

# Who relocates, where do they move, and why?

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## Abstract

The lack of socioeconomic mobility among marginalized populations leads to the concentration of poverty, a long-standing issue in American cities. Empirical studies on neighborhood effects have found that poverty concentration adversely affects the socioeconomic mobility of residents—associated with their economic well-being, employment, education, health, and safety—in lower-income neighborhoods. Through a variety of neighborhood revitalization projects, federal, state, and local governments have put enormous efforts into cutting the vicious cycle of poverty while increasing the socioeconomic mobility of lower-income households.

One of these projects, the Choice Neighborhood Initiative, is a recent Federal effort to revitalize distressed public housing sites in American cities. Each project requires its residents to relocate into surrounding neighborhoods during the revitalization process, offering Housing Choice Vouchers (formerly Section 8 Vouchers) to seek subsidized housing in surrounding neighborhoods. While the effects of relocation have been widely studied, less is known about the relocation decisions made by families. This is especially true for programs that rely on housing vouchers, which allow the beneficiaries to decide their relocation destination.

We fill this gap by focusing on the relocation process in a Choice Neighborhood Initiative site in Memphis. In particular, this study explores where people relocate and why. We found that even with housing vouchers, one-thirds of the CNI residents moved to mixed-income neighborhoods, and almost one-fourth of the residents chose to stay

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in their original neighborhood. Secondly, we explored whether the demographic and socioeconomic characteristics of the residents predict their relocation decision. Contrary to our initial expectation, employment status was not significantly associated with the relocation choice. Instead, the educational attainment of household heads and the existence of dependents were significantly associated with the relocation decision. Perhaps most interesting, we find that while perceptions of neighborhood safety are associated with moves to similar-income neighborhoods, perceptions of home safety are associated with moves to higher-income neighborhoods.

The present results are significant in at least two respects. First, these findings may help practitioners, such as case managers in the Choice Neighborhood Initiative, to understand various attributes of the project beneficiaries among residents who different relocation decisions. For better implementation of the projects, practitioners may need to adopt different approaches and strategies when providing services to certain groups of residents. For example, given the importance of dependents in relocation decisions, case managers may need to consider ways to help their clients relocate to neighborhoods with high-quality schools. Second, the findings have important implications for those who develop inferential models for evaluating the impact of relocation on the original residents' lives. The heterogeneity of residents in various relocation decision groups calls for more sophisticated empirical model designs to resolve the endogenous relationship between targeted families' characteristics and their relocation choices.

**Keywords:** Social mobility, Public Housing, Housing policy, Relocation

## 1. Introduction

Social mobility is not equally distributed in America. Underlying social challenges, such as public health, employment, education, and safety, have made it disproportionately more difficult for underrepresented racial/ethnic groups to achieve upward social mobility. Because many of these social challenges are closely tied with inequities in housing, the public sector has put enormous efforts into housing redevelopment and relocation initiatives to encourage upward social mobility. Through previous housing programs, such as MTO, Gautreaux, and Hope VI, numerous studies have explored the effectiveness of attempts to revitalize public housing sites and offer residents a chance to move to higher opportunity neighborhoods. While some studies have explored the relocation decisions of residents within these programs, few studies have focused on residents within the newest housing program—the Choice Neighborhood Initiative (CNI). CNI is unique in that it (a) focuses on higher-income redevelopments; (b) collaborates with local stakeholder groups, and (c) provides case management and wraparound services for residents. Given these novel program components, we believe that the relocation decisions of residents will be novel as well.

We fill this gap by focusing on a CNI site in Memphis, Tennessee. In particular, this study examines where residents relocate and what factors influence relocation decisions. We find that even with local stakeholder collaboration (i.e., community partners), case management, and wraparound services, many families in the Memphis CNI do not move to higher-opportunity neighborhoods during the relocation period. Moreover, for residents that do move to higher opportunity neighborhoods, educational attainment was an important predictor, suggesting further stratification within the relocation process. Perhaps most interesting, we find that while perceptions of neighborhood safety are associated with moves to similar-income neighborhoods, perceptions of home safety are associated with moves to higher-income neighborhoods. These findings offer new insights into the existing literature and theory surrounding the relocation process.

After reviewing the CNI, we explore the relevant theories regarding the relocation process for residents in our study. We then outline our study’s methods and findings. Finally, we close with a discussion of our findings and implications for practice and policy.

## 2. Background

### 2.1. *Choice Neighborhood Initiative*

In 2011, the US Department of Housing and Urban Development (HUD) launched a new housing revitalization program to address the specific needs of both distressed public housing sites and the residents living there. The program, Choice Neighborhood Initiative (CNI), is distinct from traditional public housing initiatives (e.g., HOPE VI), as it is concerned not only with the “hardware” of the physical public housing sites but also with the “software” of the sites—the people within them and the neighborhoods around them. Unlike Hope VI, which suffered from low return rates of residents to new public housing units, CNI requires a “one-for-one” replacement of torn down public housing units. While some units in the revitalized public housing unit will be sold at market rate, this one-for-one replacement ensures households can return to their original neighborhood if they wish, attempting to create a higher-income neighborhood. In addition to a new built environment, CNI requires public housing authorities to collaborate with local stakeholders, such as public schools, community-based organizations, and residents in the communities, to permanently increase services and engagement in the neighborhood. Finally, CNI provides residents with individual case management and wraparound services to support social mobility. In particular, the program carefully organizes the relocations and returns of original residents for successful settlement both at the revitalized site and relocated neighborhoods.

In general, program participants go through three stages as follow:

- *Pre-relocation stage* – during this time, participants have been informed that they will be moved and are receiving case management services.

- *Relocation stage* – during this time, participants were relocated from the original site and moved to other neighborhoods that are different than the ones to be redeveloped.
- *Resettlement stage* – during this time, participants are given the opportunity to move back into their redeveloped housing or stay in their current neighborhood

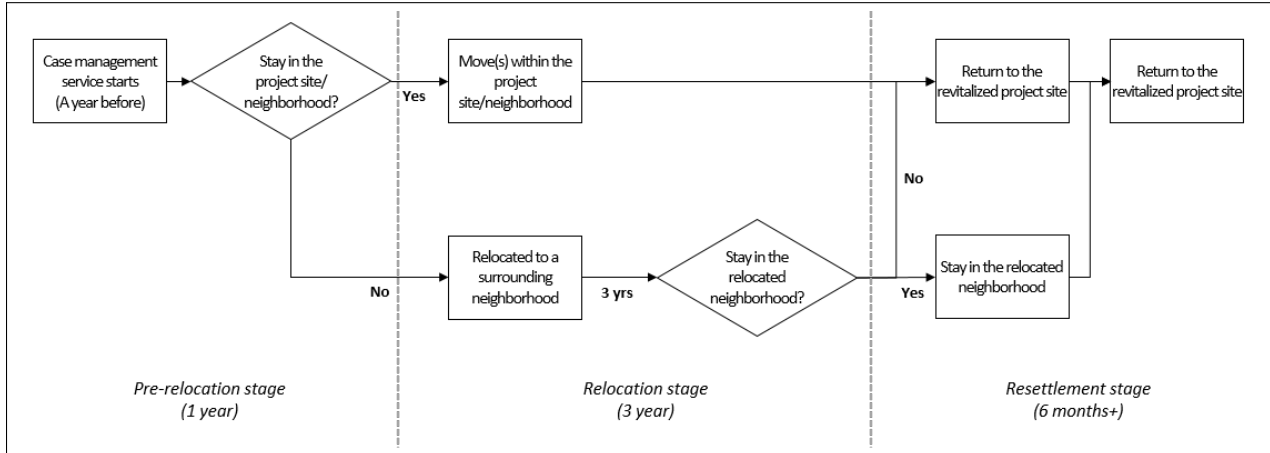


Figure 1: General CNI project timeline and relocation decision

During the relocation stage, the CNI program requires its residents to relocate into surrounding neighborhoods, offering Housing Choice Vouchers (HCV, formerly Section 8 Vouchers) for subsidized housing. Unlike public housing and project-based subsidies, the HCV enables its participants to find homes in any neighborhood and, ultimately, intends to provide better schools and more employment opportunities, as well as a safer living environment. While the CNI is thought to operate on three interrelated facets of opportunity—the built environment (through revitalizing housing sits), the neighborhood (through investments, partnerships, and higher-income transformations), and the people (through vouchers and case management), it is possible that the people who move into the revitalized site are not the same people that moved out. In which case, it is also important to consider the impact of the CNI on residents both during and after their move—even if they do not return to the revitalized site.

## *2.2. CNI project in Memphis*

The South City Neighborhood in Memphis, TN, has been well-known as its African American heritage and close proximity to downtown. However, the neighborhood has also suffered from the negative effects of concentrated poverty, deteriorated housings, and high rates of unemployment, and violent crime. Built in the 1940s, Foote Homes was the last remaining traditional public housing development in the neighborhood. In 2014, the Memphis Housing Authority and the City of Memphis were awarded a \$29.75 million Choice Neighborhoods Initiative Implementation Grant to revitalize the public housing site. The project aimed to revitalize the site with more than 712 new market-rate and affordable housing units to attract mixed-income families. Also these housing investments encompassed neighborhood level developments, including retails, grocery stores, an early education center, a small business microloan fund, improved transit, historic preservation initiatives, and education and job opportunities for residents and the neighborhood. Contrary to other CNI projects, which adopted multi-phase relocation strategies (e.g., Louisville, TN), Foote Homes employed a one-shot relocation strategy: the project completed the relocation of all families in December 2016 and embarked on reconstruction in 2017. The first phase of the project has been completed, and former residents started to move into 114 redeveloped units in September 2019.

## **3. Theoretical Expectations**

### *3.1. Relocation Decisions among Low-Income Residents*

Housing mobility is common among low-income households; however, upward mobility remains rare (Quillian, 2003). Most individuals that are born into low-income neighborhoods do not end up escaping these types of neighborhoods—even when they move (2003). With individual resource constraints and history of structural racism in housing policies, it is unsurprising that many low-income households—especially those of color—experience barriers

in moves to higher opportunity neighborhoods. As relatively few low-income households are ever given the option to move to higher opportunity neighborhoods, we are limited in our ability to understand their residential patterns and relocation decisions. Nevertheless, CNI, which provides both financial capital (vouchers) and social capital (case managers) to help individuals move to higher opportunity neighborhoods, allows us to better understand these residential patterns.

### 3.1.1. Relocation Constraints

The context of why someone moves is often predictive of where someone will move. While previous research points to mobility as a consequence of social and demographic factors, such as career trajectories and marital status (South and Crowder, 1997), this is often not the case for many low-income families. For example, as evidence in the title of his book—*Evicted*—Desmond (2016) found that the moves of poor renters in Milwaukee were often forced and rarely planned.

Unsurprisingly, when poor families are forced to move or move reactively, they often move to other low opportunity neighborhoods (Desmond, 2016). One reason is time. When “crunched for time,” low-income movers often select short-term survival strategies—“anywhere but here”—as opposed to long-term strategies for thriving, such as finding a neighborhood with a good school (DeLuca and Jang-Trettien, 2020, p. 453). Thus, while housing and school choices are often thought to be “bundled” together (Shlay, 1985), housing and school decisions are not bundled together for many families in survival mode; rather, finding the best school is often a secondary concern to finding shelter (2020, p. 453). Indeed, DeLuca et al. (2019) found that relocation decisions were not made with the ideal scenario in mind; rather, in an effort to avoid homelessness, these families relied on “sure bets”—often provided to them by those in their current social networks and within their network of neighborhoods (p. 577). Nevertheless, within these contexts, many parents were able to rule out “the worst” neighborhoods in order to find a safer place for their children to learn and grow (2019).

Additionally, low-income families can face substantial barriers, even when they are not forced to move or moving reactively. In addition to the higher rents and larger housing deposits often associated with higher opportunity neighborhoods (Rosenblatt and Cossyleon, 2015), residential zoning regulations can reduce the supply of affordable housing in higher opportunity neighborhoods (Rothwell, 2012), while lack of adequate transportation can also limit housing options for low-income families who may have to travel outside of these neighborhoods for work (Dawkins et al., 2015). Black families face additional barriers, as they can be steered towards lower opportunity neighborhoods by real estate agents (Galster and Godfrey, 2005). Despite having some of the lowest levels of in-group neighborhood preferences (Bobo and Zubrinsky, 1996), Black residents tend to move between Black neighborhoods (Sampson, 2012). Thus, it is unsurprising that Black families are often unable to convert financial resources into neighborhood opportunities (Pattillo, 2013).

### 3.1.2. Relocation Preference

Through an analysis of hypothetical tradeoff vignettes, Shlay (1985) found that families often place a higher value on desirable dwelling attributes than desirable neighborhood attributes. As noted by Wood (2014), this may be especially true for urban poor families who have adapted to surviving in a concentrated neighborhood disadvantage. With strategies that revolve around “keeping to themselves,” many of these families are confident in their ability to keep their children safe in higher crime areas. These survival skills may allow these families to make tradeoffs between dwellings and neighborhoods. Thus, for many low-income families, meeting basic needs through the dwelling itself (e.g., private entryways, private outdoor spaces, and multiple floors and bedrooms) is often preferable to the luxury of higher opportunity neighborhoods.

These findings are supported by DeLuca, Wood, and Rosenblatt’s (2019) recent research. Here, the authors found that low-income families often made choices on a much finer grain—focusing on the quality of the block rather than the quality of the larger neigh-



borhood. By doing so, parents were able to create a safe zone for their children—often restricting activities outside of the block (2019, p. 578). Nevertheless, these tradeoffs “often landed them back to in higher poverty, segregated communities” (Rosenblatt and DeLuca, 2012, p. 256). Instead of investing in a neighborhood with high-quality schools (see Holme, 2002), DeLuca et al. (2019) note that the emphasis on surviving may be holding families back from thriving.

When considering all of these factors, what is commonly thought of as rational-decision making may need to be re-examined. Rather, as Krysan and Crowder (2017) demonstrate, one’s lived experiences and perceptions—that are shaped by the neighborhoods they grew up in and the one they currently live in—often play an important role in the residential decision-making process as well.

### *3.2. Relocation Decisions and the Choice Neighborhood Initiative*

#### **3.2.1. Housing relocation dynamics and mixed-income community development**

Theories supporting mixed-income housing suggest that low-income residents may benefit from greater informal social control and access to higher quality services that are often associated with mixed-income neighborhoods (Joseph et al., 2007). Many mixed-income development strategies target distressed public housing communities for redevelopment. What is unique about these initiatives that they involve at least one involuntary move for families in the targeted development site. Such families experience similar relocation considerations as those of any family choosing to move, while also experiencing unique constraints that are salient to special or triggering events that induce involuntary moves, such as the redevelopment of public housing (Kleit and Manzo, 2006).

The most comprehensive evaluation of mixed-income community development initiatives comes from two primary studies of the Housing Opportunities for People Everywhere (HOPE VI) program, a US Department of Housing and Urban Development (HUD) sponsored pro-

gram implemented from 1993-2010. The goals of HOPE VI were to transform distressed public housing by redeveloping high-density public housing communities with high concentrations of poverty into lower density, mixed-income housing communities. Additionally, HOPE VI offered community support services to empower families and assist with housing relocation and return. The HOPE VI Resident Tracking Study found that voucher users were more likely to be younger, married, have fewer children, and be high school graduates compared to residents that remained in HOPE VI public housing or relocate to other public housing (Buron et al., 2002). The HOPE VI Panel Study found that families faced immense economic and physical and mental health challenges that limited their housing relocation outcomes (Popkin et al., 2004, 2009). An estimated 40 percent of HOPE VI families identified their physical health as fair or poor and experienced a range of chronic health conditions (Popkin et al., 2009). Nearly 30 percent indicated poor mental health (2009). Despite the challenges of many families, HOPE VI families moved to neighborhoods that were safer and less poor (Goetz, 2012) and evinced quality of life improvements in terms of safety and housing unit quality (Popkin et al., 2009). However, much of this improvement was due to the fact that original HOPE VI neighborhoods were among the highest poverty neighborhoods in their respective cities (2009) and thus, much like the findings of its predecessor—Moving to Opportunity program—any move was likely to improve neighborhood conditions (Sampson, 2008). Additionally, the neighborhoods where HOPE VI families moved remained racially segregated (Goetz, 2012; Popkin et al., 2009). Moreover, hard-to-house families confronting multiple complex problems (e.g., health problems, criminal records, substance use) were more likely to relocate to other public housing units on-site or in similar neighborhoods.

### **3.2.2. Housing relocation dynamics and voucher programs**

As noted by DeLuca et al. (2012), voucher recipients can face unique barriers to higher opportunity neighborhoods as well. Similar to those that are evicted, voucher recipients are subject to time constraints—especially when considering the “first come first served” nature of many

voucher programs and the 60-day search window under certain Federal guidelines (2012). Beyond time constraints, low-income families with vouchers can face a limited number of available options under Housing Authority property lists. Furthermore, as Public Housing Authorities are assigned within certain jurisdictions, it can be difficult for families to move outside of their current areas—not to mention that Fair Market Rents tend to place higher opportunity neighborhoods “out of reach” for many low-income families(2012, p. 10). Similar to racial discrimination, research has also demonstrated landlord discrimination among voucher recipients (Cunningham et al., 2018).

The federal Housing Choice Voucher (HCV) program, formerly known as the Section 8 Voucher program, is the largest housing relocation program in the US, assisting roughly 2 million people annually (Mazzara and Knudsen, 2019). The HCV program expands housing opportunities to families below the federal poverty line by subsidizing housing rent in the private housing market. However, evidence suggests that families that utilize vouchers rarely move to low poverty, higher opportunity neighborhoods as indicated by assessments of neighborhood quality such as job access, school quality, labor market engagement, and public transit access (Eriksen and Ross, 2013; Mazzara and Knudsen, 2019; Ellen, 2018; Schwartz et al., 2017). For example, among the 50 largest metropolitan areas in the US, just 5 percent of voucher assisted low-income families with children to live in high-opportunity neighborhoods despite the availability of voucher-affordable units in opportunity neighborhoods (Mazzara and Knudsen, 2019). Conversely, roughly 40 percent of low-income families with children that utilize vouchers do so in low-opportunity neighborhoods despite only 21 percent of voucher-affordable units being located in low-opportunity neighborhoods. Additionally, evidence suggests that voucher recipients tend to move within close proximity to their original residence, with many families relocating to housing within a quarter-mile (Feins and Patterson, 2005) to a 3-mile radius of their previous home (Goetz, 2012). Evidence also reveals the spatial clustering of voucher assisted households in specific neighborhoods (Metzger, 2014; Owens, 2017; Wang et al., 2008). These findings suggest structural constraints

in the housing market that limit access to quality affordable housing in higher opportunity neighborhoods. Thus, voucher recipients may settle for housing in neighborhoods that do not match their locational preferences (Wang, 2018).

Several patterns emerge from the literature on housing vouchers and mixed-income community development programs. Family demographic and socioeconomic factors such as age, educational attainment, and employment status influence voucher utilization and housing relocation. Research shows that income and education status influence relocation decisions, with higher income and more educated families being more likely to utilize housing vouchers to leave public housing (Kleit and Manzo, 2006). Additionally, family size is an important predictor of housing relocation, with larger families tending to remain on-site or relocate to other public housing units, presumably due to difficulties in finding and securing adequate housing units to meet family needs (2006). Age also influences housing relocation decisions, with older adults remaining on-site or relocating to other public housing units at higher rates compared to younger families (2006).

## 4. Methods

In the revitalization process, displaced residents are offered Housing Choice Vouchers to seek subsidized housing in surrounding communities. As the relocation process itself can be considered an opportunity to improve the social mobility of original residents, we explore who relocates, where do they move, and why. For that, we will examine the effects of a CNI program in Memphis (Foote Homes) during the CNI program implementation.

### 4.1. Data

Our empirical analysis is based on CNI resident data collected by Urban Strategies Inc. (USI). Urban Strategies is a key CNI partner and provides case management services to residents before, during, and after the redevelopment of their homes. Through its case man-

agement services, USI has conducted multi-wave panel surveys. Case managers regularly visit program participants and collect information with respect to residents' demography, employment, income, housing, and health/safety, as well as their children's health and education. As all the survey questions were completed by case managers, measurement errors due to misunderstanding of survey questionnaires or biases of survey respondents are less likely. To construct neighborhood characteristics, such as the median income level, the median rent, and race/ethnic group composition, we used American Community Survey 5 year's estimates (2014-2018). To measure the education quality at the neighborhood level, we used the school-level assessment data administered by the Tennessee Department of Education; we normalized the reading and mathematics scores of students at the zip code area level. The size of our final analytic sample is 361 households in the CNI site. [Table 1](#) reports summary statistics on model variables.

Table 1: Summary statistics on model variables

	(1)	(2)	(3)	(4)
	Overall	Stayed	Left, similar-income neighborhoods	Left, higher-income neighborhoods
<i>Age</i>				
25-34	0.260 (0.439)	0.268 (0.446)	0.196 (0.398)	0.351 (0.480)
35-44	0.235 (0.425)	0.195 (0.399)	0.250 (0.434)	0.243 (0.431)
45-54	0.186 (0.389)	0.146 (0.356)	0.208 (0.407)	0.180 (0.386)
55+	0.291 (0.455)	0.378 (0.488)	0.304 (0.461)	0.207 (0.407)
<i>Gender</i>				
Female	0.928 (0.259)	0.878 (0.329)	0.929 (0.258)	0.964 (0.187)
<i>Education</i>				
w/ college degree	0.158 (0.365)	0.085 (0.281)	0.149 (0.357)	0.225 (0.420)
<i>Employment</i>				
Employed, terminal	0.072 (0.259)	0.024 (0.155)	0.089 (0.286)	0.081 (0.274)
Employed, permanent	0.216 (0.412)	0.207 (0.408)	0.202 (0.403)	0.243 (0.431)
<i>Dependent</i>				
w/ child(ren)	0.515 (0.500)	0.549 (0.501)	0.423 (0.495)	0.631 (0.485)
<i>Dependent, under 5</i>				
w/ child(ren), under 5	0.177 (0.382)	0.146 (0.356)	0.167 (0.374)	0.216 (0.414)
<i>Safety, at home</i>				
Not safe	0.144 (0.352)	0.122 (0.329)	0.113 (0.318)	0.207 (0.407)
<i>Safety, in the neighborhood</i>				
Not safe	0.216 (0.412)	0.159 (0.367)	0.226 (0.420)	0.243 (0.431)
<i>Service usage</i>				
# CNI service links	0.440 (1.153)	0.329 (0.982)	0.577 (1.399)	0.577 (0.786)
Observations	361	82	168	111

## 4.2. Empirical model design

### 4.2.1. Where do they move to?

We first explored where program participants moved during the relocation process. Because the project demolished and revitalized the entire public housing site at one time, all residents living at the site were forced to move outside the site. Using qGIS, a Geographic Information System (GIS) software, we mapped the relocation destination and show how the relocation destination decision was related to varying neighborhood characteristics, such as the median income, the median rent, school achievement, and the racial/ethnic group composition at the Zip Code Tabulate Area (ZCTA) level.

### 4.2.2. Who relocates where?

The CNI project originally aimed to allow the residents in the project sites to move to higher-income neighborhoods to provide increased opportunities through the Housing Choice Voucher. Due to constraints as well as residents' preferences, however, a substantial portion of the residents chose to stay in the same neighborhood. Furthermore, many of those who left the neighborhoods moved to other similar-income neighborhoods. Therefore, it is worthwhile to investigate the determinants of the relocation decision during the project implementation.

We posit that the relocation destination choice would be associated with demographic characteristics, family structure, employment status, sense of safety at home and in the neighborhood, and engagements with the USI services. First, we explore who chose to leave their neighborhood regardless of the income level of the destination. As the relocation decision variable is binary, we employ a logistic regression model as follows:

$$\ln\left(\frac{Pr(Y_i^{left})}{1 - Pr(Y_i^{left})}\right) = \beta_0 + \beta_1 X_i^{demo} + \beta_2 X_i^{emp} + \beta_3 X_i^{family} + \beta_4 X_i^{safety} + \beta_5 x_i^{service} \quad (1)$$

where  $Pr()$  represents the logistic probability function. The dependent variable,  $Y_i^{left}$ , is binary, coded 1 for those who left their original zip code area during the relocation; otherwise 0.  $X_i^{demo}$  is a set of demographic characteristics, including age, gender, educational attainment, and employment status of heads of households.  $X_i^{emp}$  indicates employment status of heads of household (0: unemployed, 1: employed, temporal, 2: employment, permanent).  $X_i^{family}$  consists of two binary variables regarding dependent(s) and dependent(s) under 5.  $X_i^{safety}$  includes two binary variables regarding safety at home and in the neighborhoods.  $x_i^{service}$  counts the number of interactions with CNI service(s), including adult education, asset building, basic and emergency services, health and family services, and employment services.

While the first model answers who chose to leave (or stay) their neighborhood, the next model investigates where they chose to move. We categorize possible relocation destinations into three types: within the same zip code area, outside of the zip code area with similar-income, and the outside of the zip code area, with higher income. The first group includes residents who moved next to the public housing site but never left their zip code (38126). The second group includes those who moved outside of the zip code area where the median income at the zip code area level was lower than 80 percent of the area median income (AMI) for Memphis (\$39,108, according to ACS 2018 5 years estimate). The last group includes those who moved outside of the zip code area where the median income is higher or equal to 80 percent of AMI. Note that the zip code area where the project site is located exhibits the lowest median income in the city (\$14,548, according to ACS 2018 5 years estimate). As the relocation decision variable is multinomial, we employ a multinomial logistic model as follow:

$$\ln\left(\frac{Pr(Y_i^{left,lower})}{Pr(Y_i^{stayed})}\right) = \beta_0 + \beta_1 X_i^{demo} + \beta_2 X_i^{emp} + \beta_3 X_i^{family} + \beta_4 X_i^{safety} + \beta_5 x_i^{service} \quad (2)$$



$$\ln\left(\frac{Pr(Y_i^{left,higher})}{Pr(Y_i^{stayed})}\right) = \beta_0 + \beta_1 X_i^{demo} + \beta_2 X_i^{emp} + \beta_3 X_i^{family} + \beta_4 X_i^{safety} + \beta_5 x_i^{service} \quad (3)$$

## 5. Empirical findings

### 5.1. Where do they move?

Figure 2 examines the relocation destination of the project residents as well as the median incomes of neighborhoods in Memphis at the zip code area level. All residents relocated to neighborhoods within a 15-mile radius from the project site. More than half of the residents moved less than 5 miles from the project site. Notably, none of the residents relocated to the opposite side of the Mississippi River. Despite the nature of Housing Choice Voucher—allowing people to seek housing in any neighborhood—many of the residents in the project sites either stayed in their current low-income neighborhood or relocated to similar-income neighborhoods. About 47 percent of families stayed in the same neighborhood, while 23 percent moved to similar similar-income neighborhoods. In contrast, 31 percent of the residents moved to higher-income neighborhoods.

Figure 3, Figure 4 and Figure 5 examine the relationship between the relocation destination neighborhood and the median rent, educational achievement, the concentration of the African American population, and the level of crime, respectively. Almost all (>99 percent) of the residents moved to neighborhoods where median rent was less than \$1,000 (Figure 3). Additionally, the educational environment was not strongly associated with the relocation destination decisions of families (Figure 4). Interestingly, the relocation decision was strongly related to the concentration of the African American population (Figure 5). Roughly 67 percent of those who left their original zip code area moved to neighborhoods where the proportion of African Americans was 80 percent or higher.

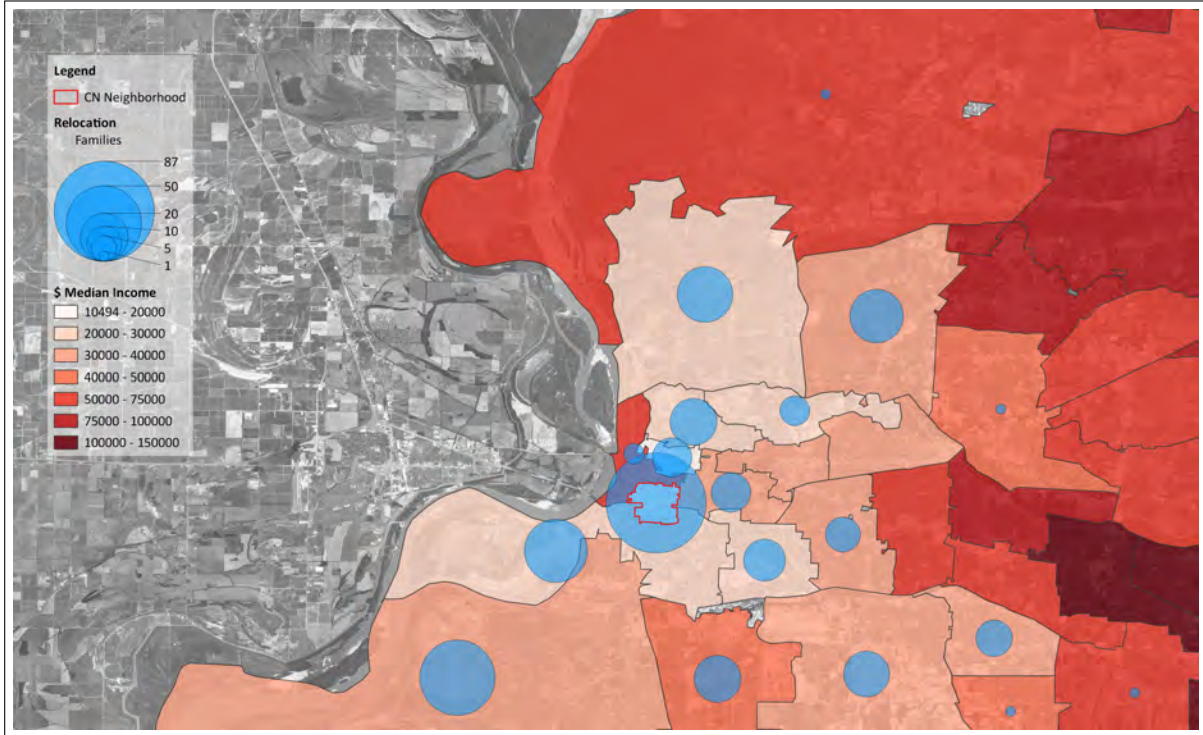


Figure 2: Relocation destination and the median income at the zip code area level

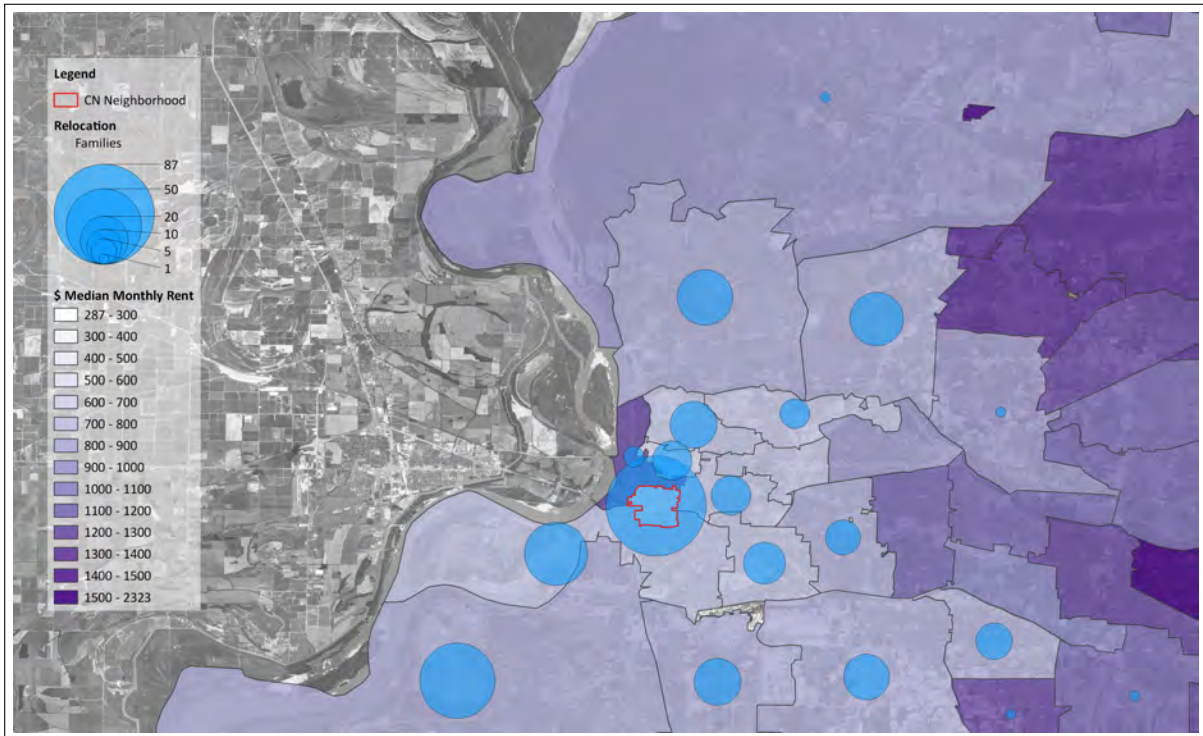


Figure 3: Relocation destination and the median income at the zip code area level

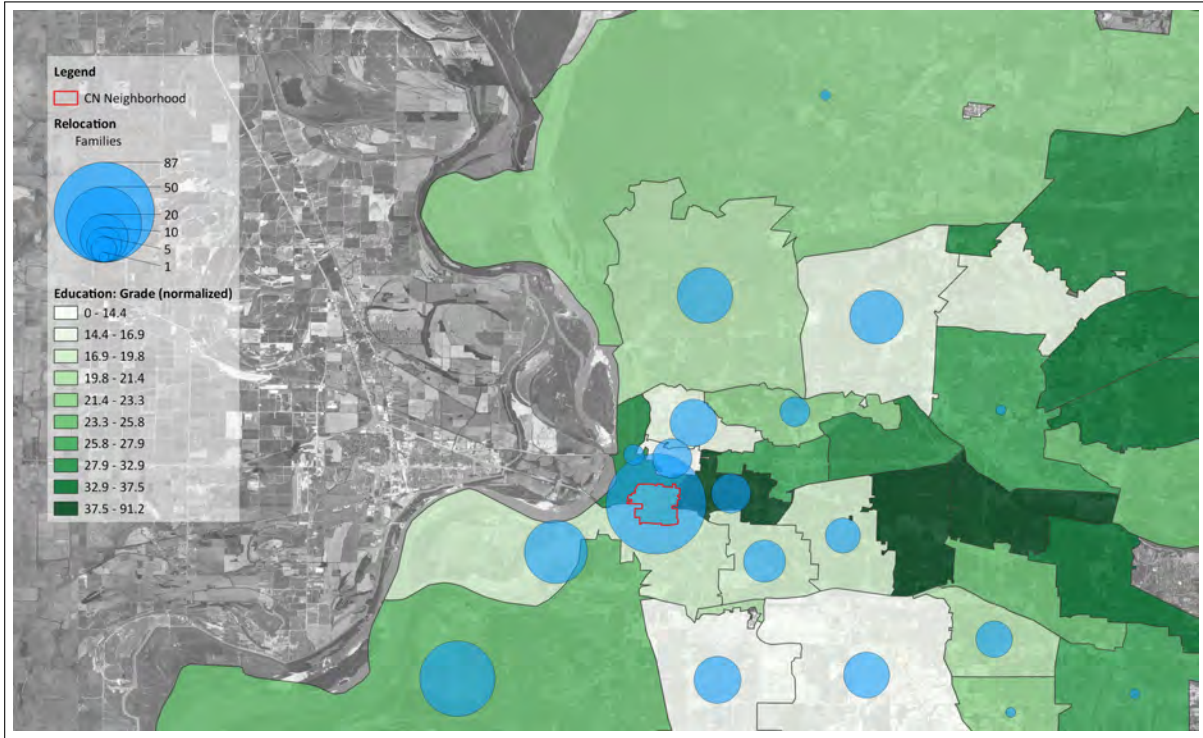


Figure 4: Relocation destination and the standardized academic achievement of the students at the zip code area level

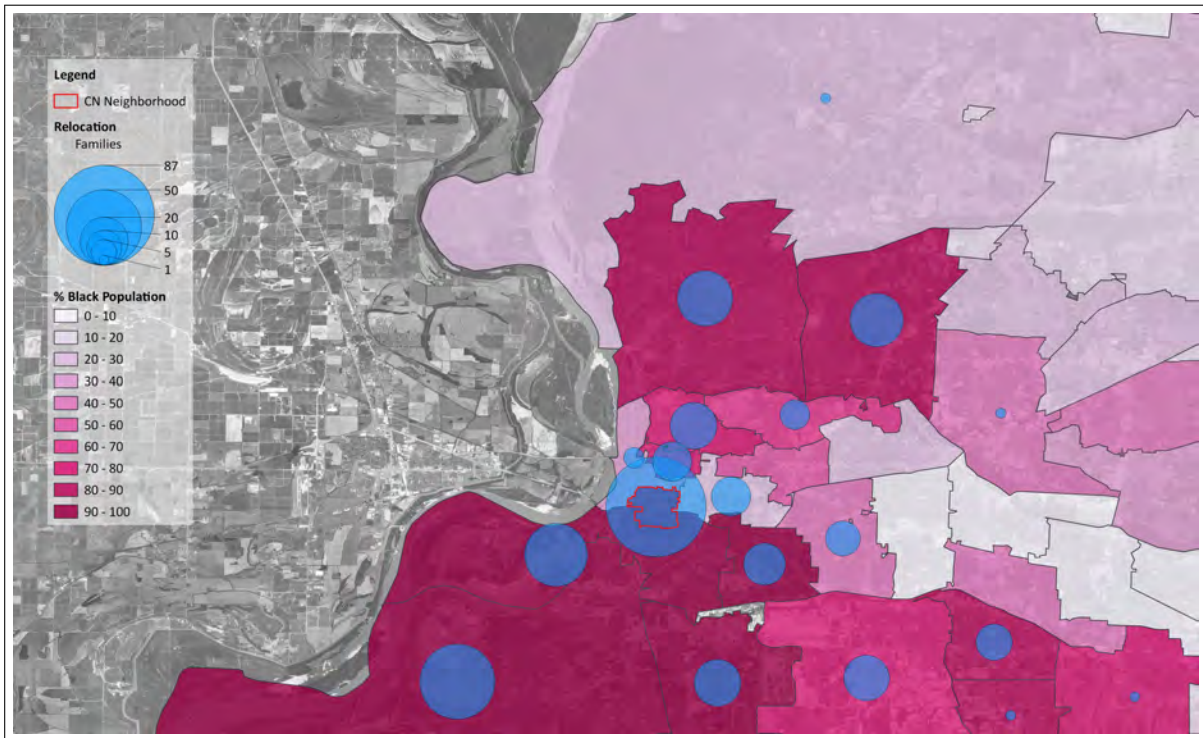


Figure 5: Relocation destination and the concentration of African American population at the zip code area level

## 5.2. *Who relocates where?*

Though the relocation decision was related to some neighborhood attributes as seen in the figures above, none of them deterministically predict the decision; while some chose to stay or move to similar-income neighborhoods, others relocated to higher-income neighborhoods. The question then becomes, “who relocates where?” To answer this question, we ran a series of logistic and multinomial logistic regression models to examine the resident characteristics associated with housing relocation.

Table 2 reports the estimated marginal effects of the logistic model (stayed vs. left the original neighborhood, Column 1) and those of the MNL model (stayed vs. left to other similar-income neighborhoods vs. left to other higher-income neighborhood). Regarding the relocation decision (Column 1), those who were temporally employed were 14 percentage points more likely to leave the original neighborhood. On the other hand, age (over 55) and family structure (families with children) were negatively associated with leaving the original neighborhood. That is, residents over 55 and those with children were 21 percentage points and 11 percentage points less likely to move to other neighborhoods.

Even though differences in demographic and employment characteristics between those who stayed in the original neighborhood and others are subtle, the differences become salient once we stratify the latter group into families who moved to similar low-income neighborhoods compared to families that moved to higher-income neighborhoods. With respect to age, residents were less likely to move to similar low-income neighborhoods, but more likely to move to the higher-income neighborhood as they got older. Regarding the educational attainment of the head of household, those who held a college degree were 13 percentage points likely to move to higher-income neighborhoods (42 percent) compared to families where the head of household did not have a college degree (29 percent). Also, the model predicts that 15 percent of the residents with a college degree would stay in the original neighborhood, while 24 percent of those without a college degree would stay.

Table 2: Logistic and Multinomial logistic (MNL) model estimates

		(1) Logit	(2a) MNL Left, similar-income neighborhoods	(2b) MNL Left, higher-income neighborhoods
<i>Age</i>				
	25-34	-0.137 (0.101)	-0.356** (0.137)	0.208† (0.107)
	35-44	-0.089 (0.100)	-0.254† (0.142)	0.161 (0.108)
	45-54	-0.082 (0.104)	-0.291† (0.152)	0.205† (0.116)
	55+	-0.209† (0.108)	-0.352* (0.152)	0.141 (0.114)
<i>Gender</i>				
	Female	0.135 (0.095)	0.000 (0.104)	0.140† (0.084)
<i>Education</i>				
	w/ college degree	0.093 (0.057)	-0.038 (0.069)	0.130† (0.070)
<i>Employment</i>				
	Employed, temporal	0.142* (0.069)	0.086 (0.104)	0.057 (0.097)
	Employed, permanent	0.006 (0.056)	0.018 (0.062)	-0.013 (0.058)
<i>Dependent</i>				
	w/ child(ren)	-0.110† (0.057)	-0.209** (0.065)	0.101† (0.061)
<i>Dependent, under 5</i>				
	w/ child(ren), under 5	0.071 (0.057)	0.057 (0.079)	0.019 (0.069)
<i>Safety, at home</i>				
	Not safe	-0.072 (0.135)	-0.317*** (0.080)	0.319* (0.139)
<i>Safety, in the neighborhood</i>				
	Not safe	0.116 (0.082)	0.262** (0.088)	-0.160* (0.080)
<i>Service usage</i>				
	# USI service links	0.015 (0.021)	0.054* (0.021)	-0.042† (0.021)
Observations		361		361
Pseudo R2		0.058		0.073

Marginal effects estimates reported  
Robust standard errors in parentheses  
†: p<0.10 \*: p<0.05 \*\*: p<0.01 \*\*\*: p<0.001

Interestingly, families with children were more likely to stay in the original neighborhood or move to higher-income neighborhoods than those without children. Our model predicts that families with child(ren) were 11 (29 percent vs. 18 percent) and 10 (35 percent vs. 25 percent) percentage points more likely to stay in the original neighborhood and to move to a higher-income neighborhood than those who without children, respectively. The relocation decision of the parents might be associated with either providing a stable education environment or seeking a better education environment for their children.

Feelings of home and neighborhood safety also influenced housing relocation. Unsurprisingly, those who felt unsafe in their homes were more likely to move to higher-income neighborhoods (58 percent) and less likely to move to other low-income neighborhoods (20 percent). However, families who felt unsafe in their original neighborhood were less likely to move to higher-income neighborhoods (18 percent) and more likely to move to other similar-income neighborhoods (68 percent).

Finally, receipt of USI supportive services negatively influenced housing relocation decisions for families; those who received USI wraparound service before the relocation were 5 percentage points more likely to move to surrounding lower-income neighborhoods but 4 percentage points less likely to move to higher-income neighborhoods.

## **6. Discussion**

In this study, we examined housing relocation patterns among CNI families in Memphis, TN. Specifically, we examined the extent to which families changed their neighborhood environment as a result of CNI, as well as the extent to which family demographic and socioeconomic characteristics influenced family relocation decisions to stay in their original neighborhood, to move to similar low-income neighborhoods, or to move to higher-income neighborhoods.

Many of our findings support prior literature on relocation patterns and decisions among families affected by higher-income development and those utilizing housing choice vouchers. Similar to findings by [Mazzara and Knudsen \(2019\)](#), we found that families rarely moved to higher opportunity neighborhoods. In fact, only 31 percent of families moved to higher-income neighborhoods. As seen in Figure 5, while the majority of residents moved to areas that bordered the relocation site, residents that moved beyond these borders tended to move to highly segregated, mostly Black neighborhoods, which substantiates previous research by [Goetz \(2012\)](#). However, as race and income level are highly correlated across our spatial plane, we cannot confirm the degree of racial preferences for Memphis CNI residents.

Moreover, when we consider demographic characteristics, we affirm previous research by [Kleit and Manzo \(2006\)](#), finding that better-educated families tend to move to higher-income neighborhoods and that younger residents were more likely to move out of the relocation site. Furthermore, when considering previous theories suggesting that housing and school choices may be “bundled” together (see [Shlay, 1985](#)), we find some evidence to support this claim. Among Memphis CNI residents, families with children were less likely to move to similar income neighborhoods (or stay in the relocation site) and more likely to move to higher-income neighborhoods. When considering academic achievement, we also see that fewer families relocate to areas with lower achievement scores.

We also found that home and neighborhood safety influenced housing relocation in ways that offer new insights to the existing literature. While families that felt unsafe in their homes were more likely to relocate to higher-income neighborhoods, we found that families that felt unsafe in their neighborhoods were more likely to move to similar low-income neighborhoods and less likely to move to higher-income neighborhoods. As noted by [Wood \(2014\)](#), residents that feel unsafe in their neighborhood may have adapted to these contexts by utilizing strategies to counteract neighborhood crime and thus may be more likely to move to other low-income neighborhoods if they can improve their housing quality. This is aligned with [DeLuca et al. \(2012\)](#) previous research showing preferences for the quality of the block

and or unit, as opposed to the quality of the neighborhood. At the same time, residents that feel unsafe in their homes may not have adapted to these contexts or have been able to utilize strategies to counteract neighborhood crime. Thus, these families may seek to move to higher-income and presumably safer neighborhoods regardless if they can improve their housing quality within these neighborhoods. Here, families may be attempting to ensure family safety in their immediate home environment by eliminating some of the threats posed by a similar-income neighborhood.

However, the finding that service receipt influenced family relocation was somewhat surprising. While case management and supportive services may assist families in finding high-quality housing in higher opportunity neighborhoods (see [Bergman et al., 2019](#)), our findings suggest that increased service linkages were associated with moving to a similar (i.e., not higher) income neighborhood. One potential explanation for this is that increased services from case managers and community partners may also represent a greater level of need. As these families may be more focused on “surviving” rather than “thriving” (see [DeLuca and Jang-Trettien, 2020](#)), they may be more likely to move to similar-income neighborhoods, which may be easier to move into, as well as closer to familial resources.

### *6.1. Implications*

Given that social networks of low-income individuals are inherently limited in their ability to provide guidance beyond the neighborhoods that they are embedded in, outside support may alter the relocation decisions of low-income families and thus serve as a potential program solution. Using data from the Baltimore Housing Mobility Program, [DeLuca and Rosenblatt \(2017\)](#) found that innovative counseling and programmatic supports helped “poor black families leave racially segregated, high-poverty environments and move to more racially mixed, low-poverty neighborhoods, with higher quality schools”...and stay within these neighborhoods over time ([2017](#), p. 520). Moreover, pre- and post-move counseling raised parents’ expectations of both neighborhoods and schools: “parents report new preferences for the



‘quiet’ of suburban locations, and strong consideration of school quality and neighborhood diversity when thinking about where to live” (Darrah and DeLuca, 2014, p. 350).

Perhaps most promising, a randomized controlled experiment was recently conducted in Seattle, which used customized search assistance, landlord engagement, and short-term financial assistance in order to reduce barriers to moving to higher opportunity neighborhoods (Bergman et al., 2019). Findings from this experiment reveal that while only 15 percent of the control group ended up moving to a high-opportunity neighborhood, over 53 percent of the treatment group did. These families were also more likely to renew their leases and report higher levels of neighborhood satisfaction (2019). Interviews revealed that customized support was key to the program’s success—suggesting that it is possible to break down some of the structural barriers to moving to higher opportunity neighborhoods (2019). Nevertheless, in a similar study in Chicago in which voucher-assisted families were offered intensive housing relocation counseling, a \$500 grant to move to high opportunity neighborhoods, or both, researchers found that families in each condition moved to high opportunity neighborhoods at similar rates (roughly 12 percent Schwartz et al., 2017). Additionally, neither experimental condition was significantly different in terms of opportunity moves compared to control group families (2017).

## 6.2. *Limitations*

This study is not without its limitations. First, we cannot understand the numerous factors that residents take into consideration when they decide if and where to move. As a result, we recommend future studies to employ a qualitative approach to better understand these decisions. Second, due to our timing window, we do not know how durable the moves we observed are. It is possible that over time, individuals in similar income neighborhoods end up moving to higher opportunity neighborhoods. In fact, given the nature of wraparound services offered through CNI partners (e.g., adult education, financial literacy, etc.), we might expect opportunities to increase. Future analyses should consider extended follow-

ups. Finally, because we cannot observe the actual unit that residents moved to, we cannot verify the types of tradeoffs residents made between dwellings and neighborhoods during the relocation process. Future analyses should consider these details as well.

## 7. Conclusion

This study is the first of its kind to analyze relocation decisions and patterns of CNI residents. We leverage a unique longitudinal data set to understand resident characteristics that are associated with relocation while merging in geospatial data in order to visualize key neighborhood characteristics associated with moves. Our findings add to the important literature surrounding relocation decisions for low-income families. We find that with case management, wraparound services, and community partners, one-third of families in the Memphis CNI chose to move to higher-opportunity neighborhoods. Also, we found systematic patterns of those who moved to high-opportunity neighborhoods; for residents that do move to higher opportunity neighborhoods, educational attainment and family structure (with children) were important predictors, suggesting further stratification within the relocation process. Perhaps most interesting, we find that while perceptions of neighborhood safety are associated with moves to similar-income neighborhoods, perceptions of home safety are associated with moves to higher-income neighborhoods. Overall, by demonstrating characteristics associated with relocation decisions and patterns in the Memphis CNI, we provide other CNI programs, as well as case-managers within these programs, with an opportunity to better understand the barriers and opportunities within the relocation process in an effort to better serve residents.

## References

- Bergman, P., Chetty, R., DeLuca, S., Hendren, N., Katz, L. F., and Palmer, C. (2019). Creating Moves to Opportunity: Experimental Evidence on Barriers to Neighborhood Choice. *Nber Working Paper Series*, 26164.
- Bobo, L. and Zubrinsky, C. L. (1996). Attitudes on residential integration: Perceived status differences, mere in-group preference, or racial prejudice? *Social Forces*, 74(3):883–909.
- Buron, L. F., Popkin, S. J., Levy, D. K., Harris, L. E., and Khadduri, J. (2002). The HOPE VI Resident Tracking Study: A Snapshot of the Current Living Situation of Original Residents from Eight Sites. Technical report, U.S. Department of Housing and Urban Development, Washington, D.C.
- Cunningham, M., Galvez, M., Aranda, C. L., Santos, R., Wissoker, D. A., Oneto, A. D., Pitingolo, R., and Crawford, J. (2018). *A pilot study of landlord acceptance of housing choice vouchers*. US Department of Housing and Urban Development, Office of Policy Development . . . .
- Darrah, J. and 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.
- Dawkins, C., Jeon, J. S., and Pendall, R. (2015). Transportation Access, Rental Vouchers, and Neighborhood Satisfaction: Evidence From the Moving to Opportunity Experiment. *Housing Policy Debate*, 25(3):497–530.
- DeLuca, S., Garboden, P. M. E., and Rosenblatt, P. (2012). Poverty & Race with Poor Families. *Poverty & Race*, 21(5):1–19.
- DeLuca, S. and Jang-Trettien, C. (2020). “Not Just a Lateral Move”: Residential Decisions and the Reproduction of Urban Inequality. *City and Community*, 19(3):451–488.
- DeLuca, S. and Rosenblatt, P. (2017). Walking Away From The Wire: Housing Mobility and Neighborhood Opportunity in Baltimore. *Housing Policy Debate*, 27(4):519–546.
- DeLuca, S., Wood, H., and Rosenblatt, P. (2019). Why Poor Families Move (And Where They Go): Reactive Mobility and Residential Decisions. *City and Community*, 18(2):556–593.
- Desmond, M. (2016). *Evicted: Poverty and Property in the American City*. Broadway Books, New York, NY.
- Ellen, I. G. (2018). What do we know about housing choice vouchers? *Regional Science and Urban Economics*, pages 1–5.
- Eriksen, M. D. and Ross, A. (2013). The impact of housing vouchers on mobility and neighborhood attributes. *Real Estate Economics*, 41(2):255–277.
- Feins, J. D. and Patterson, R. (2005). Geographic Mobility in the Housing Choice Voucher Program: A Study of Families Entering the Program, 1995 – 2002. *Cityscape: A Journal of Policy Development and Research*, 8(2):21–47.
- Galster, G. and Godfrey, E. (2005). By Words and Deeds: Racial steering by real estate agents in the U.S. in 2000. *Journal of the American Planning Association*, 71(3):251–268.

- Goetz, E. G. (2012). Better Neighborhoods, Better Outcomes? Explaining Relocation Outcomes in Hope VI. *SSRN Electronic Journal*, 12(1):5–31.
- Holme, J. J. (2002). School Choice and the Social. *Harvard Educational Review*, 72(2):177–206.
- Joseph, M. L., Chaskin, R. J., and Webber, H. S. (2007). The theoretical basis for addressing poverty through mixed-income development. *Urban Affairs Review*, 42(3):369–409.
- Kleit, R. G. and Manzo, L. C. (2006). To move or not to move: Relationships to place and relocation choices in HOPE VI. *Housing Policy Debate*, 17(2):271–308.
- Krysan, M. and Crowder, K. (2017). *Cycle of Segregation: Social Processes and Residential Stratification*. Russel Sage Foundation, New York, NY.
- Mazzara, A. and Knudsen, B. (2019). Where Families With Children Use Housing Vouchers A Comparative Look at the 50 Largest Metropolitan Areas. Technical report, Center on Budget and Policy Priorities Poverty and Race Research Action Council, Washington, D.C.
- Metzger, M. W. (2014). The Reconcentration of Poverty: Patterns of Housing Voucher Use, 2000 to 2008.
- Owens, A. (2017). How do people-based housing policies affect people (and Place)? *Housing Policy Debate*, 27(2):266–281.
- Pattillo, M. (2013). *Black Picket Fences: Privilege and Peril among the Black Middle Class*. University of Chicago Press.
- Popkin, S. J., Levy, D. K., and Buron, L. L. (2009). Has HOPE VI transformed residents' lives? New evidence from the HOPE VI panel Study. *Housing Studies*, 24(4):477–502.
- Popkin, S. J., Levy, D. K., Harris, L. E., Comey, J., Cunningham, M. K., and Buron, L. F. (2004). The HOPE VI program: What about the residents? *Housing Policy Debate*, 15(2):385–414.
- Quillian, L. (2003). How long are exposures to poor neighborhoods? The long-term dynamics of entry and exit from poor neighborhoods. *Population Research and Policy Review*, 22(3):221–249.
- Rosenblatt, P. and Cossyleon, J. (2015). Take a chance on Me: A Review of the Milwaukee County Security Deposit Assistance Program. *Civil Rights Research, Poverty & Race Research Action Council*, (January):1–36.
- Rosenblatt, P. and DeLuca, S. (2012). "We Don't Live Outside, We Live in Here": Neighborhood and Residential Mobility Decisions Among Low-Income Families†. *City and Community*, 11(3):254–284.
- Rothwell, J. (2012). Scoring Schools. *Education*, (April):1–31.
- Sampson, R. J. (2008). Moving to inequality: Neighborhood effects and experiments meet social structure. *American Journal of Sociology*, 114(1):189–231.
- Sampson, R. J. (2012). *Great American City: Chicago and the Enduring Neighborhood Effect*. University of Chicago Press, Chicago.

- Schwartz, H. L., Mihaly, K., and Gala, B. (2017). Encouraging Residential Moves to Opportunity Neighborhoods: An Experiment Testing Incentives Offered to Housing Voucher Recipients. *Housing Policy Debate*, 27(2):230–260.
- Shlay, A. B. (1985). Castles in the Sky: Measuring Housing and Neighborhood Ideology. *Environment and Behavior*, 17(5):593–626.
- South, S. J. and Crowder, K. D. (1997). Escaping distressed neighborhoods: Individual, community, and metropolitan influences. *American Journal of Sociology*, 102(4):1040–1084.
- Wang, R. (2018). Tracking “Choice” in the Housing Choice Voucher Program: The Relationship Between Neighborhood Preference and Locational Outcome. *Urban Affairs Review*, 54(2):302–331.
- Wang, X., Varady, D., and Wang, Y. (2008). Measuring the Deconcentration of Housing Choice Voucher Program Recipients in Eight U.S. Metropolitan Areas Using Hot Spot Analysis. *Cityscape*, 10(1):65–90.
- Wood, H. (2014). When only a house makes a home: How home selection matters in the residential mobility decisions of lower-income, Inner-City African American families. *Social Service Review*, 88(2):264–294.