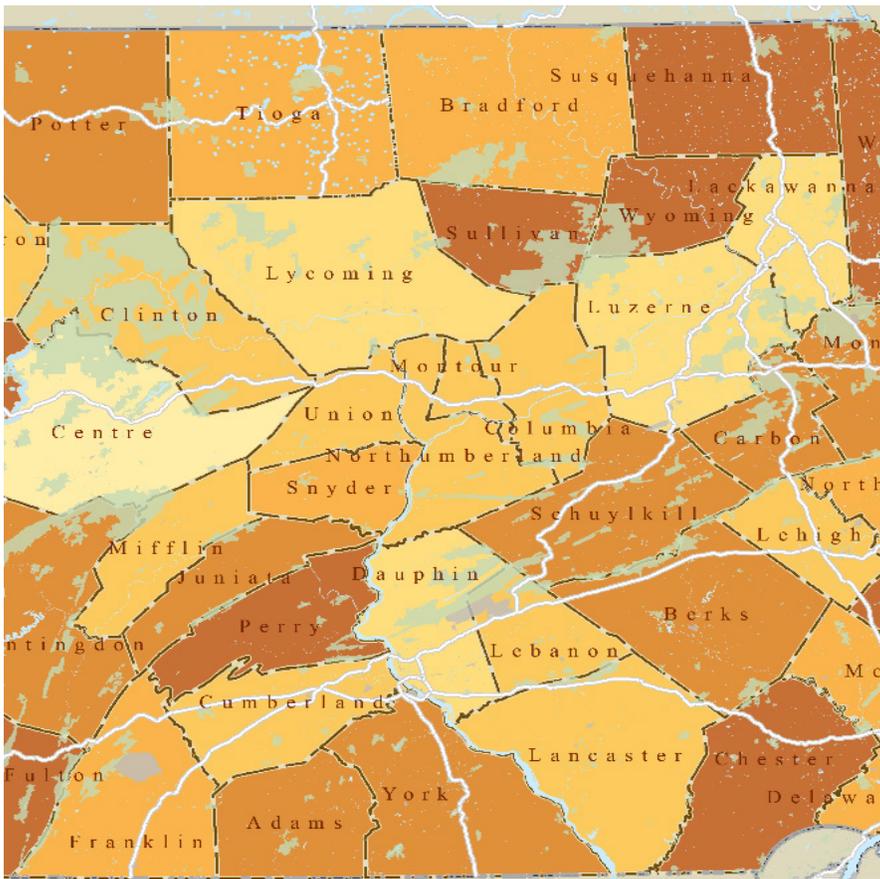
# REINVESTMENT FUND



## Understanding 21st Century Gaps in Homeownership Between White and non-White Households in Pennsylvania

Prepared by **REINVESTMENT FUND**

Published **JULY 2020**



### RESEARCH CONDUCTED BY

Policy Solutions at Reinvestment Fund

Michael Norton, Chief Policy Analyst

Colin Weidig, Senior Policy Analyst

Michelle Schmitt, Senior Policy Analyst

## Understanding 21<sup>st</sup> Century Gaps in Homeownership Between White and non-White Households in Pennsylvania

20<sup>th</sup> century residential real estate development across the United States resulted in durable patterns of racial and economic segregation that persist into the 21<sup>st</sup> century. With the elimination of de jure discriminatory practices in residential real estate through passage of the Fair Housing Act, the Community Reinvestment Act, data reporting mandated under the Home Mortgage Disclosure Act, and the Federal Housing Enterprises Regulatory Reform Act, non-White homeownership rates steadily increased in the latter part of the 20<sup>th</sup> century, peaking at the height of the subprime mortgage boom around 2005/06.

Many of the gains that non-White borrowers made in homeownership at the turn of the 21<sup>st</sup> century were driven by easy access to subprime loans, which carried higher costs and greater risk than government insured or conventional mortgages. As a result, the mortgage market collapse of 2008 disproportionately impacted non-White homeowners and their communities, who were substantially more likely to experience mortgage distress and foreclosure than White borrowers and predominately White communities.

Since 2010, housing markets across the United States have rebounded at uneven rates of growth. This pattern has been particularly evident in Pennsylvania, whose major metropolitan areas were hit hard by the housing market collapse. At the height of the collapse, a number of statewide and local efforts worked to support struggling homeowners. Pennsylvania Housing Finance Agency's decades old Homeowners' Emergency Mortgage Assistance Program (HEMAP) helped distressed borrowers remain in their home, and Philadelphia's Foreclosure Diversion program helped mitigate losses to individuals and communities throughout the foreclosure crisis.

In 2019, the Pennsylvania Housing Finance Agency (PHFA) commissioned a statewide housing study to better understand the contemporary conditions of real estate markets across the state. In addition to the statewide study, PHFA also supported a series of sub-analyses to better understand particular sectors of the Pennsylvania housing market. This brief is divided into the following sections, which provide an overview of changes in minority (i.e., non-White) homeownership in Pennsylvania in the 21<sup>st</sup> century:

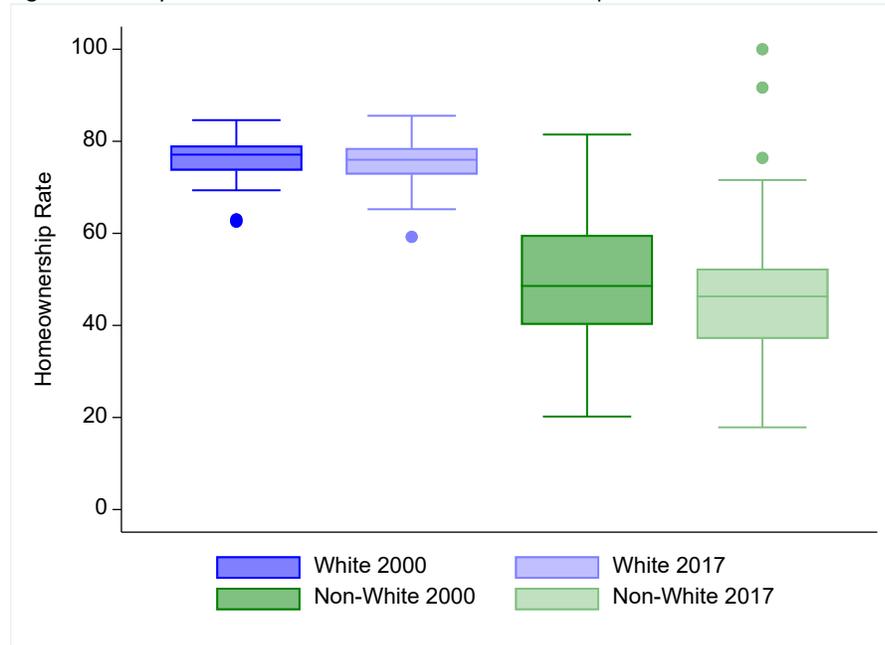
1. Section I presents a statewide overview of the variation in homeownership trends between White and non-White households between 2000 and 2017.
2. Section II presents a statewide overview of mortgage trends for White and non-White borrowers between 2005 and 2016.
3. Section III presents the results of a series of analyses to identify those factors most closely associated with changes in White and non-White homeownership between 2000 and 2017.
4. Section IV presents a statewide summary and implications.
5. Appendix I presents within-county summaries of mortgage activity and changes in homeownership for Allegheny, Dauphin, Erie, Lehigh, Monroe, and Philadelphia Counties.
6. Appendix II includes supplementary data tables and maps.

The findings presented in this brief provide insights for PHFA to better understand contemporary patterns in disparities in White and non-White homeownership rates and what types of measures are most likely to narrow these gaps in the times ahead.

## I. Statewide Variation in Homeownership Rates

Overall, county-level homeownership rates in Pennsylvania have declined slightly from 75% in 2000 to 73% in 2017, on average. These declines represent the continued hangover from the housing market collapse of 2008 and have been experienced most acutely by non-White borrowers and their communities. As a result, the gap in White and non-White homeownership rates persists, and has increased slightly in the 21<sup>st</sup> century. Figure 1 presents the distribution of county-level homeownership rates for White (blue boxes) and non-White (green boxes) households in 2000 and 2017.<sup>1</sup>

Figure 1. County Level White and Non-White Homeownership Rates: 2000 and 2017<sup>2</sup>



		Obs	Mean	Std. Dev.	Min	25%	50%	75%	Max
White	2000	67	76.3	3.9	62.5	73.7	77.1	79.1	84.6
	2017	67	75.5	4.2	59.2	72.8	76.0	78.6	85.5
	Change 00-17	67	-0.9	1.4	-3.5	-1.87	-0.96	0.2	2.8
Non-White	2000	63	48.6	13.1	20.2	39.4	47.5	59.7	81.5
	2017	63	45.2	12.3	17.9	37.1	45.0	51.9	76.4
	Change 00-17	63	-3.3	8.3	-21.4	-8.12	-3.49	2.0	24.9
White - Non-White Gap	2000	63	27.6	11.1	2.7	18.0	29.3	35.3	47.3
	2017	63	30.0	10.8	2.6	36.8	31.4	36.8	56.4
	Change 00-17	63	2.4	8.1	-25.7	-2.77	1.9	7.3	19.7

The boxes in Figure 1 represent the middle 50% of Pennsylvania counties. The line within each box represents the median homeownership rate; the lines extend to either maximum and minimum values

<sup>1</sup> Throughout this memo, 2017 homeownership rates, population estimates, and socio-demographic data related to Pennsylvania counties represent the five-year American Community Survey average from 2013 – 2017.

<sup>2</sup> While there are 67 counties (labeled “Obs”) in Pennsylvania, not all counties had a sufficiency of non-White households to create reliable summary figures. The four excluded counties were Cameron, Forest, Sullivan and Potter counties. Non-White homeownership rates are presented in Figure 1 for counties with at least 50 non-White households in 2017. Additionally, the ‘gap’ measures presented in Table 1 were calculated for the 63 counties with at least 50 non-White households in 2017 – as a result, subtracting the ‘Non-White mean’ from the ‘White mean’ does not equal the ‘Gap mean’ in Table 1.

or to twice the interquartile range from the median. The dots represent outlying values that are well outside the norm for the state.

County-level homeownership rates for White households declined from 76.3% to 75.5%, on average. County-level homeownership rates for non-White households declined from 48.6% to 45.2%, on average. As a result, the average percentage point increase in the gap between White and non-White homeownership rates increased from 27.6% to 30.0% between 2000 and 2017.

Figure 1 also points to much greater variation in non-White homeownership rates across Pennsylvania counties, as seen in the size of the boxes and the standard deviations presented.

The most dramatic fluctuations in non-White homeownership rates tend to be observed in Pennsylvania counties with relatively small non-White populations. Those counties that experienced the greatest gains in non-White homeownership had, on average, 385 non-White households in their counties in 2017. Similarly, the counties that experienced the greatest percentage point declines in non-White homeownership also had relatively small non-White populations, with an average of 356 non-White households in 2017.<sup>3</sup>

Maps 1 through 4 present county level homeownership rates for White and non-White households in 2000 and 2017. It should be noted that the scales used in the following maps for the White and non-White homeownership rates are different. As seen in Figure and Table 1 above, White homeownership rates in the majority of Pennsylvania counties are greater than the highest homeownership rates for non-White households in any county in the state.

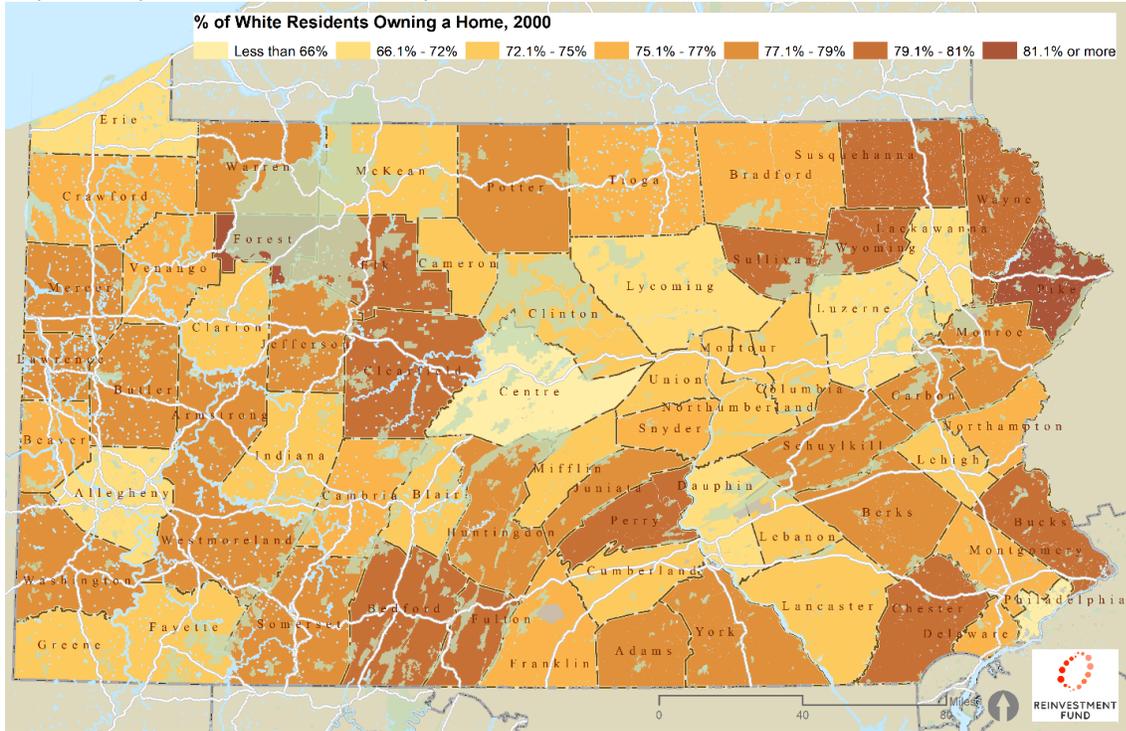
Maps 1 and 2 demonstrate that spatial patterns of White homeownership have remained relatively stable between 2000 and 2017. There are more observable changes in patterns of non-White homeownership in Maps 3 and 4, though most of the substantial changes have taken place in rather sparsely populated counties across the state.

Between 2000 and 2017, the ten largest percentage point increases in non-White homeownership were observed in Union, Fulton, Centre, Adams, McKean, Sullivan, Indiana, Snyder, Forest and Potter counties. On the other hand, the ten largest percentage point declines were observed in Carbon, Mifflin, Cameron, Jefferson, Huntingdon, Clearfield, Bedford, Susquehanna, Mercer and Juniata counties.

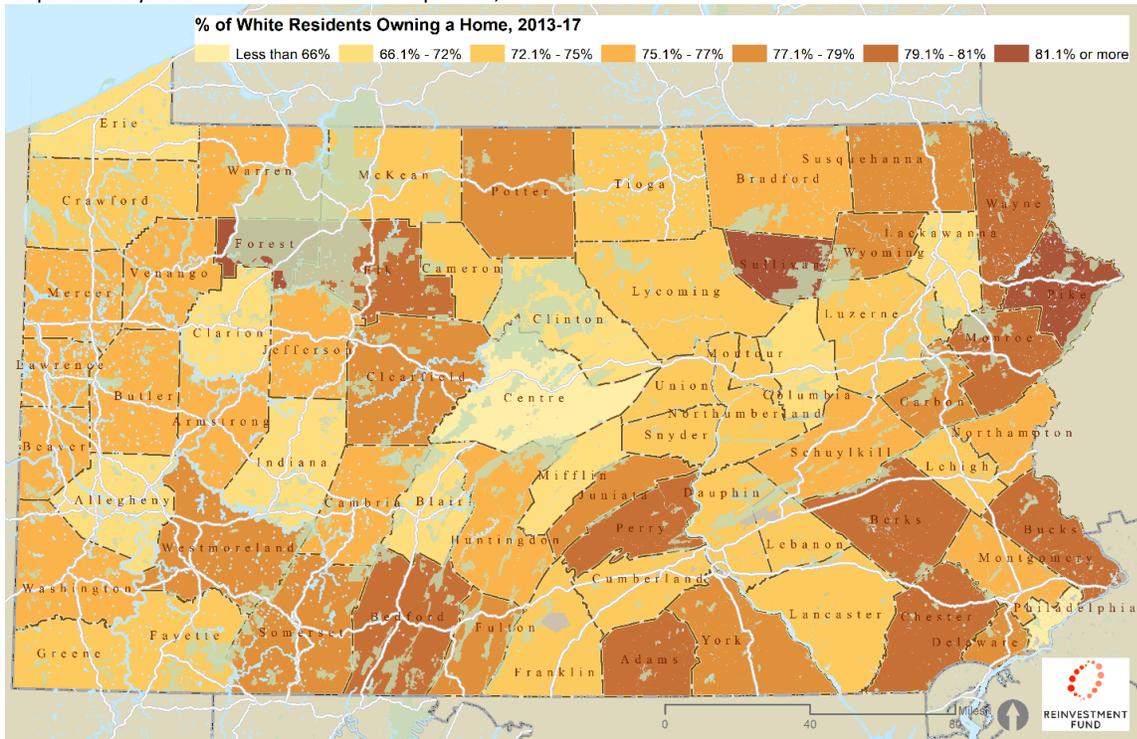
---

<sup>3</sup> See Appendix for county level tables of changes in White and Non-White homeownership rates.

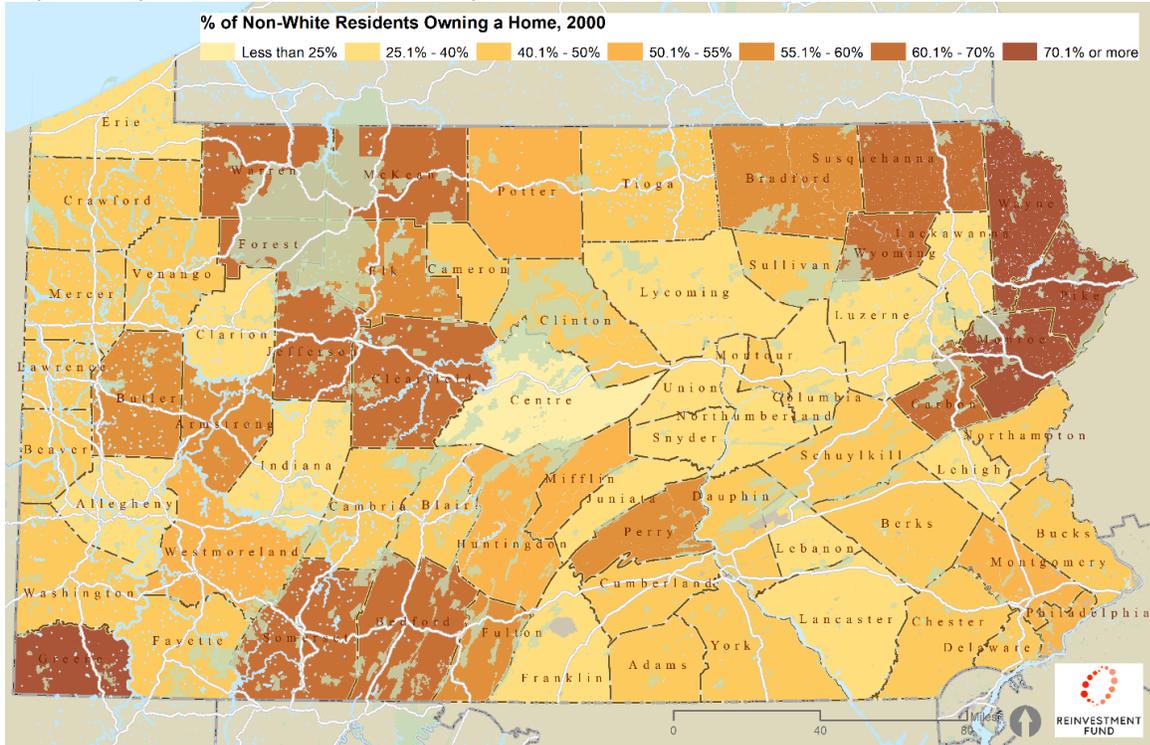
Map 1. County-Level White Homeownership Rates, 2000



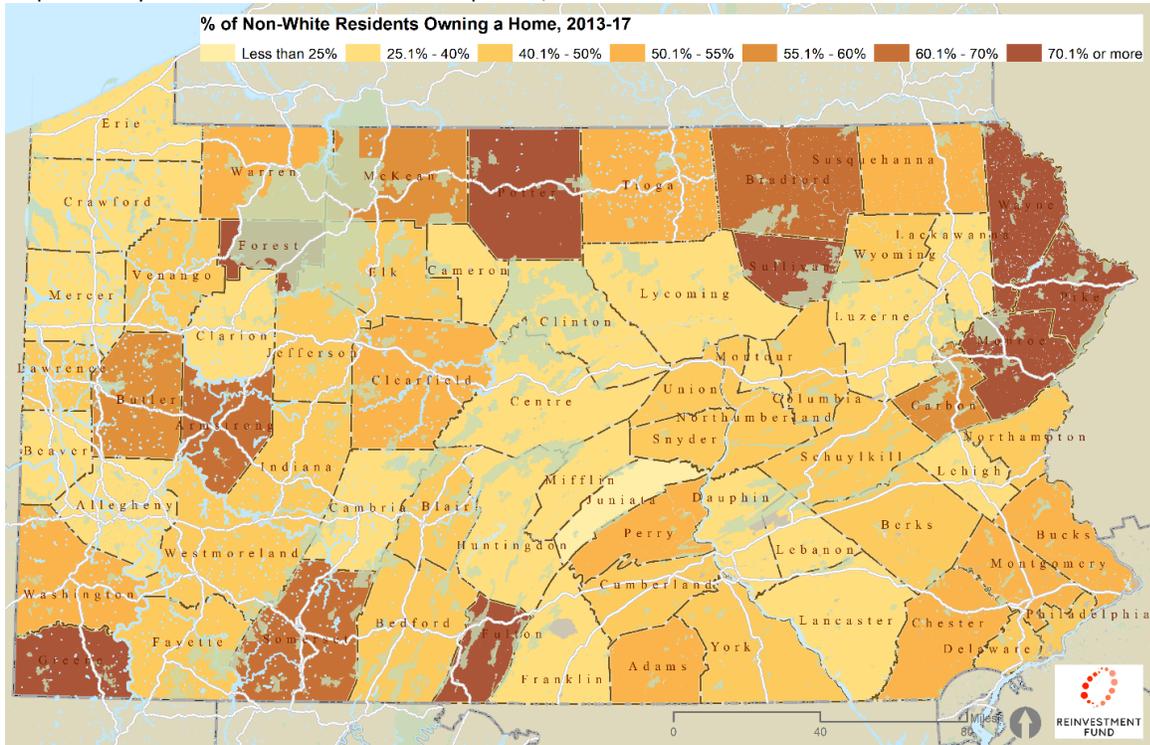
Map 2. County-Level White Homeownership Rates, 2017



Map 3. County-Level Non-White Homeownership Rates, 2000



Map 4. County-Level Non-White Homeownership Rates, 2017

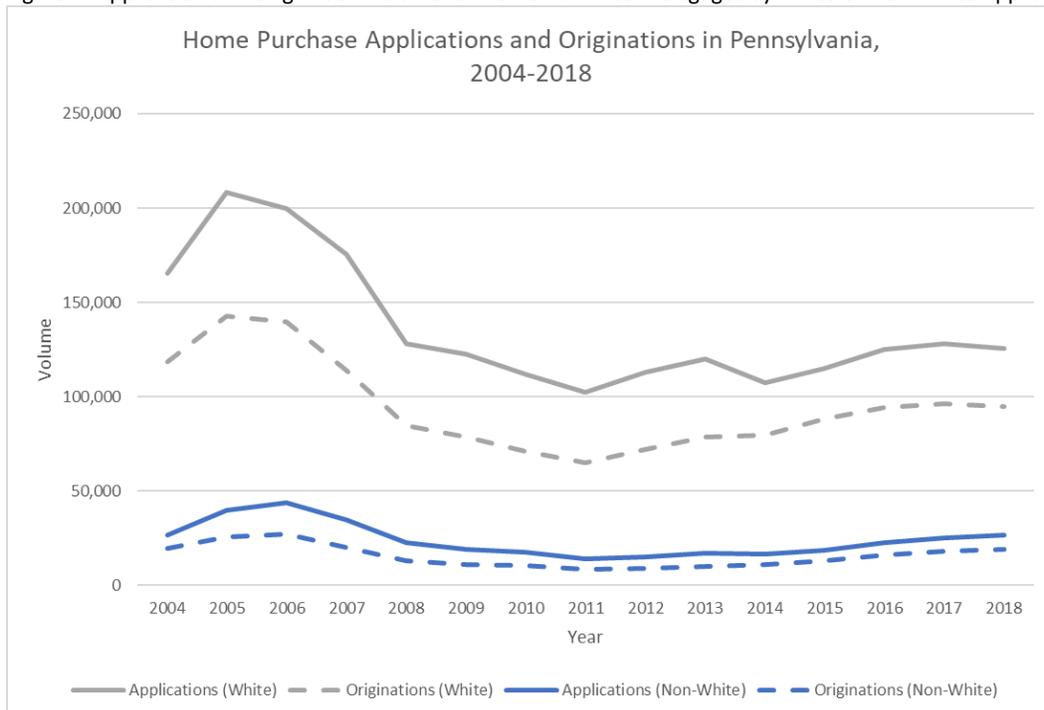


## II. Statewide Mortgage Market Trends: 2004 to 2018

One key factor contributing to the general decline in homeownership rates is an overall decline in the availability of mortgage credit for home purchases. For all racial and ethnic groups in Pennsylvania, mortgage applications and originations dropped dramatically from 2006 to 2011 and have been recovering slowly but steadily since. In addition to a general decline in the availability of credit, lending disparities between White and non-White borrowers have persisted throughout the study period. However, these disparities have only slowly decreased since 2012 as originations to non-White borrowers have steadily increased.<sup>4</sup>

Figure 2 presents the number of home purchase applications submitted and the number of home purchase originations for White and non-White borrowers from 2004 to 2018.<sup>5</sup>

Figure 2: Application and Origination Volume for Home Purchase Mortgages by White or Non-White Applicants, 2004-2018



The volume of purchase mortgage applications in Pennsylvania remains well below the 2005-2006 peak for all racial and ethnic groups. Purchase applications from non-White borrowers peaked in 2006, before declining 68% to the bottom of the market in 2011.

Since 2011, purchase applications for non-White borrowers have slowly and steadily recovered but remain well below 2006 levels; there were 17,066 fewer purchase applications from non-White borrowers in 2018 than in 2006. Applications from White borrowers have followed a similar trajectory during this time.

In 2011, non-White households represented about 14.6% of all households in Pennsylvania and accounted for roughly 12.1% of home purchase applications. By 2018, non-White households have

<sup>4</sup> The Urban Institute has found that the tight credit environment post-Recession has disproportionately affected Black and Hispanic borrowers. See <https://www.urban.org/urban-wire/tight-credit-has-hurt-minority-borrowers-most> (Accessed 2/14/2020).

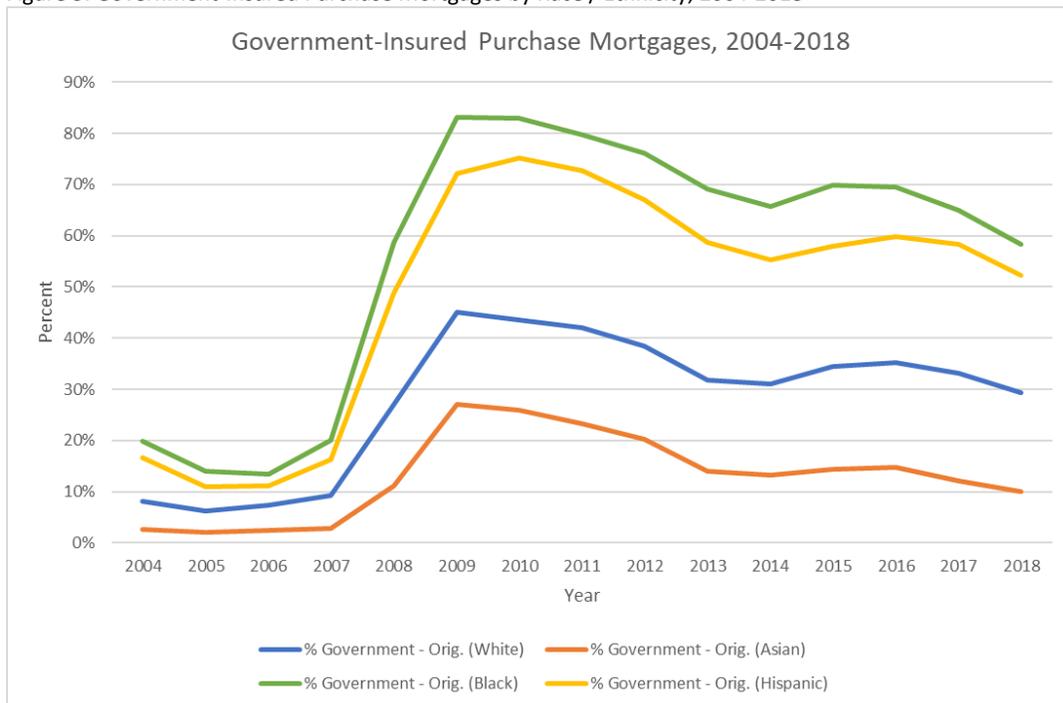
<sup>5</sup> All mortgage data presented in this memo were collected from Home Mortgage Disclosure Act data between 2004 and 2018.

increased to represent 16.6% of households, and their share of home purchase applications is roughly 17.9%. During this time, non-White borrowers' share of home purchase mortgage *originations* has increased from 11.2% in 2011 to 16.9% in 2018, higher than at any point since 2004 and roughly proportional to the share of non-White households in the overall population.

### Government Insured Lending Remains a Primary Source of Mortgages for Black and Hispanic Borrowers

Government insured lending has expanded to a much larger share of purchase originations since 2007. Figure 3 presents the market share of government insured mortgages (FHA or Veterans Affairs) for White, Asian, Black and Hispanic borrowers in Pennsylvania for home purchase originations between 2004 and 2018.

Figure 3: Government-Insured Purchase Mortgages by Race / Ethnicity, 2004-2018



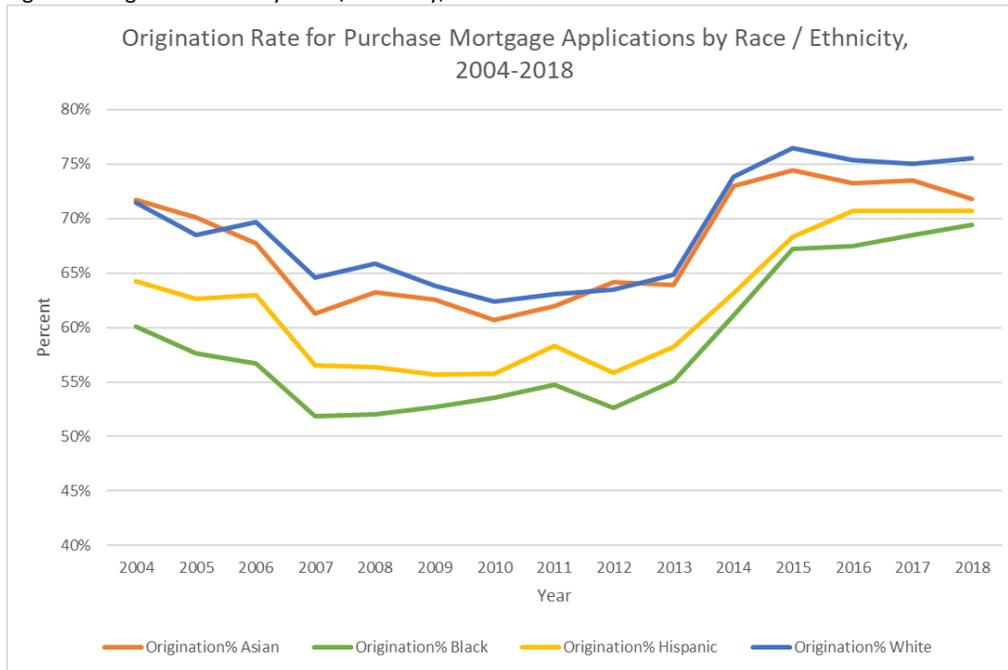
In 2018, government insured mortgages continued to make up a substantially greater share of all home purchase originations for all racial and ethnic groups than before the housing market collapse in 2007. The share of government insured purchase mortgages increased markedly from 2007 to 2009 and has gradually declined since.

For Black and Hispanic borrowers, government insured mortgages make up a substantially larger share of all home purchase originations than for Asian or White borrowers, and government insured mortgages have continued to represent more than 50% of mortgages obtained by Black and Hispanic home purchase mortgage borrowers in 2018 (compared to 29% for White borrowers and 10% for Asian borrowers).

## Origination Rates for White and Asian Borrowers Continue to Exceed Black and Hispanic Borrowers

Although purchase applications are down across all racial and ethnic groups, origination rates for all racial and ethnic groups have risen since the last recession to their highest levels in any previous year. Figure 4 presents the origination rates for White, Asian, Black and Hispanic borrowers in Pennsylvania for home purchase originations between 2004 and 2018.

Figure 4: Origination Rate by Race / Ethnicity, 2004-2018



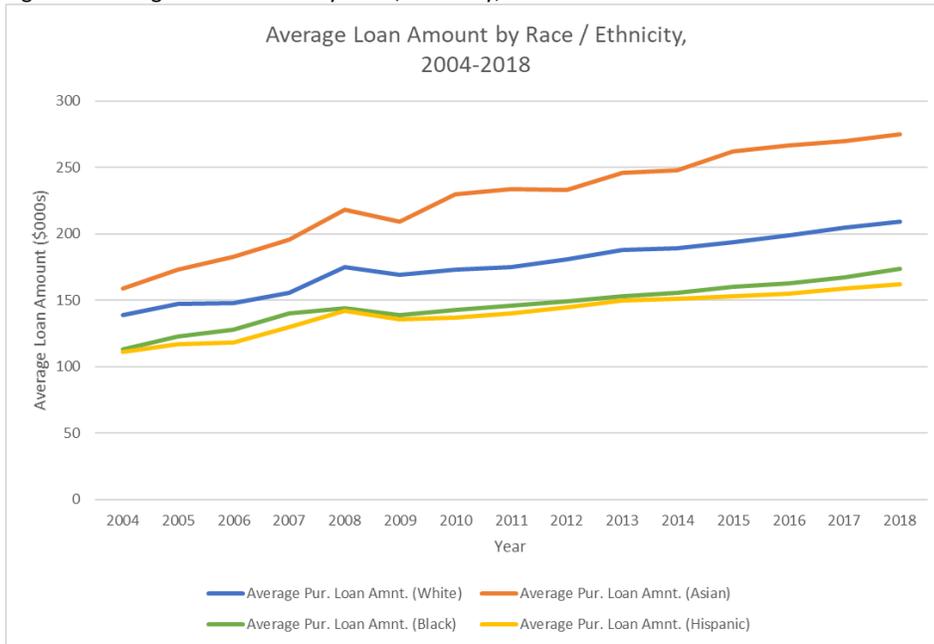
The gap in the origination rate between White borrowers and Hispanic and Black borrowers has tightened from the 2007–2011 period. Higher **origination** rates have not offset lower **application** volumes, however; the total number of purchase originations for all groups remains well below the 2005–2006 peak.

## Loan Amounts for White and Asian Borrowers Consistently Exceed Loan Amounts for Black and Hispanic Borrowers

Loan amounts have steadily increased for all racial and ethnic groups in the 21<sup>st</sup> century. Asian applicants have the highest average loan amounts for purchase mortgage originations in Pennsylvania and experienced the largest percentage increase in average loan amount from 2004 to 2018 (73%).

Figure 5 presents the average loan amounts for White, Asian, Black and Hispanic borrowers in Pennsylvania for home purchase originations between 2004 and 2018.

Figure 5: Average Loan Amount by Race / Ethnicity, 2004-2018



The average amount of a purchase money mortgage in Pennsylvania increased 50% from 2004 to 2018, compared to a 34% increase in inflation over the same period.<sup>6</sup> The average loan amount for Black borrowers has generally been between 80%-85% of the average loan amount for White borrowers from 2004 to 2018.

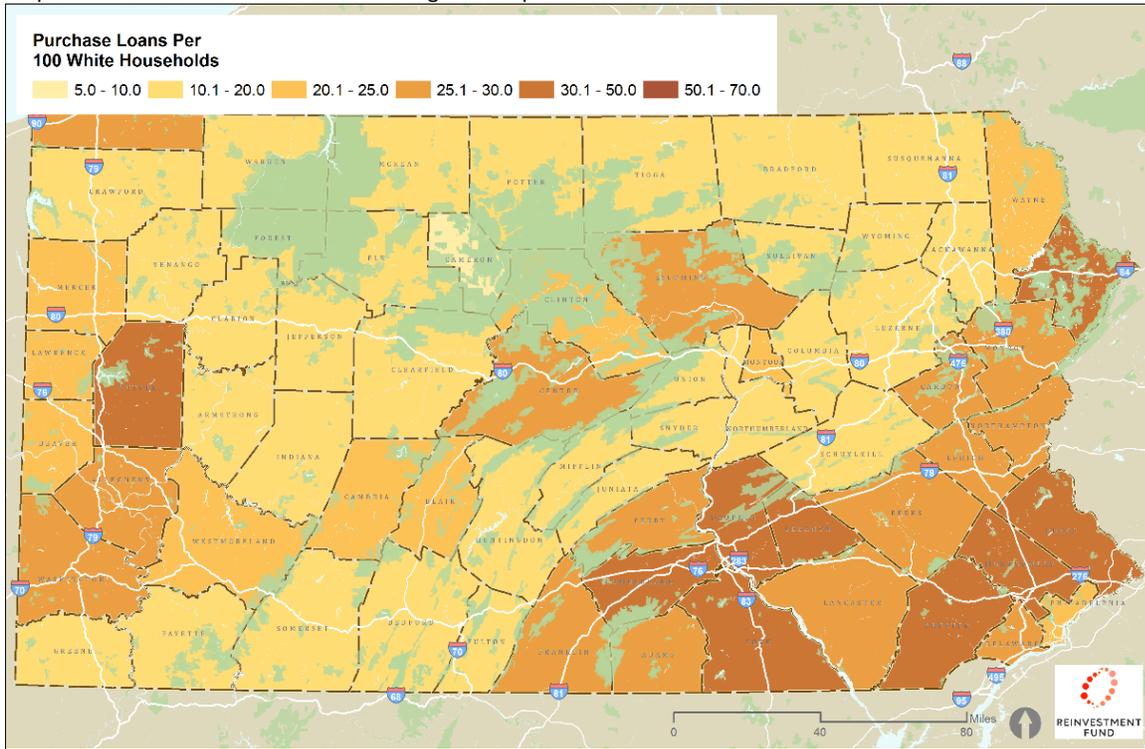
For Hispanic borrowers, the disparity between their average loan amount and those of White borrowers has expanded over time. In 2004, Hispanic borrowers’ average loan amount was about 70% of White borrowers’; by 2018, Hispanic borrowers’ average loan amount had fallen to 59% of White borrowers’.

#### Patterns of Home Purchasing and Homeowner Distress Vary Substantially Across the State

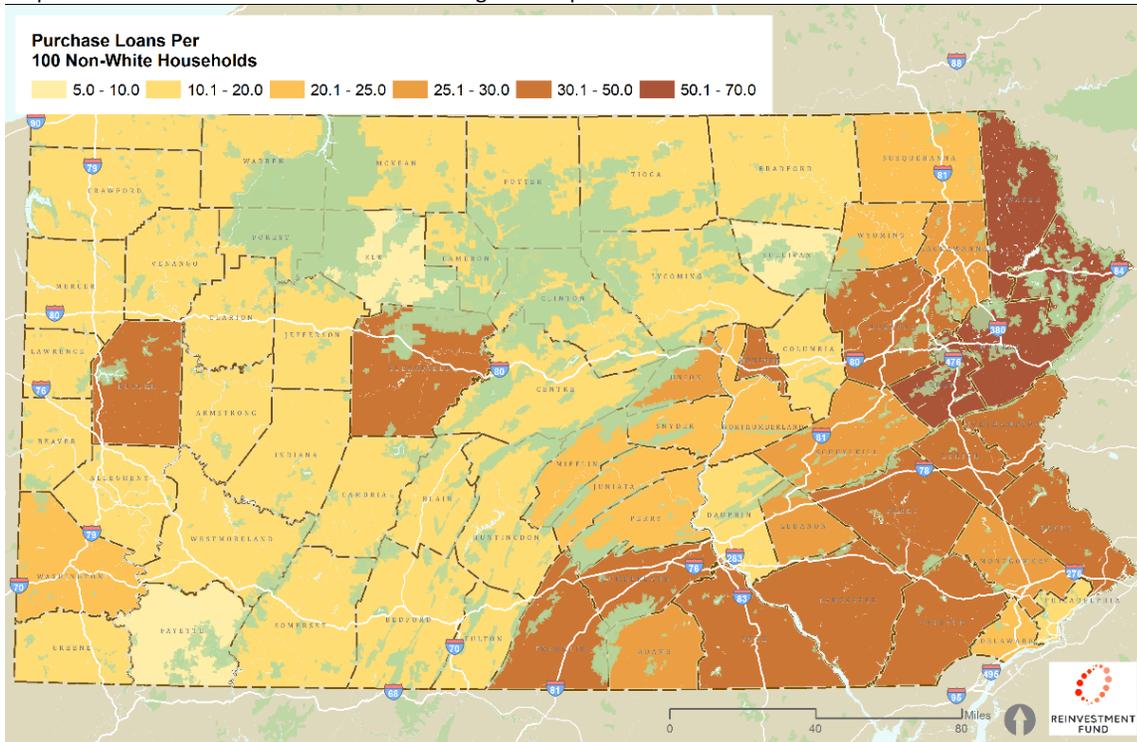
Two fundamental factors are directly related to changes in minority homeownership in Pennsylvania: the volume of home purchase originations made to minority households and these households’ ability to securely sustain their homeownership. Substantial minority populations cluster in relatively few areas of Pennsylvania (see Appendix II), and home purchase originations in the 21<sup>st</sup> century have largely been concentrated in the Eastern part of the state. Maps 5 and 6 present the number of home purchase loans originated per 100 households for both White and non-White households between 2004 and 2018.

<sup>6</sup> See CPI Inflation Calculator, Bureau of Labor Statistics. <https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=1&year1=200401&year2=201801> (accessed 1/2/2020).

Map 5. White Borrower Home Purchase Originations per 100 White Households – 2004 to 2018

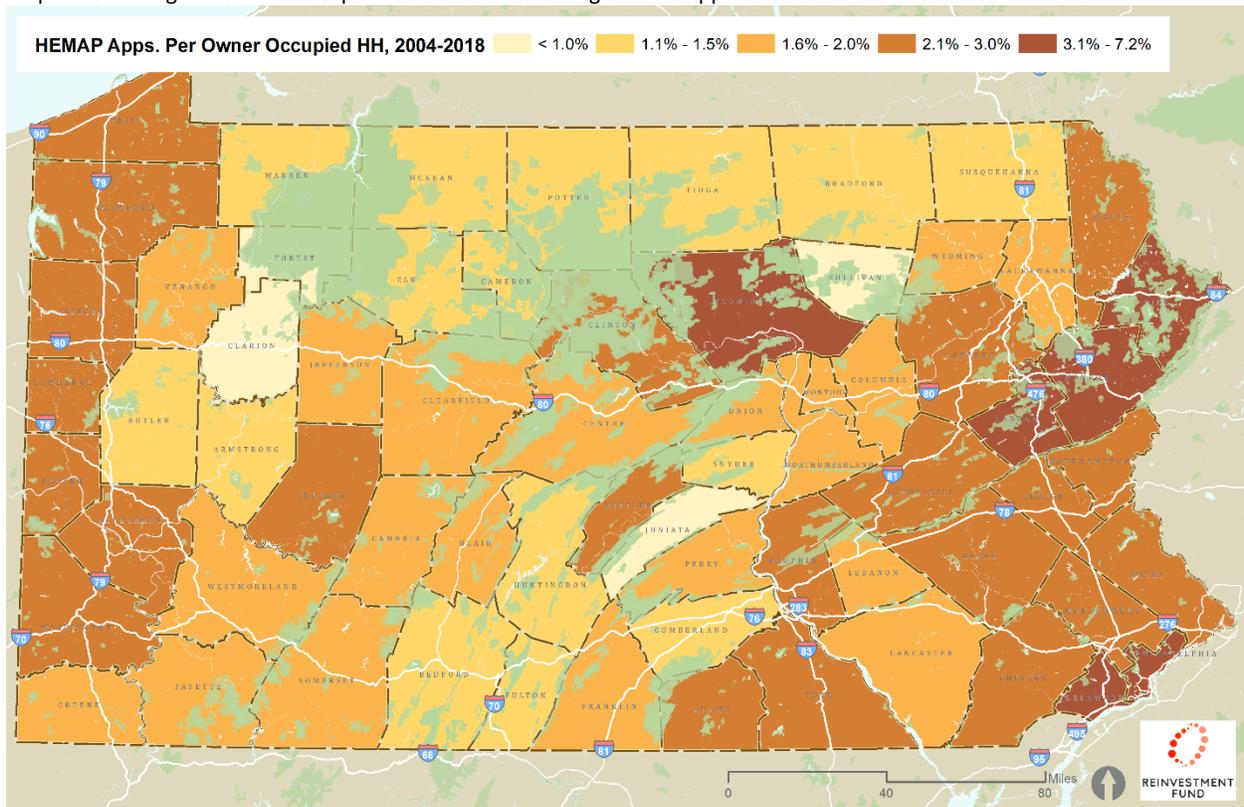


Map 6. Non-White Borrower Home Purchase Originations per 100 Non-White Households – 2004 to 2018



While elevated levels of home purchase originations generally contribute to increases in homeownership rates, for both White and minority borrowers, elevated foreclosure rates operate in the opposite direction. PHFA’s HEMAP requires lenders to send Act 91 Notices to homeowners with conventional loans who are about to be foreclosed upon; this provides notice to the homeowner that they can apply for assistance to PHFA through an approved housing counseling agency. During the pendency of the Notice period, the foreclosure cannot go forward. While not every applicant to HEMAP gets assistance – or, for that matter, goes to foreclosure if they are not approved – the program itself is designed to mitigate foreclosures for homeowners who, through no fault of their own, are experiencing financial distress. HEMAP applications provide an indication of overall amount of financial distress of homeowners in different parts of the state. Map 7 presents the share of *all* 2010 owner-occupied households that submitted a HEMAP application between 2004 and 2018.

Map 7. Percentage of Owner-Occupied Households Receiving HEMAP Applications: 2004 - 2018



From 2004 to 2018, HEMAP applications were most heavily concentrated in Southeastern Pennsylvania, in Philadelphia and Delaware Counties, and throughout much of the eastern part of the state (Monroe County being an established foreclosure hotspot dating back to 2000). Elevated levels of HEMAP applications are also observable in a number of western counties and in Central Pennsylvania’s Lycoming County.

### III. Identifying the Importance of Key Factors on Changes in Homeownership

The primary drivers of changes in homeownership rates for all racial and ethnic groups are: 1) the overall amount of home purchase originations made for each racial and ethnic group; and 2) the ability of each racial and ethnic group to successfully sustain their ownership. In addition, existing literature examining gaps in White and non-White homeownership rates has continually identified a number of key socio-demographic factors that significantly influence homeownership rates for White and non-White populations, including income, marital status, and educational attainment.<sup>7</sup>

Three spatial-autoregressive models were developed to better understand how different factors influence changes in White and non-White homeownership rates in Pennsylvania. Each model was estimated using the Pennsylvania Census tracts as the geographic unit of analysis. Table 1 presents an overview of the key inputs used to estimate each model:

Table 1. Model Inputs: Outcomes, Mortgage Markets, Socio-Demographics, and Spatial Controls

<p><b>White Homeownership Model</b></p> <ul style="list-style-type: none"> <li>• Outcomes:               <ul style="list-style-type: none"> <li>○ Change in White homeownership rate from 2000-17;</li> </ul> </li> <li>• Mortgage Market Factors:               <ul style="list-style-type: none"> <li>○ Total number of home purchase loans originated to White borrowers from 2005-16;</li> <li>○ Percentage of owner-occupied homes that received a HEMAP application from 2005-16;</li> </ul> </li> <li>• Socio-Demographic Factors:               <ul style="list-style-type: none"> <li>○ White homeownership rate in 2000;</li> <li>○ Total households in 2017;</li> <li>○ Median household income in 2017;</li> <li>○ Percentage of households that are families in 2017;</li> <li>○ Percentage of residents over 25 with a bachelor’s degree in 2017;</li> </ul> </li> <li>• Spatial Factors:               <ul style="list-style-type: none"> <li>○ Spatial dependence between bordering census tracts associated with changes in White homeownership;</li> <li>○ Unobserved spatial dependence between census tracts.</li> </ul> </li> </ul>
<p><b>Non-White Homeownership Model</b></p> <ul style="list-style-type: none"> <li>• Outcomes:               <ul style="list-style-type: none"> <li>○ Change in Non-White homeownership rate from 2000-17;</li> </ul> </li> <li>• Mortgage Market Factors:               <ul style="list-style-type: none"> <li>○ Total number of home purchase loans originated to Non-White borrowers from 2005-16;</li> <li>○ Percentage of owner-occupied homes that received a HEMAP notification from 2005-16;</li> </ul> </li> <li>• Socio-Demographic Factors:               <ul style="list-style-type: none"> <li>○ Non-White homeownership rate in 2000;</li> <li>○ Total households in 2017;</li> <li>○ Median household income in 2017;</li> <li>○ Percentage of households that are families in 2017;</li> <li>○ Percentage of residents over 25 with a bachelor’s degree in 2017;</li> </ul> </li> <li>• Spatial Factors:               <ul style="list-style-type: none"> <li>○ Spatial dependence between bordering census tracts associated with changes in Non-White homeownership;</li> <li>○ Unobserved spatial dependence between census tracts.</li> </ul> </li> </ul>

<sup>7</sup> Most recently, see [https://www.urban.org/sites/default/files/publication/101160/explaining\\_the\\_Black-White\\_homeownership\\_gap\\_a\\_closer\\_look\\_at\\_disparities\\_across\\_local\\_markets.pdf](https://www.urban.org/sites/default/files/publication/101160/explaining_the_Black-White_homeownership_gap_a_closer_look_at_disparities_across_local_markets.pdf)

#### White – Non-White Homeownership Gap Model

- Outcomes:
  - Gap between White and Non-White homeownership rates in 2017;
- Mortgage Market Factors:
  - Total number of home purchase loans originated to White borrowers from 2005-16;
  - Total number of home purchase loans originated to Non-White borrowers from 2005-16;
  - Percentage of owner-occupied homes that received a HEMAP notification from 2005-16;
- Socio-Demographic Factors:
  - Homeownership gap in 2000;
  - Total households in 2017;
  - Ratio of White to Non-White Median household income in 2017;
  - Percentage of households that are families in 2017;
  - Percentage of residents over 25 with a bachelor's degree in 2017;
- Spatial Factors:
  - Spatial dependence between bordering census tracts associated with the gap homeownership;
  - Unobserved spatial dependence between census tracts.

#### *Notes About Interpreting Model Results*

The distributions for each of these model inputs are not evenly distributed across Pennsylvania census tracts, making it necessary to adjust these measures for inclusion in the statistical models.<sup>8</sup> Each of these inputs, with the exceptions of the 2000 and 2017 gaps in homeownership rates between White and non-White households, were converted to percentiles to estimate their association with each outcome. The implication of converting the model inputs to percentiles is that the interpretation of each measure becomes a *state referenced value* between individual census tracts with '1' as the lowest, '100' as the highest, and '50' as the middle of the distribution for each measure.

In addition, two spatial error terms were added to the model. The first spatial error term represents the strength and significance of the spatial autocorrelation that neighboring census tracts exert on the outcome in each tract (in other words, how much are changes in tract level homeownership rates influenced by changes in homeownership rates occurring in neighboring census tracts). The second spatial error term represents the strength and significance of unobserved spatial dependence between neighboring census tracts that will also influence the outcome. Each of these spatial error terms generally range from -1 to 1, with the strength of the spatial dependence increasing as values approach -1 or 1.<sup>9</sup>

These spatial error terms have implications for interpreting findings from each model. The primary implication of observing statistically significant spatial error terms in the model results is that individual observations (i.e. Census tracts), are not independent of one another. That is, the model inputs in one census tract exert an impact on model inputs in neighboring tracts. This is not totally surprising in this type of analysis since 'markets' tend to extend beyond the artificial boundaries of the Census-defined tracts.

In the most commonly used regression analyses, a coefficient in the statistical model is interpreted as 'a one unit increase in x's effect on y'. Stated differently, a one unit increase in, for example, median household income translates into a one unit increase in owner occupancy. However, where the spatial error terms are statistically significant, which they are in some of our models, that usual translation is

<sup>8</sup> See Appendix II for unadjusted tract-level descriptive tables of each model input.

<sup>9</sup> Drukker, D. M., Prucha, I. R., & Raciborski, R. (2013). Maximum likelihood and generalized spatial two-stage least-squares estimators for a spatial-autoregressive model with spatial-autoregressive disturbances. *The Stata Journal*, 13(2), 221-241.

not fully appropriate. For that reason, we suggest that the interpretations of significant coefficients in the results tables should be restricted to the size and direction of the associations between the model inputs and each outcome. That is, a large positive coefficient – for instance, between income and homeownership – means that a unit change in income is associated with a bigger change in home ownership than if the coefficient was small; a large negative coefficient suggests that a unit increase in foreclosure is associated with a large decline in homeownership. We also caution that the coefficients should be interpreted more as associations than indicative of causal relationships.

Each set of model results is presented in the following sequence: Model 1 presents results that only control for the 2000 level of each dependent variable – that is, changes in homeownership by race/ethnicity over time or the racial/ethnic gap in homeownership; Model 2 includes mortgage market factors – home purchase originations and HEMAP applications; and Model 3 includes the additional socio-economic factors – population, income, family households, and educational attainment. Tables 2 through 4 present the results for models estimating each outcome: changes in White homeownership rates between 2000 and 2017, changes in non-White homeownership rates between 2000 and 2017, and the gap between White and non-White homeownership rates in 2017.

Table 2. Model Results Estimating Changes in White Homeownership Rates

Outcome: 2000 - 2017 Change in Homeownership Rate - Percentile	Model 1		Model 2		Model 3	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
2000 Homeownership Rate - Percentile	-0.072***	0.019	-0.148***	0.020	-0.347***	0.024
White Home Purchase Originations - Percentile			0.165***	0.022	0.021	0.033
HEMAP Applications as % of 2010 Owner Occupied Units - Percentile			-0.078***	0.020	0.025	0.022
Households - Percentile					-0.052*	0.024
Median Household Income 2017 - Percentile					0.359***	0.039
Percent of Households that are Families 2017 - Percentile					0.218***	0.031
Percent of Residents 25+ w/ BA 2017 - Percentile					-0.115***	0.028
Constant	46.453***	1.911	50.846***	2.345	44.424***	2.451
Spatial Autocorrelation of 2017 Homeownership Rate - Percentile	0.667***	0.164	0.240^	0.138	0.049	0.125
Spatial Autocorrelation of Unobserved Error	0.657***	0.186	0.783***	0.166	0.725***	0.158

n = 3,218; \*\*\*p<.001; \*\*p<.01; \*p<.05; ^p<.10

- After controlling for key socio-demographics and the spatial relationships between neighboring census tracts, neither home purchase originations to White borrowers nor HEMAP applications between 2005 and 2016 were significantly associated with changes in White homeownership rates.
- The insignificance of White home purchase originations, HEMAP applications and the spatial error for change in White homeownership rate are largely a reflection of the similarity of White homeownership rates across the state and the overall stability of these rates over time (see Figure 1 on page 2).

Table 3. Model Results Estimating Changes in Non-White Homeownership Rates

Outcome: 2000 - 2017 Change in Non-White Homeownership Rate - Percentile	Model 1		Model 2		Model 3	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
2000 Homeownership Non-White Rate - Percentile	-0.165***	0.019	-0.232***	0.020	-0.404***	0.024
Non-White Home Purchase Originations - Percentile			0.169***	0.026	0.099***	0.027
HEMAP Applications as % of 2010 Owner Occupied Units - Percentile			-0.106***	0.019	0.139***	0.024
Households - Percentile					-0.087***	0.022
Median Household Income 2017 - Percentile					0.148***	0.035
Percent of Households that are Families 2017 - Percentile					0.218***	0.033
Percent of Residents 25+ w/ BA 2017 - Percentile					-0.008	0.029
Constant	51.689***	1.819	57.116***	2.084	43.551***	1.934
Spatial Autocorrelation of 2017 Homeownership Rate - Percentile	0.335***	0.081	-0.001	0.077	-0.014	0.069
Spatial Autocorrelation of Unobserved Error	0.076	0.107	0.291**	0.102	0.128	0.110

n = 2,161; \*\*\*p<.001; \*\*p<.01; \*p<.05; ^p<.10

- Elevated levels of home purchase originations to non-White borrowers between 2005 and 2016 were positively associated with increases in the non-White homeownership rate between 2000 and 2017.
- Elevated levels of HEMAP applications between 2005 and 2016 were positively associated with increases in the non-White homeownership rate between 2000 and 2017.
- These findings suggest that making more loans to non-White borrowers can improve tract level non-White homeownership rates *and* that support from the HEMAP program also made a significant contribution to maintaining owner occupancy in these places during the study period.

Table 4. Model Results Estimating Gaps Between White and Non-White Homeownership Rates

Outcome: 2017 Gap b/t White and Non-White Homeownership Rate	Model 1		Model 2		Model 3	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
2000 Gap b/t White and Non- White Homeownership Rate	0.629***	0.030	0.580***	0.029	0.530***	0.029
White Home Purchase Originations - Percentile			0.092***	0.018	0.110***	0.023
Non-White Home Purchase Originations - Percentile			-0.161***	0.020	-0.120***	0.028
HEMAP Applications as % of 2010 Owner Occupied Units - Percentile			0.010	0.019	-0.037^	0.022
Households - Percentile					0.114**	0.039
Ratio of White:Non-White MHI 2017 - Percentile					0.279***	0.027
Percent of Households that are Families 2017 - Percentile					-0.058*	0.027
Percent of Residents 25+ w/ BA 2017 - Percentile					-0.019	0.021
Constant	5.521***	0.993	8.521***	1.840	-4.654	3.481
Spatial Autocorrelation of White/Non-White Homeownership Gap	0.277*	0.126	0.641***	0.098	0.557***	0.093
Spatial Autocorrelation of Unobserved Error	0.524***	0.132	-0.148	0.146	-0.057	0.141

n = 2,161; \*\*\*p<.001; \*\*p<.01; \*p<.05; ^p<.10

- Elevated levels of White home purchase activity between 2005 and 2016 were positively associated with the gap between White and non-White homeownership rates in 2017.
- Elevated levels of non-White home purchase activity between 2005 and 2016 were negatively associated with the gap between White and non-White homeownership rates in 2017. That is, in tracts with elevated levels of non-White purchasing activity, the homeownership gap between White and non-White households narrowed during the study period.
- Elevated levels of HEMAP applications between 2005 and 2016 were negatively associated with the gap between White and non-White homeownership rates in 2017. Similar to non-White home purchase activity, in tracts where existing homeowners have experienced elevated levels of distress, the gap between White and non-White homeownership rates has narrowed over the study period.
- There is also a positive and strong spatial relationship between tracts related to the gap in White and non-White homeownership rates. In other words, areas with higher racial gaps tend to be located next to other areas with higher racial gaps.

- These findings suggest, somewhat unsurprisingly, that White and non-White home purchasing activities operate as countervailing forces with respect to the gap between White and non-White homeownership. In addition, these findings, combined with the results of the non-White models, provide further evidence to suggest that in places where non-White home purchases outstripped White home purchases, HEMAP also played a significant role in maintaining owner tenure. Finally, the strong spatial relationship between the White – Non-White gap in one tract and its neighboring tracts is generally a reflection of the spatial clustering of non-White homeowners across the state, combined with their persistently lower homeownership rates as compared to White households.

#### IV. Discussion & Implications

The findings presented in this brief highlight the ongoing persistence of gaps in White and non-White homeownership throughout Pennsylvania. However, these findings also point to important steps that can be taken to increase minority homeownership in Pennsylvania.

First, it should be noted that there are many parts of the Commonwealth where there are so few non-White homeowners that statistical models cannot be estimated. As a result, the model results suggest what the gaps look like where there actually are non-White households. The more fundamental question to be addressed is, ‘Why do so many parts of the Commonwealth lack any racial or ethnic diversity’?

Despite the lack of diversity in the Commonwealth overall, in those places where there is some diversity, there are two primary ways to support increased homeownership rates among minority households: 1) make more home purchase mortgages available to these buyers; and 2) actively support all borrowers, but particularly minority borrowers, to sustain their occupancy through the economic ups and downs of the Commonwealth’s economic cycles.

PHFA is well positioned to support each of these activities through their existing loan programs to support mortgage originations for historically underserved borrowers; targeted promotion of their first-time homebuyer programs in minority communities; ongoing promotion of PHFA’s suite of homebuyer counselling programs for prospective minority borrowers and existing homeowners; and by continuing to raise awareness of the financial supports available through RMDP and HEMAP for minority homeowners in need of temporary financial assistance. PHFA’s Barriers to Homeownership program, launched in the later part of 2019, should yield additional granular information about the particular disparities that White and non-White aspiring homeowners experience in the process of preparing to become new homeowners.

Each of these activities – enhancing the availability of mortgage products for credit-worthy minority borrowers; providing housing counseling and budgetary supports for prospective and existing homeowners; and offering assistance to existing minority homeowners facing financial difficulties are all good strategies to increase minority homeownership in Pennsylvania. However, if the Agency seeks to narrow the gap between White and non-White homeownership across the state (particularly for Black and Hispanic households), an affirmative push to get more home purchase originations to non-White borrowers will be required over a sustained period of time.

# APPENDIX

## Appendix I: County Snapshots

Pennsylvania is an expansive state with two large cities (Philadelphia and Pittsburgh) on opposite ends of the Commonwealth. Within Pennsylvania, there are numerous other urban centers, suburban and exurban communities of varying size and density, and a vast area of the Commonwealth that is sparsely populated. Most non-White households in the Commonwealth are in (or near) the urban centers rather than the suburban or sparsely populated areas. As such, it is difficult to fully comprehend the racial dimensions of homeownership at such a high level of analysis. This appendix is offered to provide further insight into a handful of places with substantial non-White populations. The snapshots that follow present more granular data and maps for six Pennsylvania counties that could not be easily observed when focused on statewide patterns and trends.

This Appendix presents within-county snapshots of changes in minority homeownership rates in the following six counties: Philadelphia; Allegheny; Lehigh; Monroe; Dauphin; and Erie.

Each county snapshot contains the following information for White and non-White populations along with the key indicators used to estimate changes in homeownership rates in Section III:

- Changes in population from 2000 to 2017;
- Changes in homeownership rates from 2000 to 2017;
- Changes in median household incomes from 2000 to 2017;
- Changes in households that are families from 2000 to 2017;
- Changes in share of population with bachelor's degrees from 2000 to 2017;
- Home purchase originations from 2005 to 2016;
- HEMAP applications as a share of 2010 households from 2005 to 2016;
- A map presenting changes in non-White homeownership rates from 2000 to 2017.

## Allegheny County

From 2000 to 2017, the White homeownership rate fell slightly from 71.8% to 71.2%, compared to a decline for non-White households from 39.1% to 36.9%. The gap in homeownership between White and non-White households increased from a 32.7 percentage point difference in 2000 to a 34.2 percentage point difference in 2017. Black residents are the largest minority group in Allegheny County, whose share of the overall population increased slightly from 12.3% in 2000 to 12.9% by 2017.

### County Populations and Households

	Allegheny County		Pennsylvania	
	2000	2017	2000	2017
<b>Population</b>	1,281,666	1,229,605	12,281,054	12,790,505
% White	83.8%	80.3%	84.1%	81.1%
% Non-White	16.2%	19.7%	15.9%	18.9%
% Black	12.3%	12.9%	9.8%	11.1%
% Hispanic	0.9%	2.0%	3.2%	6.8%
% Asian	1.7%	3.5%	1.8%	3.3%
<b>Households</b>	537,150	536,439	4,777,003	5,007,442
% Non-White	14.6%	18.4%	13.5%	18.3%
% Black	11.5%	12.4%	9.1%	10.0%
% Hispanic	0.7%	1.5%	2.3%	4.9%
% Asian	1.5%	3.0%	1.4%	2.6%

### County Homeownership Rates

	Allegheny County		Pennsylvania	
	2000	2017	2000	2017
All races/ethnicities	67.0%	64.9%	71.3%	69.0%
White	71.8%	71.2%	74.8%	74.4%
Non-White	39.1%	36.9%	48.6%	45.3%
White/Non-White Gap	32.7%	34.2%	26.2%	29.1%

### Lending and HEMAP Applications

Non-White households represented 18.4% of all households in Allegheny County in 2017 and accounted for 9.7% of home purchase originations between 2005 and 2016.

	2005 – 2016 Allegheny County		2005 – 2016 Pennsylvania	
	#	%	#	%
Home Purchase Originations (County)				
Non-White	13,341	9.7%	178,449	13.87%
White	124,384	90.3%	1,108,018	86.13%
HEMAP Applications as % of 2010 Owner Occupied Units		2.1%		2.5%

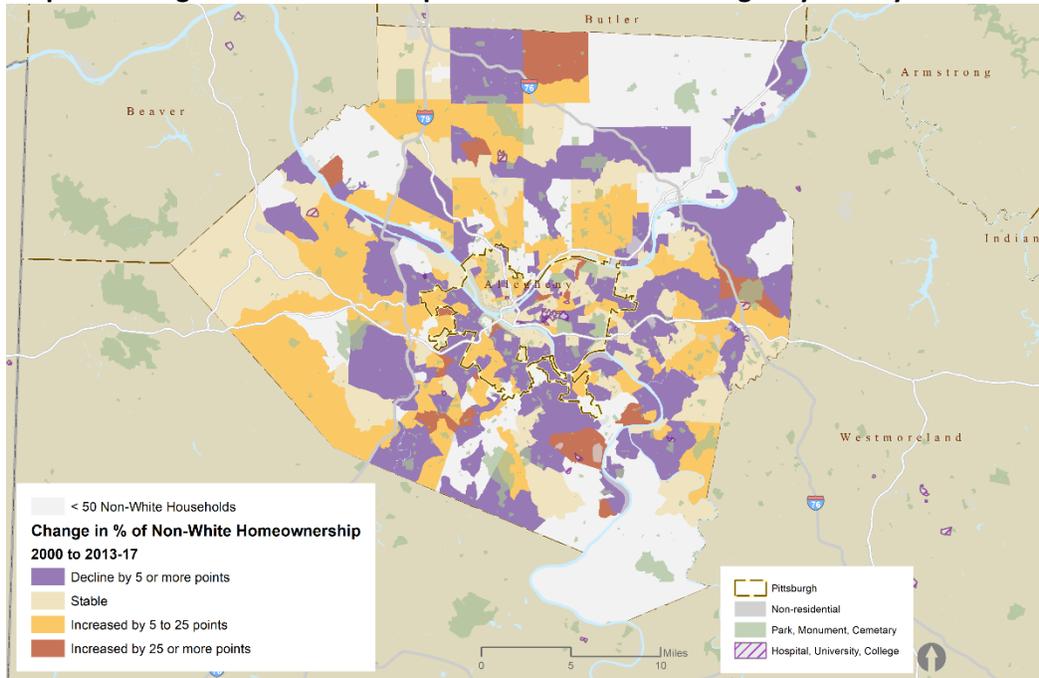
### Socio-economic Characteristics – Incomes; Family Composition; Educational Attainment

Changes in median household incomes varied across different racial and ethnic groups. Median household incomes for Black households declined by \$1,313, while the median incomes for Asian, Latino, and White households rose by \$6,075, \$1,991, and \$3,174, respectively.

The share of households that were married couples was stable for non-White households but increased significantly for White-headed households. The share of non-White residents with a bachelor's degree or higher rose by 11.1 percentage points for non-White residents, and 12.1 percentage points for White residents.

	Allegheny County		Pennsylvania	
	2000 (in 2017 dollars)	2017	2000 (in 2017 dollars)	2017
<b>Median Household Income</b>				
All races/ethnicities	\$54,712	\$56,333	\$57,249	\$56,951
White	\$58,354	\$61,528	\$59,584	\$61,345
Black	\$31,589	\$30,276	\$39,133	\$35,349
Latino	\$45,998	\$47,989	\$38,441	\$37,297
Asian	\$60,315	\$66,390	\$63,100	\$69,664
<b>Percent of Households that are Married Couple Families</b>				
Non-White	25.6%	26.6%	28.1%	32.4%
White	37.8%	45.6%	43.7%	51.5%
<b>Percent of Residents 25+ w/ Bachelor's Degree or Higher</b>				
Non-White	22.2%	33.3%	17.0%	24.0%
White	29.3%	41.4%	23.1%	31.5%

**Map A1. Change in homeownership rates for non-White Allegheny County households: 2000 to 2017**



- There were no clear geographic patterns of either increases or decreases in non-White homeownership. Increases and decreases were roughly evenly distributed throughout the county.
- There were few stable tracts or tracts with large increases (25 percentage points or more) in non-White homeownership; most tracts experienced moderate increases or decreases.

## Dauphin County

From 2000 to 2017, the White homeownership rate rose from 71.6% to 73.3%, compared to a decline for non-White households from 41.5% to 37.1%. The gap in homeownership between White and non-White households increased considerably from a 30.1 percentage point difference in 2000 to a 36.2 percentage point difference in 2017. Black residents are the largest minority group in Dauphin County, whose share of the overall population increased slightly from 16.6% in 2000 to 18.7% by 2017. The Hispanic population has also more than doubled from 4.1% in 2000 to 8.5% in 2017.

### County Populations and Households

	Dauphin County		Pennsylvania	
	2000	2017	2000	2017
<b>Population</b>	251,798	273,329	12,281,054	12,790,505
% White	75.6%	71.4%	84.1%	81.1%
% Non-White	24.4%	28.6%	15.9%	18.9%
% Black	16.6%	18.7%	9.8%	11.1%
% Hispanic	4.1%	8.5%	3.2%	6.8%
% Asian	1.9%	3.9%	1.8%	3.3%
<b>Households</b>	102,670	111,489	4,777,003	5,007,442
% Non-White	20.8%	26.9%	13.5%	18.3%
% Black	15.5%	16.8%	9.1%	10.0%
% Hispanic	2.9%	6.2%	2.3%	4.9%
% Asian	1.5%	3.0%	1.4%	2.6%

### County Homeownership Rates

	Dauphin County		Pennsylvania	
	2000	2017	2000	2017
All races/ethnicities	65.4%	63.5%	71.3%	69.0%
White	71.6%	73.3%	74.8%	74.4%
Non-White	41.5%	37.1%	48.6%	45.3%
White/Non-White Gap	30.1%	36.2%	26.2%	29.1%

## Lending and HEMAP Applications

Non-White households represented 26.9% of households in Dauphin county in 2017 and accounted for 15.8% of home purchase originations between 2005 and 2016.

	2005 – 2016 Dauphin County		2005 – 2016 Pennsylvania	
	#	%	#	%
Home Purchase Originations (County)				
Non-White	5,971	15.8%	178,449	13.9%
White	31,858	84.2%	1,108,018	86.1%
HEMAP Applications as % of 2010 Owner Occupied Units		2.4%		2.5%

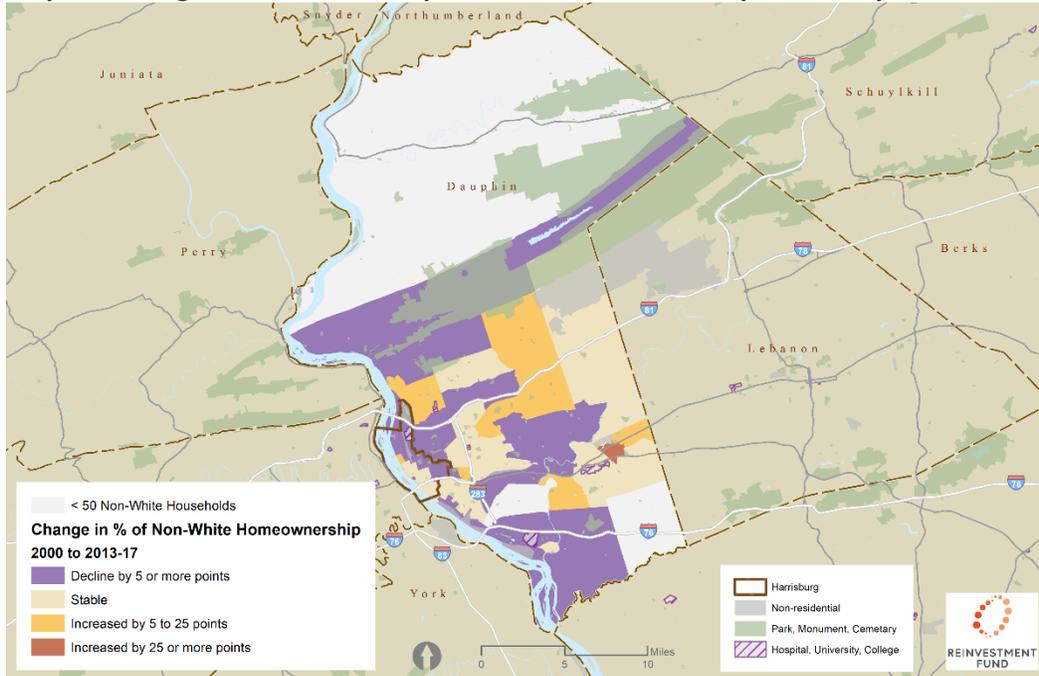
## Socio-economic Characteristics – Incomes; Family Composition; Educational Attainment

Overall, median household incomes decreased for all households by \$2,178. Median household incomes were steady for White households but decreased significantly for Black (-\$4,033) and Asian (-\$5,621) households. Latino households experienced an increase in median incomes of over \$3,000.

White residents experienced larger increases than non-White residents in the share of households that were families (7.2% vs 0.9%) and the share of residents with bachelor's degrees or higher (7.4% vs 6.2%).

	Dauphin County		Pennsylvania	
	2000 (in 2017 dollars)	2017	2000 (in 2017 dollars)	2017
<b>Median Household Income</b>				
All races/ethnicities	\$59,249	\$57,071	\$57,249	\$56,951
White	\$64,730	\$64,420	\$59,584	\$61,345
Black	\$42,307	\$38,274	\$39,133	\$35,349
Latino	\$33,683	\$36,730	\$38,441	\$37,297
Asian	\$62,325	\$56,704	\$63,100	\$69,664
<b>Percent of Households that are Married Couple Families</b>				
Non-White	29.3%	30.2%	28.1%	32.4%
White	41.9%	49.1%	43.7%	51.5%
<b>Percent of Residents 25+ w/ Bachelor's Degree or Higher</b>				
Non-White	15.1%	21.3%	17.0%	24.0%
White	25.6%	33.0%	23.1%	31.5%

**Map A3. Change in homeownership rates for non-White Dauphin County households: 2000 to 2017**



- Overall, a majority of tracts experienced decreases in non-White homeownership.
- There were some tracts with stable shares of non-White homeowners, and a few with moderate increases. One tract in Derry Township saw a significant (25 percentage points or more) increase in non-White homeownership. However, there were fewer than 100 non-White households in that tract, so a moderate increase in the number of non-White homeowners created a substantial change in the share of non-White households owning a home.

## Erie County

From 2000 to 2017, the White homeownership rate fell from 72% to 70.1%, compared to a decline for non-White households from 35.9% to 31.9%. The gap in homeownership between White and non-White households increased from a 36.1 percentage point difference in 2000 to a 38.2 percentage point difference in 2017. Black residents are the largest minority group in Erie County, whose share of the overall population increased slightly from 6% in 2000 to 7.1% by 2017.

### County Populations and Households

	Erie County		Pennsylvania	
	2000	2017	2000	2017
<b>Population</b>	280,843	277,794	12,281,054	12,790,505
% White	89.8%	87.1%	84.1%	81.1%
% Non-White	10.2%	12.9%	15.9%	18.9%
% Black	6.0%	7.1%	9.8%	11.1%
% Hispanic	2.2%	4.0%	3.2%	6.8%
% Asian	0.7%	1.6%	1.8%	3.3%
<b>Households</b>	106,507	110,377	4,777,003	5,007,442
% Non-White	7.7%	10.5%	13.5%	18.3%
% Black	4.9%	6.1%	9.1%	10.0%
% Hispanic	1.5%	2.4%	2.3%	4.9%
% Asian	0.6%	1.1%	1.4%	2.6%

### County Homeownership Rates

	Erie County		Pennsylvania	
	2000	2017	2000	2017
All races/ethnicities	69.2%	66.1%	71.3%	69.0%
White	72.0%	70.1%	74.8%	74.4%
Non-White	35.9%	31.9%	48.6%	45.3%
White/Non-White Gap	36.1%	38.2%	26.2%	29.1%

## Lending and HEMAP Applications

Non-White households represented 10.5% of households in Erie County in 2017 and accounted for 5.6% of home purchase originations between 2005 and 2016.

	2005 – 2016 Erie County		2005 – 2016 Pennsylvania	
	#	%	#	%
Home Purchase Originations (County)				
Non-White	1,464	5.6%	178,449	13.9%
White	24,681	94.4%	1,108,018	86.1%
HEMAP Applications as % of 2010 Owner Occupied Units		2.0%		2.5%

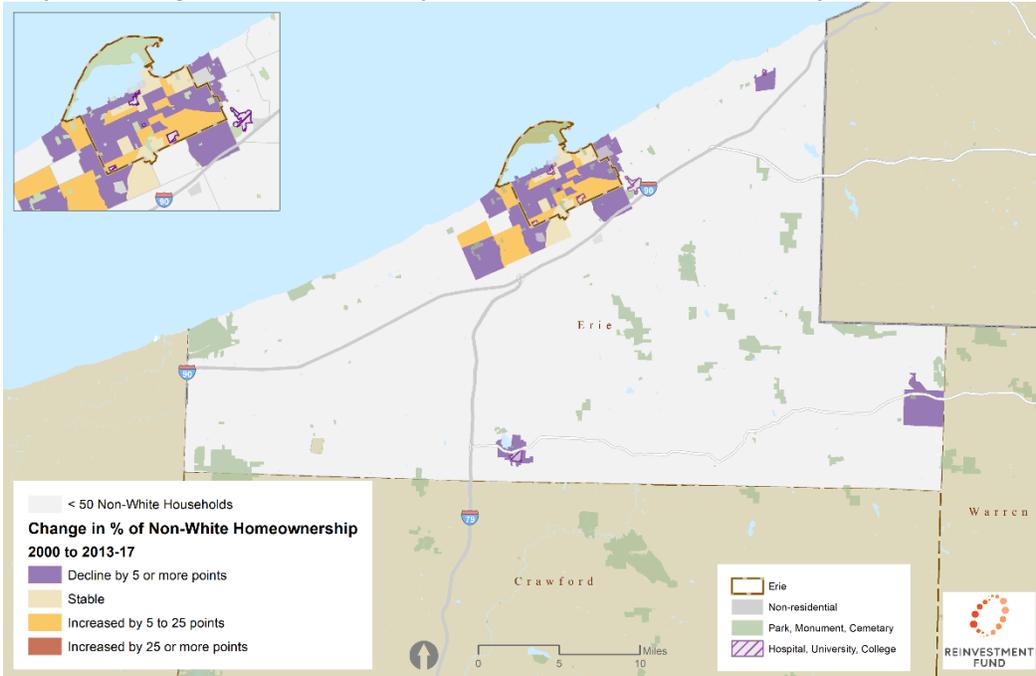
## Socio-economic Characteristics – Incomes; Family Composition; Educational Attainment

Median household incomes decreased for all racial and ethnic groups, but far more for non-White households than for White households. White household incomes dropped by slightly less than \$3,000, while Black and Latino households experienced decreases of \$8,578 and \$9,261, respectively. Asian household incomes decreased by almost \$11,000.

The share of households that were married couples increased for White households but decreased for non-White headed households. The share of non-White residents with a bachelor's degree or higher rose by over six percentage points for non-White residents, and seven percentage points for White residents.

	Erie County		Pennsylvania	
	2000 (in 2017 dollars)	2017	2000 (in 2017 dollars)	2017
<b>Median Household Income</b>				
All races/ethnicities	\$52,283	\$48,192	\$57,249	\$56,951
White	\$54,073	\$51,153	\$59,584	\$61,345
Black	\$31,652	\$23,074	\$39,133	\$35,349
Latino	\$31,404	\$22,143	\$38,441	\$37,297
Asian	\$53,084	\$42,168	\$63,100	\$69,664
<b>Percent of Households that are Married Couple Families</b>				
Non-White	30.9%	26.6%	28.1%	32.4%
White	42.7%	47.4%	43.7%	51.5%
<b>Percent of Residents 25+ w/ Bachelor's Degree or Higher</b>				
Non-White	13.0%	18.3%	17.0%	24.0%
White	21.5%	28.6%	23.1%	31.5%

**Map A5. Change in homeownership rates for non-White Erie County households: 2000 to 2017**



- Non-White homeownership was overwhelmingly concentrated in the City of Erie, with sparse distribution in the surrounding suburbs and rural areas.
- Overall, a majority of tracts with non-White populations experienced declines in non-White homeownership.

## Lehigh County

From 2000 to 2017, the White homeownership rate increased slightly from 73.4% to 74.2%, compared to an increase for non-White homeownership from 35.2% to 39.6%. The gap in homeownership between White and non-White households declined slightly from a 38.2 percentage point difference in 2000 to a 34.6 percentage point difference in 2017. Somewhat counterintuitively, the overall homeownership rate in Lehigh County declined from 68.8% to 65.3% from 2000 to 2017. This happened due to the rapid growth in non-White households from 12.6% to 25.9% of all households from 2000 to 2017. This increase, combined with non-White households' substantially lower homeownership rates, resulted in the overall decline in county-wide homeownership. Hispanic residents are the largest minority group in Lehigh County, whose share of the overall population has more than doubled from 10.2% in 2000 to 22.8% by 2017.

### County Populations and Households

	Lehigh County		Pennsylvania	
	2000	2017	2000	2017
<b>Population</b>	312,090	360,774	12,281,054	12,790,505
% White	83.2%	78.6%	84.1%	81.1%
% Non-White	16.8%	21.4%	15.9%	18.9%
% Black	3.1%	6.9%	9.8%	11.1%
% Hispanic	10.2%	22.8%	3.2%	6.8%
% Asian	2.1%	3.3%	1.8%	3.3%
<b>Households</b>	121,906	137,239	4,777,003	5,007,442
% Non-White	12.6%	25.9%	13.5%	18.3%
% Black	2.9%	5.7%	9.1%	10.0%
% Hispanic	7.4%	17.2%	2.3%	4.9%
% Asian	1.6%	3.0%	1.4%	2.6%

### County Homeownership Rates

	Lehigh County		Pennsylvania	
	2000	2017	2000	2017
All races/ethnicities	68.8%	65.3%	71.3%	69.0%
White	73.4%	74.2%	74.8%	74.4%
Non-White	35.2%	39.6%	48.6%	45.3%
White/Non-White Gap	38.2%	34.6%	26.2%	29.1%

## Lending and HEMAP Applications

Non-White households represented 25.9% of households in Lehigh County in 2017 and accounted for 22.4% of home purchase originations between 2005 and 2016.

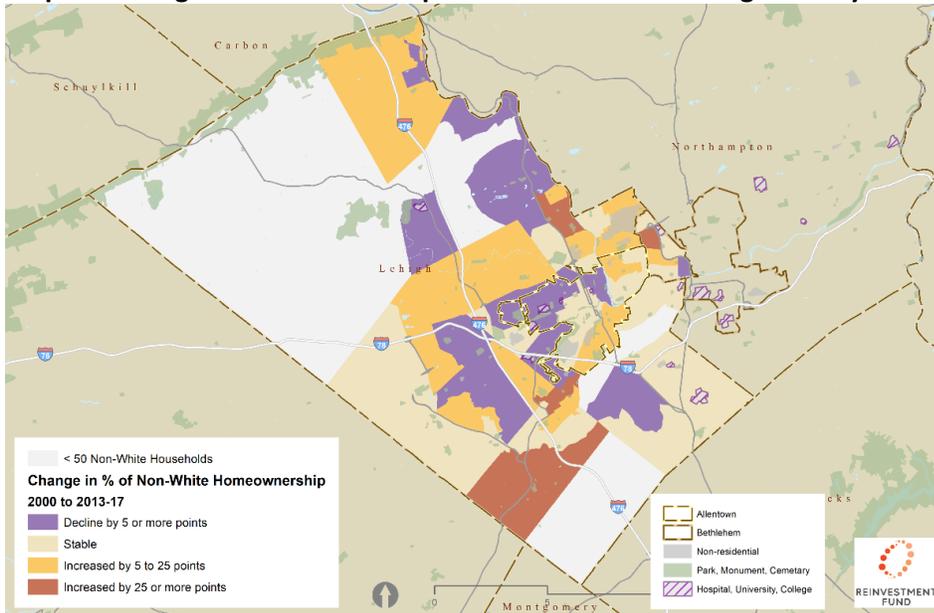
	2005 – 2016 Lehigh County		2005 – 2016 Pennsylvania	
	#	%	#	%
Home Purchase Originations (County)				
Non-White	11,193	22.4%	178,449	13.9%
White	38,806	77.6%	1,108,018	86.1%
HEMAP Applications as % of 2010 Owner Occupied Units		2.4%		2.5%

## Socio-economic Characteristics – Incomes; Family Composition; Educational Attainment

Changes in median household incomes varied across different racial and ethnic groups. Black households experienced the steepest declines in median household incomes, falling by \$8,156, compared to White households that experienced a \$1,637 increase. Latino and Asian household incomes were relatively stable, with Latino incomes increasing slightly. White and non-White populations experienced opposite changes in share of households which were families: the share of non-White households that were families decreased by seven percentage points, compared to nine percentage point increase for White households. The share of non-White residents with a bachelor's degree or higher increased by two percentage points, compared to nine percentage points for White residents.

	Lehigh County		Pennsylvania	
	2000 (in 2017 dollars)	2017	2000 (in 2017 dollars)	2017
<b>Median Household Income</b>				
All races/ethnicities	\$62,021	\$60,116	\$57,249	\$56,951
White	\$65,521	\$67,158	\$59,584	\$61,345
Black	\$46,863	\$38,707	\$39,133	\$35,349
Latino	\$37,348	\$38,624	\$38,441	\$37,297
Asian	\$86,647	\$86,250	\$63,100	\$69,664
<b>Percent of Households that are Married Couple Families</b>				
Non-White	45.5%	38.3%	28.1%	32.4%
White	42.7%	51.5%	43.7%	51.5%
<b>Percent of Residents 25+ w/ Bachelor's Degree or Higher</b>				
Non-White	16.3%	18.1%	17.0%	24.0%
White	24.3%	33.1%	23.1%	31.5%

**Map A7. Change in homeownership rates for non-White Lehigh County households: 2000 to 2017**



- Increases in non-White homeownership were largely driven by a few tracts with increases over 25 percentage points.
- Outside of those tracts, tracts with moderate increases were roughly equal in number to tracts with moderate decreases. A substantial number of tracts saw no significant change.

## Monroe County

From 2000 to 2017, the White homeownership rate increased from 79% to 80.8%, compared to a decline for non-White households from 73.5% to 71.0%. The gap in homeownership between White and non-White households increased substantially from a 5.5 percentage point difference in 2000 to a 9.7 percentage point difference in 2017. Black and Hispanic residents are the largest minority groups in Monroe County, whose share of the overall population have more than doubled from 5.7% and 6.6% in 2000 to 14.1% and 14.9% by 2017, respectively.

### County Populations and Households

	Monroe County		Pennsylvania	
	2000	2017	2000	2017
<b>Population</b>	138,687	167,306	12,281,054	12,790,505
% White	84.8%	76.9%	84.1%	81.1%
% Non-White	15.2%	23.1%	15.9%	18.9%
% Black	5.7%	14.1%	9.8%	11.1%
% Hispanic	6.6%	14.9%	3.2%	6.8%
% Asian	1.1%	2.3%	1.8%	3.3%
<b>Households</b>	49,454	57,526	4,777,003	5,007,442
% Non-White	11.7%	26.2%	13.5%	18.3%
% Black	5.0%	12.4%	9.1%	10.0%
% Hispanic	4.7%	11.5%	2.3%	4.9%
% Asian	0.8%	1.8%	1.4%	2.6%

### County Homeownership Rates

	Monroe County		Pennsylvania	
	2000	2017	2000	2017
All races/ethnicities	78.3%	78.2%	71.3%	69.0%
White	79.0%	80.6%	74.8%	74.4%
Non-White	73.5%	71.0%	48.6%	45.3%
White/Non-White Gap	5.5%	9.7%	26.2%	29.1%

### Lending and HEMAP Applications

Non-White households represented 26.2% of households in Monroe County in 2017 and accounted for 35.0% of home purchase originations between 2005 and 2016. Monroe County was the only study county where the share of home purchase loans made to non-White households was larger than the overall share of non-White households. 7.1% of Monroe County households submitted a HEMAP application between 2005 and 2018, which was roughly *three times higher* than the other spotlighted counties and substantially higher than state-wide HEMAP application levels.

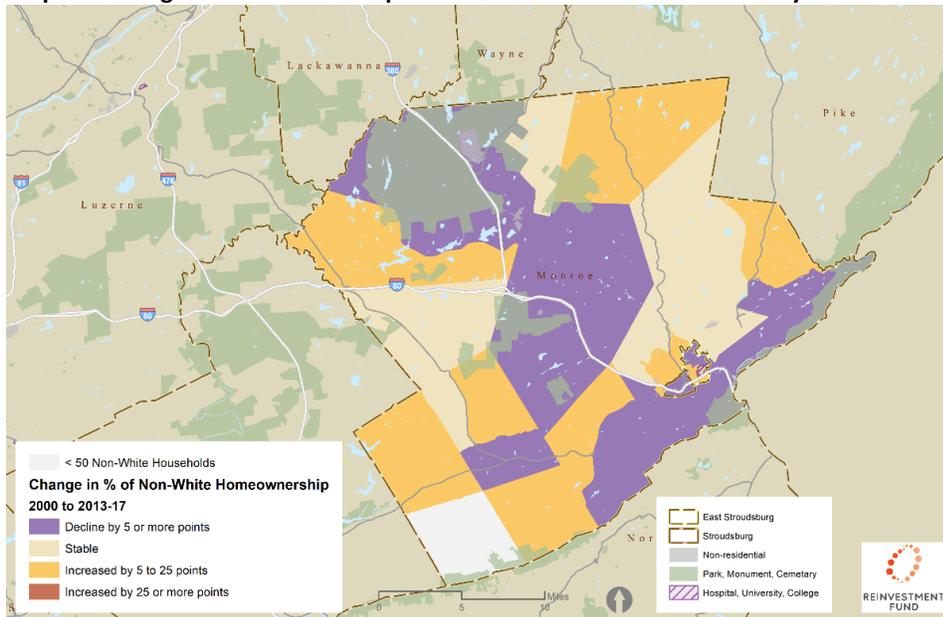
Home Purchase Originations (County)	2005 – 2016 Monroe County		2005 – 2016 Pennsylvania	
	#	%	#	%
Non-White	9,158	35.0%	178,449	13.9%
White	17,020	65.0%	1,108,018	86.1%
HEMAP Applications as % of 2010 Owner Occupied Units		7.1%		2.5%

### Socio-economic Characteristics – Incomes; Family Composition; Educational Attainment

Median household incomes fell sharply for all racial and ethnic groups. Median household incomes for the county decreased by \$4,599. Asian households were hardest hit by the decline, with a decrease of \$26,694. Median incomes declined by just over \$17,000 for Black households, by almost \$10,000 for Latino households, and by \$4,846 for White households. The share of households that were married couples decreased by over 11 percentage points for non-White households, compared to an over six percentage point increase for White households. The share of non-White residents with a bachelor's degree or higher rose by just over two percentage points for non-White residents, and just over four percentage points for White residents.

	Monroe County		Pennsylvania	
	2000 (in 2017 dollars)	2017	2000 (in 2017 dollars)	2017
<b>Median Household Income</b>				
All races/ethnicities	\$66,029	\$61,430	\$57,249	\$56,951
White	\$64,662	\$59,816	\$59,584	\$61,345
Black	\$80,650	\$63,576	\$39,133	\$35,349
Latino	\$77,136	\$67,436	\$38,441	\$37,297
Asian	\$103,645	\$76,951	\$63,100	\$69,664
<b>Percent of Households that are Married Couple Families</b>				
Non-White	65.1%	53.7%	28.1%	32.4%
White	49.8%	56.4%	43.7%	51.5%
<b>Percent of Residents 25+ w/ Bachelor's Degree or Higher</b>				
Non-White	20.0%	22.2%	17.0%	24.0%
White	20.6%	24.7%	23.1%	31.5%

**Map A9. Change in homeownership rates for non-White Monroe County households: 2000 to 2017**



- Decreases in non-White homeownership were concentrated in comparatively denser areas, including Stroudsburg.
- Tracts further from the I-80/380 corridor were more stable or saw increased rates of non-White homeownership.

## Philadelphia County

From 2000 to 2017, the White homeownership rate fell from 65.7% to 59.2%, compared to a decline for non-White households from 54.4% to 47.4%. The gap in homeownership between White and non-White households declined slightly from a 12.3 percentage point difference in 2000 to a 11.8 percentage point difference in 2017. Black residents are the largest minority group in Philadelphia County, whose share of the overall population has remained constant at 42.6% 2000 and 2017. Hispanic and Asian populations have increased from 8.5% and 4.4% in 2000 to 14.1% and 7.1% in 2017, respectively.

### County Populations and Households

	Philadelphia County		Pennsylvania	
	2000	2017	2000	2017
<b>Population</b>	1,517,550	1,569,657	12,281,054	12,790,505
% White	42.5%	41.6%	84.1%	81.1%
% Non-White	57.5%	58.4%	15.9%	18.9%
% Black	42.6%	42.6%	9.8%	11.1%
% Hispanic	8.5%	14.1%	3.2%	6.8%
% Asian	4.4%	7.1%	1.8%	3.3%
<b>Households</b>	590,071	591,280	4,777,003	5,007,442
% Non-White	52.10%	59.4%	13.5%	18.3%
% Black	40.7%	41.4%	9.1%	10.0%
% Hispanic	6.4%	11.0%	2.3%	4.9%
% Asian	3.6%	5.8%	1.4%	2.6%

### County Homeownership Rates

	Philadelphia County		Pennsylvania	
	2000	2017	2000	2017
All races/ethnicities	59.3%	52.2%	71.3%	69.0%
White	65.7%	59.2%	74.8%	74.4%
Non-White	53.4%	47.4%	48.6%	45.3%
White/Non-White Gap	12.3%	11.8%	26.2%	29.1%

## Lending and HEMAP Applications

Non-White households represented 59.4% of households in Philadelphia county in 2017 and accounted for 44.0% of home purchase originations between 2005 and 2016.

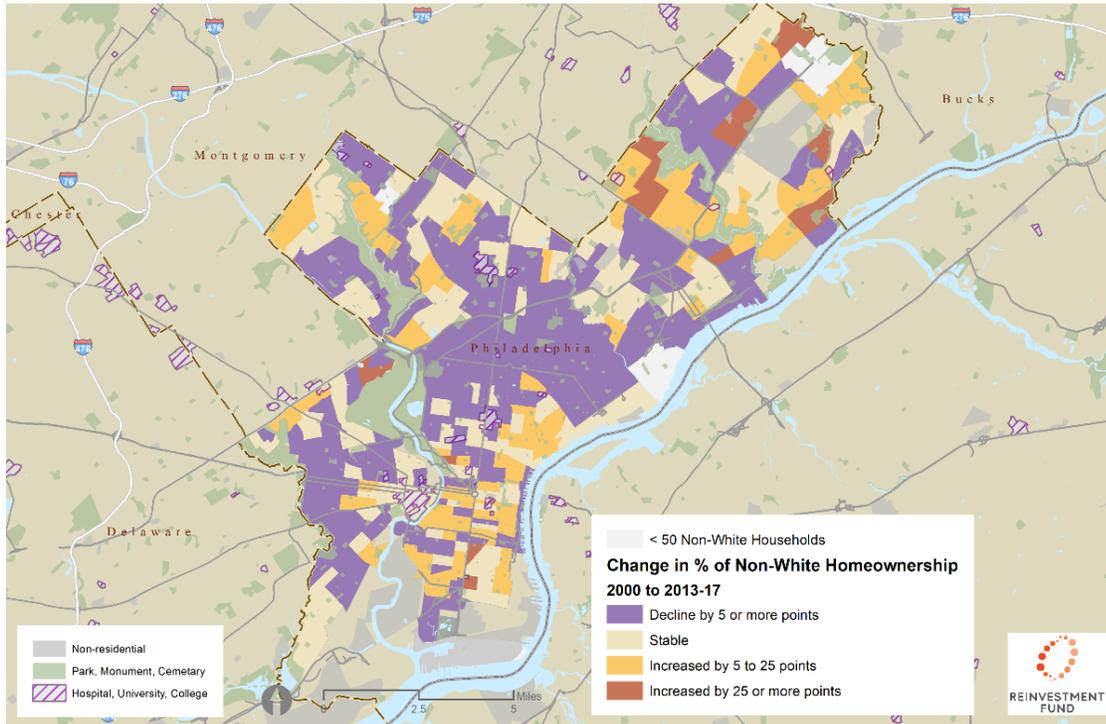
	2005 – 2016 Philadelphia County		2005 – 2016 Pennsylvania	
	#	%	#	%
Home Purchase Originations (County)				
Non-White	58,908	44.03%	178,449	13.9%
White	74,896	53.97%	1,108,018	86.1%
HEMAP Applications as % of 2010 Owner Occupied Units		5.1%		2.5%

## Socio-economic Characteristics – Incomes; Family Composition; Educational Attainment

Changes in median household incomes varied across different racial and ethnic groups. Black households experienced substantial declines in median household incomes, falling by \$5,226, and Hispanic households experienced slight declines in incomes. White and Asian households experienced increases in median incomes of \$3,742 and \$4,486, respectively. The share of households that were married couples was stable for non-White households but increased for White headed-households. The share of non-White residents with a bachelor's degree or higher rose by six percentage points for non-White residents, compared to a 16 percentage point increase for White residents.

	Philadelphia County		Pennsylvania	
	2000 (in 2017 dollars)	2017	2000 (in 2017 dollars)	2017
<b>Median Household Income</b>				
All races/ethnicities	\$43,765	\$40,649	\$57,249	\$56,951
White	\$52,771	\$56,513	\$59,584	\$61,345
Black	\$37,318	\$32,092	\$39,133	\$35,349
Latino	\$29,533	\$28,854	\$38,441	\$37,297
Asian	\$39,563	\$44,049	\$63,100	\$69,664
<b>Percent of Households that are Married Couple Families</b>				
Non-White	23.1%	22.5%	28.1%	32.4%
White	28.9%	35.0%	43.7%	51.5%
<b>Percent of Residents 25+ w/ Bachelor's Degree or Higher</b>				
Non-White	12.1%	18.3%	17.0%	24.0%
White	24.1%	40.2%	23.1%	31.5%

**Map A11. Change in homeownership rates for non-White Philadelphia County households: 2000 to 2017**



- Non-White homeownership declined in most Census tracts in Philadelphia, particularly in North Philadelphia and West Philadelphia, some of which are places experiencing rapid housing price appreciation.
- Non-White homeownership increased in some areas of Center City, South Philadelphia and the tracts northeast of Center City along the Delaware river. However, most of the tracts that experienced substantial increases in non-White homeownership were located in the far Northeast of the city – places that historically had very few non-White households.

## Appendix II. Supplemental Tables

Table A1. County Level Changes in White Households and Homeownership Rates

County	White Households 2000	White Homeownership Rate 2000	White Households 2017	White Homeownership Rate 2017	Change in White Homeownership 2000-17
Adams	32,275	78.2	36,051	79.8	1.6
Allegheny	471,111	71.6	437,885	71.2	-0.4
Armstrong	28,582	77.4	27,694	76.1	-1.3
Beaver	63,788	77.1	64,716	76.6	-0.5
Bedford	19,513	80.3	19,296	80.1	-0.2
Berks	150,235	78.5	123,212	79.1	0.6
Blair	50,597	73.7	50,019	71.0	-2.7
Bradford	24,040	75.7	24,243	75.2	-0.5
Bucks	245,030	81.0	208,101	80.0	-1.0
Butler	79,096	78.9	72,989	76.9	-2.0
Cambria	56,192	76.6	54,610	76.1	-0.5
Cameron	2,441	74.9	2,161	72.8	-2.1
Carbon	28,148	80.2	24,488	78.6	-1.6
Centre	49,903	63.0	51,758	65.2	2.2
Chester	166,781	80.9	160,022	79.2	-1.7
Clarion	18,368	73.0	15,588	70.4	-2.7
Clearfield	35,338	79.5	30,624	77.3	-2.2
Clinton	14,575	73.3	14,255	71.7	-1.7
Columbia	24,504	73.0	25,386	70.2	-2.8
Crawford	40,800	77.2	34,201	73.8	-3.5
Cumberland	95,196	74.7	89,049	73.7	-1.0
Dauphin	99,781	72.6	81,477	73.3	0.7
Delaware	170,296	77.0	147,398	77.7	0.7
Elk	13,989	79.6	13,187	79.5	-0.1
Erie	97,872	71.9	98,751	70.1	-1.8
Fayette	62,249	74.7	50,993	74.9	0.2
Forest	3,240	82.7	1,446	85.5	2.8
Franklin	51,978	75.9	55,715	73.0	-2.9
Fulton	5,567	79.1	5,790	78.8	-0.3
Greene	17,401	73.4	14,175	73.7	0.3
Huntingdon	16,438	77.9	16,506	76.1	-1.8
Indiana	33,213	72.7	32,900	70.9	-1.8
Jefferson	18,193	77.3	18,084	75.4	-1.8
Juniata	11,205	78.5	9,124	77.0	-1.4
Lackawanna	87,094	69.4	78,052	69.5	0.2
Lancaster	174,211	73.5	172,009	72.6	-0.9
Lawrence	38,779	78.4	34,763	76.0	-2.4
Lebanon	49,434	73.1	46,257	74.7	1.6
Lehigh	131,923	75.5	101,659	74.2	-1.3
Luzerne	131,064	71.3	115,021	72.5	1.2
Lycoming	51,301	72.0	43,336	72.2	0.1
McKean	17,789	74.9	16,844	74.2	-0.7
Mercer	42,488	78.8	42,601	75.7	-3.0
Mifflin	18,211	74.3	18,588	71.0	-3.3
Monroe	68,748	79.7	42,479	80.8	1.1
Montgomery	257,564	76.7	253,202	76.9	0.2
Montour	6,894	73.9	6,908	74.0	0.2
Northampton	109,303	78.2	94,403	76.7	-1.5
Northumberland	38,273	74.0	38,046	72.1	-1.9
Perry	19,385	79.3	17,528	80.7	1.4
Philadelphia	359,927	62.5	239,858	59.2	-3.3
Pike	40,843	84.6	18,301	85.4	0.8
Potter	6,881	77.7	6,416	77.2	-0.5
Schuylkill	62,300	78.0	56,421	76.0	-2.0
Snyder	15,136	74.0	14,267	73.2	-0.8
Somerset	33,069	78.6	29,407	78.1	-0.5
Sullivan	2,627	81.0	2,567	81.6	0.6
Susquehanna	16,282	79.7	16,989	77.7	-2.0
Tioga	15,692	76.5	15,649	74.6	-1.9
Union	18,905	72.9	13,836	72.4	-0.5
Venango	22,379	76.8	21,411	75.4	-1.4
Warren	17,497	78.4	16,800	76.7	-1.7
Washington	81,780	79.0	79,479	77.0	-2.0
Wayne	17,934	80.6	18,448	79.5	-1.0
Westmoreland	160,697	79.2	145,280	78.9	-0.3
Wyoming	10,622	79.1	10,546	78.6	-0.5
York	162,784	80.0	149,341	78.9	-1.1

**Table A2. County Level Changes in Non-White Households and Homeownership Rates**

County	Non-White Households - 2000	Non-White Homeownership Rate - 2000	Non-White Households - 2017	Non-White Homeownership Rate - 2017	Change in Non-White Homeownership - 2000-17
Adams	1,162	40.7	2,347	49.2	8.5
Allegheny	74,176	38.8	90,826	36.5	-2.3
Armstrong	331	58.1	414	56.0	-2.0
Beaver	4,336	45.6	4,963	35.6	-10.0
Bedford	150	62.7	211	46.4	-16.2
Berks	15,895	41.8	30,145	43.8	2.0
Blair	853	43.1	1,141	47.7	4.6
Bradford	234	56.5	410	54.9	-1.6
Bucks	16,590	49.9	26,013	50.5	0.6
Butler	1,286	61.1	2,052	59.9	-1.2
Cambria	1,339	43.4	2,195	34.3	-9.0
Cameron	14	50.0	26	30.8	-19.2
Carbon	693	73.7	1,251	52.4	-21.4
Centre	3,744	20.2	5,299	28.1	7.9
Chester	16,851	49.5	26,823	51.9	2.4
Clarion	220	30.0	224	17.9	-12.1
Clearfield	221	64.3	463	47.9	-16.3
Clinton	120	40.8	298	45.0	4.2
Columbia	388	38.7	968	40.8	2.1
Crawford	599	43.4	592	34.5	-8.9
Cumberland	3,302	47.7	7,842	39.2	-8.4
Dauphin	23,679	43.2	29,057	36.7	-6.5
Delaware	34,122	48.9	55,507	48.2	-0.6
Elk	83	56.6	167	48.5	-8.1
Erie	7,438	35.9	10,579	31.1	-4.8
Fayette	2,590	46.5	2,331	42.3	-4.2
Forest	9	66.7	17	100.0	33.3
Franklin	1,981	40.6	4,038	37.1	-3.5
Fulton	57	59.6	105	66.7	7.0
Greene	164	70.7	177	65.0	-5.8
Huntingdon	242	54.5	198	37.4	-17.2
Indiana	736	33.3	803	46.7	13.4
Jefferson	87	60.9	259	42.1	-18.8
Juniata	222	33.3	233	20.6	-12.7
Lackawanna	2,108	28.3	7,280	24.3	-3.9
Lancaster	13,738	39.3	25,803	38.2	-1.1
Lawrence	1,322	47.1	1,604	40.1	-7.0
Lebanon	3,013	31.8	6,208	32.1	0.3
Lehigh	15,718	37.7	35,481	38.0	0.3
Luzerne	2,608	36.8	13,105	31.4	-5.4
Lycoming	1,871	26.3	2,221	30.7	4.4
McKean	123	61.0	183	71.6	10.6
Mercer	1,690	49.9	2,790	36.2	-13.8
Mifflin	160	50.7	222	30.2	-20.5
Monroe	9,587	75.7	14,777	71.1	-4.6
Montgomery	32,933	52.9	55,758	52.1	-0.8
Montour	167	40.1	462	37.2	-2.9
Northampton	9,420	43.8	18,429	46.3	2.5
Northumberland	434	35.3	1,157	39.2	3.8
Perry	137	61.3	309	50.8	-10.5
Philadelphia	352,474	52.4	344,518	47.4	-5.0
Pike	2,882	81.5	2,889	76.4	-5.1
Potter	68	51.5	48	91.7	40.2
Schuylkill	714	47.2	1,988	41.8	-5.4
Snyder	240	26.7	254	51.6	24.9
Somerset	161	62.7	329	65.7	2.9
Sullivan	8	50.0	35	62.9	12.9
Susquehanna	136	67.7	252	52.4	-15.3
Tioga	140	48.6	326	46.6	-2.0
Union	387	35.6	751	41.0	5.4
Venango	240	47.5	276	41.3	-6.2
Warren	87	60.9	178	54.5	-6.4
Washington	3,189	50.0	3,584	50.8	0.7
Wayne	317	70.2	689	70.2	0.0
Westmoreland	3,976	52.1	5,646	47.0	-5.1
Wyoming	86	62.8	153	58.2	-4.6
York	8,806	42.0	18,867	40.5	-1.5

**Table A3. Changes in County-Level White/Non-White Homeownership Gaps**

County	White - Non-White Homeownership Gap - 2000	White - Non-White Homeownership Gap - 2017	Change in White - Non-White Homeownership Gap - 2000-17
Adams	37.5	30.6	-6.9
Allegheny	32.8	34.6	1.9
Armstrong	19.3	20.1	0.8
Beaver	31.5	40.9	9.5
Bedford	17.6	33.7	16.0
Berks	36.7	35.3	-1.4
Blair	30.6	23.3	-7.2
Bradford	19.2	20.3	1.1
Bucks	31.1	29.5	-1.6
Butler	17.9	17.0	-0.9
Cambria	33.2	41.8	8.6
Cameron	24.9	42.0	17.1
Carbon	6.5	26.2	19.7
Centre	42.8	37.1	-5.7
Chester	31.4	27.3	-4.1
Clarion	43.1	52.5	9.5
Clearfield	15.2	29.4	14.1
Clinton	32.5	26.7	-5.8
Columbia	34.3	29.4	-5.0
Crawford	33.8	39.3	5.5
Cumberland	27.0	34.5	7.5
Dauphin	29.3	36.6	7.2
Delaware	28.2	29.5	1.3
Elk	23.0	31.0	8.0
Erie	36.0	39.0	3.0
Fayette	28.2	32.6	4.4
Forest	16.1	-14.5	-30.5
Franklin	35.3	35.9	0.6
Fulton	19.4	12.1	-7.3
Greene	2.7	8.7	6.0
Huntingdon	23.4	38.7	15.4
Indiana	39.4	24.2	-15.2
Jefferson	16.4	33.3	17.0
Juniata	45.2	56.4	11.3
Lackawanna	41.1	45.2	4.1
Lancaster	34.2	34.4	0.2
Lawrence	31.2	35.8	4.6
Lebanon	41.3	42.6	1.3
Lehigh	37.8	36.2	-1.6
Luzerne	34.6	41.1	6.6
Lycoming	45.7	41.5	-4.2
McKean	13.9	2.6	-11.3
Mercer	28.8	39.6	10.7
Mifflin	23.6	40.9	17.2
Monroe	4.0	9.7	5.6
Montgomery	23.8	24.8	0.9
Montour	33.7	36.8	3.1
Northampton	34.4	30.4	-4.0
Northumberland	38.7	33.0	-5.7
Perry	18.0	29.9	11.9
Philadelphia	10.1	11.8	1.7
Pike	3.1	9.0	5.8
Potter	26.2	-14.5	-40.7
Schuylkill	30.8	34.2	3.4
Snyder	47.3	21.6	-25.7
Somerset	15.8	12.4	-3.4
Sullivan	31.0	18.8	-12.3
Susquehanna	12.0	25.3	13.2
Tioga	27.9	27.9	0.0
Union	37.3	31.4	-5.9
Venango	29.3	34.1	4.8
Warren	17.5	22.2	4.7
Washington	29.0	26.2	-2.8
Wayne	10.3	9.3	-1.1
Westmoreland	27.1	31.9	4.8
Wyoming	16.3	20.4	4.1
York	38.0	38.3	0.3

**Table A4. Descriptive Statistics for Model Inputs**

Variables	Obs	Mean	Std. Dev.	Min	25%	50%	75%	Max
2000 - 2017 Change in White Homeownership Rate	3,218	-2.97	12.65	-100.00	-5.33	-1.22	2.33	90.90
2000 - 2017 Change in Non-White Homeownership Rate	2,161	-3.86	19.13	-87.85	-14.58	-3.35	6.80	83.32
Percentage Point Gap in White - Non-White Homeownership: 2017	2,161	18.07	24.17	-90.57	1.13	18.62	34.74	91.34
White Home Purchase Originations: 2005 - 2016	3,218	369	315	0	148	292	510	3189
Non-White Home Purchase Originations: 2005 - 2016	2,161	85	109	0	22	50	102	1059
HEMAP Applications as % of 2010 Owner Occupied Units: 2005 - 2016	3,218	2.76	3.32	0.00	1.31	2.03	3.28	100.00
White Homeownership Rate: 2000	3,218	72.19	18.85	0.00	63.44	77.65	85.84	100.00
Non-White Homeownership Rate: 2000	2,161	51.66	24.79	0.50	32.32	50.30	71.90	100.00
Total Households: 2017	3,218	1,542	668	0	1,062	1,473	1,944	4,410
Median Household Income: 2017	3,218	\$58,795	\$27,389	\$0	\$41,573	\$54,491	\$71,094	\$197,902
Percent of Households that are Families: 2017	3,218	70.78	18.96	0.00	63.12	76.79	84.10	100.00
Percent of Residents 25+ w/ Bachelors Degree: 2017	3,218	29.10	18.43	0.00	15.55	23.66	38.15	100.00

Reinvestment Fund has published a range of reports addressing critical public policy issues. The highlighted reports below represent recent housing research projects. For details, please visit our Policy Publications site:

[WWW.REINVESTMENT.COM/IMPACT/RESEARCH-PUBLICATIONS](http://WWW.REINVESTMENT.COM/IMPACT/RESEARCH-PUBLICATIONS)

2019

Maybe it Really Does Take a Village: Supporting the Creation of High-Quality Unsubsidized Affordable Rental Housing in Legacy Cities



2020

Mortgage Lending in Philadelphia: Key Take-Aways from the 2018 Home Mortgage Disclosure Act Data Release



2020

Pennsylvania's Housing Trust Funds: Current Conditions and Opportunities for the Future



2020

Resolving Landlord-Tenant Disputes: An Analysis of Judgments by Agreement in Philadelphia's Eviction Process



**REINVESTMENT  
FUND**

[www.reinvestment.com](http://www.reinvestment.com)  
[www.policymap.com](http://www.policymap.com)

**REINVESTMENT FUND** is a national mission-driven financial institution that creates opportunity for underserved people and places through partnerships. We marshal the capital, analytics, and expertise necessary to build strong, healthy, and more equitable communities.

**PHILADELPHIA**  
1700 Market Street  
19th Floor  
Philadelphia, PA 19103  
TEL 215.574.5800

**BALTIMORE**  
1707 North Charles Street  
Suite 200B  
Baltimore, MD 21201  
TEL 410.783.1110

**ATLANTA**  
229 Peachtree Street NE  
Suite 750, International Tower  
Atlanta, GA 30303  
TEL 404.400.1130



real estate



early  
education



healthcare



healthy  
food



housing



k-12  
education



data &  
analysis



clean  
energy

Reinvestment Fund is an equal opportunity provider.