

A Neighborhood Analysis of the Forsyth County Homeownership Program:
Where Do Recipients Move and Why?

Zachary Blizard, Craig Richardson, and Joseph Sloop

Center for the Study of Economic Mobility
Winston-Salem State University

February 5, 2021

This report is based on a larger CSEM working paper, titled “Analysis of the Forsyth County, North Carolina Homeownership Program Outcomes.” This report details in depth the research programs’ methodologies and includes other results.

Executive Summary

To a very large degree, our environments affect us. Our decisions, behaviors, interests, pursuits, and long-term outcomes, along a wide variety of channels (economical, personal, educational), are impacted by the environments we are exposed to. It is unsurprising, then, that our neighborhoods - the communities where we live and spend most of our time, have substantial effects on our long-term socioeconomic outcomes. Indeed, some neighborhoods afford its residents more and better opportunities than others, many of which will affect these residents' climb up the economic ladder.

Forsyth County's department of Community and Economic Development (CED) directs a housing program to promote home ownership among low-income residents in Forsyth County, NC, known as the Forsyth County Homeownership Program (FCHP). The program seeks to promote home ownership by subsidizing down payments, which is a primary obstacle to ownership among low-income residents. An important aspect of the FCHP is that it allows, with some professional guidance, participants to decide what house to buy and to choose where they ultimately live. Therefore, the FCHP not only assists participants in purchasing homes, it also enables them to move to new neighborhoods, which may have a different impact on their ability to climb higher up the economic ladder, compared to where they lived previously.

Determining whether a neighborhood is more or less conducive of economic mobility, however, is a difficult endeavor. Nevertheless, different environments present different economic ladders- with some having more broken rungs than others, like a neighborhood with high crime and limited access to high-quality education. A move out of such a neighborhood is therefore consequential in that a new neighborhood with better resources will have a stronger ladder with rungs that are closer together, allowing for greater upward mobility. There are measurable neighborhood-level characteristics that are clear indicators of a strong economic ladder. Using these indicators, we can compare the relative strength of the economic ladders in two neighborhoods, to gauge whether one is better or worse for the economic mobility.

The neighborhoods in which FCHP participants move to are often substantially different environments than the ones they lived before. Hence, a question arises: Did the FCHP promote the movement of participants to new neighborhoods that are more promoting of upward mobility compared to their old neighborhoods? If this question is answered in the affirmative, then, in addition to promoting economic mobility through homeownership, the FCHP involves another mechanism for stimulating economic mobility – helping low-income residents move to neighborhoods more supportive of it. This same mechanism has been identified in other studies, like those examining outcomes related to the Moving to Opportunity project of the 1990s, which show large impacts on a wide variety of social outcomes, such as lifetime earnings, education attainment, and criminal behavior.¹

Our study examines a subsample of the FCHP participants, including 508 homeowners. We find that the FCHP promoted the movement of low-income residents to areas of the county that are more conducive of economic mobility and are becoming even more so.

¹ Chetty, R., Hendren, N., & Katz, L. F. (2016). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment. *American Economic Review*, 106(4), 855-902.

Center for the Study of Economic Mobility Findings:
Outcomes of the Forsyth County Affordable Home Ownership Program
(n = 508 participants, years 2005-2020).

Key Set of Findings

Socioeconomics

Relative to their old neighborhoods, participants purchased homes in neighborhoods with:

- Significantly lower crime rates (over 90% less crime in each year measured).
- Fewer single-parent households (over an 8 percentage point drop).
- Fewer renters and more homeowners (around a 21 percentage point drop in share of renters).
- Fewer vacant housing units (1.8 percentage point drop).
- Increasing shares of highly educated people (from 20.5 in 2000 to 22.8 percent on 2010), compared to their old neighborhoods that have decreasing shares (23.6 in 2000 to 22 percent in 2010).

Economics

Relative to their old neighborhoods, participants purchased homes in neighborhoods with:

- Much higher median household incomes (avg. increase between \$4,000 - \$6,400).
- Slightly lower unemployment rates (between 0.4 and 0.7 percentage point drop).

Demographics

- Relative to their old neighborhoods, participants purchased homes in more diverse neighborhoods, i.e., with a wider share of different racial and ethnic groups than their own.

The data and information surrounding the FCHP are vast. We intend to continue analyzing what we find and publishing our results. This report is the second of likely many reports. Future reports will include deeper dives into home values, among other topics. In addition to analyzing currently available data, representatives from Forsyth County's CED Department are interested in creating a survey that asks past FCHP participants to describe their quality of life after receiving the down payment subsidy and financial training. This survey will serve to gauge these household's health, access to jobs, social mobility, satisfaction with local education, and overall well-being.

INTRODUCTION

Forsyth County's department of Community and Economic Development (CED) directs a housing program to promote home ownership among low-income residents in Forsyth County, NC, known as the Forsyth County Homeownership Program (FCHP). The program seeks to promote home ownership by subsidizing down payments, which is a primary obstacle to ownership among low-income residents. An important aspect of the FCHP is that it allows, with some professional guidance, participants to decide what house to buy and to choose where they ultimately live. Therefore, the FCHP not only assists participants in purchasing homes, it also enables them to move to new neighborhoods. A wealth of research findings demonstrate that neighborhood characteristics impact individual residents' long-term economic and socioeconomic outcomes, like their ability to climb higher up the economic ladder.

The neighborhoods in which FCHP participants move to are often substantially different environments than the ones they lived before. Hence, a question arises: Did the FCHP promote the movement of participants to new neighborhoods that are more promoting of upward mobility compared to their old neighborhoods? If this question is answered in the affirmative, then, in addition promoting economic mobility through homeownership, the FCHP involves another mechanism for stimulating economic mobility – helping low-income residents move to neighborhoods more supportive of it. This same mechanism has been identified in other studies, like those examining outcomes related to the Moving to Opportunity project of the 1990s, which show large impacts on a wide variety of social outcomes, such as lifetime earnings, education attainment, and criminal behavior.²

The goal of this Center for the Study of Economic Mobility (CSEM) report is to gauge whether FCHP participants moved to neighborhoods that are more conducive of economic mobility. Our study examines 508 homeowners for which data is available and accurate.³ This report highlights a set of key findings from the overall CSEM project, which are summarized on page 22.

Concept

Determining whether a neighborhood is more or less conducive of economic mobility is a difficult endeavor. Nevertheless, different environments present different economic ladders- with some having more broken rungs than others, like a neighborhood with high crime and limited access to high-quality education. A move out of such a neighborhood is therefore consequential in that a new neighborhood with better resources will have a stronger ladder with rungs that are closer together, allowing for greater upward mobility. There are measurable neighborhood-level characteristics that are clear indicators of a strong economic ladder. Using these indicators, we can compare the relative strength of the economic ladders in two neighborhoods, to gauge whether one

² Chetty, R., Hendren, N., & Katz, L. F. (2016). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment. *American Economic Review*, 106(4), 855-902.

³ Although there have been over 800 people who have participated in the CEDD program since the 1990s, the present analysis only uses participants that participated after 2004. The reason is because prior to 2005, participant records were not recorded and stored in a standardized and structured way, making it nearly impossible to include these records in an analysis. In consultation with the Director of CED, Dan Kornelis, it was decided that the analysis should only be carried out on the post-2004 participants. Also, the 508 participants used in the present analysis had all necessary data. There were some post-2004 participants who were missing critical information, such as address information. Additionally, there were a number of participants who moved into Forsyth County, NC from other states, such as Virginia, New York, and Georgia. These were participants were not included in the analysis either to focus solely on original Forsyth County residents.

is better or worse for the economic mobility. To demonstrate this process, an illustrative example is given below.

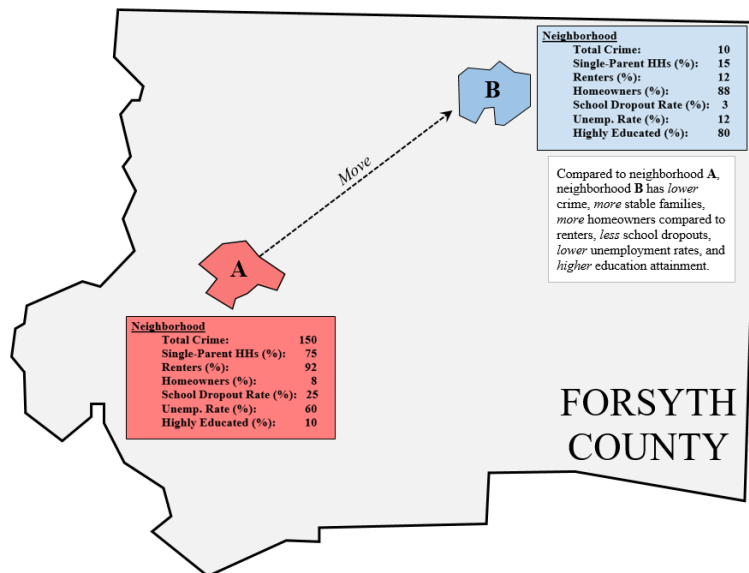
Example

Jasmine rents an apartment in neighborhood **A**, where she has lived for the past 5 years (see Figure 1). She wants to purchase a home, but cannot produce the down payment. She qualifies for the FCHP and is accepted as a participant. As a result, she purchases her first home, which is located in neighborhood **B**.

In her previous neighborhood, **A**, the crime rate is 150, while in her new neighborhood, **B**, the rate is only 10.⁴ Therefore, she moved to a neighborhood that is much safer than the one she lived in previously. This, then, is a benefit of the FCHP in that it helped Jasmine move to a safer neighborhood. Moreover, **B** seems to have other benefits relative to **A**. A much smaller share of family households in **B** are single-parent headed compared to neighborhood **A** (15% versus 75%). Hence, in **A**, a larger proportion of family households are two-parent households, suggesting that family stability in Jasmine’s new neighborhood is better than in her previous one. This is a strong indicator that the area in which Jasmine now lives is more conducive of upward economic mobility, as evidenced by Chetty et al., 2014. Along with lower crime and better family stability, the new neighborhood has higher employment rates, lower school dropout rates, and more homeowners compared to renters, which are all characteristics that suggest that **B** has a stronger economic ladder than **A**.

As we did for the example above, we will carry out a similar process for each FCHP participant in our sample. If the results suggest that, on average, participants moved to neighborhoods with lower crime, more family stability, more homeownership etc., then this suggests that participants’ new neighborhoods have stronger economic ladders than their old neighborhoods.

Figure 1. Jasmine’s Neighborhood Comparison



⁴ By crime rate, we mean the total crimes committed, regardless of the type of crime. So this number includes everything from petty thefts to murders.

Previous Research on How Neighborhood Characteristics Affect Economic Mobility

Racial Demographics

Research demonstrates that race-related characteristics of a neighborhood are related to upward mobility rates. In their 2014 paper, economists Chetty, Hendren, Kline, and Saez found that the share of blacks in the population is inversely related to upward mobility rates.⁵ This is not surprising, as high neighborhood-level concentrations of blacks and non-white minorities are often associated with high poverty rates, which are also inversely related to upward mobility.⁶ Therefore, if FCHP participants move to neighborhoods with higher percentage of whites, that may improve their odds of upward mobility, given that white majority neighborhoods in Forsyth County in general have better access to quality schools, parks, grocery stores and jobs.

Crime

Research also demonstrates that neighborhood-level crime rates are strongly related to upward mobility rates. Using both cross-sectional and longitudinal evidence, and a variety of empirical techniques, Sharkey and Torrats-Espinosa (2017) find strong evidence that the level of crime has a causal and negative effect on upward economic mobility.⁷ Moreover, neighborhood-level crime is associated with a host of other important outcomes, like education attainment and school performance, which are important for upward mobility.⁸ Therefore, if FCHP participants move to neighborhoods with lower crime rates, this would suggest they moved to a neighborhood that is more conducive of upward mobility.

Family Structure

Research demonstrates that family stability is related to upward mobility. In their 2014 paper, economists Chetty, et al. found that the share of single-family households is inversely correlated to upward mobility rates.⁹ Family stability and the presence of a father is particularly related to black mobility rates, especially for black boys.¹⁰ Studies have found that neighborhood characteristics like the proportion of single-parent households significantly predicts outcomes for children who live there. In a multilevel, longitudinal growth analysis, researchers found that children from neighborhoods with higher shares of single-parent households perform worse in school and have more behavioral issues.¹¹ Moreover, if a male child with a single mother moves to a neighborhood with more two-parent households, he may benefit from exposure to possible

⁵ Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the land of opportunity? The geography of intergenerational mobility in the United States. *The Quarterly Journal of Economics*, 129(4), 1553-1623.

⁶ Vartanian, T. P., Walker Buck, P., & Gleason, P. (2007). Intergenerational neighborhood-type mobility: examining differences between blacks and whites. *Housing Studies*, 22(5), 833-856.

⁷ Sharkey, P., & Torrats-Espinosa, G. (2017). The effect of violent crime on economic mobility. *Journal of Urban Economics*, 102, 22-33.

⁸ Grogger, J. (1997). Local violence and educational attainment. *Journal of Human Resources*, 659-682; Darrah, J., & DeLuca, S. (2014). "Living here has changed my whole perspective": How escaping inner-city poverty shapes neighborhood and housing choice. *Journal of Policy Analysis and Management*, 33(2), 350-384;

⁹ *Id.* at 1.

¹⁰ Chetty, R., Hendren, N., Jones, M. R., & Porter, S. R. (2020). Race and economic opportunity in the United States: An intergenerational perspective. *The Quarterly Journal of Economics*, 135(2), 711-783.

¹¹ Vanfossen, B., Brown, C. H., Kellam, S., Sokoloff, N., & Doering, S. (2010). Neighborhood context and the development of aggression in boys and girls. *Journal of Community Psychology*, 38(3), 329-349.

father figures through his friends. Through such network effects, he may perform better in school, be less likely to commit crimes and less likely to become a single-parent himself.¹² Therefore, if FCHP participants move to neighborhoods with lower shares of single-parent households, this would suggest they moved to a neighborhood that is more conducive of upward mobility.

Renting Versus Owning

Research demonstrates that neighborhood-level shares of renters/owners may be indirectly related to upward mobility rates. Findings suggest that neighborhoods comprised primarily of homeowners may have higher levels of social capital, compared to neighborhoods with mainly renters.¹³ Chetty et al. (2014) find that social capital is one of the strongest correlates to upward mobility rates.¹⁴ Moreover, some evidence suggests that neighborhoods with higher proportions of owners, versus renters, may be more stable, which also may promote social capital.¹⁵ Interestingly, living in an owned home seems to significantly benefit children from low-income families. Such children are less likely to drop out of school, less likely to have a child before they are 18, and less likely to ever be arrested.¹⁶ Therefore, if FCHP participants move to neighborhoods with lower shares of renters compared to owners, this would suggest they moved to a neighborhood that is more conducive of upward mobility.

Employment

Research demonstrates that neighborhood-level unemployment rates may be indirectly related to upward mobility rates. Some evidence suggests that neighborhood-level male employment rates significantly predicts individual economic-related variables such as time spent receiving Aid to Families with Dependent Children (AFDC) and time spent earning an income.¹⁷ Role model and network effects may also be mechanisms by which neighborhood employment rates indirectly promote upward mobility. For example, children that grow up around inventors are more likely to become inventors themselves.¹⁸ Hence, children exposed to employed individuals may be more likely to become employed as adults themselves. Therefore, if FCHP participants move to neighborhoods with lower unemployment rates, this would suggest they moved to a neighborhood that may be more conducive of upward mobility.

Household Income

Research demonstrates that household incomes in a surrounding neighborhood may be indirectly related to upward mobility rates there. Studies find that neighborhood-level income has

¹² *Id.* at 9.

¹³ DiPasquale, D., & Glaeser, E. L. (1999). Incentives and social capital: Are homeowners better citizens? *Journal of Urban Economics*, 45(2), 354-384.

¹⁴ *Id.* at 1.

¹⁵ Rohe, W. M., & Stewart, L. S. (1996). Homeownership and neighborhood stability. *Housing Policy Debate*, 7(1), 37-81.

¹⁶ Green, R. K., & White, M. J. (1997). Measuring the benefits of homeownership: Effects on children. *Journal of Urban Economics*, 41(3), 441-461.

¹⁷ Mendenhall, R., DeLuca, S., & Duncan, G. (2006). Neighborhood resources, racial segregation, and economic mobility: Results from the Gautreaux program. *Social Science Research*, 35(4), 892-923.

¹⁸ Chetty, R., Hendren, N., Jones, M. R., & Porter, S. R. (2020). Race and economic opportunity in the United States: An intergenerational perspective. *The Quarterly Journal of Economics*, 135(2), 711-783.

half the effect on future lifetime earnings as parental income.¹⁹ Researchers estimate that lifetime household income would be approximately \$635,000 dollars higher if people born into a 25th percentile neighborhood would have been raised in a 75th percentile neighborhood.²⁰ Therefore, if FCHP participants move to neighborhoods with higher median household incomes, this would suggest they moved to a neighborhood that may be more conducive of upward mobility.

Education

Research demonstrates that education attainment characteristics in a neighborhood may be indirectly related to upward mobility rates. Evidence suggests that neighborhood-level education attainment is significantly related to individual economic-related outcomes like time spent receiving AFDC.²¹ Role model effects may also influence economic mobility through neighborhood education levels. Children raised in areas with highly educated residents may be more likely to graduate college themselves and complete more years of higher education, which evidence suggests leads to significantly greater lifetime earnings.²² Therefore, if FCHP participants move to neighborhoods with larger shares of highly educated residents, this would suggest they moved to a neighborhood that may be more conducive of upward mobility.

Vacant Housing

Research demonstrates that housing stock in a surrounding neighborhood may be indirectly related to upward mobility rates there. Though the evidence is not statistically significant, quasi-experimental data points to the idea that people randomly assigned to a neighborhood with larger proportions of vacant houses may have had lower education attainment, which is related to long-term economic outcomes.²³

DATA SOURCES

The analysis dataset used for this report is comprised of three categories of data, which are 1) Recipient-related, 2) Address-related, and 3) Neighborhood-related (see Table 1 and 2). The Recipient-related data simply consists of FCHP participants' race/ethnicity. The race groups include Non-Hispanic black, Non-Hispanic white, Non-Hispanic other, and Hispanic. These data were provided by the CED Department of Forsyth County. The Address-related data includes FCHP participants' previous address and new address information, such as the house number, street name, town/city, and Zip code. Also included are the properties' parcel identification number (PIN) and Market Area identifier. A property's PIN is a unique number identifying a specific piece of property, while a Market Area is a grouping of PINs based on geographic proximity and similar property characteristics. These data were also provided by the CED Department.

The third category of data is Neighborhood-related, which includes demographic,

¹⁹ Rothwell, J. T., & Massey, D. S. (2015). Geographic Effects on Intergenerational Income Mobility. *Economic Geography*, 91(1), 83-106.

²⁰ *Id.* at 13.

²¹ Rosenbaum, J. E., & DeLuca, S. (2000). Is housing mobility the key to welfare reform. *Lessons from Chicago's Gautreaux Project*. Washington, DC, Brookings Institution Center on Urban and Metropolitan Policy; *Id.* at 16.

²² Tamborini, C. R., Kim, C., & Sakamoto, A. (2015). Education and lifetime earnings in the United States. *Demography*, 52(4), 1383-1407.

²³ Tach, L., Jacoby, S., Wiebe, D. J., Guerra, T., & Richmond, T. S. (2016). The effect of microneighborhood conditions on adult educational attainment in a subsidized housing intervention. *Housing Policy Debate*, 26(2), 380-397.

socioeconomic, and economic characteristics of the neighborhoods of recipients' old and new addresses. The specific characteristics are related to race, education, crime, family structure, occupancy status, household income, and unemployment rates. These data were acquired from the United States Census Bureau and the analysis dataset was created by MapForsyth in conjunction with Forsyth Futures. FCHP participants moved from a home located in a certain neighborhood to a new address often located in a different neighborhood. We use two definitions of a "neighborhood" to measure neighborhood-related characteristics. The primary method involves assigning participants' old and new addresses to one of the 243 unique census block groups in Forsyth County, NC. If the geographic coordinates of an address fall within the boundaries of a block group, then that address is assigned to that particular block group. Each block group has census estimates for the specific demographic, socioeconomic, and economic characteristics listed earlier. These estimates, which are at the block group level, represent the characteristics of the FCHP residents' neighborhoods. We use estimates for years 2000 and 2010 to reflect any potential changes over time in neighborhood characteristics. Moreover, we only use 2000 and 2010 estimates because 2020 estimates are not yet available.

The secondary method of defining a neighborhood involves using Forsyth County's Market Area definition as a proxy for neighborhood. This is an ideal way of distinguishing neighborhoods since it is a highly nuanced grouping of properties in close proximity to one another. However, it is highly limited because there are few relevant socioeconomic estimates available at this geographic level. We only use Market Area when measuring total crimes.

Table 1: Recipient and Address Data.

Category	Variable	Type	Description
<i>Race/Ethnicity</i>	Non-Hispanic Black	Numeric	Binary variable indicating whether participant identifies as Non-Hispanic black
	Non-Hispanic White	Numeric	Binary variable indicating whether participant identifies as Non-Hispanic white
	Non-Hispanic Other	Numeric	Binary variable indicating whether participant identifies as Non-Hispanic Asian, American Indian, Pacific Islander, etc.
	Hispanic	Numeric	Binary variable indicating whether participant identifies as Hispanic
<i>Address-related</i>	Old Address	Character	Mailing address of participant's old home
	Old City	Character	City of participant's old home
	Old State	Character	State of participant's old home
	Old Zip	Character	Zip code of participant's old home
	Old PIN	Character	PIN number of participant's old home
	Old Market Area	Character	Market area where old address is located
	Old Market Area	Character	Market area where old address is located
	New Address	Character	Mailing address of participant's new home
	New City	Character	City of participant's new home
	New State	Character	State of participant's new home
	New Zip	Character	Zip code of participant's new home
	New PIN	Character	PIN number of participant's new home
	New Market Area	Character	Market area where new address is located

Table 2: Neighborhood-Data

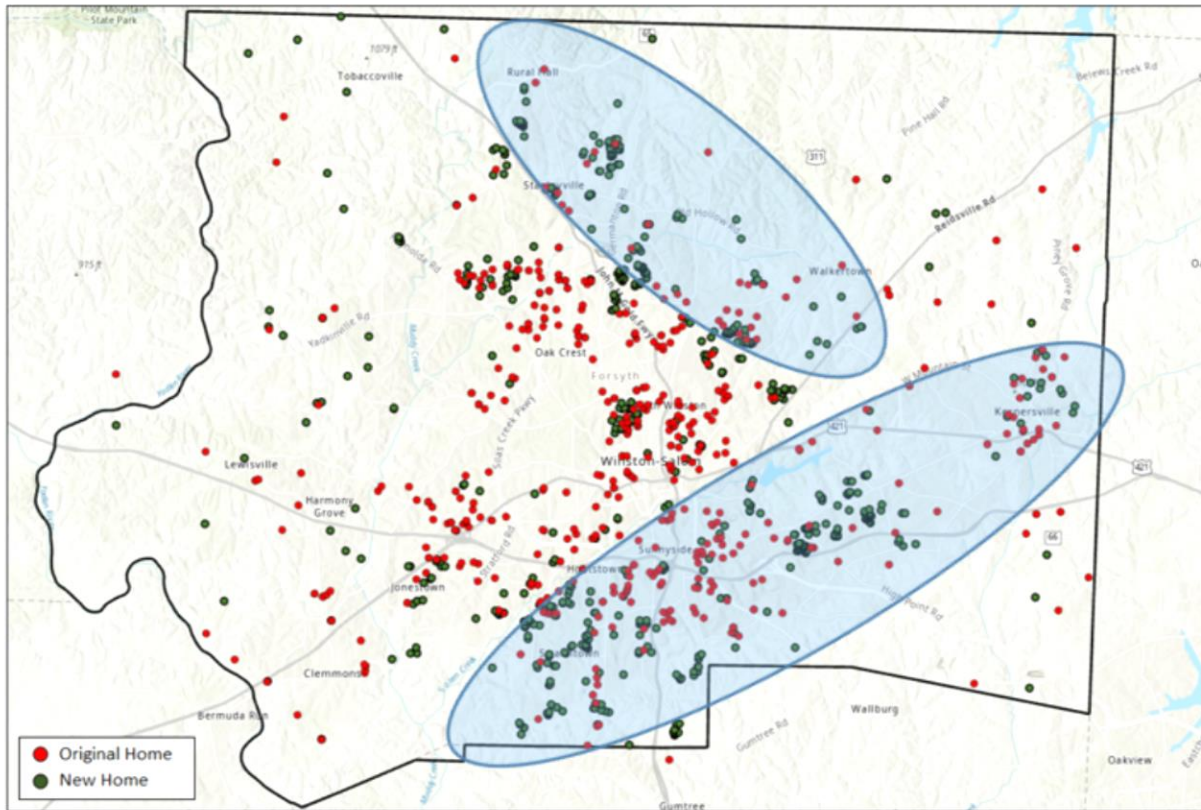
Category	Variable	Level	Type	Year	Description
<i>Demographic</i>	Share of Black Individuals	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that identify as black
	Share of White Individuals	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that identify as white
	Share of Hispanic Individuals	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that identify as Hispanic
	Share of Other Individuals	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that identify as other
	Share of Non-White Minority Individuals	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that identify as a non-white minority
<i>Socioeconomic</i>	Total Crimes	Market Area	Numeric	2017, 2018, 2019	Total crimes committed in a recipients' market area
	Share of Renters	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that rent their homes
	Single-Parent Households	Block Group	Numeric	2000, 2010	Share of households, with own children present, that are single-parent headed
	Mean Family Size	Block Group	Numeric	2000, 2010	Average size of a family in the block group
	Share of Residents that are Highly Educated	Block Group	Numeric	2000, 2010	Share of people in a recipients' block group that have at least a Bachelor's Degree
<i>Economic</i>	Unemployment Rate	Block Group	Numeric	2000, 2010	Unemployment rate, which is the share of working age individuals in the labor force that are unemployed.
	Median Household Income	Block Group	Numeric	2000, 2010	Median income of all households in the block group.
	Vacant Housing	Block Group	Numeric	2000, 2010	Share of housing units that are unoccupied.

ANALYSIS

Migration before and after home purchase

Figure 2 contains a map of Forsyth County, with the before and after addresses of the FCHP participants. Red dots mark the pre-move addresses of the participants, while the green dots mark the post-move addresses. Hence, the green dots note the participant's newly purchased homes. The blue ovals demonstrate some common shifts away from the city center and into lower density neighborhoods.

Figure 2. Migration Map of FCHP Participants (New home clusters shaded in blue)



Using the before and after address points from Figure 2, we are able to locate clusters of participants to better discern migration patterns. These clusters are revealed using heat maps, in which dense groupings of participants appear bright orange.²⁴ Before we display these heat maps, we present a set of results from a prior study completed by MapForsyth, which we believe sheds light on our findings and provide some interpretive context. The results from the MapForsyth study are shown in Figure MF1. As can be seen in the 2x2 panel of maps, just north of Business 40 (now called Salem Parkway), and east of highway 52 lies an area about 2 miles in diameter that has by far the worst social outcomes of the entire county. It is the poorest, with some Census tracts averaging less than \$14,000 in household income. Moreover, this area of the county has some of the highest crime rates, with the dark red representing the highest and most intense levels of illegal activity (top row of panels in Figure MF1). The bottom row of panels show the high number of housing code violations, indicating the poor state of housing, as well as the extremely high rates of cancer. Hence, these outcomes make this small area of the county a less than desirable place for residents to live. These challenging social outcomes help explain much of the FCHP participant migration patterns.

²⁴ To calculate the density clusters, a Kernel Density approach was used in ArcGIS Pro.

Figure MF1. Challenging Locations in Forsyth County, NC

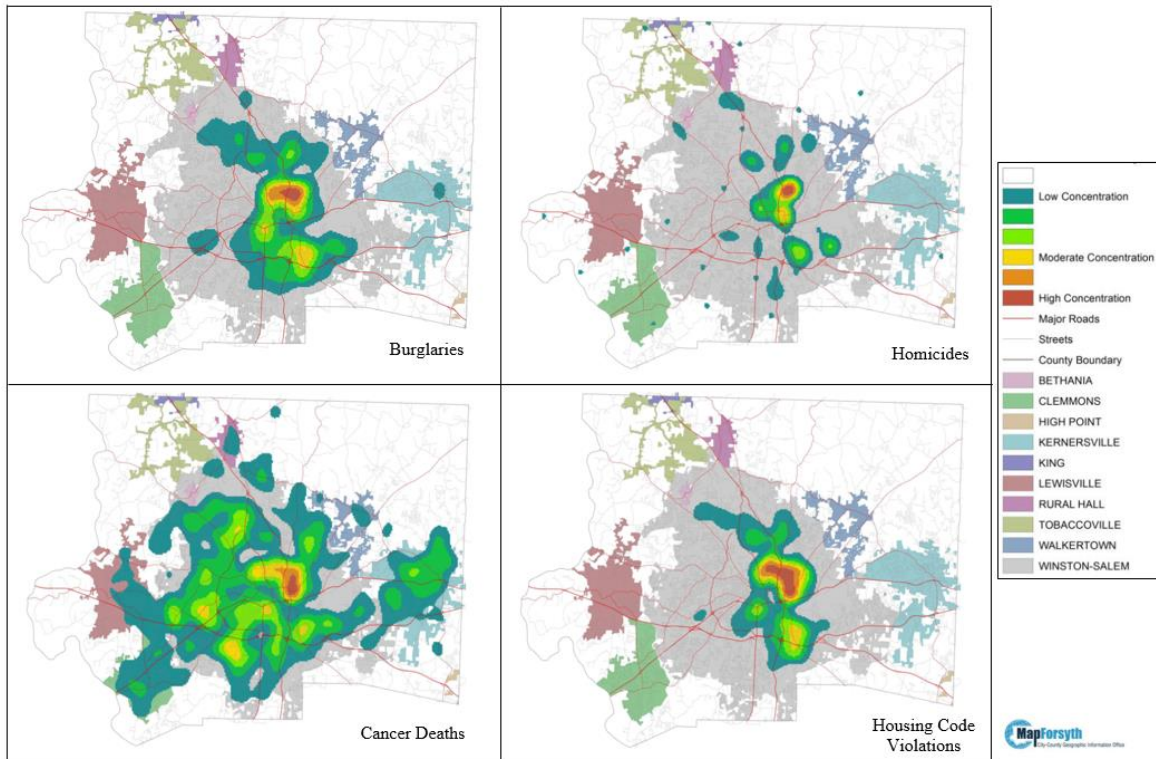
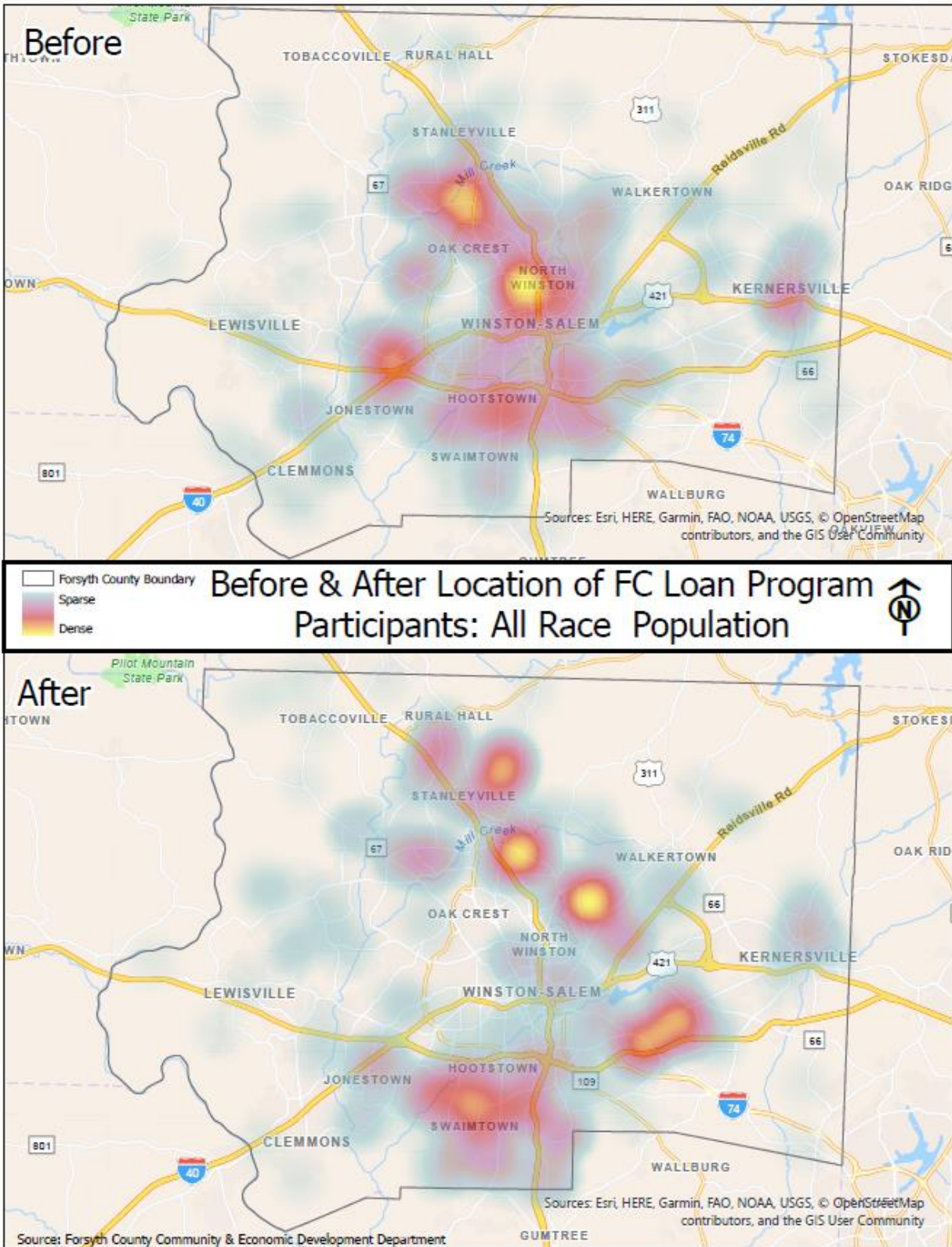


Figure 3 contains heat maps revealing clusters of participants’ before and after addresses. Clusters, which are dense groupings of participants, appear bright orange on the map. The top panel shows the participants’ original addresses and the bottom panel shows where they moved to. We summarize the clusters in Table M1 before presenting them visually in Figure 3. According to the results, participants moved further east and south, away from downtown Winston-Salem. This is unsurprising considering the participants are leaving an area that is rampant with societal challenges, as was shown in Figure MF1 earlier.

Table M1. Where did Participants Tend to Move?

Address	Description of Location
<i>Original</i>	
Cluster 1	North Winston, in the northwest corner of the intersection of US 421 and US 52.
Cluster 2	The second cluster appears on the west side of US 421 in between Stanleyville and Oak Crest near Mill Creek.
Cluster 3	North of the intersection between US 421 and Interstate 40.
<i>New</i>	
Cluster 1	North Winston, in the northwest corner of the intersection of US 421 and US 52.
Cluster 2	West side of US 421 in between Stanleyville and Oak Crest near Mill Creek.
Cluster 3	Northeastern portion of the Winston-Salem municipality, between North Winston and Walkertown
Cluster 4	South of Interstate 40, between Swainstown and Hootstown.
Cluster 5	Bordering the north side of Interstate 40 east of US 52, between Winston-Salem and Kernersville

Figure 3: Where did Participants Tend to Move?



Figures 4-6 contains heat maps revealing clusters of participants' before and after addresses, by their race (Blacks, whites, and Hispanics). The objective was to identify migration patterns among specific groups of participants, to explore whether groups gravitated towards different areas of the county relative to other groups. Top panels show the participants' original addresses and bottom panels show where they moved to. We summarize the clusters in Table M2 before presenting them in Figures 4-6. According to the results, black participants tended to move east of US 52, white participants tended to move south of US 421 closer into downtown Winston-Sale, and Hispanic participants tended to move north of Winston-Salem concentrating near Stanleyville.

Table M2. Where did Participants Tend to Move?

Race	Address	Description of Location
<i>Black Participants</i>	<i>Original</i>	
	Cluster 1	North Winston, in the northwest corner of the intersection of US 421 and US 52.
	Cluster 2	The second cluster appears on the west side of US 421 in between Stanleyville and Oak Crest near Mill Creek.
	<i>New</i>	
	Cluster 1	North Winston, in the northwest corner of the intersection of US 421 and US 52.
	Cluster 2	West side of US 421 in between Stanleyville and Oak Crest near Mill Creek.
	Cluster 3	Northeastern portion of the Winston-Salem municipality, between North Winston and Walkertown
<i>White Participants</i>	<i>Original</i>	
	Cluster 1	North of the intersection between US 421 and Interstate 40.
	Cluster 2	Downtown Kernersville.
	<i>New</i>	
	Cluster 1	South of Interstate 40, bordering Salem Creek.
	Cluster 2	North of Interstate 40 and south of Salem Lake, between downtown Winston Salem and Kernersville
<i>Hispanic Participants</i>	<i>Original</i>	
	Cluster 1	West of US 52, bordering Mill Creek
	Cluster 2	Southwestern Oak Crest, on the eastern side of Mill Creek
	Cluster 3	North of the intersection between US 421 and Interstate 40.
	Cluster 4	North of Interstate 40, near Hootstown
	<i>New</i>	
	Cluster 1	Norther border of Mill Creek, between Stanleyville and Oak Crest.
	Cluster 2	Western Walkertown, south of Mill Creek.

Figure 5: Where did White Participants Tend to Move?

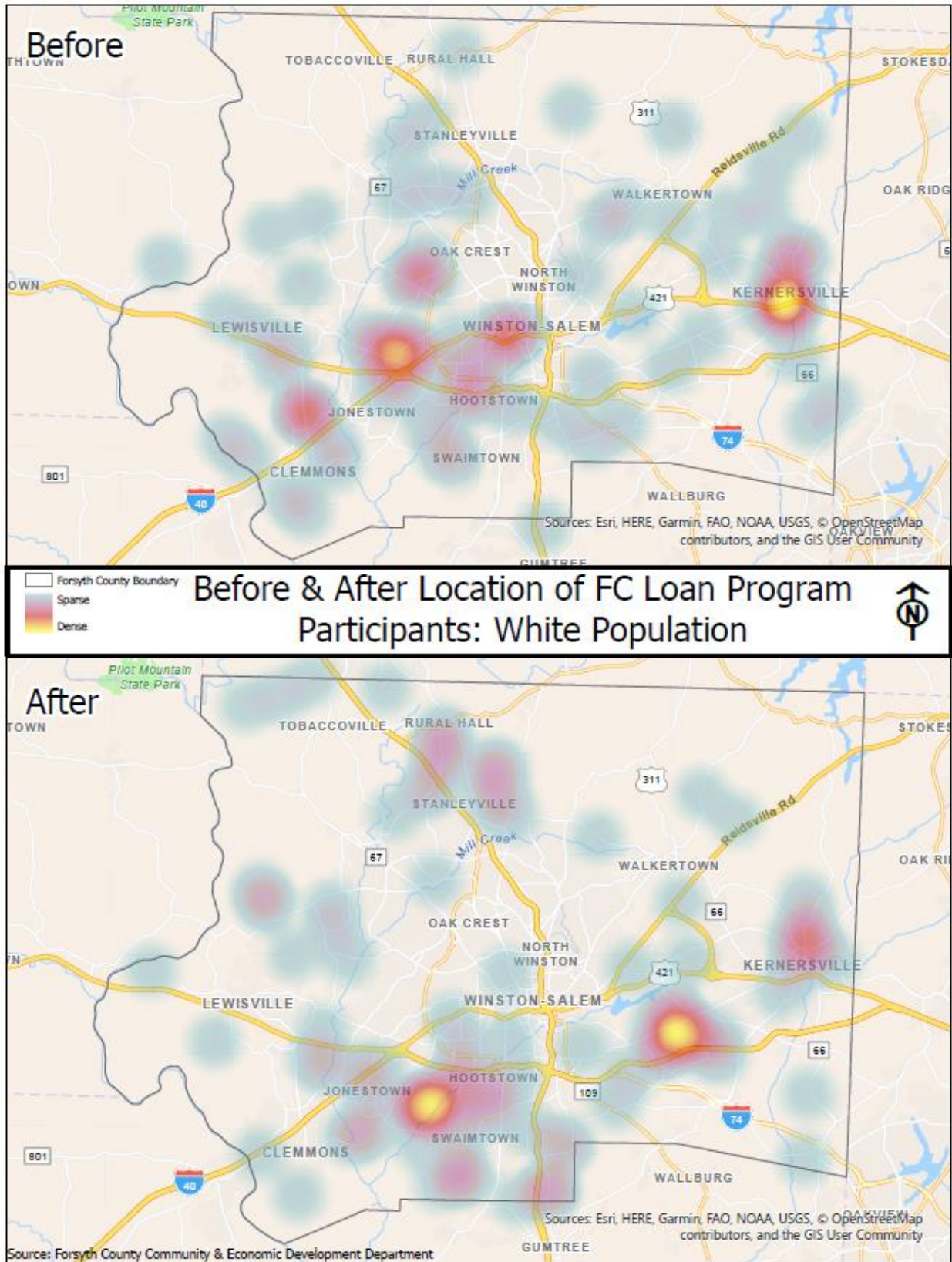
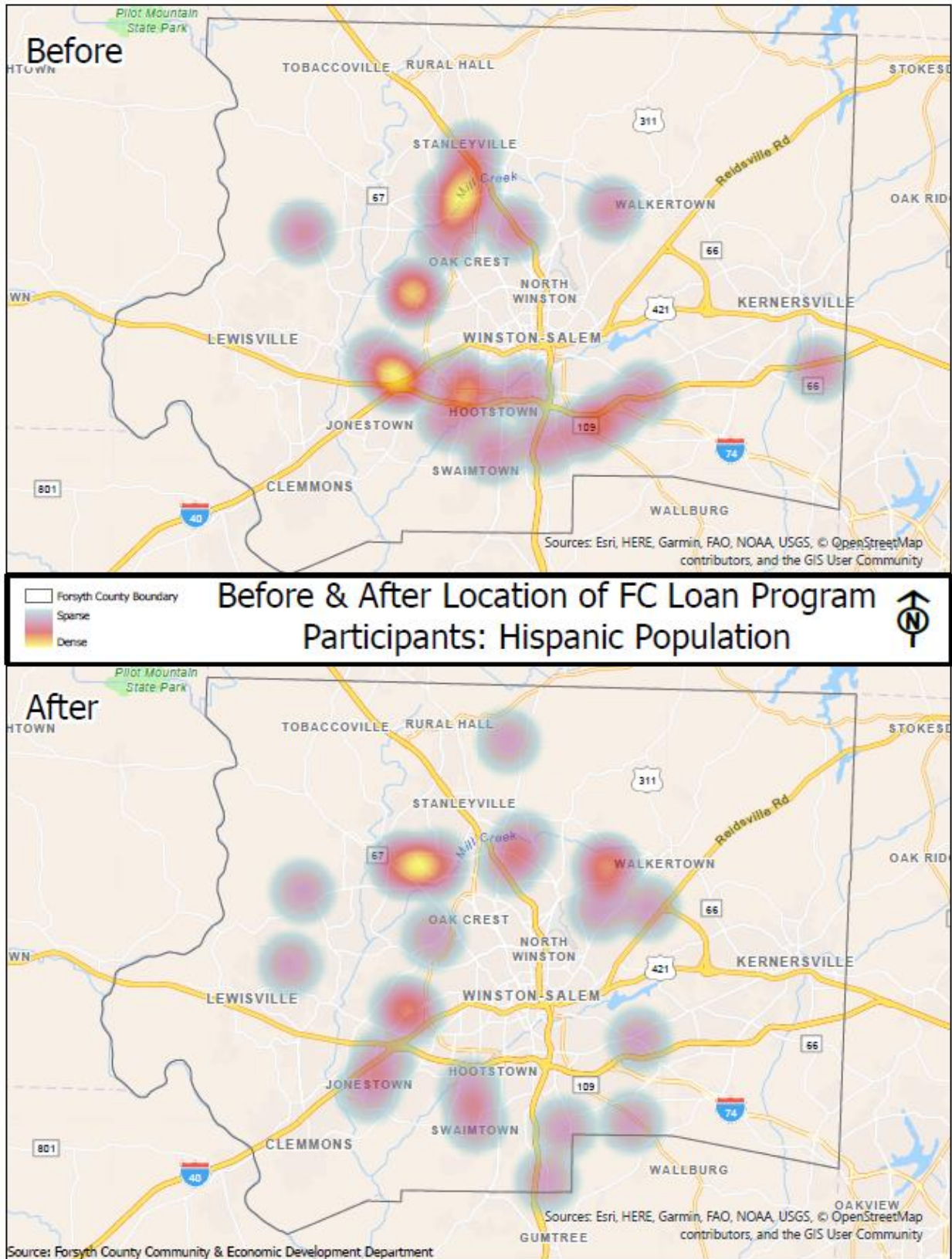


Figure 6: Where did Hispanic Participants Tend to Move?

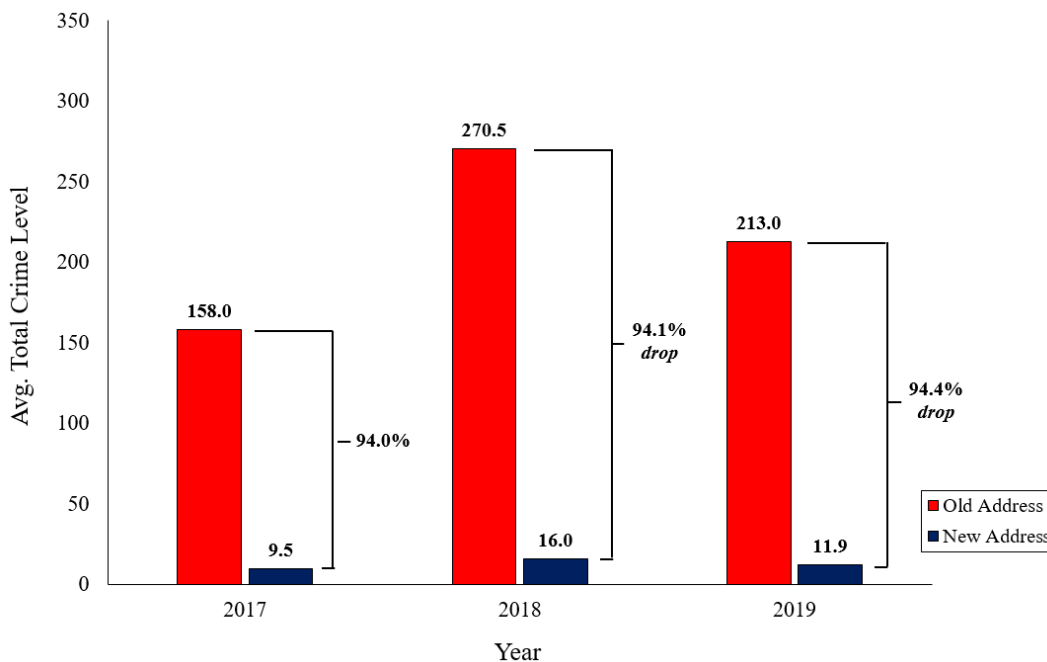


General Patterns

Crime

Figure 7 graphs the average total crimes committed in the neighborhoods where participants moved from (red) and the neighborhoods where they moved to (blue), for 2017, 2018, and 2019.²⁵ Clearly, participants moved to much safer neighborhoods. Average total crimes committed in the new neighborhoods are much lower than those in the old neighborhoods. For each year, total crime is over 90% lower in the new neighborhoods compared to the old neighborhoods.

Figure 7. Impact on Neighborhood Crimes for FCHP Participants, 2017-2019²⁶



A Note on the Census Data in Tables 3-21

We use block group estimates for years 2000 and 2010 to reflect any potential changes over time in neighborhood characteristics. Neighborhood characteristics do change, so a single snapshot can be misleading. Moreover, we only use 2000 and 2010 estimates because 2020 estimates are not yet available and 1990 estimates are out-of-date (the participants in our sample purchased their homes no earlier than 2005).

²⁵ For our analysis of crimes, neighborhood is defined as a Market Area.

²⁶ Notes: 1) Total crime is measured as the total number of crimes committed in a Market Area, regardless of the type of crime (murder, theft, etc.). 2) The unit of measurement is the household, even though crime is calculated at the neighborhood level. 3) We use 2017, 2018, and 2019 crime levels because they are the only years in which the data is fully accurate. Data discrepancies appear in prior years, making analysis difficult.

Racial Composition

Tables 3-5 show how the neighborhood compositions changed between the participants' old and new addresses, regarding Forsyth County's three largest racial/ethnic groups, which are blacks, whites, and Hispanics. Table 3 shows how the share of blacks in a neighborhood changed between the participants' old and new addresses. On average, participants' new neighborhoods had lower shares of blacks. In year 2000, on average, 40.3 percent of people living in FCHP participants' old neighborhoods identified as black. In participants' new neighborhoods, however, 32.2 percent of the residents are black. Hence, the average share of blacks fell by around 9.0 percentage points. Examining these neighborhood characteristics in 2010 reveals similar patterns. In year 2010, on average, 42.5 percent of people living in FCHP participants' old neighborhoods identified as black. In participants' new neighborhoods, 37.6 percent of the residents are black, thus, the average share of blacks fell by around 5.7 percentage points. According the census block group estimates, the share of blacks is increasing from 2000 to 2010 in both the FCHP's old and new neighborhoods. This is not surprising considering that FCHP participants purchased homes that were in suburban areas, which already have large shares of white residents and growing shares of black residents, compared to the urban areas of the county where many participants' lived previously.

Table 3. Change in the Avg. Share (%) of Blacks
in New vs. Old Neighborhood

	Share (%) of Blacks	
	2000	2010
New Address	32.2	37.6
Old Address	40.3	42.5
Net Change	- 9.0	- 5.7

Table 4 shows how the share of whites in a neighborhood changed between the participants' old and new addresses. On average, participants moved to neighborhoods comprised of more whites, compared to their old neighborhoods. Interestingly, however, the share of whites in both the new and old neighborhoods are decreasing from 2000 to 2010, suggesting that non-white minorities (like blacks and Hispanics) are comprising more of these neighborhoods. Therefore, these neighborhoods are likely growing in diversity.

Table 4. Change in the Avg. Share (%) of Whites
in New vs. Old Neighborhood

	Share (%) of Whites	
	2000	2010
New Address	61.8	49.4
Old Address	52.8	43.7
Net Change	+ 9.0	+ 5.7

Table 5 shows how the share of Hispanics in a neighborhood changed between the participants' old and new addresses. On average, participants moved to neighborhoods comprised of less Hispanics, compared to their old neighborhoods. Interestingly, however, the share of Hispanics in both the new and old neighborhoods increased significantly from 2000 to 2010. This evidence, in tandem with the trends shown in Table 3 and 4, further suggests that the new neighborhoods where participants have moved to are growing in diversity.

Table 5. Change in the Avg. Share (%) of Hispanics
in New vs. Old Neighborhood

	Share (%) of Hispanics	
	2000	2010
New Address	6.6	14.2
Old Address	7.7	14.8
Net Change	- 1.1	- 0.6

Family Structure

Table 6 shows how the share of single-parent households changed between the participants' old and new addresses. On average, participants moved to neighborhoods with lower shares of single-parent households. The new neighborhoods have larger shares of two-parent households, compared to the old neighborhoods.

Table 6. Change in the Avg. Share (%) of Single-Parent HSs in New vs. Old Neighborhood

	Share (%) of Single-Parent Households	
	2000	2010
New Address	14.6	22.9
Old Address	23.4	31.4
Net Change	- 8.7	- 8.5

Table 7 shows how typical family sizes differ between the participants' old and new neighborhoods. On average, participants tended to move to neighborhoods with slightly larger families, compared to the old neighborhood. Nevertheless, the change is very small.

Table 7. Change in Avg. Family Size in New vs. Old Neighborhood

	Avg. Family Size	
	2000	2010
New Address	2.9	3.1
Old Address	2.9	3.0
Net Change	0.00	+ 0.1

Renters

Table 8 shows how the share of renters in a neighborhood changed between the participants' old and new addresses. On average, participants moved to neighborhoods with much fewer renters and more homeowners.

Table 8. Change in the Avg. Share (%) of Renters
in New vs. Old Neighborhood

	Share (%) of Renters	
	2000	2010
New Address	24.0	25.1
Old Address	44.7	46.6
Net Change	- 20.7	- 21.5

Income

Table 9 shows how the medium household incomes changed between the participants' old and new neighborhoods. On average, participants moved to neighborhoods with higher medium household incomes compared to their previous neighborhood. Moreover, from 2000 to 2010, the median household income in the new neighborhoods grew at a faster rate than the incomes in the old neighborhoods (11.9% versus 8.1%).

Table 9. Change in Median Household Income (\$) in New vs. Old Neighborhood

	Median Household Income (\$)	
	2000	2010
New Address	36,769.1	41,752.9
Old Address	32,646.6	35,305.9
Net Change	+ 4,122.5	+ 6,447.0

Education

Table 10 shows how the share of highly educated residents in a neighborhood changed between the participants' old and new addresses. Using 2000 block group estimates, participants moved to neighborhoods with smaller shares of highly educated residents. The 2010 estimates suggest they moved to neighborhoods with slightly larger shares of highly educated people. That being said, residents' new neighborhoods are becoming more educated (from 20.5 to 22.8 percent), while the average education attainment in their old neighborhoods is falling (23.6 to 22 percent).

Table 10. Change in the Avg. Share (%) of Highly Educated Residents in New vs. Old Neighborhood

	Share (%) of Highly Educated Residents	
	2000	2010
New Address	20.5	22.8
Old Address	23.6	22.0
Net Change	-2.9	+0.8

Unemployment

Table 10 shows how the neighborhood unemployment rate changed between the participants' old and new addresses. On average, participants moved to neighborhoods with lower unemployment rates compared to their previous neighborhood. That being said, from 2000 to 2010, unemployment rates nearly double in both the new and old neighborhoods. The rate of increase is much higher for the new neighborhoods compared to the old neighborhoods. Regardless, rates are systematically lower in the new neighborhoods.

Table 10. Change in Avg. Unemployment Rate (%) in New vs. Old Neighborhood

	Avg. Unemployment Rate (%)	
	2000	2010
New Address	6.2	11.8
Old Address	6.8	12.3
Net Change	-0.7	-0.5

Vacant Housing

Table 11 shows how the neighborhood share of vacant housing units changed between the participants' old and new addresses. On average, participants moved to neighborhoods with fewer vacant houses compared to their old neighborhoods. That being said, from 2000 to 2010, the share of vacant houses increases in both the new and old neighborhoods. The rate of increase is similar for both old and new neighborhoods. Regardless, rates are systematically lower in the new neighborhoods.

Table 11. Change in Avg. Share (%) of Vacant Housing in New vs. Old Neighborhood

	Avg. Share (%) of Vacant Housing	
	2000	2010
New Address	5.9	9.1
Old Address	7.7	12.3
Net Change	- 1.8	- 3.2

DISCUSSION

The FCHP is a program that has wide ranging effects, not only on the participants themselves, but also Forsyth County’s larger community. The program has wealth and financial related outcomes. However, there are also outcomes that are non-monetary that are critical to analyze, such as whether participants moved to neighborhoods with stronger economic ladders than the neighborhoods they lived previously. In this brief, we have presented and discussed a handful of key findings from a neighborhood focused examination. In general, our findings suggest that this program promoted the movement of low-income residents to areas of the county that are more conducive of economic mobility. When we examine these results by the participants’ race, some different patterns emerge, though it is difficult to draw firm conclusions. That being said, one conclusion is clear. This program benefited black participants, in particular, because they moved to neighborhoods with much stronger economic ladders.

Key Set of Findings

Migrations

- In general, participants moved further east and south within the county, further away from downtown Winston-Salem.
- Black participants tended to move east of US 52.
- White participants tended to move south of US 421 closer towards downtown Winston-Salem.
- Hispanic participants tended to move north of Winston-Salem concentrating near Stanleyville.

Socioeconomics

Relative to their old neighborhoods, participants purchased homes in neighborhoods with:

- Significantly lower crime rates (over 90% less crime in each year measured).
- Less single-parent households (over an 8 percentage point drop).
- Less renters and more homeowners (around a 21 percentage point drop in share of renters).
- Fewer vacant housing units (1.81 point drop).

- Increasing shares of highly educated people (from 20.5 in 2000 to 22.8 percent on 2010), compared to their old neighborhoods that have decreasing shares (23.6 in 2000 to 22 percent in 2010).

Economics

Relative to their old neighborhoods, participants purchased homes in neighborhoods with:

- Much higher median household incomes (avg. increase between \$4,000 - \$6,400).
- Slightly lower unemployment rates (between 0.4 and 0.7 point drop).

Demographics

Relative to their old neighborhoods, participants purchased homes in neighborhoods with:

- Lower shares of blacks (4.9 to 8 point drop), and Hispanics (0.5 to 1 point drop), with the change being largest for black participants.

APPENDIX

Patterns by Race of Participant

Racial Composition

We examine the neighborhood racial compositions of the before and after addresses, by the race of participants. Table 12 shows the percentage breakdown of the FCHP participants in our sample by their race. Table 13 shows how the share of blacks that comprise a neighborhood changed between the FCHP participants' old and new addresses, conditional on the participants' race.

Table 12. Race Breakdown of FCHP Participants

Race	Count	Share (%)
Black	356	70.1
White	111	21.9
Hispanic	24	4.7
Other (Asian, American Indian, etc.)	17	3.3
<i>Total</i>	508	100.0

When comparing the pre and post addresses for black participants, 2000 and 2010 census estimates suggest they moved to neighborhoods comprised of fewer blacks. This is also the case for Hispanic participants. For white participants, however, the average composition of blacks in their new and old did not change much. This is largely driven by the fact that whites tended to live in neighborhoods comprised of fewer blacks already, and moved to similarly composed areas. Blacks, though, lived in neighborhoods with a much higher composition of blacks, and moved to areas that were less so.

Table 13. Change in the Avg. Share (%) *of Blacks* in New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	37.3	42.5	16.1	21.8	22.6	28.7	21.1	32.1
Old Address	48.0	49.7	16.9	20.3	30.4	34.3	13.7	18.0
Net Change	- 10.7	- 7.2	- 0.8	+ 1.5	- 0.1	- 5.7	+ 7.4	+ 14.1

Table 14 shows how the share of whites that comprised a neighborhood changed between the FCHP participants' old and new addresses, conditional on the participants' race. When comparing the pre and post addresses for black participants, 2000 and 2010 census estimates suggest they moved to neighborhoods comprised of more whites. This is also the case for Hispanic participants.

Table 14. Change in the Avg. Share (%) *of Whites* in
New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	56.6	44.1	78.9	67.7	71.1	55.7	72.5	53.0
Old Address	44.9	35.7	77.7	69.8	61.2	47.8	79.9	69.9
Net Change	+11.7	+8.5	+1.2	-2.2	+9.9	+7.9	-7.4	-16.9

Table 15 shows how the share of Hispanics that comprised a neighborhood changed between the FCHP participants' old and new addresses, conditional on the participants' race. When comparing the pre and post addresses for black participants, 2000 and 2010 census estimates suggest they moved to neighborhoods comprised of fewer Hispanics. This is also the case for Hispanic participants. Hispanics themselves also moved to neighborhoods with less Hispanics. Whites, however, appear to have moved to areas with more Hispanics.

Table 15. Change in the Avg. Share (%) *of Hispanics* in
New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	6.9	14.6	4.7	10.9	7.4	17.5	9.6	16.5
Old Address	8.4	15.9	5.0	9.6	9.9	19.1	5.1	10.8
Net Change	-1.4	-1.3	-0.3	+1.3	-2.5	-1.6	+4.5	+5.7

Family Structure

We now examine the family structure in the participants' before and after neighborhoods, conditional on the participants' race. Table 16 shows the average percentage point change, between the participants' new and old addresses, in the share of single-parent homes that comprise the neighborhoods by the FCHP participants' race. When comparing the pre and post addresses for black, white, Hispanic, and other participants, 2000 and 2010 census estimates suggest they all

moved to neighborhoods comprised of fewer single-parent households. The change is largest for black participants.

Table 16. Change in the Share (%) of Single Parent Households in New vs. Old Neighborhood: by Race of Participants

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	15.1	23.7	11.9	18.8	14.1	21.8	13.6	23.3
Old Address	25.9	34.6	14.9	20.5	22.9	31.1	19.4	26.2
Net Change	-10.8	-10.9	-3.0	-1.7	-8.8	-9.3	-5.8	-2.9

Table 17 shows how typical family sizes differ between the participants' old and new neighborhoods, conditional on the participants' race. On average, white, Hispanic, and other participants moved to neighborhoods with similarly sized families, compared to the old neighborhood.

Table 17. Change in Avg. Family Size in New vs. Old Neighborhood: by Race of Participants

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	2.9	3.1	2.9	3.0	2.9	3.1	2.9	3.2
Old Address	2.9	3.1	2.9	2.9	2.9	3.1	2.8	2.8
Net Change	0.0	0.0	0.0	0.0	0.0	0.0	+0.1	+0.4

Renters

Table 18 shows how the share of renters differ between the participants' old and new neighborhoods, conditional on the participants' race. On average, black, white, Hispanic, and other participants moved to neighborhoods with much smaller shares of renters, compared to the old neighborhoods. Hence, there new neighborhoods are comprised of more of homeowners.

Table 18. Change in the Avg. Share (%) of Renters in New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	24.5	25.4	21.0	22.7	25.1	26.1	20.8	20.5
Old Address	47.6	49.4	33.8	36.0	48.9	50.6	45.9	48.1
Net Change	- 23.1	- 24.0	- 12.8	- 13.3	- 23.8	- 24.5	- 25.1	- 27.6

Median Household Income

Table 19 shows how the median household income differs between the participants' old and new neighborhoods, conditional on the participants' race. On average, black participants moved to neighborhoods with much higher median household incomes. That being said, participants whose race is Other (Asian, American Indian, etc.) moved to neighborhoods with substantially lower median household incomes. This is largely skewed by the fact that the sample of participants who identified as Other is quite small.

Table 19. Change in Median Household Income (\$) in New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	35,475.1	39,768.9	44,404.5	51,393.8	33,899.8	42,238.2	44,188.0	47,548.6
Old Address	29,122.1	31,357.9	44,620.5	48,070.8	35,244.2	34,609.6	51,528.4	63,485.6
Net Change	+ 6,353.0	+ 8,411.0	- 216.0	+ 3,323.0	- 1,344.3	+ 7,628.6	- 7,340.0	- 15,937.0

Education

Table 19 shows how the share of highly educated residents differ between the participants' old and new neighborhoods, conditional on the participants' race. On average, black, white, and Hispanic participants moved to neighborhoods that are growing in their share of educated residents, compared to their older neighborhoods with shares of educated residents that are actually falling.

Table 19. Change in the Avg. Share (%) of Highly Educated Residents in New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	19.3	22.3	26.6	28.9	22.1	28.9	22.1	21.4
Old Address	20.6	20.0	32.8	28.3	30.0	21.8	42.0	46.2
Net Change	- 1.3	- 2.3	- 6.2	+ 0.6	- 7.9	+ 7.1	-19.9	- 24.8

Unemployment Rate

Table 20 shows how the unemployment rate differs between the participants' old and new neighborhoods, conditional on the participants' race. Black participants moved to neighborhoods with much lower unemployment rates compared to their previous neighborhoods. However, white, Hispanic, and Other participants moved to neighborhoods with higher unemployment rates, compared to their old neighborhoods.

Table 20. Change in Avg. Unemployment Rate (%) in New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	6.1	12.1	4.5	8.7	6.5	10.7	5.1	11.3
Old Address	7.6	13.7	3.7	7.5	5.2	10.3	1.4	4.8
Net Change	- 1.5	- 1.6	+ 0.8	+ 1.2	+ 1.3	+ 0.4	+ 3.7	+ 6.5

Vacant Housing

Table 21 shows how the share of vacant houses differs between the participants' old and new neighborhoods, conditional on the participants' race. Blacks, whites, Hispanics, and Other participants moved to neighborhoods with fewer vacant houses compared to their old neighborhoods. The change was the smallest for white participants.

Table 21. Change in Avg. Share (%) of Vacant Houses
in New vs. Old Neighborhood: by Race of Participant

Participants' Race	Black		White		Hispanic		Other	
	2000	2010	2000	2010	2000	2010	2000	2010
New Address	5.8	9.2	5.8	8.1	5.8	9.2	3.7	6.7
Old Address	7.8	13.0	6.9	9.4	8.5	11.8	7.4	9.4
Net Change	-2.0	-3.9	-1.1	-1.3	-2.7	-2.6	-3.6	-2.7