

# Cityscape

*A Journal of Policy  
Development and Research*

RESIDENTIAL MOBILITY:  
IMPLICATIONS FOR FAMILIES AND COMMUNITIES  
VOLUME 14, NUMBER 3 • 2012



PD&R



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U.S. Department of Housing and Urban Development  
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# Guest Editor's Introduction

Cynthia Guy

The Annie E. Casey Foundation

Residential mobility—residents' movement from one housing unit to another—could be either a positive or a negative phenomenon for families and neighborhoods. At the family level, residential mobility can reflect positive changes in individual or household circumstances. Moving up and out in search of better homes, better schools, and more advantageous neighborhoods has long been a rite of passage for the American middle class. However, residential mobility can also indicate household instability and insecurity, particularly in cases in which low-income families churn through a series of short-term, short-distance relocations (Crowley, 2003). For those families who lack sufficient financial resources and are disconnected from the informal support networks that can play a crucial role in weathering emergencies, frequent moves magnify the difficulty of dealing with day-to-day challenges such as childcare and transportation.

Similarly, at the neighborhood level, mobility has different consequences—or no consequences—depending on the characteristics and balance of in-mover and out-mover households. In some cases, such as the classic gentrification scenario, the replacement of low-income residents with better resourced households may lead to increases in neighborhood safety, better amenities, and improvements in public services (Lerman and McKernan, 2007). Conversely, an exodus of economically advantaged households and their replacement with lower income households may precipitate the overall neighborhood decline associated with greater concentrations of poverty (Galster, 2012; Jargowsky, 1997; Turner and Kay, 2006). In some cases, neighborhood quality remains in a social and economic “steady state,” despite high rates of housing unit turnover, because residents of similar social and economic circumstances replace those who exit (Andersson and Brama, 2004).

## Residential Mobility, Poverty, and Public Policy

Residential mobility becomes a critical issue for public policy when it is associated with poverty and disadvantage. Analysis by income quintile of Current Population Survey mobility data from 1998 to 2011 demonstrates a sustained, consistent relationship between low income and high mobility (see exhibit 1). Every step down the income scale corresponds to a rise in mobility rates. In 2011, mobility rates stood at 17.5 percent for the lowest income quintile compared with a national rate of 11.5 percent (Theodos, 2012). Thus, although the current economic downturn has led to an overall decline in residential mobility to the lowest levels since 1948 (Frey, 2011), mobility remains significantly greater among low-income populations. This pattern reflects an overall

**Exhibit 1****Mobility Rates by Income Quintile**

Income quintile	Movers (Percent)													
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Lowest quintile	22.2	22.4	21.8	19.2	19.8	19.2	23.3	18.5	19.5	19.2	17.7	18.6	18.7	17.5
Second quintile	19.1	17.8	18.5	17.4	17.2	16.1	19.9	16.6	15.8	15.7	14.2	15.3	15.0	13.7
Middle quintile	15.7	15.7	16.0	14.8	14.9	14.4	15.6	14.2	14.2	13.3	11.8	11.9	12.6	10.4
Fourth quintile	12.0	12.5	12.8	11.4	11.7	11.5	12.3	11.1	10.8	9.9	9.1	9.6	9.4	8.6
Highest quintile	10.7	11.3	11.6	10.1	10.8	10.1	9.9	9.0	8.6	8.5	7.2	7.7	6.8	7.2
<b>Total</b>	<b>15.8</b>	<b>15.7</b>	<b>15.8</b>	<b>14.3</b>	<b>14.6</b>	<b>14.0</b>	<b>13.6</b>	<b>13.7</b>	<b>13.6</b>	<b>13.0</b>	<b>11.8</b>	<b>12.3</b>	<b>12.3</b>	<b>11.5</b>

Notes: Calculated in adjusted 2005 dollars. Lowest quintile cutoff: \$21,705.88. Second quintile cutoff: \$40,223.61. Middle quintile cutoff: \$62,879.34. Fourth quintile cutoff: \$97,416.01.

Source: Current Population Survey tabulations (Theodos, 2012)

decline in opportunities for voluntary relocation to better jobs and homes (Frey, 2009), partially offset by residential churning and evictions because of job losses and landlord foreclosures among households that lack savings and assets (Cohen and Wardrip, 2011; Cunningham and McDonald, 2012; Pettit and Comey, 2012).

Low-income residential mobility raises a host of challenges for policy responses to poverty and disadvantage at the family and neighborhood levels. Student mobility, much of which is related to residential churning, stymies efforts to improve educational outcomes for low-income populations. Lack of continuity in instruction, higher absence rates, and lack of accountability for student progress are all closely connected to student transience (Cohen and Wardrip, 2011).

Residential mobility also poses a challenge to place-based initiatives and community-change efforts designed to improve household and individual outcomes by saturating disadvantaged neighborhoods with services and opportunities. Increasingly, policymakers and program operators are recognizing the difficulties of serving a target population that does not stay put long enough to benefit fully from place-based interventions (Kubisch et al., 2010). Some practitioners directly address this challenge by making affordable housing a key dimension of place-based interventions, but the evidence shows that, even among recipients of significant assistance, housing turnover continues to be an issue (Lubell, Shroder, and Steffen, 2003; Thompson, 2007).

Programs designed intentionally to channel and promote mobility as a means of improving family well-being—recently bolstered by long-term findings on positive health effects (Ludwig et al., 2011)—continue to produce disappointing employment and education effects for all but the small share of families who manage to spend significant time in high-opportunity neighborhoods (Turner et al., 2012). Moreover, these programs might have negative consequences for neighborhoods on the receiving end if relocatees concentrate in vulnerable and declining neighborhoods.

Finally, residential mobility poses particular challenges to the evaluation of place-based initiatives. Programs that seek to improve community economic conditions by increasing the economic success of residents may have difficulty demonstrating positive outcomes at the neighborhood level, because successful households move up and out. As MDRC's Jobs Plus experiment demonstrated, "resident move-out rates greatly influence how earnings effects for individuals can translate into development-level effects" (Blum et al., 2005: 12).

## **The Symposium**

The goal of this symposium is to present policy-relevant research and research-based discussions of residential mobility and its implications for families and neighborhoods. In the effort to advance the science around this topic, the symposium features innovative analytical methods, rich but underused data resources, and discussions of technical challenges and advances in the study of residential mobility.

The articles in this symposium represent creative and insightful uses of a range of data sources and analytical methods. One article, based on administrative data (public housing authority records and crime reports), presents the results of highly complex statistical modeling techniques. Another article makes innovative use of the most recent decennial census in combination with the Urban

Institute's Neighborhood Change Database, a longitudinal file of decennial census data for 1970 through 2000 remapped to census 2000 tract boundaries. Two articles make use of exceptionally rich and sophisticated longitudinal research surveys conducted in two major American cities: The Project on Human Development in Chicago Neighborhoods<sup>1</sup> and the Los Angeles Family and Neighborhood Survey.<sup>2</sup> Three articles use a program survey, the Making Connections cross-site survey,<sup>3</sup> that produced multiple waves of cross-sectional data on 10 urban neighborhoods and longitudinal data on a sample of their original residents.

Patrick Sharkey examines the role of residents' "cognitive maps" in channeling residential mobility into patterns that reproduce urban inequality, and he analyzes the population dynamics underlying the entrenched patterns of segregation so prevalent in northeastern and midwestern cities. His research draws on a wide range of data sources, including the Project on Human Development in Chicago Neighborhoods, to make a significant contribution to our understanding of the demand side of housing policy. Sharkey's analysis raises important considerations for policymakers and practitioners in crafting housing mobility programs that can help address segregation and inequality in American cities.

Ingrid Gould Ellen, Keren Horn, and Katherine O'Regan bring a deep and broad perspective to the issue of residential mobility, analyzing two decades of census data with a focus on shifts in neighborhood-level racial integration. Their analysis shows that, although most metropolitan neighborhoods continue to be racially segregated, the past 20 years have exhibited a long-term and accelerating trend toward racial integration at the national level. Ellen et al. examine the pathways of integration, finding, for example, that, for the vast majority of neighborhoods, integration results from the in-movement of minority households into predominantly white tracts. Using a variety of tract-level demographic and economic data, they analyze the characteristics of neighborhoods that become integrated and the characteristics of neighborhoods that remain integrated. In so doing, the authors shed new light on the role of residential mobility in defining the racial map of our increasingly diverse society.

Claudia Coulton, Brett Theodos, and Margery A. Turner explore residential mobility from the perspective of both neighborhoods and families. Using survey data from the 10-site Making Connections community initiative, they analyze the "push and pull" factors underlying the mobility decisions of the neighborhoods' mover, stayer, and newcomer households. The authors also examine the net effects of residential mobility on neighborhood-level socioeconomic change over time. Their analysis of Making Connections survey data demonstrates the need for policymakers, funders, and practitioners to take residential mobility and neighborhood dynamics into account when designing and evaluating place-based interventions.

Kate Bachtell, Ned English, and Catherine Haggerty focus on the methodological dimensions of mobility research, based on the National Opinion Research Center's work in designing,

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<sup>1</sup> Data access information is available at <http://www.icpsr.umich.edu/icpsrweb/PHDCN/daa.jsp>.

<sup>2</sup> Data access information is available at <http://lasurvey.rand.org/data/>.

<sup>3</sup> Data access information is available at <http://mcstudy.norc.org/data-access/>.



conducting, and analyzing the longitudinal and cross-sectional Making Connections survey. The authors explain their retrospective approach for linking individual household members across successive survey waves and describe a two-dimensional approach to the analysis of mobility, an approach that considers both residential movement and change in household composition. Their work advances the field both substantively and methodologically by providing a more nuanced and complex analysis of residential mobility, one that encompasses both the relocation of intact households and internal household dynamics.

William A.V. Clark analyzes the relationship between households' socioeconomic status (SES) and their neighborhood choices. Drawing on the rich data resources of the Los Angeles Family and Neighborhood Survey together with census data, Clark compares the characteristics of destination neighborhoods with those of neighborhoods of origin for different socioeconomic groups, then analyzes the characteristics of households that move "up," "down," or remain in the same or socioeconomically similar neighborhoods. Clark also explores the subjective dimensions of residential mobility by examining neighborhood satisfaction among movers to higher SES neighborhoods compared with that of movers to destination neighborhoods of the same or lower SES. Clark makes a significant contribution by expanding the analysis of residential mobility to include the full socioeconomic spectrum of neighborhoods and households to address fundamental questions about the relationship between residential mobility and social mobility.

Susan J. Popkin, Michael J. Rich, Leah Hendey, Chris Hayes, Joe Parilla, and George Galster draw on housing voucher records and crime data to analyze the relationship between local crime rates and the large-scale relocation of public housing residents resulting from the sweeping transformation of public housing that took place in Chicago and Atlanta starting in the 1990s. Basing their findings on sophisticated statistical modeling, the researchers demonstrate that destination neighborhoods with a low density of relocated households experienced no change in crime rate attributable to relocation. For destination neighborhoods with a medium-to-high density of relocatees, however, their model shows that the overall decline in neighborhood crime rates was shallower than would otherwise have been the case. This study constitutes a major methodological advance in its use of complex modeling to quantify the effects of housing policy. Its substantive contribution is twofold. The article presents credible, objective research findings on the nature and magnitude of the neighborhood effects of public housing resident relocation—findings that establish an effect at greater concentrations of relocatees but nevertheless counteract popular misconceptions that link relocatees to perceived neighborhood crime waves. In addition, these findings have important implications for housing policy, highlighting the need to prioritize the deconcentration of poverty as an objective of housing voucher programs.

G. Thomas Kingsley, Audrey Jordan, and William Traynor address the policy and programmatic implications of residential mobility for community-based initiatives. After reviewing Making Connections survey data on the prevalence and patterns of residential instability in 10 low-income neighborhoods, Kingsley et al. identify and describe a set of household- and community-focused strategies for preventing involuntary residential churning and for continuing to serve mobile families within the context of place-based interventions. They examine household-focused strategies based on lessons from a range of homelessness prevention and service programs. Their review of community-based strategies centers on the experience and principles of *network organizing*, an

innovative approach that can deliver formal and informal supports to families at risk of involuntary mobility and provide a mechanism to link residentially unstable households back to community-based resources and opportunities.

Ade Kearns of the University of Glasgow provides the international commentary for this symposium. While exploring the common ground in U.S. and European policy research related to residential mobility, he focuses on three key areas: (1) the question of what constitutes mobility; (2) the increasing research interest in the processes of mobility, particularly in the decisionmaking process; and (3) the broadening of the residential mobility research agenda to include a range of different populations and units of geography.

## Conclusion

Each article in this symposium makes its own contribution to the research literature around residential mobility and its implications for families and neighborhoods. Looking across the articles, some common themes, which may be particularly important for policy and program development, also clearly emerge. Some articles point out a disturbing connection between negative mobility (churning among low-income families and downward residential mobility) and the disruption of the family unit itself. Recognizing the connection between residential stability and family stability, this symposium underscores the need to coordinate housing policy and supportive services targeted to vulnerable families. Programs such as the U.S. Department of Housing and Urban Development's (HUD's) Choice Neighborhoods and the U.S. Department of Health and Human Services' Housing and Child Welfare Demonstration indicate promising movement in this direction at the federal level. Considering the community-level implications of residential mobility, place-based work clearly must be reconceptualized in a way that recognizes that the target population is a moving target. Programs that promote the development of social networks as enduring links to place-based resources constitute an innovative response to resident mobility. We can expect further progress as federal initiatives such as HUD's Choice Neighborhoods and the U.S. Department of Education's Promise Neighborhoods pursue the commitment to longitudinal tracking of target-population outcomes. Longitudinal tracking data can provide policymakers and practitioners with the information necessary to address the challenge of serving mobile families—whose success or failure will not show up in the kind of cross-sectional neighborhood data available from traditional sources such as the census—through place-based interventions. Finally, the findings in this symposium challenge policymakers to develop strategies to channel residential mobility into moves that work to the benefit of families and neighborhoods through interventions such as mobility counseling, fair housing enforcement, inclusionary zoning, voucher portability, and other interventions designed to maximize access to opportunity neighborhoods and minimize the reconcentration of poverty.

## Acknowledgments

The guest editor thanks G. Thomas Kingsley and Claudia Coulton for their role in originating the idea for this symposium and providing outreach to potential authors. The guest editor also gratefully acknowledges the reviewers and discussants who participated in the Residential Mobility Authors' Conference.

## Guest Editor

Cynthia Guy is associate director for policy research at The Annie E. Casey Foundation.

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# Residential Mobility and the Reproduction of Unequal Neighborhoods

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## Abstract

*Housing assistance policy has shifted away from project-based assistance toward tenant-based assistance. This shift in approach reflects a common assumption that, if families have the option to find homes on their own in the private market, they will seek out better quality homes in racially diverse neighborhoods with lower levels of poverty. This article presents evidence to qualify this assumption by highlighting the limits of residential mobility in reducing, in any substantive way, the degree of racial and ethnic inequality in urban America. Two empirical observations form the basis of the argument. The first observation is that residential mobility typically serves to reproduce urban inequality instead of disrupting it. The second is that urban inequality is resilient: even when individuals or families make moves that disrupt patterns of racial and ethnic inequality, the changes such moves induce are undermined by system-level processes that serve to reproduce inequality in the urban landscape. As a result, changes in families' neighborhood environments arising from residential mobility are often temporary and are diluted by subsequent changes occurring around families. The article concludes with a discussion of implications for housing assistance policy.*

## Introduction

During the past two decades, there have been several high-profile federal housing programs and policies that reflect a shift away from project-based assistance toward tenant-based assistance (Orlebeke, 2000). The number of families receiving vouchers for rental assistance through the Section 8 program has grown steadily, the Moving to Opportunity (MTO) for Fair Housing demonstration launched with great fanfare to assess whether mobility out of public housing projects could transform families' lives, and the HOPE VI Program demolished some of the most notorious

highrise public housing projects across the country (Cisneros and Engdahl, 2009; Goering and Feins, 2003). This shift in approach has been driven at least in part by the widespread sentiment that the deterioration of highrise public housing projects has contributed to the problems associated with concentrated urban poverty and racial segregation in America's cities. It may also be driven by an underlying assumption that, if families have the option to find homes on their own in the private market, they will seek out better quality homes in racially diverse neighborhoods with lower poverty levels.

This article does not challenge this assumption—in fact, a good deal of evidence indicates that families receiving housing vouchers live in neighborhoods with lower levels of concentrated poverty and crime than families receiving project-based assistance (Devine et al., 2003; Lens, Ellen, and O'Regan, 2011; McClure, 2008; Newman and Schnare, 1998). Rather, this article presents an argument about the limits of residential mobility in reducing, in any substantive way, the degree of racial and ethnic inequality in urban America. Two empirical observations form the basis of the argument. The first observation is that residential mobility typically serves to reproduce urban inequality instead of disrupting it. Residential moves are made within the highly stratified residential landscapes found in most American cities, and most moves lead families into aggregate flows of mobility that reinforce the larger structure of racial and ethnic inequality in the city or metropolitan area as a whole. Structural constraints, arising from the supply of affordable housing in an area and the resources that families bring to the housing market, are obvious explanations for this pattern. Although I acknowledge these structural constraints, in this article I focus attention on the less obvious cognitive constraints that help to explain why families rarely make moves that disrupt the larger patterns of racial and ethnic inequality. To be perfectly clear, the term *cognitive constraints* has nothing to do with the cognitive skills or abilities of individuals or groups; instead, the term, as used here, captures the constraints on residential mobility arising from individuals' perceptions and understandings of which communities are possible or realistic residential destinations. Cognitive constraints affect the housing choice process for all groups, but the consequences of such constraints are not equal.

The second observation is that urban inequality is resilient. Even when individuals or families make moves that disrupt patterns of racial and ethnic inequality, system-level processes that serve to reproduce inequality in the urban landscape often undermine the changes such moves induce. As a result, change in families' neighborhood settings arising from residential mobility is often temporary, and it is reversed or diluted by subsequent change occurring around families.

## **The Structure of Residential Mobility**

### **Evidence From the Project on Human Development in Chicago Neighborhoods**

The first part of this article provides descriptive evidence on the relationship between residential mobility and neighborhood change. I begin in Chicago before expanding outward to consider national patterns. Much of the evidence I review is based on Sampson and Sharkey's (2008) analysis of neighborhood attainment trajectories, which drew on data from the Project on Human Development in Chicago Neighborhoods (PHDCN). The PHDCN is a longitudinal study that tracked a

sample of families with children living in a representative set of Chicago neighborhoods as of 1995. The analyses I discuss in this section are based on data from the 0-, 3-, 6-, 9-, 12-, and 15-year-old age cohorts of the PHDCN Longitudinal Cohort Study; these analyses exclude the 18-year-old cohort, because many members of this group lived independently at the first wave of the survey, but I present separate analyses focusing on the 18-year-old cohort subsequently. The study gave children and caregivers in the PHDCN sample extensive interview assessments at three interview waves and followed them wherever the family moved (in the United States) over a 7-year period extending to 2002. This feature of the data allows for the decomposition of change in families' neighborhood environments arising from residential moves and from change in the composition of the neighborhood residents surrounding a family. The extensive data available on caregivers and their children allow for an assessment of the degree to which the child or caregiver's individual characteristics, or the family's changing conditions, help to account for trajectories of change in the families' neighborhoods arising from residential mobility.

Exhibit 1 displays trajectories of change in families' neighborhood conditions, which are based on a set of multilevel growth curve models in which the time points at which families were interviewed are nested within individuals, allowing for the description of change in neighborhood characteristics and adjusting for stable and time-varying characteristics or circumstances of the family (see Sampson and Sharkey, 2008, for details on the models and the covariates included). This exhibit shows trajectories of change in families' neighborhood economic status—as measured by the median income in a family's neighborhood—separately for families who remained in the same neighborhood over the course of the survey, families who moved to a new neighborhood within Chicago, and families who moved to a new neighborhood outside Chicago's city limits. In each case, slopes of change are allowed to vary by race and ethnicity.

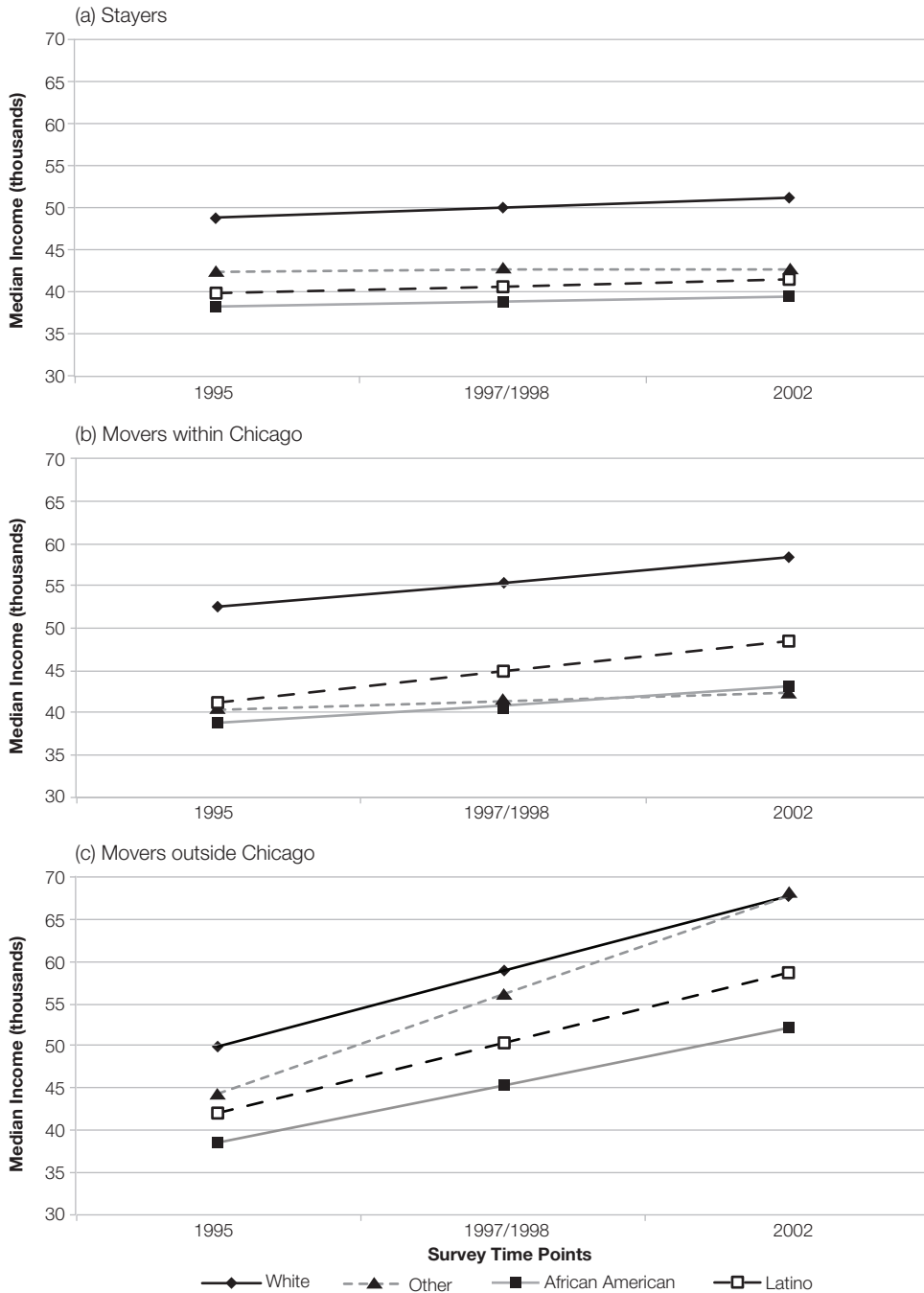
The racial and ethnic hierarchy in Chicago's neighborhoods is immediately visible from exhibit 1. Particularly notable is the persistent gap in neighborhood median income across racial and ethnic groups. This gap in neighborhood economic status is present among families who remain in their origin neighborhood, among families who move within the city, and among families who leave Chicago. In each case, White families live in the most affluent neighborhoods, followed by members of other ethnic groups (primarily Asian Americans) and then by Latinos and African Americans, respectively. This racial and ethnic hierarchy persists over the course of the study, and it persists no matter where families move.

A second observation is that change in neighborhood economic status is driven almost entirely by residential mobility. Families who remain in the same neighborhood over the course of the study experience virtually no change in neighborhood economic status, and families who move within the city find themselves in slightly more affluent neighborhoods over time. Only when families exit Chicago, however, do they experience substantial change in the neighborhood environment. After adjusting for any changes in the economic circumstances of the family, moves out of Chicago are found to bring about gains in neighborhood median income of more than \$10,000 for all racial and ethnic groups.

Similar findings emerge in analyses of change in neighborhood racial composition. Families who remain in the city experience minimal change in neighborhood racial composition over the course of the study, but when African Americans move beyond Chicago's city limits, they move into

**Exhibit 1**

**Trajectories of Change in Neighborhood Median Income, by Mobility Status and Destination: PHDCN Families With Children**



PHDCN = Project on Human Development in Chicago Neighborhoods.

Source: Adapted from Sampson and Sharkey (2008)



neighborhoods that are much more integrated than their origin neighborhoods. The probability of making this transition out of Chicago varies by race and ethnicity, however. After conditioning on stable and time-varying characteristics of families, the odds of African-American or Latino families moving out of Chicago are only about 40 percent as high as the odds for White families.

This first set of results leads to two conclusions about change in families' neighborhood environments. First, trajectories of neighborhood attainment are greatly constrained by the rigid structure of economic segregation and of racial and ethnic segregation within Chicago. As a result, moves made within the city lead to minimal change in families' neighborhood environments. Second, although moving out of Chicago leads to substantial change in families' neighborhoods, the likelihood of exiting the city is conditioned by race and ethnicity.

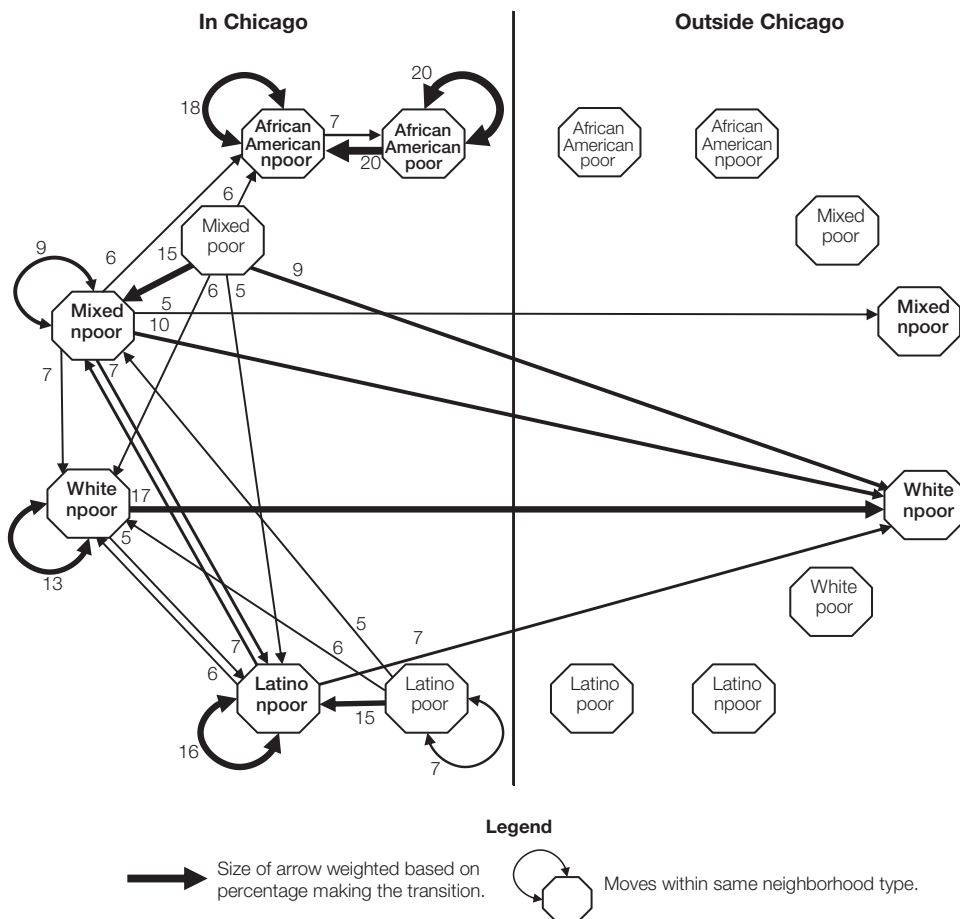
The result is a system of neighborhood inequality that is reproduced by the mobility of different groups within it. This system becomes visible through the analysis of flows of movement across different "types" of neighborhoods characterized by location (within or outside Chicago), by the dominant racial or ethnic group within the neighborhood (predominantly White, African American, Latino, or *mixed*, meaning none of these groups composes a majority of residents in the neighborhood), and by economic status (poor or nonpoor, with *poor* neighborhoods defined as those within the poorest quartile of neighborhood median income in Chicago). Exhibit 2 shows flows of movement across community subtypes. An arrow represents a flow of mobility if at least 5 percent of families in the origin neighborhood subtype undertake the transition to the new subtype, and circular loops represent flows of mobility that lead families from one type of neighborhood to a new neighborhood of the same type.

The dominant flows of families shown in exhibit 2 serve to reproduce the structure of racial and economic stratification within Chicago and the surrounding metropolitan area, rather than to disrupt it. Flows linking communities within Chicago and communities outside the city are few, and, by and large, they represent movement from nonpoor communities within the city to predominantly White, nonpoor communities outside Chicago. Within the city limits, the dominant flows depict a pattern of *circulation* between communities of similar economic status and similar racial and ethnic composition. This pattern is particularly pronounced within the set of predominantly African-American communities. Although movement from racially mixed neighborhoods into predominantly African-American communities occurs, not a single flow of migration leads out of African-American neighborhoods into neighborhoods that are mixed or that feature a majority of residents from other racial or ethnic groups. Instead, exhibit 2 reveals a pattern of circulation within the majority-African-American neighborhoods of Chicago.

Among the diverse set of communities found in Chicago, this pattern of circulation is unique to the city's African-American communities. Considerable exchange of families takes place between communities that are racially mixed, predominantly Latino, or predominantly White, whether these communities are poor or nonpoor. The flow of families across these communities reflects the high number of neighborhoods within the city undergoing a continuous process of transition, in which the community's population shifts from one dominant ethnic group to another, or, in some cases, reflects population change in neighborhoods that remain stably integrated over time. African-American neighborhoods are largely separate from these flows of migration, and they are distinguished by the absence of connections to other types of communities throughout the city.

**Exhibit 2**

**Flows of Mobility Among White, African-American, Latino, and Mixed Neighborhoods, by Poverty and Destination in or Outside Chicago: PHDCN Families With Children**



npoor = nonpoor. PHDCN = Project on Human Development in Chicago Neighborhoods.

Notes: All flows represent the percentage of families in the origin neighborhood making a transition, either within (mover-stayers) or to another neighborhood type. Arrows are not shown for transitions under 5 percent. Numbers attached to the arrows indicate the percentage of individuals making the transition.

Source: Adapted from Sampson and Sharkey (2008)

**Evidence From Moving to Opportunity**

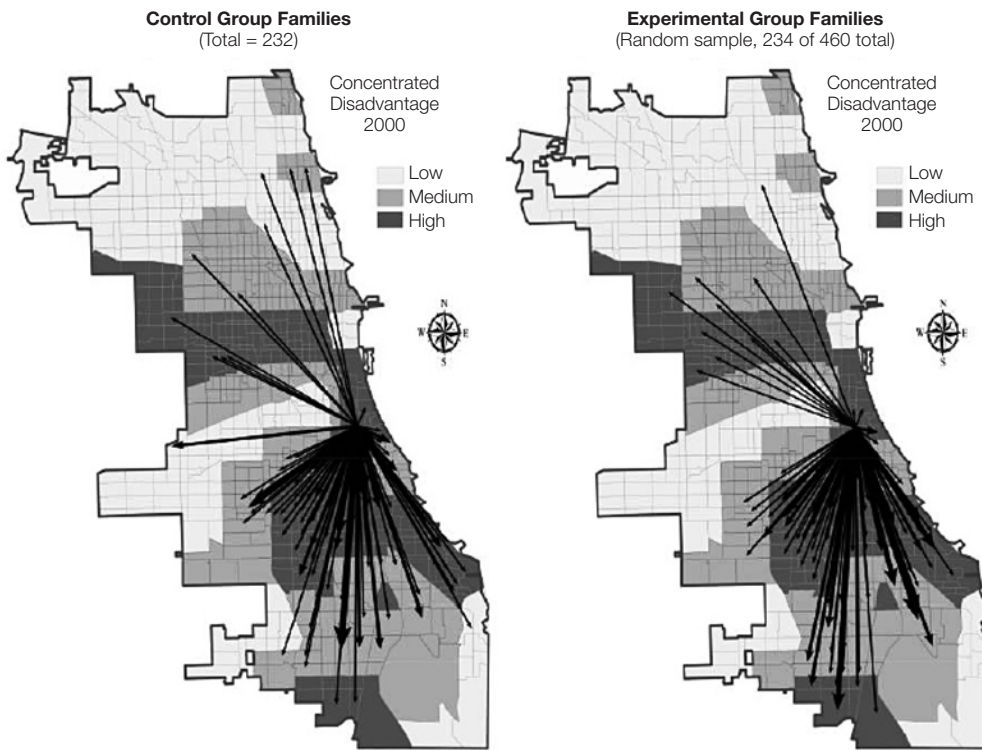
The flows of mobility shown in exhibit 2 are based on data from a representative sample of families within Chicago. The implications of these findings for housing policy become clearer when examining similar mobility flows among a sample of Chicago families living in public housing that participated in one of the more ambitious social experiments of our time, the Moving to Opportunity (MTO) program. MTO is a social experiment in which public housing residents in five cities who volunteered for the program were randomly assigned to one of three groups: (1) an experimental group that received vouchers that the family could use to relocate only in

low-poverty neighborhoods, (2) a Section 8 group that received traditional Section 8 vouchers with no restrictions on where the family could locate, or (3) a control group that received no vouchers (see Briggs, Popkin, and Goering, 2010, and Goering and Feins, 2003, for details on the intervention and its history).

Analyzing mobility patterns within the Chicago sample of MTO families, Sampson (2008) generated a remarkable map comparing flows of mobility among families in the MTO experimental group with those of families in the control group, which is reproduced in exhibit 3. As the exhibit shows, the MTO sample, which was almost entirely African American, moved from the South Side neighborhoods where they originated to a set of neighborhoods across the south and west of the city, with only trivial numbers of families venturing into any of the other communities throughout Chicago. Families in both the experimental and control groups fanned out across the city in almost identical paths, creating aggregate flows of migration that are difficult to distinguish. The families in the experimental group did relocate into neighborhoods with lower poverty levels, but these destination neighborhoods were often contiguous to the higher poverty neighborhoods of the

### Exhibit 3

#### Flows of Movement Among the Control Group and the Experimental Group in the MTO Chicago Site



MTO = Moving to Opportunity.

Note: Communities are shaded by the level of concentrated disadvantage as of 2000, and the size of arrows is weighted by the volume of movement.

Source: Adapted from Sampson (2008)

control group (Sampson, 2008). They located in neighborhoods that were similarly segregated by race and that offered similar quality schools, and they located in neighborhoods that were changing in different ways than the destination neighborhoods of the control group. All of the destination communities in Chicago were experiencing a decline in concentrated disadvantage during this period, but the destination neighborhoods of the experimental group were improving at a slower pace than the destination neighborhoods of the control group.

Sampson's (2008) analysis revealed the way that all moves made by families in the Chicago MTO sample were conditioned by the larger community structure of residential Chicago. Even holding a voucher that required them to move into neighborhoods with relatively low poverty levels, families in the experimental group moved along spatial pathways that were indistinguishable from those of the control group, they moved within the subset of predominantly African-American neighborhoods in the city, and they moved into neighborhoods that were on a trajectory of change that would make any differences between the neighborhoods of the control and experimental groups fade away over time. In the city of Chicago, the rigid structure of neighborhood racial and economic inequality overwhelmed the policy intervention; even with the capacity to "move to opportunity," MTO participants made residential moves that served to reproduce the larger structure of urban inequality (Sampson, 2008; see also Sampson, 2012).

Before moving on to consider potential explanations for these findings, it is important to acknowledge that the patterns of mobility uncovered in Chicago may be very different from patterns in other cities across the country, particularly the newer cities in the sunbelt regions of the South and West, which feature less entrenched patterns of racial, ethnic, and economic segregation. For instance, Clark (2008) provided similar evidence on the changes that MTO induced in all five cities in which it was carried out: Baltimore, Boston, Chicago, Los Angeles, and New York. The overarching conclusion from Clark's analysis was that the intervention produced minimal long-term changes in African-American families' neighborhoods, which is consistent with the argument made here. Note also, however, that the most pronounced changes in the geographic location and neighborhood environments of African-American MTO families were found in Los Angeles; a map showing the origin and destination locations of participating families from this city looks very different from the map produced from the Chicago sample. This difference does not imply that the findings from Chicago are irrelevant for families in other cities but, rather, that one cannot assume the patterns derived from a city like Chicago are identical to patterns in other cities (Small, 2007). I explore this issue in more depth in the following section, as I widen my perspective to the nation as a whole.

## **Structural and Cognitive Constraints on Mobility**

To understand why residential moves tend to reproduce, rather than disrupt, patterns of inequality, one must first consider the wide array of factors that influence where families live. Residential decisions are influenced by families' preferences for their neighborhood's composition and the amenities, risks, and resources that it offers, and residential decisions are constrained by families' circumstances (for example, life-cycle stage, family size and structure, income and assets) and the supply of affordable, quality housing. I refer to constraints arising from the interaction of the supply of affordable housing and the economic resources that individuals bring to the housing market as *structural constraints*.

Less obvious than these structural constraints on residential mobility are the set of cognitive constraints on housing decisions and the way that these two sets of constraints interact and operate in tandem to influence housing and neighborhood choices. By *cognitive constraints*, I mean individuals' mental perceptions and understandings of which communities are possible residential destinations. Shroder (2002) captured a similar idea with the term *psychological constraints*. Individuals' ideas about possible residential destinations may be based on familiarity (or lack of familiarity) with an area, a sense of whether the individual would "fit" in the community, perceptions of the history of the community, or a range of other factors that affect the individual's understanding about whether a given community is a realistic residential destination.

Perhaps the clearest example of cognitive constraints comes from research on "community blind spots" that Krysan and Bader (2009) conducted. In an innovative survey of Chicago adults conducted in 2004, Krysan and Bader selected 41 specific communities in and around Chicago and asked adult respondents to look at a map and identify which of these communities they "don't know anything about." The researchers then analyzed how the prevalence of community blind spots varies by the racial and ethnic composition of the community and by the race and ethnicity of the respondent, after adjusting for the respondent's social and economic status and the distance between the identified community and the respondent's own community.

Their findings revealed that all groups have incomplete information about the communities in and around Chicago. Latinos had the largest number of community blind spots, followed by Whites and African Americans, who had similar numbers of blind-spot communities. Not surprisingly, respondents were more likely to know nothing about a community if the community's residents were predominantly members of a different racial or ethnic group; a large proportion of African Americans knew little about several all-White communities in the greater Chicago area, and a large proportion of Whites knew little about the predominantly African-American neighborhoods of Chicago and its surrounding suburbs. Of particular interest, the study found that Whites were more likely to know nothing about racially and ethnically mixed neighborhoods in and around Chicago; in some cases this was true even for mixed neighborhoods in which Whites represent a majority of the neighborhood population.

Krysan and Bader's study revealed very clearly that information on the full range of communities within an urban area is limited for all groups, and the existence of community blind spots is not limited to any segment of the urban populace. Within the context of an urban landscape in which community advantage and disadvantage are stratified by race and ethnicity, however, the consequences of these blind spots vary by group, even if the prevalence does not. The pattern of community blind spots suggests that African Americans making decisions about residential moves are likely to be limited to a choice set of communities dominated by racial and ethnic minorities. In most cities across the nation, this choice set includes the communities that have been the object of consistent disinvestment over time, communities with greater risks and fewer economic opportunities (Dreier, Mollenkopf, and Swanstrom, 2001). Although Whites are similarly limited in their knowledge of the full range of potential destination communities, their choice set includes predominantly White communities that are commonly the most advantaged within an urban area.

In focusing on community blind spots, I do not intend to suggest that cognitive constraints on mobility decisions are driven primarily by biased or incomplete information about potential

communities that are held by residential movers. Perceptions of specific neighborhoods or entire sections of an urban area are influenced by a combination of direct or indirect experiences, individual and collective memories, and community reputations that persist over time. It is a mistake to think that the legacy of racial and ethnic violence in urban America has been wiped clean from the memories of America's urban dwellers, or that racial and ethnic discrimination is a thing of the past.<sup>1</sup>

For instance, excellent evidence demonstrates very clearly that discrimination remains prevalent in America's residential markets and that it affects every aspect of individuals' search for housing. The evidence comes from a series of experimental audits of the real estate industry conducted under the auspices of the U.S. Department of Housing and Urban Development (Turner and Ross, 2005; Turner et al., 2002). The Housing Discrimination Study 2000 showed that, in 17 to 25 percent of cases, African Americans and Latinos were "consistently" treated unfavorably when compared with their White counterparts, meaning "whites were more likely to find out about available houses and apartments, more likely to be given the opportunity to inspect these units, more likely to be offered favorable financial terms, more likely to be steered toward homes for sale in predominantly white neighborhoods, and more likely to receive assistance and encouragement in their housing search" (Turner and Ross, 2005: 86).

Equally important as the presence of racial and ethnic discrimination may be the perception of how individuals from different racial and ethnic backgrounds would be received in various communities across a metropolitan area. As an example, a survey of individuals in the Atlanta metropolitan area found that nearly 90 percent of African-American respondents believed that Whites commonly used discriminatory practices in the housing market, and a majority of both White and African-American respondents believed that Whites in the northern, largely White suburbs of Atlanta would be upset if an African-American family moved into the neighborhood (Thompson, 2001). The perception of racial animosity in these communities is widespread, and this perception is highly likely to affect African Americans' decisions about whether to relocate to these suburbs, even in the absence of any personal experience with racism, racial discrimination, or informal hostility in these communities. For housing voucher holders, perceptions about whether landlords would accept their vouchers may be equally important (Briggs, Popkin, and Goering, 2010).

The overarching point is that individuals' cognitive maps of the metropolitan areas surrounding them play a large role in leading families to choose neighborhoods in ways that reproduce racial and ethnic inequality in urban areas. The supply of affordable housing, families' preferences, and families' economic resources are certainly important in generating urban inequality, but historical and current racial discrimination, racial tension, and racial violence—or the perception that there is the potential for discrimination or hostility—matter as well.

Hints of the importance of such perceptions are evident in a study predicting which families leased up as part of the MTO intervention. Shroder (2002) considered the characteristics of families, services provided, and the local housing markets in developing a model to better understand lease-up patterns for MTO experimental group families, to whom MTO offered vouchers that they could use only in low-poverty neighborhoods, and for Section 8 group families, who could

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<sup>1</sup> Massey and Denton (1993) provided the most comprehensive history of the formal and informal policies that generated and maintained racial inequality in American cities through the 1980s.

use their vouchers anywhere. In addition to finding that the constraint for voucher use reduced takeup substantially, Shroder found that families' self-reported "uncertainty" about whether they would like their new neighborhoods was strongly predictive of whether the family ultimately used the voucher. As noted in the article: "Metro vacancy rates and household size—standard features of an economic model—have some power to explain lease-up, but 'satisfaction,' 'uncertainty,' and 'discomfort' measures often have more predictive power at the individual level than standard economic indicators like the hourly wage" (Schroder, 2002: 336). This passage implies that it is not only the supply of housing and the resources of families that determine where a family ends up, but it is also the family's perceptions about what life would be like in different residential communities and which of these communities represents a realistic destination.

The interaction of structural and cognitive constraints on mobility is illuminated more explicitly in a study of mobility decisions among low-income families holding housing choice vouchers in Mobile, Alabama. In their interviews with minority voucher holders, DeLuca, Rosenblatt, and Wood (2012) found that respondents knew very little about the large number of predominantly White communities in the greater Mobile area and had only vague ideas about the types of housing that might be available in these communities. They found also that low-income families typically do not plan or research their residential moves for long periods of time but, rather, make moves in response to acute changes in their personal lives or housing circumstances (see also Coulton, Theodos, and Turner, 2009). The imposition of time limits to find an apartment through the Housing Choice Voucher Program quickens the pace of decisionmaking; families are under pressure to find a suitable apartment in a satisfactory community before their time to maintain their housing voucher runs out.

The type of "reactive" mobility that was documented in this study limits the degree to which moves can be planned in advance and elevates the importance of cognitive perceptions of potential communities in the residential search process. Combined with the structural constraints associated with finding decent, affordable housing with limited financial resources, the presence of cognitive constraints comes close to ensuring that most individual moves will reproduce the larger structure of urban inequality.

## **The Resilience of Urban Inequality**

### **Evidence From the Project on Human Development in Chicago Neighborhoods**

To this point in the article, I have described the way in which residential moves typically align with larger flows of mobility that tend to reproduce racial and ethnic patterns of urban inequality. Not all moves fit this pattern, however. A common finding in several recent studies is that residential moves that lead families beyond the borders of their origin city, county, or metropolitan area are the most likely to generate substantial change in families' residential environments (Keels et al., 2005; Sharkey, 2012). Moves that lead to long-range geographic mobility are the only type of moves that commonly disrupt patterns of urban inequality, particularly if such moves lead families out of highly segregated metropolitan areas.

Evidence for this observation comes from multiple studies focusing on residential mobility and neighborhood change, two of which drew on data from the PHDCN. As discussed previously,

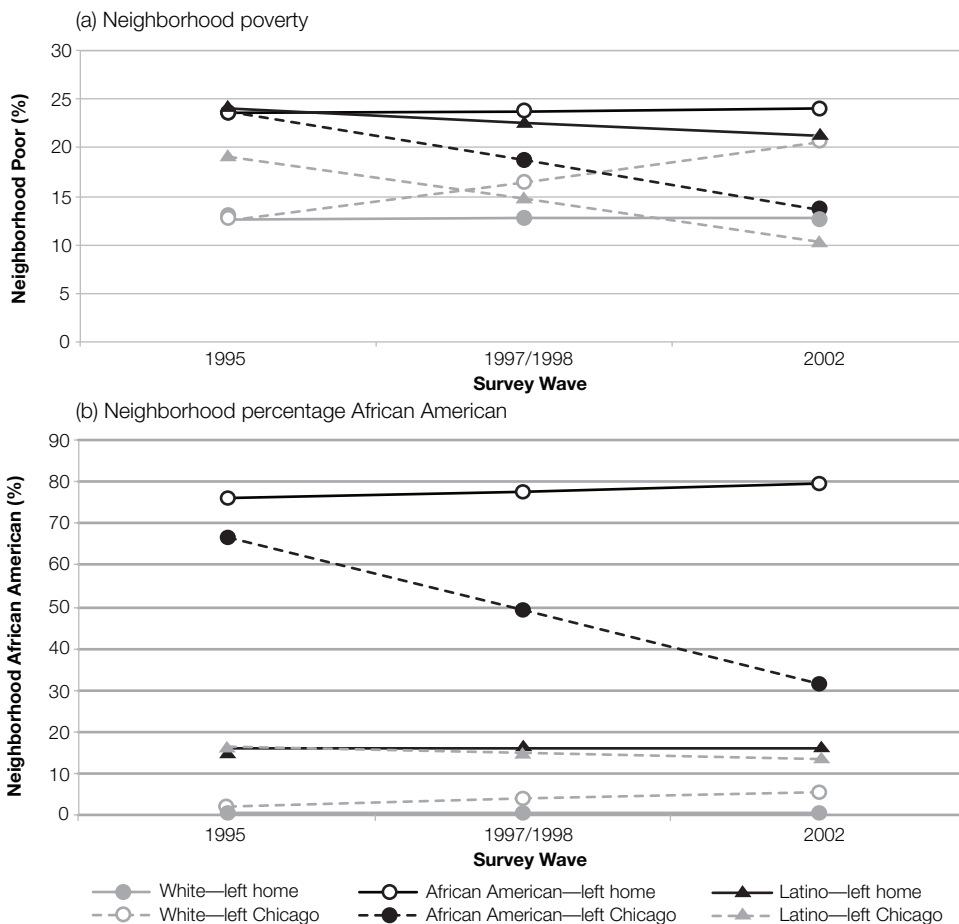


Sampson and Sharkey (2008) found that the only group of Chicago families experiencing substantial change in their neighborhood environments are families who move outside the city limits, whether they move into Chicago’s suburbs or well beyond. Families who move beyond the city limits experience substantial improvements in neighborhood economic status, and African-American families who leave Chicago move into neighborhoods with much less severe racial segregation.

The “leveling” of racial inequality attributable to mobility out of Chicago is even more pronounced among young adults moving out of the family home. Analyzing neighborhood change in the 18-year-old cohort of the PHDCN, Sharkey (2012) found that gaps in neighborhood poverty between African-American and White young adults originating in Chicago are reversed among those who leave the city when they exit the parental home. The top panel of exhibit 4 shows that White young

**Exhibit 4**

**Trajectories of Change in Neighborhood Poverty and Percent African American Among Homeleavers Who Remain in Chicago and Homeleavers Who Exit Chicago, by Race/Ethnicity: PHDCN 18-Year-Old Cohort**



PHDCN = Project on Human Development in Chicago Neighborhoods.

Source: Adapted from Sharkey (2012)



adults who leave Chicago when they exit the parental home end up in neighborhoods with higher poverty levels than Latino and African-American homeleavers who make the same transition out of Chicago. This finding is partially explained by the movement of young adults to diverse college campuses, but this is only part of the story. College attendance does not explain declines in neighborhood poverty among African-American young adults who leave Chicago, and college attendance explains only part of the increase in neighborhood poverty among White homeleavers. Even White young adults who do not attend college typically move to neighborhoods with higher poverty rates if they exit Chicago when leaving the parental home.

Despite the change in neighborhood economic status among Whites who leave the city when they form independent households, this group does not enter into more racially integrated neighborhoods. As shown in the bottom panel of exhibit 4, all groups of White and Latino young adults continue to live in neighborhoods with minimal presence of African Americans regardless of whether they leave the city. However, African Americans who leave home and exit Chicago experience substantial declines in neighborhood racial segregation. After controlling for a range of individual and family characteristics, Sharkey (2012) found that African-American young adults who leave Chicago when forming independent households find themselves in racially integrated communities that are, on average, less than 50 percent African American.

### **Evidence From the Panel Study of Income Dynamics**

The stark change in neighborhood conditions brought about by moves outside of Chicago raises the question of whether such findings are unique to this city, which continues to be distinguished by the severity of racial and economic stratification across its neighborhoods. To assess this question, Sharkey (2012) analyzed similar trajectories of change among young adults who leave home in a nationally representative sample from the Panel Study of Income Dynamics (PSID). Although the change induced by geographic mobility among the national sample is not as dramatic as the change among young adults leaving Chicago, the patterns of change are quite similar, particularly when the sample is limited to young adults originating in highly segregated urban areas.<sup>2</sup> Whites who exit highly segregated urban areas when they form independent households live in neighborhoods with a greater representation of African Americans and higher poverty rates, whereas African Americans who leave segregated metropolitan areas relocate into neighborhoods where the proportion of African-American residents and the poverty rate are substantially lower. The similarity between these patterns and those reported from the PHDCN suggests that this is a general pattern of change associated with exiting the residential structure of extremely segregated urban areas.

One might consider the changes in individuals' neighborhood environments that arise from long-range geographic mobility as a counterexample to the previous argument about the way that residential mobility tends to reproduce urban inequality. This conclusion is premature, however. Although geographic mobility can serve to reduce racial and ethnic gaps in neighborhood economic status and segregation, urban inequality is resilient. There are several explanations for this resilience.

The first explanation is that the types of long-range moves that cross municipal boundaries and disrupt urban inequality are much less commonly made by racial and ethnic minorities than they are by Whites. Sampson and Sharkey (2008) found that, among all Chicago families, Whites are the most likely to move beyond the city limits, followed by African Americans and Latinos. After

adjusting for a full range of stable and time-varying family characteristics, the odds of African Americans and Latinos moving out of Chicago were found to be roughly 40 percent as high as the odds of Whites leaving the city. The same racial and ethnic gaps in long-range mobility are found among the older cohort of 18-year-olds in Chicago, and among families in the PSID national sample (Sharkey, 2012). Coming to a full explanation for why there is such variation in the degree of long-range migration across different racial and ethnic groups is challenging, and it is beyond the scope of this article. Potential hints come from the literature on community blind spots and discrimination reviewed previously, on attachments to place, and on the role of spatial family and kin networks that may act to limit long-range migration among racial and ethnic minorities (Altman and Low, 1992; Shroder, 2002; Spilimbergo and Ubeda, 2004). The central point for the purposes of this article is that the types of moves that disrupt racial and ethnic inequality in urban neighborhoods are less commonly made by racial and ethnic minorities.

A second characteristic of moves that disrupt racial and ethnic inequality is that these moves commonly lead families into neighborhoods in the process of transition. To understand the implications of this observation for trends in urban inequality, it is necessary to shift from a perspective that focuses on individual trajectories of change and to a perspective that focuses on the dynamics of change in the families' destination neighborhoods. In an extension of the analysis of change in the neighborhood environments of young adults who exit Chicago when they leave the parental home, Sharkey (2012) described changes in the young adults' destination neighborhoods over the course of the 1990s. Results showed that moves out of Chicago led to substantial changes in young adults' neighborhood environments, but they also revealed that young adults from different racial and ethnic groups were moving into neighborhoods that were changing in very different ways. The average change in the poverty rate in the destination neighborhoods of Whites and Latinos was negligible, but poverty rose by an average of 3 percentage points in the destination neighborhoods of African-American young adults over the decade. During the 1990s, the destination neighborhoods of Whites, African Americans, and Latinos all experienced growth in the African-American population and a decline in the White population, but the degree of change varied markedly. The amount of change in the racial composition of Whites' destination neighborhoods was minimal. A more pronounced change took place in the destination neighborhoods of Latinos, but nothing approaching that found in the destination neighborhoods of African Americans, where the population of African-American residents rose by an average of 16 percentage points and the population of White residents declined by an average of 20 percentage points.

These results provide strong evidence to suggest that African Americans (and, to a lesser extent, Latinos) who leave home and leave Chicago enter neighborhoods with growing concentrations of minority populations. Whereas the individual trajectories of African-American homeleavers who exit Chicago show steep declines in racial segregation, figures describing change in the destination neighborhoods of homeleavers suggest a process of *resegregation*, in which the destination neighborhoods of African Americans who leave Chicago are transforming into racially and ethnically segregated neighborhoods that resemble the segregation found within Chicago. This evidence

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<sup>2</sup> Because of the small sample sizes for Latinos and other ethnic groups in the PSID, the sample for the national analysis in Sharkey (2012) was limited to African Americans and Whites.

is consistent with what Sampson (2008) found among families who moved as part of the MTO demonstration. Although families in the experimental group did move into neighborhoods with relatively low poverty rates, they moved into neighborhoods in which poverty was on the rise. Followup evaluations of MTO reveal that, roughly 10 to 15 years after the program was implemented, there were only minor differences in the neighborhood poverty rates of families in the experimental group and the control group (Ludwig et al., 2011).

A third explanation for the resilience of urban inequality is that residential moves are not made in isolation. Moves that disrupt patterns of racial and ethnic inequality are commonly undermined by subsequent mobility in individuals' destination neighborhoods. As a consequence, the change in neighborhood environment that occurs as a result of moves beyond the boundaries of highly segregated cities is often temporary change that fades over time.

Evidence for this phenomenon emerges most clearly in analyses of young adults who exit highly segregated urban areas when they leave the parental home and form independent households (Sharkey, 2012). Results discussed previously from Chicago and from the nation as a whole show that young adults who move beyond the boundaries of highly segregated urban areas experience a substantial leveling of racial inequality, with African Americans in particular moving into more integrated neighborhoods with less poverty. When the national sample of young adults is followed further into adulthood, however, these stark changes in individuals' neighborhood environments begin to fade and to reverse.

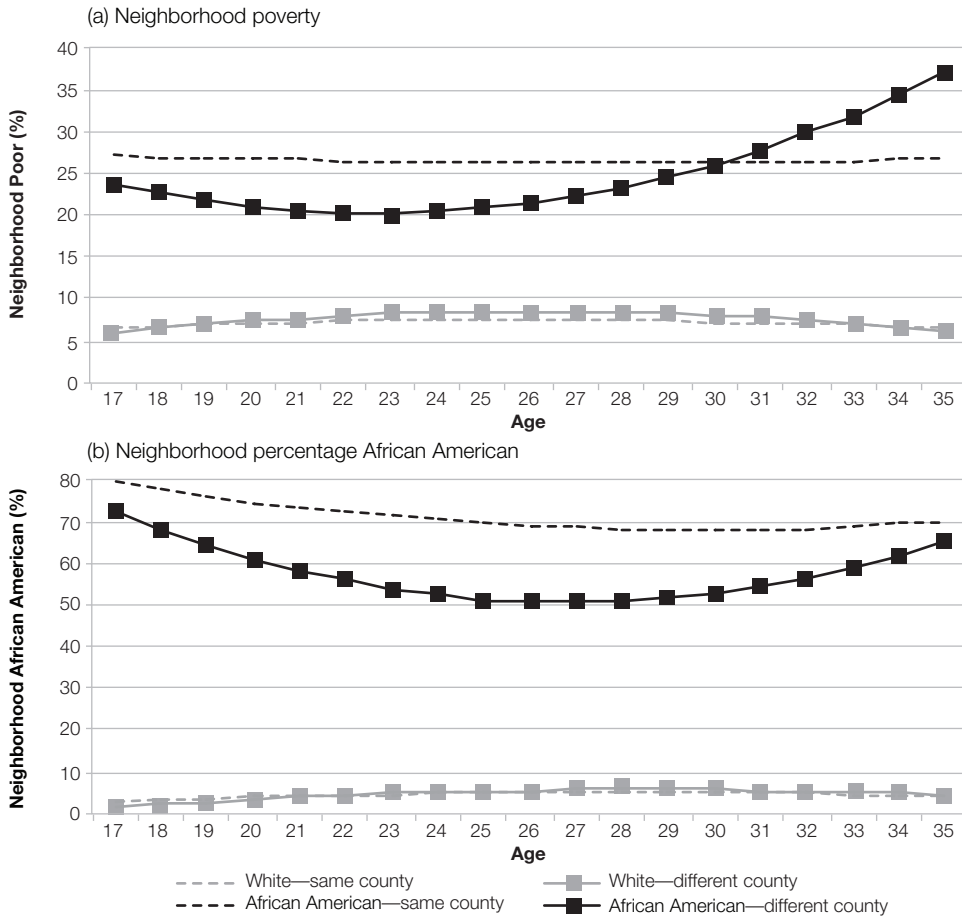
Exhibit 5 displays trajectories of neighborhood change for African-American and White young adults derived from growth-curve models covering an extended period of early adulthood. The dashed lines show trajectories of change for young adults who move to a different county when forming their own households, and solid lines represent trajectories of change for those who remain in the same county. All figures are based on models that adjust for a set of covariates that capture key aspects of individuals' economic status and life-cycle changes during this period of the life course.

The top panel of the exhibit shows that African Americans who exit highly segregated urban areas experience a pronounced drop in neighborhood poverty during early adulthood, and all groups of Whites experience rising neighborhood poverty over the same period. These trends shift as the sample moves further into adulthood, however. Whereas Whites experience slight declines in neighborhood poverty as they age beyond 25, the pattern of declining neighborhood poverty among African Americans flattens and reverses as they age further into adulthood. In early adulthood, a clear movement toward racial equality emerges among young adults who exit highly segregated metropolitan areas, but the long-term trend suggests a reproduction of racial gaps in neighborhood poverty as African-American and White young adults move further into adulthood.

The bottom panel of exhibit 5 displays the same results using the neighborhoods' percentage of African Americans as the dependent variable. Although Whites remain in neighborhoods with minimal African-American presence no matter where they reside, African Americans who exit highly segregated metropolitan areas enter neighborhoods that are much less segregated than those from which they came. Again, however, the longer term trend is one of resegregation; the percentage of African-American neighbors gradually rises as African Americans age further into

**Exhibit 5**

**Trajectories of Change in Neighborhood Poverty and Percent African American From Age 17 to 35, by Race: PSID Young Adult Sample Originating in High-Segregation MSAs**



MSA = metropolitan statistical area. PSID = Panel Study of Income Dynamics.  
 Source: Adapted from Sharkey (2012)

adulthood. By the time they are in their 30s, African-American adults who had moved into neighborhoods that were relatively integrated when forming their own households find themselves back in neighborhoods similar to those in which they started: neighborhoods that are mostly African American. Whites experience a very modest increase in the percentage of African Americans in their neighborhoods over the course of young adulthood but continue to live in neighborhoods with less than 10 percent African-American residents, on average, throughout this period. Thus, although the period of early adulthood shows a leveling of racial inequality in neighborhood economic status among young adults who exit highly segregated urban areas, a longer term pattern of resilient racial inequality emerges.

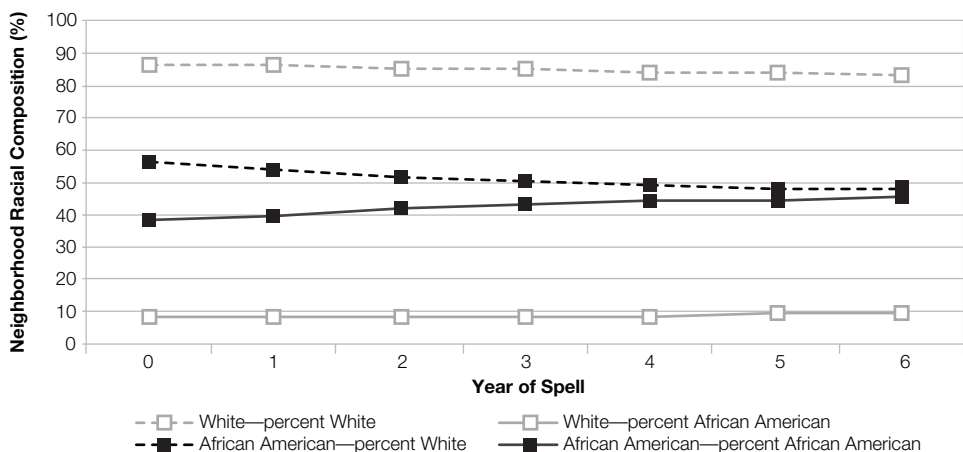
How is it that young adults who select out of extremely segregated areas when establishing independent households return to segregated neighborhoods when they are further into adulthood? To pursue this question, Sharkey (2012) analyzed the change occurring in young adults' neighborhood environments after they have left their parental home and selected a new neighborhood outside their origin city. Change in the neighborhood environment after the transition out of the family home is decomposed into change occurring in the young adult's initial "spell" of residence in the destination neighborhood and change occurring from additional residential moves.

Exhibit 6 shows average levels of change in the racial composition of young adults' destination neighborhoods over the duration of their initial spell in the new neighborhood. The exhibit shows that the average destination neighborhood of African Americans who exit highly segregated metropolitan areas undergoes a process of demographic change during their time in the neighborhood. Whereas the racial composition in the destination neighborhoods of Whites changes very little (see the top and bottom lines in the exhibit), in African Americans' neighborhoods, the average proportion of White residents drops steadily and the proportion of African-American residents rises.

Exhibit 7 complements this analysis by plotting *selected change* in neighborhood racial composition arising from the first residential move after the initial spell of residential independence. Trends of change for African Americans run in the opposite direction from those found in exhibit 6—residential moves lead African Americans into neighborhoods with slightly lower percentages of African-American and higher percentages of White residents than the neighborhoods from which they moved. Moves made by Whites do not alter the racial composition of their neighborhood substantially, although they do lead to neighborhoods with slightly lower percentages of African-American residents and higher percentages of White residents.

### Exhibit 6

Changes in Neighborhood Racial Composition During Young Adults' First Independent Residential Spell: PSID Young Adult Sample Originating in High-Segregation MSAs



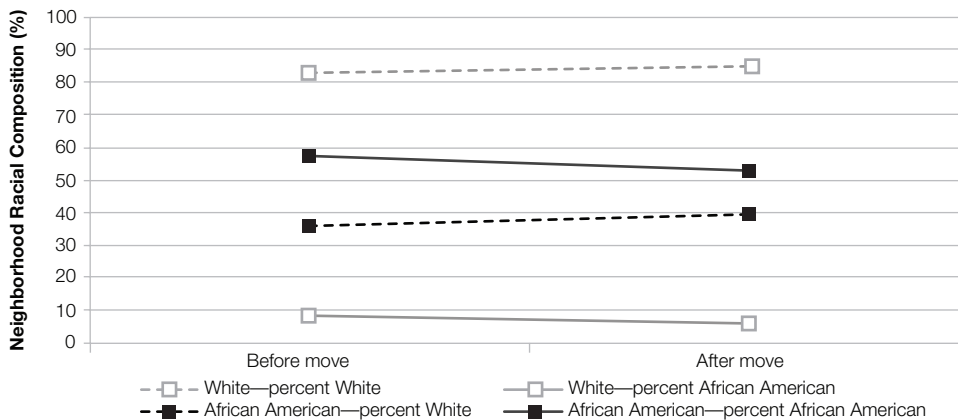
MSA = metropolitan statistical area. PSID = Panel Study of Income Dynamics.

Note: Sample limited to young adults who move to a different county when forming independent households.

Source: Adapted from Sharkey (2012)

**Exhibit 7**

**Changes in Neighborhood Racial Composition Arising From Young Adults' First Residential Move After the First Independent Residential Spell: PSID Young Adult Sample Originating in High-Segregation MSAs**



MSA = metropolitan statistical area. PSID = Panel Study of Income Dynamics.

Note: Sample limited to young adults who move to a different county when forming independent households.

Source: Adapted from Sharkey (2012)

Together, these two exhibits suggest that one important explanation for the persistence of racial inequality in neighborhood environments, even among young adults who have selected out of segregated environments, is a phenomenon that Sharkey (2012) referred to as *unselected change*. Unselected change refers to change in the neighborhood environment that occurs around individuals or families and that runs counter to the preferences of the individual, as inferred by his or her decision to relocate into the neighborhood. The idea relates closely to a strand of research that considers how the preferences of different groups of individuals interact to create aggregate patterns of racial segregation (Bruch and Mare, 2006; Clark, 2007; Schelling, 1971). The central lesson from this research is that to understand neighborhood change one must move beyond an exclusive focus on individual choices and instead consider systems of interrelated decisions made by individuals responding to the change that is occurring around them (see also Crowder and South, 2008; Quillian, 1999). In this example, African-American young adults who exit severely segregated metropolitan areas and select into racially integrated neighborhoods find themselves in neighborhoods that are undergoing a gradual demographic shift toward resegregation.

The pattern of unselected change suggests that the reproduction of neighborhood inequality from childhood to adulthood is not attributable only to the decisions of White and African-American young adults to live in segregated neighborhoods but, rather, to the decisions of those around them to exit or enter such neighborhoods. The analysis of change arising from the second move of African Americans reinforces this idea. Like the move out of the family home, African-American young adults again move into more integrated environments when they decide to relocate for a second time. In other words, selected change appears to lead African Americans into relatively integrated environments, whereas unselected change leads to increasing segregation around African-American young adults.

## **Implications for Housing Policy**

The focus of this article on residential choice is motivated by a long-term shift in the approach of federal housing policy. As a result of the shift away from project-based assistance, low-income families receiving housing assistance are increasingly navigating the private housing market on their own when making decisions about where to live. This concluding section does not consider the merits of this shift in approach, nor does it consider the full range of policy approaches that might reduce neighborhood inequality. Many excellent studies have provided more comprehensive discussions of housing policy, with explicit focus on the supply side of the housing market and on the structure of federal housing programs (Briggs, Popkin, and Goering, 2010; Dolbear, 2001; Grigsby and Bourassa, 2004; Katz and Turner, 2001; Quigley, 2011; Quigley and Raphael, 2004). My focus in this concluding section is more modest. Taking the shift in the approach of housing policy as given, I offer several suggestions for how mobility policies or programs might be altered in order to increase the probability that families are able to make residential moves that generate meaningful change.

These concluding suggestions derive from two overarching findings in the empirical evidence I have reviewed. The first finding is that residential moves made by low-income families tend to reinforce, rather than disrupt, patterns of urban inequality. Although individual residential choices are undoubtedly influenced by the availability of affordable housing in different parts of a given metropolitan area, the evidence reviewed in this article reveals the ways in which the structure of economic and racial segregation within urban areas interacts with individuals' economic resources and perceptions of the city to constrain the residential moves of low-income families in ways that reproduce urban inequality. The second finding is that urban inequality is resilient, meaning that change arising from residential moves is undermined by long-term patterns of unselected change. Despite this pattern, substantial evidence indicates that moves that cross city and county boundaries have the greatest capacity to bring about substantive change in families' neighborhood environments, but these moves are exceedingly uncommon.

Collectively, these findings indicate that any housing program or policy that relies on families navigating the private housing market on their own is unlikely to reduce neighborhood inequality in a meaningful way. Housing assistance programs that rely on residential mobility require extensive intervention into the process of housing choice to improve the likelihood that families are able to make moves, if they so choose, into neighborhoods that are less disadvantaged than the most common destinations of public housing recipients. Intensive assistance in the process of finding a neighborhood and a home is crucial to facilitating the type of residential moves that have the potential to reduce neighborhood disadvantage among recipients of housing assistance. I would argue that this mechanism is the only one by which tenant-based housing assistance can be used to confront urban inequality.

The most obvious form of such intensive assistance is housing counseling and support in the housing search. Many housing experts have called for more intensive counseling for housing assistance recipients, but altering the form of such support may also be important. For instance, instead of supplying voucher holders with a list of available units throughout the city, housing counselors might provide families with a "default" set of two or three units available in different communities

within the city (see also Briggs, Popkin, and Goering, 2010). Altering the “choice architecture” of voucher holders in this way may lead to substantial changes in the destinations of housing recipients without reducing their freedom to move wherever they wish.

The Gautreaux Assisted Housing Program in Chicago provides an example of an extreme version of this approach, because families participating in this program were offered specific units located throughout the Chicago metropolitan area based on their position on a waiting list (Rubinowitz and Rosenbaum, 2000). Unlike most residential mobility programs, the residential moves that arose from Gautreaux took families across the entire Chicago metropolitan area and brought about a change in families’ neighborhood environments that persisted over time (Keels et al., 2005). I would not argue for a policy that assigns a specific unit to a family but, rather, a policy that provides a set of default units in several different communities across a city or metropolitan area from which a family could choose.

A more general principle might be that families should be provided the information, support, and resources necessary to make the types of moves that bring them into less disadvantaged parts of the city, or out of their origin city altogether, and that disrupt the structure of residential stratification within the metropolitan area: the types of moves that are rare among non-White, low-income families. The specific policies that would be most effective in achieving this goal are subject to debate. Providing more resources for housing counseling or more aggressive targeting of discrimination among landlords may be most effective (Goering, 2007). Establishing a “mobility bank” (Ludwig and Raphael, 2010) that provides credit for families lacking the information and resources to make long-range, risky moves is another creative alternative. Altering the structure of the housing search process so that families are provided with a default set of units is a third option, and many others undoubtedly exist. The central point of this article is that the most common current approach, which relies on families to navigate the private market largely on their own, has limited capacity to generate meaningful change in families’ neighborhood environments. As a consequence, the dominant form of low-income housing assistance is unlikely to generate substantive change in the structure of neighborhood inequality in our nation’s cities.

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# Pathways to Integration: Examining Changes in the Prevalence of Racially Integrated Neighborhoods

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## Abstract

*Few researchers have studied integrated neighborhoods, yet these neighborhoods offer an important window into broader patterns of segregation. In this article, we explore changes in racial integration in recent decades using decennial census tract data from 1990, 2000, and 2010. We begin by examining changes in the prevalence of racially integrated neighborhoods and find that the share of metropolitan neighborhoods that are integrated increased significantly during this period, from slightly less than 20 percent to slightly more than 30 percent. We then shed light on the pathways through which these changes have occurred. We find both a small increase in the number of neighborhoods becoming integrated for the first time during this period and a more sizable increase in the share of integrated neighborhoods that remained integrated. Finally, we offer insights about which neighborhoods become integrated in the first place and which remain stably integrated over time.*

## Introduction

Although many scholars track patterns of racial segregation in metropolitan areas, very few have focused attention on racially integrated communities. This lack of attention might be a consequence of the popular view in the United States that racial integration is extremely rare and, when it occurs, it is only temporary. In the years after World War II, many urban neighborhoods quickly changed from all White to all Black. Schelling (1972) coined the term *tipping* to describe this rapid change and helped explain it using a simple model of racial preferences. His model assumes that

White residents will continue to live in a community only as long as the Black population remains below their individual tolerance thresholds. As the most prejudiced White residents leave, the proportion of Black residents will rise above the tolerance threshold of the next most prejudiced White group, until the neighborhood population becomes all Black.

Equipped with Schelling's simple model and the empirical reality of rapid racial transition in the postwar era, most researchers have, until recently, viewed integration as a rare exception to the norm of racial homogeneity. Even the researchers who have studied integrated neighborhoods have tended to focus their case studies on communities that self-consciously work to maintain their diversity (Keating, 1994; Nyden, Maly, and Lukehart, 1997; Saltman, 1990). The implied message of these studies is that without such robust, ongoing efforts to maintain integration, stably diverse communities would not exist.

Although our metropolitan areas remain highly segregated by race, racially integrated neighborhoods grew considerably more common between 1980 and 2000 (Easterly, 2009; Ellen, 2007, 2000; Farrell and Lee, 2011; Fasenfest, Booza, and Metzger, 2004; Friedman, 2008; Logan and Zhang, 2010; Rawlings, Harris, and Turner, 2004). Moreover, previous research suggests many of these recently integrated neighborhoods were not just temporarily mixed in the process of moving from all White to all minority, but they remained integrated for years (Ellen, 2007, 2000, 1998; Logan and Zhang, 2010; Rawlings, Harris, and Turner, 2004). This literature does not extend past 2000, however. We do not know what has happened to the prevalence or stability of integrated neighborhoods more recently.

Our goal in this article is to fill this gap using decennial census data from 1990, 2000, and 2010. We start by examining recent changes in the number and share of neighborhoods that are racially integrated. We then offer some evidence about the pathways through which these changes have occurred. Finally, we examine the characteristics of the racially homogenous neighborhoods that become integrated in the first place and those of the integrated neighborhoods that remain stably integrated over time.

## **Background and Literature Review**

Although researchers have focused more on racial segregation, a number of papers offer insights into our questions. In this section, we review existing evidence about pathways to integration, the characteristics of homogenous neighborhoods that become integrated, and the attributes of the integrated neighborhoods that remain stably integrated over time.

### **Pathways to Racial Integration**

We can draw from the existing literature on segregation to identify some hypotheses about why racially integrated neighborhoods might increase in number. Note that integration can increase through two basic pathways: (1) more neighborhoods can become integrated, or (2) a greater number of existing integrated neighborhoods can remain integrated over time. At a macro level, three factors might lead to either changes in the number of neighborhoods becoming integrated or shifts in the stability of neighborhoods after they become integrated: (1) demographic trends, (2) shifts in income differences across racial groups, and (3) changes in racial attitudes.

First, in terms of demographic trends, an increase in the share of the population that belongs to a particular minority group will lead to more integration (at least up to the point at which the group is no longer a minority). For example, if the population moves from all White to 80 percent White, the potential for integration surely increases. A larger minority population, however, also provides the potential for minority groups to become more segregated, because their numbers are substantial enough to create concentrated minority neighborhoods (South, Crowder, and Pais, 2011). White households might also begin to feel less comfortable living in integrated neighborhoods as the overall number of non-White residents in their city or region grows.

Other evidence supports the belief that integration will grow as the non-White population diversifies. Surveys have suggested that White residents are more comfortable sharing neighborhoods with Asian and Hispanic residents than they are sharing neighborhoods with Black residents (Bobo and Zubrinsky, 1996), and other research has suggested that the segregation of non-Black minorities is less persistent and easier to explain (Bayer, McMillan, and Rueben, 2004).<sup>1</sup> Overall population growth and the accompanying new housing might also facilitate the emergence of integration, because newer communities do not have the same legacy of racial segregation or history of discriminatory housing practices (Farley and Frey, 1994; Logan, Stults, and Farley, 2004; South, Crowder, and Pais, 2011).<sup>2</sup>

Second, to the extent that income differences among racial groups contribute to racial segregation (Bayer, McMillan, and Rueben, 2004; Harsman and Quigley, 1995), reductions (or increases) in such gaps should lead to increases (or reductions) in the prevalence of integration. Although the difference between the median incomes of non-White and White households has barely changed in the past few decades,<sup>3</sup> the increased number of middle- and high-income minority households has allowed for more integration. In other words, the distributions of income by race, and thus the type of housing and neighborhoods accessible and attractive to different racial groups, might overlap more than they did in the past.<sup>4</sup>

Third, shifts in racial attitudes might lead to shifts in neighborhood preferences (Clark, 1991; Harris, 1999). Considerable evidence suggests that White households have grown more open to living in integrated neighborhoods over time (Bruch and Mare, 2006; Farley, Fielding, and Krysan, 1997). Similarly, as racially integrated neighborhoods grow in number, more White residents might start to view integrated communities as viable options, creating something of a virtuous cycle.

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<sup>1</sup> Some researchers have argued that White residents feel more comfortable sharing their neighborhoods with Black residents when the non-White population as a whole is more diverse (Frey and Farley, 1996).

<sup>2</sup> Similarly, greater fragmentation of the metropolitan area might provide more opportunities to segregate (Farley and Frey, 1994; South, Crowder, and Pais, 2011).

<sup>3</sup> The ratio of Black to non-Hispanic White household income was unchanged between 1972 and 2000, and the ratio of Hispanic to non-Hispanic White household income declined only slightly, from 0.74 to 0.69 (DeNavas-Walt, Proctor, and Smith, 2011).

<sup>4</sup> The creation of a larger middle class among minority groups could also provide an opportunity for greater segregation through the development of middle-class minority neighborhoods (Bayer, Fang, and McMillan, 2011).

## **Which Neighborhoods Become Integrated?**

Few researchers have studied the creation or emergence of integrated communities, but some of the same factors that explain shifts in the prevalence of integration over time (demographic trends, shifts in income differences, and changes in racial attitudes) are also helpful in predicting variation across space. We would expect to see a larger number of integrated communities emerge in areas with more rapidly growing populations (minority populations in particular), with more similar incomes across racial groups, and with more racially tolerant populations.

In addition, given the research suggesting that minority households are more open to moving into largely White neighborhoods than White households are to moving into largely minority neighborhoods, we expect largely White neighborhoods to become integrated more commonly than largely minority neighborhoods (Bruch and Mare, 2006).

Finally, the characteristics of the housing market in a metropolitan area might also influence the share of neighborhoods in that area that become integrated. For example, racially homogenous neighborhoods might be more likely to move toward integrated communities when rapid price appreciation pushes White households to look beyond homogenous White neighborhoods, which could encourage the integration of largely minority areas and potentially create opportunities for middle-income minority households to enter previously White neighborhoods.

## **Which Integrated Neighborhoods Remain Integrated Over Time?**

The body of research studying the question of which integrated neighborhoods are likely to stay that way is small. Again, previous research has suggested demographic trends, income differences, and racial attitudes as factors explaining differences across areas in the stability of integration. Empirical evidence has found White-Black integrated tracts in metropolitan areas with fewer Black households (Ellen, 2000) and those in cities where White households have more tolerant racial attitudes (Card, Mas, and Rothstein, 2008) to be more stable. Researchers have also found evidence that the underlying growth of the minority population in a city or metropolitan area affects stability insofar as integrated neighborhoods are likely to tip to largely minority more frequently when the minority population is growing (Denton and Massey, 1991; Ellen, 2007; Ottensmann, Good, and Gleeson, 1990). Interestingly, researchers have found little evidence that the mean income or poverty level of a neighborhood affects stability (Ellen, 2000; Galster and Keeney, 1993; Logan and Schneider, 1984; Logan and Stearns, 1981; Steinnes, 1977; White, 1984).

As for other factors, Ellen (2000) posited a theory of race-based neighborhood stereotyping, suggesting that White households (and also some non-White households) tend to assume integrated neighborhoods will unravel and experience the type of structural decline that White households associate with largely minority areas. Ellen found some empirical support in that the White population loss was less in neighborhoods that White households expected to remain integrated in the future (those farther from the central area of Black residence and those that experienced only modest growth in the minority population in the previous decade).<sup>5</sup> She also found that, despite

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<sup>5</sup> Lee and Wood (1991) also found evidence that distance to the nearest tract with minority concentration is positively correlated with racial stability.



the lower mobility rates of homeowners, White population loss in integrated tracts during the 1980s was greater in neighborhoods with higher homeownership rates, perhaps because White homeowners, due to their financial stake in the community, are more sensitive to worries about the trajectory of conditions in a neighborhood than are White renters (Ellen, 2000).

## Definitions

No single definition is widely accepted for the term *integrated neighborhood*. Drawing on previous literature and taking into account recent demographic changes, we derive a set of definitions of neighborhood types. To define categories, we use constant thresholds across the United States, rather than relative thresholds that vary depending on the racial composition of the individual metropolitan area. We make this choice because our definitions aim to capture the experience of residents in the neighborhood; that is, whether its composition is such that residents experience meaningful integration in their surrounding community. A neighborhood that is 98 percent White and 2 percent minority might be relatively diverse in an essentially all-White metropolitan area, but it cannot be considered a meaningfully integrated community.

To start, all neighborhoods are categorized as either integrated or not, then further classified by the race and ethnicity of the groups with a significant presence. We define integrated neighborhoods as those shared by a significant number of non-Hispanic White residents (to whom we refer simply as *White* in this article) and a significant number of individuals belonging to at least one minority racial group.<sup>6</sup> We require the presence of White residents because White remains the dominant race in our society, and historically it is White individuals who have excluded or have avoided living near members of minority groups. Thus, although a community with Black, Hispanic, and Asian residents might be highly diverse, we do not consider it to be integrated. Rather, we classify it as mixed minority. For computational ease, we divide the non-White population into three mutually exclusive groups: Black, Hispanic, and Asian/other. Most individuals in the Asian/other category are Asian, but the category also includes non-Hispanic individuals who identify as a member of a racial group other than Black, White, or Asian, such as Native American.<sup>7</sup> We group these individuals into a single racial group to keep the number of neighborhood categories manageable.

Specifically, we identify nine different neighborhood types. Four are integrated: (1) White-Black, (2) White-Hispanic, (3) White-Asian/other, and (4) White-mixed minority. Five are nonintegrated: (1) White, (2) Black, (3) Hispanic, (4) Asian/other, and (5) Mixed minority.

To be counted as *significantly present* in a neighborhood, a group must comprise at least 20 percent of the population. Thus, an integrated White-Black neighborhood is one in which at least 20 percent of the population is White, in which at least 20 percent is Black and in which the Hispanic and Asian/other minority groups each comprise less than 20 percent of the population. A predominantly White neighborhood is one in which none of the three minority racial groups comprises 20 percent

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<sup>6</sup> For expositional ease, we refer to race and ethnicity grouping as *race*.

<sup>7</sup> In all three decades, between 84 and 88 percent of the Asian/other population is Asian.

or more of the population. Technically, this definition means that a neighborhood that is 43 percent White, 19 percent Black, 19 percent Hispanic, and 19 percent Asian/other would be identified as *predominantly White*. In fact, however, of the predominantly White neighborhoods, all are majority White and most are overwhelmingly White; in 1990, the median predominantly White neighborhood was 93 percent White, and 90 percent of White neighborhoods were at least 79 percent White. Similarly, the populations of all predominantly minority tracts overwhelmingly comprised that single minority group. The median predominantly Black neighborhood in 1990 was 94 percent Black, and 90 percent of predominantly Black neighborhoods were more than 80 percent Black.

This definition of *integration*, like any definition, is arbitrary to some degree, but, when we experimented with different thresholds and definitions, we found that our key results were highly robust. For example, we experimented with using a lower threshold to capture non-White presence and a higher threshold to capture White presence, given the difference in their overall population shares, and the overall trends remained the same.

Although we are using the term *race* in this article to indicate both race and Hispanic ethnicity, the census asks respondents a separate question about Hispanic origin. We classify individuals who self-identify as Hispanic and Black as Black but code all other self-identified Hispanic individuals as Hispanic. Another complicating factor is that, starting in 2000, the census enabled individuals to self-identify as belonging to multiple racial groups. We use the bridging method, which Jeffrey Passel at the Urban Institute developed, to categorize these multiracial respondents (Tatian, 2003). Specifically, we categorize anyone who selects Black as one of his or her racial groups as Black (essentially applying the one-drop-of-blood rule). We categorize anyone who lists Asian and not Black as Asian. We consider anyone who self-identifies as White and does not also list Black, Asian, or Pacific Islander to be White.

## Data

Following the practice of most previous research, we use census tracts to proxy for neighborhoods. Census tracts include, on average, about 4,000 people, and most include between 2,500 and 8,000 people. Some researchers have argued that census tracts are too large to approximate neighborhoods and have advocated studying segregation at the block level instead (Farley and Frey, 1994; Jargowsky, 1997). To be sure, census tracts are not perfect representations of neighborhoods, and presumably fewer neighborhoods would appear integrated if we used a smaller level of geography. Nonetheless, census tracts are probably closer in size to what most people view as a neighborhood than are individual blocks, and far more data are available at the tract level than at the block level.

This study relies on the Neighborhood Change Database (NCDB), developed by GeoLytics and the Urban Institute for data on 1990 and 2000 census tracts, and on decennial census data from 2010. The NCDB draws on census tract data from the 1970, 1980, 1990, and 2000 censuses and covers all census tracts in the United States. In addition to including individual files for each of these four census years, the NCDB also includes a longitudinal file of census tracts with fixed boundaries, which remaps 1970, 1980, and 1990 census tract data to 2000 census tract boundaries. We use this data set because it is particularly useful for examining changes in the composition of census

tracts that are not the result of boundary alterations. We limit our analysis to census tracts in metropolitan areas, and we omit any census tracts with fewer than 200 residents or more than one-half of its population living in group quarters in either 1990 or 2000.

We rely on the weights that the Census Bureau correspondence file provides to link the 2010 census tract data to 2000 tract boundaries. To account for errors in matching data, we omit tracts that experienced extremely large reductions or increases in population between 2000 and 2010. Specifically, we rank neighborhoods according to population change and omit the top and bottom 1 percent. In total, our sample includes 49,074 tracts spread across 331 metropolitan areas.

## Prevalence of Racial Integration

Our first questions are simply how many neighborhoods are racially integrated, and how has that number changed in the past two decades? As exhibit 1 shows, 30 percent of metropolitan census tracts (or slightly more than 14,600 census tracts) in the United States were racially integrated in 2010, according to our definitions. Of these tracts, most were White-Black or White-Hispanic; these two types of neighborhoods together accounted for about three-fourths of all integrated neighborhoods. Exhibit 1 also shows that integration has become more common in the past 20 years. In 1990, slightly less than 20 percent of metropolitan census tracts were racially integrated. That share then rose to 25 percent in 2000 and 30 percent in 2010.<sup>8</sup> Not all types of integrated neighborhoods have seen the same rate of growth. The proportion of neighborhoods shared by Black and White residents grew between 1990 and 2000 but remained similar between 2000 and 2010, whereas the proportions of other types of integrated neighborhoods increased steadily in both

### Exhibit 1

Racial Composition of Census Tracts, 1990–2010

	Overall Share (%)		
	1990	2000	2010
<i>Integrated</i>			
White-Black	9.1	10.1	10.1
White-Hispanic	7.7	10.0	12.9
White-Asian/other	1.4	2.5	3.4
White-mixed minority	1.5	2.6	3.8
<b>Total integrated</b>	<b>19.7</b>	<b>25.2</b>	<b>30.3</b>
<i>Nonintegrated</i>			
White	69.6	60.5	52.3
Black	6.0	6.9	6.9
Hispanic	2.3	3.7	5.5
Asian/other	0.3	0.5	0.6
Mixed minority	2.2	3.4	4.5
<b>Total nonintegrated</b>	<b>80.4</b>	<b>74.8</b>	<b>69.8</b>

*N* = 49,074.

Sources: 2010 Decennial Census; Neighborhood Change Database

<sup>8</sup> We obtain nearly identical percentages in each decade when weighting by population.

decades. To some extent, this growth might simply reflect the underlying growth in Hispanic and Asian populations. The proportion of Hispanic residents (defined as *share Hispanic*) in all tracts in our sample nearly doubled between 1990 and 2010, rising from 10.2 to 18.3 percent of the population, and the share of Asian/other residents (*share Asian/other*) rose from 4.0 to 7.5 percent.

When examining who lives in integrated neighborhoods, we find that White households are much less likely than minority households to live in such communities. In 2010, only 24 percent of White households lived in integrated neighborhoods compared with 39 percent of Black households, 42 percent of Hispanic households, and 44 percent of Asian/other households. White households, however, have experienced a larger increase in integration than minority households. The percentage of White residents (*share White*) living in integrated tracts rose from 14 percent in 1990 to 24 percent in 2010, whereas the share of Black residents (*share Black*) living in integrated tracts rose from 34 to 39 percent and the share Hispanic in integrated tracts inched up from 40 to 42 percent.

In terms of regions, exhibit 2 shows that, perhaps not surprisingly, integration was most common in the West; indeed, by 2010, 41.3 percent of census tracts in the West Census Region were racially integrated. The Midwest, with only 20.1 percent of census tracts classified as integrated, was the least integrated region. Notably, despite the great variation in the extent of racial integration, the prevalence of integration increased in all four regions between 1990 and 2010, and the relative ranking remained the same.

Exhibit 2 also shows the shares of integrated neighborhoods for central-city and suburban neighborhoods for 1990, 2000, and 2010. In each year, a greater share of central-city neighborhoods were integrated than suburban neighborhoods. In 2010, for example, 36.5 percent of central-city neighborhoods were racially integrated compared with just 25.7 percent of suburban neighborhoods. Integration became more common in both suburban and central city areas during our study period, however.

**Exhibit 2**

**Share of Tracts Integrated, by Census Region and City/Suburb, 1990–2010**

	Share Integrated (%)		
	1990	2000	2010
<i>Census region</i>			
Northeast	12.4	17.2	21.0
Midwest	11.5	15.9	20.1
South	24.8	30.7	36.5
West	28.1	35.0	41.3
<i>City/suburb</i>			
Central city	26.4	32.5	36.5
Suburb	14.8	19.9	25.7

Sources: 2010 Decennial Census; Neighborhood Change Database

## Pathways to Integration

As we noted previously, an increase in the prevalence of integrated neighborhoods can occur in two ways: a larger share of homogeneous neighborhoods might become integrated, or a larger share of integrated neighborhoods might remain integrated.<sup>9</sup> We find that both of these channels to integration increased between the 1990s and the 2000s. Exhibit 3 shows that four of our five types of nonintegrated neighborhoods were more likely to become integrated between 2000 and 2010 than they were between 1990 and 2000. Whereas most increases were fairly modest, the increase for largely Black neighborhoods was dramatic. Although only 5.5 percent of these neighborhoods became integrated between 2000 and 2010, this share was up from only 1.8 percent in the 1990s. In absolute numbers, 173 largely Black neighborhoods became integrated between 2000 and 2010, up from just 54 census tracts between 1990 and 2000. Interestingly, most of the increase came from neighborhoods in the South.

Despite this shift, predominantly White neighborhoods remained far more likely to become integrated than did largely minority neighborhoods. Between 2000 and 2010, 15.0 percent of predominantly White neighborhoods became integrated compared with only 5.5 percent of Black neighborhoods, 3.4 percent of Hispanic neighborhoods, 6.4 percent of Asian/other neighborhoods, and 4.9 percent of mixed-minority neighborhoods. Thus, contrary to media attention on the entry of young White residents into a few urban, minority neighborhoods, integration still results overwhelmingly from the in-movement of minority households to largely White neighborhoods. Indeed, of all newly racially integrated neighborhoods in 2010, 93 percent were White neighborhoods in 2000.<sup>10</sup>

The regional variation exhibit 4 presents is striking. Between 2000 and 2010, 18.8 percent of nonintegrated neighborhoods in the West became integrated compared with 16.3 percent in the South, 9.3 percent in the Northeast, and only 8.6 percent in the Midwest. Such transitions

### Exhibit 3

#### Transitions to Integration, by Nonintegrated Census Tract Type

	Share Integrated (%)	
	1990–2000	2000–2010
White	14.1	15.0
Black	1.8	5.5
Hispanic	3.7	3.4
Asian/other	5.0	6.4
Mixed minority	2.2	4.9
<b>Total nonintegrated</b>	<b>12.6</b>	<b>12.9</b>

*Sources: 2010 Decennial Census; Neighborhood Change Database*

<sup>9</sup> In addition, the number of neighborhoods might change, and more new neighborhoods might be integrated from the start. Note, we have also performed our analysis when controlling for the number of neighborhoods and found the same pattern; new census tract designations do not drive the increased prevalence of integrated neighborhoods.

<sup>10</sup> This share was actually down from 2000, when 97.5 percent of all newly racially integrated neighborhoods were White neighborhoods in 1990.

increased slightly from the 1990-to-2000 period, an increase that primarily occurred in the Midwest and South. Despite these differences, in all four regions, more than 90 percent of newly integrated neighborhoods in 2010 were White neighborhoods in 2000.

We next turn to the stability of integrated neighborhoods over this period. Exhibit 5 shows the share of neighborhoods in each of our four categories of integrated neighborhoods that remained integrated at the end of the decade. The first column shows the results for the 1990-to-2000 decade and the second column for the 2000-to-2010 decade.

Two key observations emerge from this exhibit. First, integrated neighborhoods appear fairly stable in each decade. We see that the overwhelming majority of neighborhoods that began each decade integrated ended the decade integrated. Second, a noticeably larger share of each category of integrated neighborhood remained integrated between 2000 and 2010 than between 1990 and 2000. Of White-Black neighborhoods in 1990, 78.6 percent remained integrated 10 years later. That share rose to 82.6 percent between 2000 and 2010. White-Hispanic neighborhoods showed a similar pattern. Between 1990 and 2000, 78.8 percent remained integrated, whereas between 2000 and 2010, 82.7 percent remained integrated. The increases over this period were even more striking for White-Asian/other and White-mixed-minority neighborhoods, with the share of the former remaining integrated rising from 82.8 to 89.4 percent and the share of the latter remaining integrated rising from 50.0 to 64.0 percent.

Despite this substantial increase in stability, White-mixed-minority neighborhoods were considerably less likely to remain integrated than were other integrated neighborhoods, probably because the baseline proportion of White residents in White-mixed-minority neighborhoods is considerably lower than in other integrated neighborhoods. In 2000, the average White-mixed-minority neighborhood was 34 percent White, whereas the average White-Black neighborhood was 51.8 percent

**Exhibit 4**

**Transitions to Integration, by Census Region**

	Share Integrated (%)	
	1990–2000	2000–2010
Northeast	9.2	9.3
Midwest	7.7	8.6
South	15.3	16.3
West	18.8	18.8

Sources: 2010 Decennial Census; Neighborhood Change Database

**Exhibit 5**

**Stability of Integration, by Integrated Census Tract Type**

	Share Integrated (%)	
	1990–2000	2000–2010
White-Black	78.6	82.6
White-Hispanic	78.8	82.7
White-Asian/other	82.8	89.4
White-mixed minority	50.0	64.0
<b>Total integrated</b>	<b>76.8</b>	<b>81.6</b>

Sources: 2010 Decennial Census; Neighborhood Change Database

White. Hence, it takes a much smaller decline in the White population for a typical White-mixed-minority neighborhood to transition to an all-minority neighborhood than for a White-Black neighborhood to transition.

To avoid this asymmetry, and in recognition that the primary avenue through which integrated neighborhoods transition to nonintegrated is through declines in share White, exhibit 6 shows changes in share White across decades for each of our integrated neighborhood categories. Column 1 shows that share White fell in all types of integrated tracts in both decades, but the loss in share White was less in each type of integrated neighborhood between 2000 and 2010 than during the 1990s. The mean decrease in share White in White-Black tracts, for example, was 8.2 percentage points between 2000 and 2010 compared with 10.9 percentage points during the 1990s. Even when accounting for changes in the overall rate of share White decrease in metropolitan areas, integrated tracts appear to have been more stable between 2000 and 2010 than they were during the 1990s.<sup>11</sup>

The remaining three columns in exhibit 6 provide more detailed information on the distribution of neighborhoods within each of our categories by the change in share White. The numbers show that, in both decades, a substantial majority of all types of integrated tracts experienced a 5-percentage-point-or-greater decline in share White and were thus at risk of not remaining integrated over time. Once again, however, a lower proportion of integrated neighborhoods experienced a significant loss in share White between 2000 and 2010 than during the 1990s.

In summary, we see an increase in both pathways to racial integration between the 1990s and the 2000s. The shift over time was more dramatic, however, for the proportion of neighborhoods remaining integrated than it was for the proportion of neighborhoods becoming integrated.

## Exhibit 6

### Change in Share White, by Integrated Census Tract Type

	Mean Percentage-Point Change in Share White	Tract Distribution, by Percentage-Point Change in Share White (%)		
		Decrease ≥ 5	Increase or Decrease < 5	Increase ≥ 5
<i>1990 to 2000</i>				
White-Black	- 10.9	66.3	24.8	8.8
White-Hispanic	- 14.0	80.1	14.4	5.6
White-Asian/other	- 12.8	80.9	16.2	2.9
White-mixed minority	- 12.0	80.4	14.1	5.5
<i>2000 to 2010</i>				
White-Black	- 8.2	61.7	29.0	9.3
White-Hispanic	- 10.4	78.2	16.1	5.7
White-Asian/other	- 9.8	76.7	20.9	2.4
White-mixed minority	- 8.1	71.6	21.4	7.0

*Sources: 2010 Decennial Census; Neighborhood Change Database*

<sup>11</sup> The overall loss in share White in our metropolitan census tracts was very similar over the two decades, dropping from a 6.8-percentage-point decline during the 1990s to a 6.5-percentage-point decline during the 2000s.

## Which Neighborhoods Become Integrated?

As previously stated, almost no existing research examines the question of which neighborhoods become integrated in the first place. We first focus on the predominantly Black neighborhoods that became integrated in the 2000s, because this group of nonintegrated tracts experienced the largest increase in the share becoming integrated. Exhibit 7 compares the 2000 baseline characteristics of largely Black neighborhoods in which the share White increased by at least 5 percentage points over the subsequent decade (thus moving toward integration) with those in which the share White did not increase.<sup>12</sup> Note that when we examined changes in the absolute numbers of White residents, we found that the White population actually grew significantly in the integrating tracts; these tracts did not simply lose Black residents. Perhaps surprisingly, virtually no baseline difference emerged in the proportion of Black residents across the two types of tracts. Perhaps even more surprisingly

### Exhibit 7

#### Characteristics of Predominantly Black Census Tracts, by Subsequent Racial Change

	Percentage-Point Change in Share White, 2000–2010	
	Increase ≥ 5	Increase or Decrease < 5
<i>Baseline neighborhood characteristics</i>		
Share Black (%)	86.3	88.9
Poverty rate (%)	30.7	25.2
Share with college degree (%)	14.1	12.7
Homeownership rate (%)	33.8	49.9
Share with children (%)	31.9	38.0
Share foreign born (%)	11.4	9.2
Median household income (\$)	31,438	38,081
<i>Contemporaneous neighborhood changes (2000–2005/2009)</i>		
Poverty rate (percentage-point change)	– 1.6	+ 1.5
Share with college degree (percentage-point change)	+ 10.5	+ 2.2
Median household income (\$ change)	+ 2,786	– 2,630
<i>Baseline MSA characteristics</i>		
Share of tracts in central city (%)	93.8	81.8
Minority-White segregation index	0.60	0.61
<i>Contemporaneous MSA changes (2000–2010)</i>		
Overall population (percentage-point change)	+ 7.1	+ 5.5
Minority population (percentage-point change)	+ 21.3	+ 19.3
House prices (2000–2006) (percentage-point change)	+ 43.2	+ 44.4
<b>Total census tracts</b>	<b>384</b>	<b>2,990</b>

MSA = metropolitan statistical area.

Sources: 2010 Decennial Census; Neighborhood Change Database

<sup>12</sup> The results are largely the same for the 1990s.



(given racial differences in income), the neighborhoods that moved toward integration started the decade with higher poverty rates and lower median household incomes. Middle-class Black neighborhoods, in other words, are not the Black neighborhoods most likely to diversify. Indeed, the largely Black neighborhoods in which the share White increased had average poverty rates of 31 percent, above a typical threshold used to identify high-poverty neighborhoods. This finding suggests that the growth of the Black middle-class does not explain the increased integration of Black neighborhoods.

We find more support for other theories about the entry to integration. In particular, the Black neighborhoods that moved toward integration had lower homeownership rates, consistent with the notion of race-based neighborhood stereotyping, which posits that White renters feel they face less risk than White owners in entering a largely Black community (Ellen, 2000). The communities that became more integrated also had fewer families with children, perhaps suggesting that White households are more open to entering largely Black neighborhoods when those neighborhoods (or those households) have fewer children. The neighborhoods where White populations grew also tended to experience gains in median income and the share of residents with college degrees, suggesting an economic as well as a racial transition (exhibiting patterns of transition typically associated with gentrification).

In terms of broader metropolitan features, the Black neighborhoods where share White grew were typically in more rapidly growing metropolitan areas (including growing minority populations) but not specifically in areas with greater housing appreciation. The Black neighborhoods that became more White were, however, more likely to be in central cities than were other Black neighborhoods.

Given that so many more integrated neighborhoods began as largely White, studying the characteristics of the largely White neighborhoods that became integrated is arguably more important. Exhibit 8 compares the 2000 baseline characteristics and selected contemporaneous changes of largely White neighborhoods in which share White decreased by at least 5 percentage points in the subsequent decade (thus moving toward integration) with those in which share White did not decrease.<sup>13</sup> In this case, we see few notable differences across the two groups of neighborhoods. Largely White tracts that experienced a loss in share White were slightly less White and had slightly lower median household incomes at baseline, but otherwise the two groups exhibited few clear differences, other than a somewhat lower homeownership rate and shorter distance to largely minority neighborhoods. Notably, the two groups of neighborhoods also exhibited little difference in economic trajectory; the contemporaneous income changes in the neighborhoods in which share White decreased were almost identical to those in the neighborhoods in which share White did not decrease.

Consistent with the preceding predictions, White tracts that experienced reductions in share White and moved toward integration tended to be in metropolitan areas experiencing greater overall and minority population growth and greater increases in housing costs than other White tracts. In addition, White tracts that experienced a decline in share White were more commonly in the central city.

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<sup>13</sup> Note that the growth in the absolute size of minority populations was a significant driver in the share White decrease. The actual magnitude of the White population in these neighborhoods barely declined, whereas overall population growth was quite high.

**Exhibit 8**

**Characteristics of Predominantly White Census Tracts, by Subsequent Racial Change**

	Percentage-Point Change in Share White, 2000–2010	
	Increase ≥ 5	Increase or Decrease < 5
<i>Baseline neighborhood characteristics</i>		
Share White (%)	83.9	91.7
Poverty rate (%)	7.4	7.0
Share with college degree (%)	30.4	31.8
Homeownership rate (%)	69.1	75.1
Share with children (%)	29.5	30.2
Share foreign born (%)	8.8	5.3
Median household income (\$)	65,798	68,418
Distance to nearest minority tract (miles)	8.5	12.6
<i>Contemporaneous neighborhood changes (2000–2005/2009)</i>		
Poverty rate (percentage-point change)	+ 1.9	+ 1.2
Share with college degree (percentage-point change)	+ 2.9	+ 3.4
Median household income (\$ change)	– 2,215	– 1,088
<i>Baseline MSA characteristics</i>		
Share of tracts in central city (%)	34.0	23.0
Minority-White segregation index	0.55	0.57
<i>Contemporaneous MSA changes (2000–2010)</i>		
Overall population (percentage-point change)	+ 8.7	+ 5.8
Minority population (percentage-point change)	+ 31.4	+ 27.6
House prices (2000–2006) (percentage-point change)	+ 67.0	+ 54.0
<b>Total census tracts</b>	<b>15,891</b>	<b>13,782</b>

MSA = metropolitan statistical area.

Sources: 2010 Decennial Census; Neighborhood Change Database

## Which Integrated Neighborhoods Remain Integrated Over Time?

Another key question that remains unanswered is which integrated neighborhoods remain integrated over time? To answer this question, exhibit 9 compares the 2000 baseline characteristics of (a) White-Black and (b) White-Hispanic<sup>14</sup> integrated census tracts in which the share White decreased by at least 5 percentage points between 2000 and 2010 (thus moving toward becoming largely minority) with those of two other types of integrated neighborhoods: (1) those with stable White population shares, and (2) those that experienced at least a 5-percentage-point increase in share White (thus moving toward becoming largely White).<sup>15</sup>

<sup>14</sup> We focus on these two categories of integrated neighborhoods because they are the most common.

<sup>15</sup> The results were fairly similar when we replicated the analysis for integrated tracts in 1990.

## Exhibit 9

### Characteristics of Integrated Census Tracts (1 of 2)

	Percentage-Point Change in Share White, 2000–2010		
	Decrease ≥ 5	Increase or Decrease < 5	Increase ≥ 5
<b>(a) White-Black tracts</b>			
<i>Baseline neighborhood characteristics</i>			
Share White (%)	52.1	53.0	43.9
Share Black (%)	38.6	39.5	45.8
Share Hispanic (%)	5.6	4.4	6.2
Share Asian/other (%)	3.8	3.1	4.1
Share foreign born (%)	8.4	6.4	9.0
Poverty rate (%)	14.2	18.0	21.9
Share with college degree (%)	20.8	21.7	30.0
Black-to-White median household income ratio	0.87	0.73	0.62
Share White with children (%)	25.9	26.4	19.6
Share Black with children (%)	44.9	36.7	30.8
Homeownership rate (%)	57.1	56.0	40.5
Distance to nearest minority tract (miles)	4.2	8.0	4.4
<i>Lag neighborhood changes (1990–2000)</i>			
Share Black (percentage-point change)	+ 14.6	+ 2.7	– 1.3
<i>Contemporaneous neighborhood changes (2000–2005/2009)</i>			
Poverty rate (percentage-point change)	+ 3.4	+ 1.2	– 1.3
Share with college degree (percentage-point change)	+ 1.5	+ 3.7	+ 9.5
Median household income (\$ change)	– 10,387	– 7,403	– 1,348
<i>Baseline MSA characteristics</i>			
Share of tracts in central city (%)	54.4	53.2	80.5
Minority-White segregation index	0.57	0.56	0.56
<i>Contemporaneous MSA changes (2000–2010)</i>			
Overall population (percentage-point change)	+ 9.4	+ 7.8	+ 8.3
Minority population (percentage-point change)	+ 30.5	+ 27.4	+ 27.2
House prices (2000–2006) (percentage-point change)	+ 47.7	+ 50.1	+ 49.8
<b>Total census tracts</b>	<b>3,060</b>	<b>1,441</b>	<b>461</b>
<b>(b) White-Hispanic tracts</b>			
<i>Baseline neighborhood characteristics</i>			
Share White (%)	48.5	45.4	42.1
Share Black (%)	6.5	5.8	6.5
Share Hispanic (%)	39.2	42.6	45.4
Share Asian/other (%)	5.8	6.2	6.0
Share foreign born (%)	22.5	27.6	30.4
Poverty rate (%)	14.6	18.5	20.5
Share with college degree (%)	17.4	22.6	28.5
Hispanic-to-White median household income ratio	0.88	0.78	0.74
Share White with children (%)	32.1	26.5	20.1
Share Hispanic with children (%)	57.1	50.3	45.5
Homeownership rate (%)	56.9	44.0	32.6
Distance to nearest minority tract (miles)	4.7	5.5	3.0

**Exhibit 9****Characteristics of Integrated Census Tracts (2 of 2)**

	Percentage-Point Change in Share White, 2000–2010		
	Decrease $\geq$ 5	Increase or Decrease $<$ 5	Increase $\geq$ 5
<i>Lag neighborhood changes (1990–2000)</i>			
Share Hispanic (percentage points)	+ 15.2	+ 9.7	+ 2.4
<i>Contemporaneous neighborhood changes (2000–2005/2009)</i>			
Poverty rate (percentage-point change)	+ 1.8	– 0.5	– 2.5
Share with college degree (percentage-point change)	+ 1.7	+ 5.1	+ 12.1
Median household income (\$ change)	– 7,825	– 4,265	– 1,764
<i>Baseline MSA characteristics</i>			
Share of tracts in central city (%)	46.5	61.5	84.2
Minority-White segregation index	0.53	0.55	0.58
<i>Contemporaneous MSA changes (2000–2010)</i>			
Overall population (percentage-point change)	+ 11.2	+ 7.7	+ 6.5
Minority population (percentage-point change)	+ 28.0	+ 20.0	+ 18.6
House prices (2000–2006) (percentage-point change)	+ 99.7	+ 88.2	+ 94.4
<b>Total census tracts</b>	<b>3,847</b>	<b>792</b>	<b>278</b>

*MSA = metropolitan statistical area.*

*Sources: 2010 Decennial Census; Neighborhood Change Database*

We begin by contrasting integrated neighborhoods that experienced a loss in share White with other integrated neighborhoods. Notably, integrated neighborhoods experiencing a loss in share White did not have a larger share of non-White residents at the start of the decade than neighborhoods where the White population was stable. Indeed, for White-Hispanic neighborhoods, the share Hispanic was lower. Contrary to Schelling's canonical model, then, the loss of White population share in these neighborhoods does not appear to have been triggered by the size of the minority population reaching some tipping point. In the White-Hispanic tracts, we also see that tracts with more stable White populations had a larger foreign-born population than tracts that lost White households. White residents do not seem to be avoiding immigrants.

The overall differences in socioeconomic status were small and mixed. Tracts with stable or growing White population shares tended to have higher poverty rates but more residents with college degrees. Whereas income differences for White residents across these types of tracts were small, minority incomes were much higher in tracts that experienced a loss in share White. In other words, contrary to theoretical predictions, the tracts in which White and non-White residents had more divergent incomes were more likely to see stable or growing White population shares. The non-White residents in these neighborhoods might have lived in pockets that were less affluent and cut off from the White part of the community. Alternatively, differences in demand from

middle-class minority residents may have explained the differences in growth patterns. Middle-class minority residents may have been especially attracted to the integrated neighborhoods in which minority residents had higher incomes (and thus minority-white income gaps were smaller).<sup>16</sup>

As predicted, past growth in the minority population was highly correlated with losses in share White in the most recent decade, perhaps because White households had little faith that those neighborhoods would remain integrated over time. The tracts that experienced a loss in share White were also closer to largely minority tracts than those integrated neighborhoods that remained racially stable. This closer distance to largely minority tracts might have either contributed to fears of instability among White residents or increased the desirability of such neighborhoods for minorities.

The results are generally consistent with the idea that households with a greater stake in the community will be more wary of integration, although perhaps surprisingly more so for White-Hispanic tracts. Tracts that experienced a loss in share White were generally those in which a greater share of housing units were owner occupied and a greater share of households had children. Within White-Black tracts, the real difference was that these shares were noticeably lower in the small number of tracts that actually saw a gain in share White.

The differential in the share of households with children held for both White and non-White households. The fact that the minority households living in tracts that retained or gained share White also had fewer children might suggest that White households are less comfortable with integration when more of their minority neighbors have children, or suggest that the White households who are open to integration are less interested in living in neighborhoods with services and amenities geared to children.

As for the broader city or metropolitan area, integrated neighborhoods that experienced a loss in share White were in metropolitan areas with more rapidly growing minority and total populations. Counter to expectations, we see no meaningful difference in the baseline metropolitan racial segregation across these types of integrated tracts and no difference in the degree of house price appreciation.

The patterns of growth in the small share (7 percent) of neighborhoods that were integrated in 2000 and experienced a gain of more than 5 percentage points in share White (during a decade when the average change in share White in metropolitan tracts was a *decrease* of 6.5 percentage points) seem to suggest classic gentrification. First, they began the decade with larger minority population shares and higher poverty rates than either of the other two groups of integrated tracts. Second, these tracts saw reductions in poverty levels and large increases in the proportion of college-educated residents. Third, these neighborhoods experienced both large increases in the absolute size of the White population and declines in the absolute size of the minority population. Finally, more than 80 percent of integrated neighborhoods that saw a gain in White population share were located in central cities compared with only about one-half of those that lost or retained White residents. Further, these tracts were much closer to a largely minority tract (also a sign of central location) than were the integrated tracts that maintained their racial composition.

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<sup>16</sup> This pattern is consistent with Bayer, Fang, and McMillan (2011), who found that, as the share of Black residents with higher levels of education increases in a metropolitan area, a greater share of these residents is more likely to choose to live in middle-income Black neighborhoods.

## Conclusion

We address three distinct research questions in this article. First, we explore how prevalent racially integrated neighborhoods have become from 1990 through 2010. We find significant growth in the presence of integrated neighborhoods during this period, with the share of metropolitan tracts that are integrated increasing from slightly less than 20 percent to slightly more than 30 percent.

Second, we examine the pathways through which integration has increased. We find during this period both a small increase in the number of neighborhoods becoming integrated for the first time and a more sizable increase in the share of integrated neighborhoods that remained integrated. Although we observe a particularly substantial increase in the share of Black neighborhoods that became integrated in the 2000s, the overall share remains small. Thus, belying the growing attention to the gentrification of largely Black neighborhoods, this path to integration remains lightly tread. Examining the stability of racial integration, we find that integration appeared fairly stable in both decades, but a larger share of each category of integrated neighborhood remained stable during the 2000s than in the 1990s.

Third, we shed some light on the types of neighborhoods that have become integrated and have remained so over time. Focusing on the types of Black neighborhoods that attracted White residents, we find not middle-class minority neighborhoods but, rather, neighborhoods that initially had higher poverty rates and lower levels of income. Also, these neighborhoods had lower homeownership rates, a finding that is consistent with the theory of race-based neighborhood stereotyping, because renters are less likely to worry about a community's future. Finally, the largely Black neighborhoods that attracted White residents began with fewer families with children, suggesting that White households might be more open to sharing neighborhoods with non-White neighbors when those neighbors do not have children. As for the predominantly White neighborhoods that moved toward integration, we find few evident patterns.

Finally, exploring the types of integrated neighborhoods that saw stable or growing White population shares, we find, perhaps surprisingly, that they were those in which White and non-White residents had more divergent incomes. In addition, again consistent with the notion of race-based neighborhood stereotyping, the integrated tracts that retained (for White-Hispanic tracts) or attracted (both White-Hispanic and White-Black tracts) White residents appear to be those integrated neighborhoods that households believed would remain stable in the future based on past trends. The integrated tracts that saw stable or growing White population shares were also those with residents that likely had a lesser stake in the quality of a community's services (notably renters and households without children), again consistent with neighborhood racial stereotyping.

In the most recent decade, a small share of integrated tracts actually experienced a meaningful gain in share White. Although the numbers remain small, this pattern suggests that some integrated neighborhoods might unravel by becoming more White. These tracts were overwhelmingly in central cities and closer to largely minority neighborhoods, perhaps suggesting a pattern of gentrification. Indeed, the integrated neighborhoods that saw an increase in share White also saw reductions in poverty levels and increases in the number of college-educated residents.

In sum, although our cities and metropolitan areas remain highly segregated by race, a growing number of neighborhoods are integrated and remain so over time. This article has also provided some stylized facts on the types of neighborhoods that are becoming and remaining integrated over time, but more work is needed to understand these pathways.

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# Residential Mobility and Neighborhood Change: Real Neighborhoods Under the Microscope

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## Abstract

*Residential mobility is a process that changes lives and neighborhoods. Efforts to build strong communities are unavoidably caught up with this dynamic but have insufficient understanding of its complexities. To shed light on the underlying forces of residential mobility, this study uses a unique panel survey from the Casey Foundation's Making Connections initiative targeting poor neighborhoods in 10 cities.*

*The study classified households in the 10 cities as movers, newcomers, or stayers, and it evaluated the push and pull factors related to their mobility decisions. Cluster analysis revealed discernible types based on life cycle, household economic factors, and neighborhood attachment. The study also investigated the effect of residential mobility on neighborhood composition, finding that neighborhood change was primarily due to differences between movers and newcomers rather than changes for stayers. Combining information on the mix of household types with the components of neighborhood change, the study suggests these neighborhoods functioned in quite different ways that are relevant to family well-being and community development.*

## Introduction

Americans change residences frequently and mobility rates are higher among low-income households, renters, and younger families. Households sometimes move to improve their housing situations or their neighborhood surroundings. Low-income households, however, may make frequent moves because of economic or social distress. Residential mobility not only affects individual households, but it may also affect neighborhoods as a whole. Place-based initiatives that attempt to improve outcomes for individuals and strengthen neighborhoods face challenges in such dynamic and fluid environments. Despite the importance of neighborhood change and mobility, however, limited research has disaggregated how neighborhoods change for those households that remain in the neighborhood and from the mix of those households that leave and join.

To shed new light on these processes, this article draws on a unique panel survey conducted as part of the Making Connections initiative, a decade-long effort of the Annie E. Casey Foundation that focused on target neighborhoods in 10 cities: Denver, Des Moines, Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and White Center (outside Seattle). The target neighborhoods offer a unique and valuable window on the dynamics of low-income, mostly minority neighborhoods nationwide.

This article consists of three components. The first component explores the characteristics and changing circumstances of movers, newcomers, and stayers, identifying distinctly different groups of households that reflect different reasons for moving or staying in place. The second component focuses on how residential mobility contributed to changes over time in the socioeconomic composition of the Making Connections neighborhoods, essentially dividing neighborhood change into changes contributed by households that stayed in the neighborhood versus changes caused by differences between those who joined and those who left. The final component draws on these patterns to suggest five stylized models of neighborhood performance, each of which has implications for the well-being of low-income families and for community-change efforts.

## Background

The recognition that place matters (Ellen and Turner, 1997) has led to several generations of community-change initiatives that attempt to address conditions thought to negatively affect families and children in poor neighborhoods. Often led by philanthropy and engaging both public and private partners, these initiatives embody a range of strategies intended to benefit residents directly through improved services and indirectly through strengthening social connectedness or access to resources (Kubisch et al., 2010). Both the service-reform and community-building aspects of community-change initiatives assume some degree of residential stability in their target areas. For residents to benefit from improved services and conditions in their neighborhoods, they presumably must have access to these programs for some minimum period of time. Likewise, for capacity building to result in a community that can mobilize to achieve the common good, it needs some stability in emerging leaders and networks. Thus, excessive residential mobility can be a challenge to the theories of change and assumptions underlying community-change initiatives (Kubisch et al., 2010; Silver, Weitzman, Mijanovick, and Holleman, 2012).

It is important that residential mobility be appreciated in the context of community-change initiatives, however, for both its positive and negative aspects. Residential mobility can reflect improvements in a family's circumstances, such as buying a home for the first time, moving to be close to a new job, or trading up to a better quality housing unit or neighborhood. It can also be a symptom of instability and insecurity, with many low-income households making short-distance moves because of problems with landlords, creditors, or housing conditions. Similarly, staying in place sometimes reflects a family's security, satisfaction, and stability with its home and neighborhood surroundings, but in other cases it may reflect that a family lacks the resources to move to better housing or to a preferred neighborhood (Gramlich, Laren, and Sealand, 1992; South, Crowder, and Chavez 2005). Moreover, residential turnover can be a source of neighborhood vitality and progress. Any such one-dimensional views of residential mobility within communities may mask important and valuable variants regarding the functions of neighborhoods (Robson, Lymperopoulou, and Rae, 2008), potentially useful information to guide community-change initiatives.

### **Factors Related to Household Moves**

Many push and pull factors affect a household's decision to relocate and influence the move's timing and location. Changing household circumstances, such as employment or family composition, may make the current housing unit or location less tenable or satisfactory. In addition, deterioration in the current housing unit or the surrounding area may further the desire to move. The household may also be attracted to other housing units or neighborhoods for various reasons that contribute to the decision to relocate. At the same time, however, the household may experience forces that make them resistant to a move, including attachment to their current house or neighborhood and relationships that would be disrupted by a move; they may also face physical, economic, or social barriers to achieving a desirable living situation elsewhere. Such complexities have generated several complimentary conceptual frameworks to explain both the intention to move and the actual moving.

A commonly used theoretical framework for understanding residential mobility is a disequilibrium model. In this model, a decision to move occurs when the current living arrangements become suboptimal. Absent such disequilibrium, the household will stay put, because it incurs adjustment costs and other losses when moving. What is optimal relates to the housing unit's characteristics, its location, and the neighborhood surroundings relative to the household's needs and preferences (subject to cost and income constraints). Housing that may have been optimal can become suboptimal due to changes in household composition or circumstances, housing or neighborhood quality, and household income or the cost of housing. Theory has also drawn a distinction among the household's experience of housing dissatisfaction, the intent to move, and the household's actual relocation (Speare, 1974). The decision about whether to move can be seen as weighing satisfaction with current housing relative to the anticipated satisfaction with alternatives. From this point of view, a combination of push and pull factors determines if, when, and where the household moves, subject to various constraints or barriers to mobility.

A complimentary framework, the life-course perspective, views residential mobility as one of many related aspects of human development. From this point of view, moving or staying is related to other life events such as marriage or divorce; birth of children; children leaving home or attending college; change of employer, income, or assets; and retirement. Several studies have found that

these life events are potential triggers of mobility (Clark, 2005; Clark and Withers, 1999). These events can result in dissatisfaction with the current house, such as when a growing family needs more space, or may change the household's aspirations, such as when a better job leads to increased status expectations. Moreover, homeownership or residential stability may become more or less salient at particular stages of life, such as marriage, birth of a child, or retirement. These life events tend to be correlated with demographic characteristics, such as age, gender, race or ethnicity, socioeconomic status, and so forth, and these characteristics are also associated with the probability of residential mobility.

Neighborhood attachment and social ties may deter residential mobility or affect the distance that a household moves. Positive feelings toward the neighborhood and strong social connections have been found to keep households in place longer, and these effects have a stronger limiting effect on residential mobility among low-income compared with high-income families. (Dawkins, 2006). Attachment to the neighborhood may also affect where households move and how they adjust to their new surroundings. A study of Seattle movers found that households moving a shorter distance (that is, staying in the same census tract) showed higher post-move neighborhood attachment. Also, households that moved for family reasons showed lower attachment to their new neighborhood than did households that moved to improve their housing or neighborhood surroundings (Bolan, 1997).

Although most of the literature has focused on explaining the likelihood that households will move, some of the literature addresses the concern that some households face barriers to effective residential mobility. In particular, racial segregation and racial inequities may undermine the probability that people of color can move to satisfactory housing and neighborhoods. A study of structural barriers to residential mobility found that after life-cycle factors and neighborhood and housing satisfaction were held constant, African-American households in the United States had a lower probability of moving than White households. Although neighborhood dissatisfaction predicted residential movement among Whites, it was the opposite among African Americans, with African-American homeowners who judged their neighborhoods to be only fair as compared with excellent less likely to move than Whites who expressed similar dissatisfaction (South and Deane, 1993). This pattern suggests that many African-American households may remain in unsatisfactory housing or neighborhoods due to social and economic barriers to movement. Moreover, studies demonstrate African Americans are less likely than any other ethnic group to move to better neighborhoods, despite gains in education and income that permit other groups to move up and out (Logan et al., 1996; Sharkey, 2008).

Although residential mobility can be a path to greater opportunity and satisfaction, concern exists that many low-income families move not to better their circumstances but due to unstable housing arrangements, and that such moves may have negative consequences. Some studies suggest that frequent moving during childhood undermines educational attainment (Wood et al., 1993), but other studies have found little or no effect after other risk factors are taken into account (Murphey, Bandy, and Moore, 2012). Nevertheless, relocating may disrupt social ties and undermine a family's social capital (Briggs, 1997), and it has a particularly disruptive effect on children when parents provide only modest emotional support and involvement (Hagan, MacMillan, and Wheaton, 1996). The quality of the new neighborhoods may buffer the effect of a move as well. For example,

teenagers who moved into distressed neighborhoods had higher dropout rates than those who had lived there a longer time (Crowder and South, 2003), but teenagers who moved from poverty areas to middle-class neighborhoods established positive ties in their new locations (Pettit, 2004).

## **Effect of Mobility on Neighborhoods**

Residential mobility affects not only individual families, but it may also change the neighborhood as a whole. In particular, very high residential turnover can contribute to the erosion of social control and social capital. Studies have shown a negative effect of residential turnover on a neighborhood's collective efficacy, and this loss has been linked to problems such as crime and delinquency (Morenoff, Sampson, and Raudenbush, 2001; Sampson and Raudenbush, 1997). Moreover, high residential turnover may itself promote further mobility, as suggested by the link found between residents' desire to move and the perceptions that neighborhood residents move frequently or are not "close knit" (Clark and Ledwith, 2006; Lee, Oroposa, and Kanan, 1994).

If the characteristics and well-being of newcomers differ from those of movers, mobility can change a neighborhood's demographic or socioeconomic mix, which in turn can reposition the neighborhood with institutions, resources, and the marketplace (Bruch and Mare, 2006). For example, differential mobility into and out of a neighborhood might result in an increasing share of minority residents or new immigrants, rising homeownership rates or incomes, or a growing share of childless residents. The evolving profile of a neighborhood's population can further affect investments by both individuals and institutions through social and political processes that are reinforcing and evolve over time (Temkin and Rohe, 1996). But selective mobility can also maintain a neighborhood's status quo, despite changes in individual residents' well-being. For example, if the more successful residents leave a distressed neighborhood and are replaced by others who are less well off, the neighborhood will remain distressed, even though individual households from the neighborhood improved their economic status (Andersson and BråmÅ, 2004).

The realities of residential mobility and neighborhood change make evaluating community-change initiatives difficult. Interventions may improve services for neighborhood residents or create employment and other opportunities, but needy families might not remain in the same neighborhood long enough to benefit. Alternatively, families may take advantage of the neighborhood's enhanced services and opportunities, and then move *because* they have benefited. In addition, larger structural forces in the surrounding housing market or economy may cause more affluent families to move into a neighborhood, improving its profile without producing any gains in the well-being of low-income residents. The process of selective mobility is complicated, however, because it is not simply a collection of individual decisions but is also a process that is influenced by macro forces, including public policy, housing markets, economic shifts, and racial segregation.

## **Study Design and Methods**

The Making Connections neighborhoods, like neighborhoods in general, experience considerable residential mobility. At the same time, however, they are neighborhoods in which many residents stay in place. Using two waves of household surveys, this study segments the population of movers, stayers, and newcomers into clusters that indicate whether their mobility behavior reflects positive

or negative transitions. In addition, it partitions changes in the socioeconomic composition of the neighborhood into the changing poverty status of stayers versus differences in poverty status between movers and the newcomers that replace them. These two perspectives on neighborhood dynamics are drawn on to suggest qualitative differences in how neighborhoods are functioning in this community-change initiative.

## Data Sources

The data for this study come from the Making Connections survey that provides information about representative samples of households in the initiative's 10 target neighborhoods.<sup>1</sup> Data come from two waves of surveys, with wave 1 conducted between 2002 and 2004 (depending on the neighborhood) and wave 2 conducted between 2005 and 2007. At wave 1, interviews were conducted at a random sample of residential addresses in each neighborhood. Then, at wave 2, researchers returned to the same addresses, interviewing the current occupants, regardless of whether they were the same residents as at wave 1. If the household living at a sampled address had moved by the time of the second survey *and* if the original household had children, it was contacted and interviewed at its new address.<sup>2</sup> At both waves, survey questions covered a wide range of topics, including employment, income, hardship, community engagement, satisfaction with neighborhood services, and perceptions of neighborhood quality, safety, and social cohesion. This approach makes it possible to measure changes in the composition of the neighborhoods as well as changes in the location and well-being of families with children who lived in these neighborhoods at baseline.

## Study Sites

The Making Connections neighborhoods are not a nationally representative sample and all are relatively disadvantaged. Shown in exhibit 1, however, neighborhoods vary considerably in their demographic and economic composition. At the time of wave 1, 39 percent of households in these neighborhoods fell below the federal poverty level, but the 10 neighborhoods were not equally poor. Four neighborhoods had poverty rates above 40 percent at the beginning of the study, with the Louisville neighborhood at the extreme with 57 percent. White Center had the lowest poverty rate at 19 percent.

The survey neighborhoods also vary widely in racial and ethnic composition. In the Des Moines, Indianapolis, and White Center neighborhoods, most households were non-Hispanic White.<sup>3</sup>

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<sup>1</sup> These neighborhoods were selected (and their boundaries defined) in partnership with local policymakers and practitioners, and, as a consequence, they vary in size and composition. These areas are larger than traditionally defined neighborhoods. The median size is 4.9 square miles, with a median population of 30,598. The Making Connections neighborhoods do not always correspond to what might be considered natural neighborhood boundaries, and three target areas are composed of multiple, noncontiguous neighborhoods. Although these areas may differ from what are traditionally perceived to be neighborhoods, we use the term *neighborhood* to describe them for readability and consistency with the wider literature.

<sup>2</sup> Because the Making Connections initiative focuses on the well-being of families with children, childless households that moved between survey waves were not reinterviewed at their new addresses.

<sup>3</sup> Households have been classified as non-Hispanic White, non-Hispanic African American, Hispanic, Asian, or other ethnicity. For the remainder of this report, the term *White* refers to non-Hispanic Whites and the term *African American* refers to non-Hispanic African Americans.



The residents of Louisville and Milwaukee neighborhoods were predominantly African American, but the residents of the San Antonio neighborhood were predominantly Hispanic. Hartford, Providence, and Denver had substantial populations of both African Americans and Hispanics. The White Center and Oakland neighborhoods reflect the greatest racial and ethnic diversity, including Whites, African Americans, Hispanics, Asians, and other ethnic groups.

Poverty and race are correlated with other indicators of well-being: quality work, health benefits, educational opportunities, and economic success. The survey neighborhoods, in general, have low homeownership rates (34 percent), low college completion (12 percent), a low share of households with working adults (63 percent), and low incomes (only 28 percent of households earn above \$30,000).

The Making Connections neighborhoods also have high rates of residential mobility, as shown in exhibit 1. In the 3 years between survey waves, more than one-half (57 percent) of the households from the survey neighborhoods moved out of their original housing units.<sup>4</sup> The 3-year mobility rates ranged from a low of 43 percent (in San Antonio) to a high of 65 percent (in Milwaukee). In all but two neighborhoods, more than one-half of the households moved.

### Exhibit 1

Demographic and Economic Characteristics of Residents by Neighborhood

Site	Poverty Rate	Percent White <sup>a</sup>	Percent Black <sup>a</sup>	Percent Hispanic	Percent Asian <sup>a</sup> and Other <sup>a</sup>	Percent Homeowner	Percent College Graduate or Higher	Percent Employed Adult in Household	Percent Turnover Between W1 and W2
Denver	38.2	40.1	14.3	36.4	9.3	35.4	27.3	64.3	56.4
Des Moines	32.6	51.7	27.6	9.7	11.0	50.9	12.3	69.1	50.9
Hartford	46.3	5.4	53.4	36.0	5.3	12.5	8.5	56.4	63.4
Indianapolis	33.6	60.2	27.2	8.5	4.0	41.0	6.9	66.6	59.3
Louisville	57.2	16.0	78.8	2.2	3.1	22.2	8.1	47.3	63.6
Milwaukee	49.3	10.7	76.1	4.7	8.5	29.9	9.8	57.4	65.4
Oakland	35.0	10.5	25.1	28.2	36.2	17.6	14.8	67.6	59.8
Providence	39.0	14.1	24.8	47.2	13.9	25.9	14.6	63.6	56.4
San Antonio	42.4	5.9	1.8	84.9	7.4	54.0	3.8	64.6	42.7
White Center	19.2	54.4	8.6	14.9	22.1	51.3	18.2	74.5	47.3
<b>Average</b>	<b>39.3</b>	<b>26.9</b>	<b>33.8</b>	<b>27.3</b>	<b>12.1</b>	<b>34.1</b>	<b>12.4</b>	<b>63.1</b>	<b>56.5</b>

W1 = wave 1. W2 = wave 2.

<sup>a</sup> Non-Hispanic.

Note: Racial, education, and employment characteristics are for survey respondents. Poverty, homeownership, and earnings characteristics are for survey households.

Source: Making Connections neighborhood-change data, wave 1

<sup>4</sup> In wave 2 of the Making Connections survey, interviewers returned to the same sample of residential addresses that they interviewed at wave 1. If the focus child from the wave 1 interview was no longer living at that address (and was not yet more than 18 years of age), the wave 1 household was classified as a mover and was interviewed at its new address. The household currently living at the original sample address was classified as a newcomer, even though it is possible that some members of the wave 1 household still remained.

Based on these indicators, some illustrative contrasts among the neighborhoods can be identified. The Making Connections neighborhood in Louisville epitomizes a severely distressed urban neighborhood, with 57 percent of households below the poverty level and only 14 percent earning more than \$30,000. This neighborhood is mostly composed of renters, including a large share of subsidized housing; only 22 percent of households own their homes. Only 8 percent of the survey respondents have a college degree, and less than one-half are in working households (47 percent). Hartford and Milwaukee are only slightly less disadvantaged than Louisville along most of these same dimensions. San Antonio's Making Connections neighborhood is also deeply poor (42 percent of households below the poverty level), with only 19 percent of households earning more than \$30,000. But it is a more stable neighborhood, with a large share of homeowners (54 percent) and moderate employment (65 percent), although little formal education (46 percent of residents have no high school degree).

In Denver, Oakland, and Providence, poverty rates are still high (35 percent or more), but the neighborhoods appear considerably less distressed. About two-thirds of the households in these neighborhoods have an employed adult. Denver's neighborhood also includes a considerable number of relatively well-off households. Specifically, 36 percent earn more than \$30,000 and 27 percent have college degrees. Poverty rates in the Making Connections neighborhoods of Des Moines and Indianapolis are somewhat lower, although still above 30 percent. Both have high homeownership rates and high rates of employment, but they have few college graduates and few households earning more than \$30,000.

Finally, the White Center neighborhood differs from all the other neighborhoods; it is much less poor. Only 19 percent of households have incomes below the poverty level, and more than one-half (57 percent) earned more than \$30,000. Relatively large shares of residents are homeowners (51 percent), college graduates (18 percent), and employed (75 percent).

### **Cluster Analysis of Movers, Newcomers, and Stayers**

We anticipated that some households may be making positive moves to better housing or neighborhoods, some may be moving because changes in family size or composition require a different housing unit, and some may be moving involuntarily, due to a crisis or economic insecurity. Also, some households that stayed may be satisfied with their house and neighborhood, but others may be dissatisfied but unable to move due to barriers. Similarly, some newcomers may be drawn to a place to improve their circumstances, but others may face limited housing options or be relocating under duress. Because the literature suggests many factors that influence moving, the identification of types requires a method that can uncover differences among households along many dimensions simultaneously. We use *cluster analysis* to explore whether identifiable groups of movers, newcomers, and stayers exist based on factors influencing their mobility and how much they are bettering or worsening their residential situations. A mover is defined as a household that moved out of its housing unit between wave 1 and wave 2, a stayer is a household that was in the same housing unit at both waves,<sup>5</sup> and a newcomer is a household that was in its housing unit at wave 2 but not at wave 1.

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<sup>5</sup> Because the Making Connections survey did not reinterview childless households that moved between survey waves, our analysis of movers is limited to families with children.

The variables used in the cluster analysis were chosen based on the literature cited in the text. We identified variables in the Making Connections survey that represented factors that could affect the chances that a household would move or stay in its housing unit between the two waves of the survey. Exhibit 2 lists these variables and their definitions. Newcomers were interviewed only in wave 2, so the cluster analysis for newcomers involves a more limited set of variables.

**Exhibit 2**

**Variables for Cluster Analysis (1 of 3)**

Variable	Definition	Movers With Children	New-comers	Stayers
<b>Demographic</b>				
Age	Respondent's age at time of survey—continuous	W1	W2	W1
Age of youngest child	Age of youngest child	W2	W2	W2
Joined spouse	Respondent's spouse or partner was not present in household at wave 1 but is present at wave 2—Yes/No	W1 to W2 change		
Left or lost spouse	Respondent's spouse or partner was present in household at wave 1 but is not present at wave 2—Yes/No	W1 to W2 change		
Spouse or partner present	Respondent's spouse or partner was present in household at time of survey—Yes/No			
Change in number of children	Children left or entered the household; this is the difference in the number of children in the household between wave 2 and wave 1—continuous	W1 to W2 change		
Number of children	The number of children present in the household—continuous		W2	W1
<b>Employment, income, and distress</b>				
Got job	Respondent and/or spouse not employed at wave 1 and respondent and/or spouse employed at wave 2—Yes/No	W1 to W2 change		
Lost job	Respondent and/or spouse employed at wave 1 and respondent and/or spouse not employed at wave 1 at wave 2—Yes/No	W1 to W2 change		
Employed	Childless movers and newcomers: respondent and/or spouse employed at time of survey. Stayers: respondent and/or spouse employed at wave 1 and at wave 2—Yes/No		W2	W1 and W2
Not employed	Childless movers and newcomers: respondent and/or spouse not employed at time of survey. Stayers: respondent and/or spouse not employed at wave 1 and wave 2—Yes/No		W2	W1 and W2
Income	Total household income—continuous	W2	W2	W2
Difficulty paying housing costs	Household had difficulty paying its housing costs and/or utilities for the household were disrupted by nonpayment of bills—Yes (if either or both are true)/No to both	W1	W2	W1

**Exhibit 2**

**Variables for Cluster Analysis (2 of 3)**

Variable	Definition	Movers With Children	New-comers	Stayers
<b>Homeownership and housing subsidy (public housing or voucher)</b>				
Became a homeowner	Respondent rented housing unit at wave 1 and was a homeowner or was in the process of homebuying at wave 2—Yes/No	W1 to W2 change		
Became a renter	Respondent was a homeowner or was in the process of homebuying at wave 1 and was a renter at wave 2—Yes/No	W1 to W2 change		
Homeowner	Respondent was a homeowner or was in the process of homebuying—Yes/No		W2	W1
Kept subsidized housing	Household received subsidy for housing cost in wave 1 and wave 2—Yes/No	W1 to W2 change		
Lost subsidized housing	Household received housing subsidy in wave 1 but did not at wave 2—Yes/No	W1 to W2 change		
Gained subsidized housing	Household did not receive subsidy at wave 1 but received subsidy at wave 2—Yes/No	W1 to W2 change		
Never had subsidized housing	Household did not receive subsidy at either wave 1 or 2—Yes/No	W1 to W2 change		
Subsidized housing	Household had subsidized housing at the time of the survey—Yes/No		W2	W1
<b>Neighborhood services and future</b>				
Perceived safe neighborhood	Difference in combined scale based on how safe respondent feels in neighborhood between wave 2 and wave 1: neighborhood is safe for children, safe in home at night, safe in neighborhood during the day, would help someone asking for directions, children go trick or treating, most criminal activity is committed by people who live outside the neighborhood—ordinal	W1 to W2 change	W2	W1
School satisfaction	Difference in satisfaction with child's school for respondents with children between wave 2 and wave 1 (focus child responses used in wave 2)—ordinal	W1 to W2 change	W2	W1
<b>Neighborhood attachment</b>				
Neighborhood involvement	Combined scale variable at time of survey based on neighborhood-attachment variables: respondent attends neighborhood events, respondent volunteers in neighborhood, respondent gets together with neighbors to resolve community problems—ordinal	W1	W2	W1
Know child's friends	Does respondent know none, some, or most of their child's friends, for respondents with children at time of survey (focus child responses used in wave 2)—ordinal	W1	W2	W1
Years in neighborhood	Combined years and months lived in the neighborhood at wave 1—continuous	W1		W1

**Exhibit 2**

Variables for Cluster Analysis (3 of 3)

Variable	Definition	Movers With Children	New-comers	Stayers
<b>Neighborhood conditions (external measures)</b>				
Poverty rate of census tract	Change between the 1999 poverty rate of wave 2 tract and the 1999 poverty rate of the wave 1 tract—continuous	W1 to W2 change		
Percent minority of census tract	Change between the 1999 percent minority of wave 2 tract and the 1999 percent minority of the wave 1 tract. Percent minority is determined by subtracting by the percent of white population in 1999 from the total population—continuous	W1 to W2 change		
Median home loan amount of census tract	Change in the median home loan amount between the 2005 wave 2 tract to the 2002 wave 1 tract. Median home loan amount is defined as the median mortgage amount for home purchase loans—continuous	W1 to W2 change		
<b>Move distance</b>				
Distance of move	Log of distance of move	W1 to W2 change		

W1 = wave 1. W2 = wave 2.

Sources: Making Connections cross-site data, waves 1 and 2; 2000 census; Home Mortgage Disclosure Act

**Demographic variables** consist of proxies for life-cycle events that may trigger a move or that capture stages in the life cycle that are associated with the chances of moving. For example, although households with children are generally more stable, gaining or losing children may trigger the need for more or less space. Similarly, the addition or departure of a spouse or partner may influence the desire or ability to relocate.

**Employment, income, and distress** variables relate to employment and income. Change in employment status may trigger a move, either due to location of the job or its effect on income. Financial hardships may bring on a housing crisis, but financial improvements may make a move to a better situation possible.

**Homeownership and housing subsidy (public housing or voucher)** variables used in the analysis show that homeowners and households with subsidies are expected to move less often, but changing tenure is a possible reason for a move.

**Neighborhood services and future** variables measure perceived neighborhood quality. Dissatisfaction with neighborhood quality could serve as a push factor for movers, but a positive view of the neighborhood might be a pull factor for newcomers and stayers.

**Neighborhood attachment** measures anticipate that attachment might be strongest among stayers and that movers who went only short distances or who were forced to move for other reasons might also show high attachment.

**Neighborhood conditions**—measures from the American Community Survey and Home Mortgage Disclosure Act data—distinguish movers who improved their neighborhood circumstances from those who did not.

**Move distance** as a variable distinguishes movers who remained nearby from those who moved farther away. Theoretical considerations and availability of data influenced how each cluster model differed in some respects in the waves of data available and the variable specification. This measure captures the distance households moved between wave 1 and wave 2. The variable is specified as the log distance of the move, in miles.

The statistical procedure adopted to analyze this set of variables is *cluster analysis*. Cluster analysis is an exploratory data analysis procedure that classifies cases into a smaller number of mutually exclusive groups based on their similarity on a set of measures. Several algorithms are available for clustering, but all rely on mathematical measures of distances among the cases on the variables. The method used in this analysis is a nonhierarchical cluster technique known as k-means and relies on Euclidean distances. The technique was chosen for this study because it is suitable for variables that are continuous or categorical. After standardizing the input variables using the Jaccard coefficient, we conducted this analysis using the FASTCLUS procedure in SAS. In cluster analysis, cases with shorter distances on the set of variables are grouped together. The cluster analysis was conducted separately for moves, newcomers, and stayers. We determined the number of clusters by looking for the maximum value of the pseudo-F statistic and the minimum of the  $R^2$  (Finch, 2005). We also evaluated how the clusters differed on each variable used in the analysis to describe distinctive characteristics of the cluster.

## **Components of Neighborhood Change Analysis Methods**

Using data from waves 1 and 2 of the Making Connections survey, we developed a new method used to determine the components of neighborhood change. This analysis is not focused on changes for people per se but on changes in a place as influenced by changes for (and of) people. We divide neighborhood change in the neighborhood poverty rate into its three components. Stayers—the households that remained at the same home—contribute to changes in neighborhood poverty by switching from being poor to nonpoor, or the reverse, between the two survey waves. Mobility contributes to changes in neighborhood poverty when those exiting and entering the neighborhood are differentially poor. Finally, a shift in the relative share of the residents who are stayers or movers changes each groups' contribution to neighborhood poverty.

To do so, we restricted the Making Connections sample to cases in which an interview was completed in a housing unit at both waves, or in which a housing unit was not occupied or did not exist at one of the waves and an interview was completed at the other wave. By these criteria, we excluded 311 cases, leaving a sample of 5,980 at wave 1 across all 10 neighborhoods. In running sensitivity tests on the restricted sample and comparing it with the full sample, we found minimal statistical differences between them. In the end, we included only 9 of the 10 Making Connections neighborhoods in this analysis; in Hartford, the neighborhood boundaries were changed between the two survey waves, so that the sample is too small to reliably measure changes for those who moved or stayed within the redefined boundaries.

The restricted sample enabled us to classify wave 1 and wave 2 respondents into two categories: those who stayed and those who moved. We further subdivided movers into those who left the neighborhood (movers) and those who joined it (newcomers). At wave 1, our sample includes stayers and movers, and at wave 2, the panel includes stayers and newcomers, where the newcomers live in units either vacated by wave 1 movers or vacant or not existent at wave 1. For the Making Connections neighborhoods, we separate the change in neighborhood poverty into its three components. Changes in poverty for stayers, as a result of mobility, and due to changes in the relative size of these groups, are additive; they may move in the same direction or they may offset each other. In calculating the change in poverty among stayers, we determine the share of stayers who improved (fell below the federal poverty level at wave 1 but were above it at wave 2), the share who worsened (were above the federal poverty level at wave 1 but were below it at wave 2), and the share whose poverty status did not change.

In measuring the change in poverty due to mobility, we calculate differences in the characteristics of movers (at wave 1) and newcomers (at wave 2) for each housing unit present at both waves. Where a housing unit was present at either survey wave but vacant or nonexistent at the other, we also include the household's poverty status in our calculations. By definition, each neighborhood has the same number of stayers at both waves. But in each of the 10 cases, the number of newcomers and movers were not the same, meaning the neighborhood's population was different at wave 2 than at wave 1. This difference in population had to be accounted for when we calculated the components of change. For example, in a neighborhood with fewer newcomers than movers, population declines. As a result at wave 2, stayers represent a larger proportion of the neighborhood than they did at wave 1. Therefore, stayers contribute to neighborhood change by changing their personal circumstances, and also by increasing their share of the neighborhood's population.

Using this information, we defined the following terms accordingly:

$P_1$  = Neighborhood poverty rate at wave 1.

$P_2$  = Neighborhood poverty rate at wave 2.

$s_1$  = Poverty rate of stayers at wave 1.

$s_2$  = Poverty rate of stayers at wave 2.

$m_1$  = Poverty rate of movers at wave 1.

$m_2$  = Poverty rate of newcomers at wave 2.

$t_{s1}$  = Stayers in the neighborhood at wave 1.

$t_{s2}$  = Stayers in the neighborhood at wave 2.

$t_{m1}$  = Movers in the neighborhood at wave 1.

$t_{m2}$  = Newcomers in the neighborhood at wave 2.

We defined each group's share of population as

$$w_{s1} = t_{s1} / (t_{s1} + t_{m1}) = \text{Share of wave 1 population that are stayers.} \quad (1)$$

$$w_{s2} = t_{s2} / (t_{s2} + t_{m2}) = \text{Share of wave 2 population that are stayers.}$$

$$w_{m1} = t_{m1} / (t_{s1} + t_{m1}) = \text{Share of wave 1 population that are movers.}$$

$$w_{m2} = t_{m2} / (t_{s2} + t_{m2}) = \text{Share of wave 2 population that are newcomers.}$$

Neighborhood poverty is

$$P_1 = w_{s1}s_1 + w_{m1}m_1. \tag{2}$$

$$P_2 = w_{s2}s_2 + w_{m2}m_2.$$

The change in neighborhood poverty is

$$P_2 - P_1 = w_{s2}s_2 + w_{m2}m_2 - w_{s1}s_1 - w_{m1}m_1. \tag{3}$$

The change in poverty for stayers is

$$\Delta s_{12} = s_2 - s_1. \tag{4}$$

The difference in poverty between movers and newcomers is

$$\Delta m_{12} = m_2 - m_1. \tag{5}$$

The change in each group's share of the population is

$$\Delta w_{s1s2} = w_{s2} - w_{s1}. \tag{6}$$

$$\Delta w_{m1m2} = w_{m2} - w_{m1}.$$

Substituting equations 4, 5, and 6 into equation 3 yields

$$P_2 - P_1 = (w_{s1} + \Delta w_{s1s2})s_2 + (w_{m1} + \Delta w_{m1m2})m_2 - w_{s1}(s_2 - \Delta s_{12}) - w_{m1}(m_2 - \Delta m_{12}). \tag{7}$$

Rearranging and canceling terms produces the equation

$$P_2 - P_1 = w_{s1}\Delta s_{12} + w_{m1}\Delta m_{12} + \Delta w_{s1s2}s_2 + \Delta w_{m1m2}m_2. \tag{8}$$

These final terms measure the three components of neighborhood change. The first term ( $w_{s1}\Delta s_{12}$ ) is the contribution of change in poverty among stayers (holding their population share constant at wave 1). The second term ( $w_{m1}\Delta m_{12}$ ) is the change in neighborhood poverty attributable to the difference between movers and newcomers (holding their population share constant at wave 1). Combined, the final two terms are the change in neighborhood poverty resulting from changes in population ratios ( $\Delta w_{s1s2}s_2 + \Delta w_{m1m2}m_2$ ).

## Findings

### Types of Residential Mobility

Previewing our findings, the study showed three discernible types of movers, newcomers, and stayers in the Making Connections neighborhoods. One of the types in all instances reflected households in distress. Their residential situations were dictated more by economic exigencies or family stress than by choice. Another type could be characterized as positive in their residential choices, whether they were staying in satisfactory places or moving to better situations. Finally, in all instances we identified a type for which life stage and household composition were predominant factors in their residential location. These patterns are consistent with the expectation that households move or stay put for various reasons, and that simple mobility rates belie differences.



## Movers With Children

For movers with children, three clusters were identified (see exhibit 3). The largest cluster, labeled *Churning movers*, accounted for 46 percent of the mover sample. The families in this cluster tend to be young and are adding children to their households. They have very low incomes (median \$14,000), are mostly renters who had not lived in their old house very long (median 2 years), and were the least involved of any cluster in their neighborhood. These families moved short distances (median 1.7 miles) and did not gain much in terms of neighborhood amenities and satisfaction. They started out in poor neighborhoods that they viewed as somewhat unsafe and not very positive

### Exhibit 3

#### Selected Characteristics of Households in the Movers With Children Cluster

	Churning Movers	Nearby-Attached Movers	Up-and-Out Movers	Weighted Average
Cases in cluster (%)	46	24	30	100
<b>Life-cycle factors</b>				
Respondent age (mean)	28.0	40.9	32.4	32.5
Age of youngest child (mean)	3.57	10.38	5.79	5.88
Change number of children (mean)	0.53	- 0.27	0.21	0.24
Added adult to household (%)	9	5	18	11
Lost adult from household (%)	16	16	6	13
<b>Employment and income</b>				
Employed, W1 (%)	70	69	78	72
Household income, W2 (median \$)	14,000	15,000	28,000	16,000
Gained a job (%)	14	12	13	13
Lost a job (%)	14	17	5	12
Difficulty paying housing costs, W1 (%)	42	43	35	40
<b>Homeownership and housing subsidy</b>				
Homeowner, W1 (%)	8	29	23	18
New homebuyer (%)	10	9	26	15
Shifting to rental (%)	2	19	7	8
Gained subsidy (%)	12	16	7	12
Lost subsidy (%)	13	12	16	14
<b>Neighborhood quality</b>				
Safety rating, W1 (mean)	4.33	4.74	3.72	4.24
Change in safety (mean)	0.16	- 0.27	1.93	0.59
Neighborhood good for children, W1 (%)	62	66	34	55
New neighborhood better for children (%)	14	17	63	30
<b>Neighborhood attachment</b>				
Neighborhood involvement, W1 (mean)	0.57	1.30	0.72	0.79
Years in neighborhood, W1 (median)	2.0	7.5	3.0	3.0
<b>Neighborhood conditions (census tract)</b>				
Change in poverty rate (mean)	- 4.78	- 6.46	- 22.33	- 10.53
Change in percent minority (mean)	- 6.8	- 6.49	- 38.42	- 16.36
Increase in housing prices (median \$)	23,500	26,000	45,000	31,000
<b>Distance of move</b>				
Distance in miles (median)	1.66	1.14	5.77	2.17

Source: Making Connections cross-site data, waves 1 and 2

for their children, and they gained little by moving. This pattern suggests that these households may be frequent movers whose moves are a response to financial stress or problems in their rental housing arrangements.

The second mover cluster is labeled as *Nearby-attached movers*, constituting 24 percent of the sample. The families in this cluster are middle aged and have declined in household size. They have very low incomes (median \$15,000). Unlike churning households, however, more of them were homeowners at wave 1, had lived in their homes for a very long time (median 7.5 years), and were highly involved in their original neighborhoods. These families moved the shortest distances (median 1.1 miles), with some (19 percent) shifting from homeowner to rental tenure. Their relocation did not appreciably affect their neighborhood distress or satisfaction, but they reported somewhat less neighborhood participation following their move. Thus, nearby attached movers had been stable involved residents whose moves may have been dictated more by life-cycle factors than by a desire to leave their house or neighborhood. In fact, they have not moved far nor have they changed very much in their feelings about the place.

The last cluster, *Up-and-out movers*, comprised 30 percent of the sample. These movers are young families but are more likely to be gaining an adult in the household than are churning movers. They have moderate incomes (median \$28,000), had not lived in their old house very long (median 3 years), and were the most dissatisfied with the old neighborhood. These families moved much farther (median 5.8 miles), with more families becoming homeowners than in other clusters. They are more satisfied and optimistic about their new neighborhoods, which are substantially less poor and less predominantly minority, and which have higher (and rising) house values. In summary, up-and-out movers seem to have moved a long distance to improve their housing and neighborhood satisfaction. They had the financial wherewithal to make such moves possible.

### **Newcomer Households**

Next, we focus on households moving into homes and apartments in the Making Connections neighborhoods. For these households, the Making Connections survey provides only wave 2 information; we do not know where these households lived before or how their circumstances changed.<sup>6</sup> We can explore factors that may have pushed or pulled them into their current location, however, including age and number of children, employment and income, housing tenure and subsidy (voucher or public housing) status, affordability problems, and perceptions of the neighborhood and attachment to it. Cluster analysis yields three categories of newcomers distinguished on the factors shown in exhibit 4.

The first cluster is labeled *dissatisfied renter newcomers* and accounts for 36 percent of the newcomer sample. In this cluster, nearly all households are renters (96 percent). They are young families with young children (mean age of adults is 30.8 and children is 3.7). They have low incomes (median \$12,000) and have difficulty affording their housing. About one-fifth (22 percent) receive housing subsidies and about two-thirds have an employed member in the household. These families are

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<sup>6</sup> As discussed previously, we do not have wave 1 addresses for these newcomers; some may have lived nearby and considered themselves in the same neighborhood.

**Exhibit 4**

**Selected Characteristics of Households in the Newcomers Cluster**

	<b>Dissatisfied Renter Newcomers</b>	<b>Low-Income Retired Newcomers</b>	<b>Positive Newcomers</b>	<b>Weighted Average</b>
Cases in cluster (%)	36	24	40	100
<b>Life-cycle factors</b>				
Respondent age (mean)	30.8	53.1	36.6	38.4
Age of youngest child (mean)	3.65	10.51	7.01	5.52
Number of children (mean)	1.91	0.30	0.78	1.08
Adults in household (mean)	1.64	1.80	1.52	1.63
<b>Employment and income</b>				
Employed (%)	67	9	97	66
Household income (median \$)	12,000	7,500	30,000	15,000
Difficulty paying housing costs (%)	51	33	21	35
<b>Homeownership and housing subsidy</b>				
Homeowner (%)	4	19	37	21
Housing subsidy (%)	22	35	2	17
<b>Neighborhood quality</b>				
Safety rating (mean)	3.62	4.85	5.04	4.48
Neighborhood good for kids (%)	26	72	81	59
<b>Neighborhood attachment</b>				
Neighborhood involvement (mean)	0.47	0.72	0.87	0.69
Years in neighborhood (median)	1	2	2	2
<b>Neighborhood conditions (census tract)</b>				
Poverty rate (mean)	36.44	34.27	29.95	33.30
Percent minority (mean)	78.02	74.31	69.77	73.80

Source: Making Connections cross-site data, waves 1 and 2

very dissatisfied with the neighborhood and have not become very involved in it since their move. This pattern is consistent with being pushed to move by circumstances rather than attracted to their new residence by a positive feeling about the neighborhood or the achievement of a stable housing situation. Their profile suggests that they may move again quickly due to further disruption or dissatisfaction.

The second cluster, *low-income retired newcomers*, comprises 24 percent of the newcomer sample. This cluster is composed of predominately older households with very low employment rates (9 percent) and very low incomes (median \$7,500). A large proportion of newcomers in this cluster have housing subsidies (35 percent) and most of the households in this cluster are renters (81 percent). Many report that they have trouble paying for their housing costs (33 percent). Despite their financial difficulties, they are positive about the neighborhood and are moderately involved. This cluster seems to represent households that already felt positively toward the neighborhood and changed residences due to reaching retirement and requiring lower housing costs or more housing assistance. Households in this newcomer group are likely to remain settled unless their personal situations change or they can find more affordable or subsidized housing elsewhere.

Positive newcomers are 40 percent of the sample. This third cluster is made up of working households (97 percent are employed) in their middle child-rearing years. They have relatively high incomes (median \$30,000), are the most likely of the newcomer households to be homeowners (37 percent), and are the least likely to have difficulty with housing affordability. They are very optimistic about the neighborhood and participate in it. Households in this cluster are likely to become engaged with their new community and to remain stable as long as their housing remains optimal. Those with rising incomes may move on, however, as they become ready for homeownership or as their housing needs and preferences shift.

### Stayer Households

Finally, we turn to the households that stayed at their original addresses. For these households, the survey provides two waves of information about both families with children and childless households, including a wide range of factors that might have made them want to stay as well as factors that might have limited their options for leaving. Again, we find three identifiable clusters of stayers as shown in exhibit 5.

Dissatisfied stayers comprise 22 percent of the newcomer sample. This cluster is the youngest of the stayer clusters (the mean age of adult members is 38.9), although stayers as a group are older than movers. Most of these families have an adult who is working (79 percent), but their incomes

### Exhibit 5

Selected Characteristics of Households in the Stayers Cluster

	Dissatisfied Stayers	Long-Term Older Stayers	Positive Stayers	Weighted Average
Cases in cluster (%)	22	31	47	100
<b>Life-cycle factors</b>				
Respondent age (mean)	38.9	63.8	41.3	47.7
Age of youngest child (mean)	6.73	9.21	8.08	7.83
Number of children (mean)	0.14	-0.16	-0.04	0.00
Adults in household, W1 (mean)	1.57	1.71	1.42	1.54
<b>Employment and income</b>				
Employed, W1 (%)	79	20	95	69
Household income, W2 (median \$)	20,000	10,000	30,000	20,000
Difficulty paying housing costs, W1 (%)	39	14	19	22
<b>Homeownership and housing subsidy</b>				
Homeowner, W1 (%)	39	56	68	58
Housing subsidy, W1 and W2 (%)	17	18	3	11
<b>Neighborhood quality</b>				
Safety rating, W1 (mean)	3.36	4.83	5.12	4.64
Neighborhood good for children, W1 (%)	15	80	93	72
<b>Neighborhood attachment</b>				
Neighborhood involvement, W1 (mean)	0.76	0.81	0.89	0.83
Years in neighborhood (median)	6	24	10	11
<b>Neighborhood conditions (census tract)</b>				
Poverty rate, W1 (mean)	32.49	32.14	28.88	30.68
Percent minority, W1 (mean)	77.26	82.10	77.91	79.07
Increase in housing prices (median \$)	15,500	10,500	10,500	11,000

Source: Making Connections cross-site data, waves 1 and 2

are only low to moderate (median \$20,000). Most of these households are renters (61 percent) and likely to be having difficulty paying housing costs. They have lived in the neighborhood the shortest time (median 6 years) and, out of all stayers, are the least positive about it. If they continue to remain in their current residence, it is likely because of barriers to movement rather than a stable and satisfactory situation.

The second cluster, labeled *long-term older stayers*, accounts for 31 percent of the sample. The households in this cluster are a bit older than those in the other clusters (mean age of adults 63.7), seldom include working adults (only 20 percent employed), and have very low incomes (median \$10,000). Yet, more than one-half of these households own their homes and few are having difficulty with housing costs. They have lived in the neighborhood for many years (median 24 years) and are satisfied with it. Although it seems likely that these stayers will remain in place, their fixed incomes and advancing age may make them somewhat vulnerable.

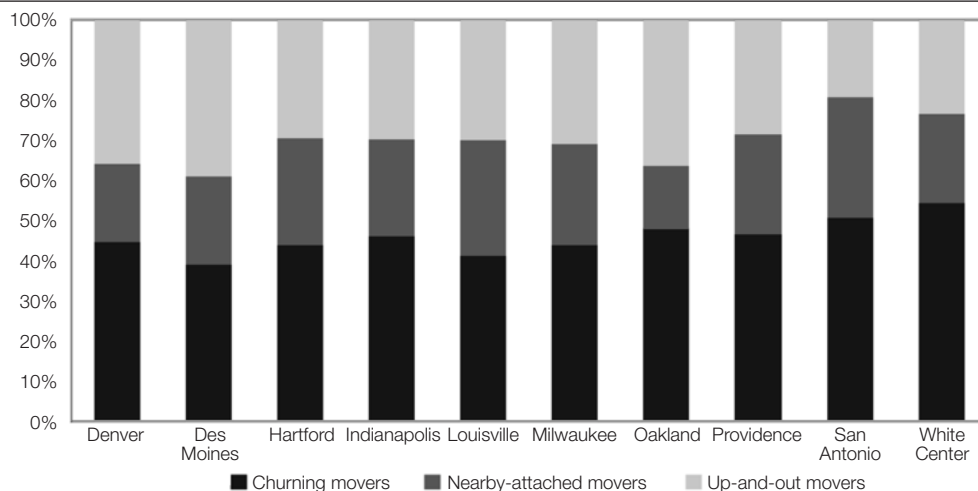
Finally, *positive stayers* comprise the largest cluster at 47 percent of all stayers. These households tend to be middle-aged (mean age of adults 41.3) families who are working (95 percent are employed) and have the highest incomes (median \$30,000) of the three stayer groups. Most are homeowners (68 percent), and the median number of years living in the neighborhood is 10. These households participate most in their neighborhood and are the most optimistic about it. This cluster is likely to continue to be involved and remain in their residence as long as they remain satisfied with their housing and surrounding neighborhood.

### Differences in Cluster Mix by Making Connections Sites

Now we turn to the question of how this classification of households regarding their residential mobility status characterizes the Making Connections neighborhoods. The mix of movers, newcomers, and stayers is shown by site in exhibits 6, 7, and 8. For example, the Denver

#### Exhibit 6

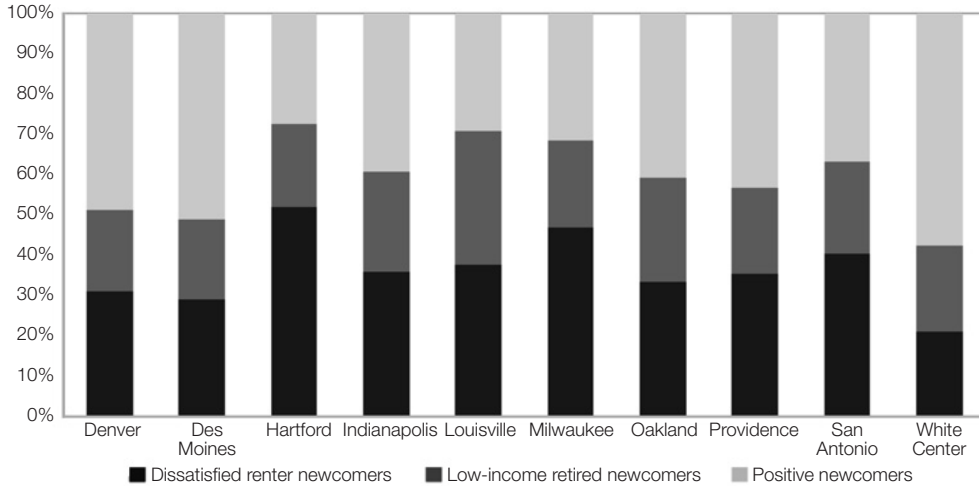
Types of Movers by Making Connections Neighborhood



Source: Making Connections cross-site data, waves 1 and 2

**Exhibit 7**

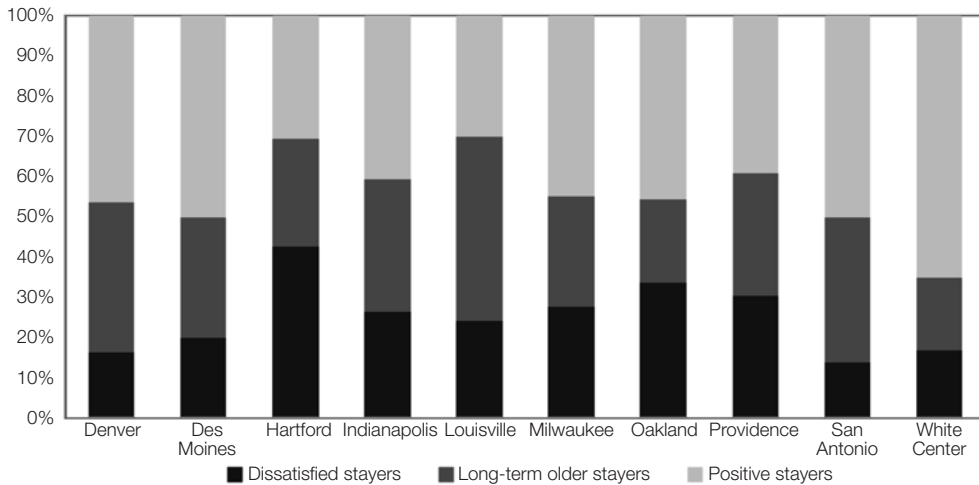
**Types of Newcomers by Making Connections Neighborhood**



Source: Making Connections cross-site data, waves 1 and 2

**Exhibit 8**

**Types of Stayers by Making Connections Neighborhood**



Source: Making Connections cross-site data, waves 1 and 2

neighborhood has a large component of long-term older stayers and the percentage of dissatisfied stayers is low. Denver is also low on nearby-attached movers and low-income retiree newcomers while being in the middle range on other clusters. This pattern suggests the core of a stable older population in the Denver neighborhood, with little influx of older newcomers. In general, the positive newcomers exceed the dissatisfied ones. Churning movers exceed the nearby-attached movers by about two to one, however, reflecting considerable churning among in the younger low-income population in the Denver neighborhood.

In Des Moines, three clusters stand out: up-and-out movers, positive stayers, and positive newcomers. Des Moines is also low on churning movers and low-income retiree newcomers. This pattern suggests that the Des Moines neighborhood is a positive attraction for many households but is also a place movers leave behind to improve their situations. Oakland and Providence have similar profiles to Des Moines, although somewhat less positive. In Oakland and Providence slightly more movers are churning, and more stayers are dissatisfied than in Des Moines.

The Hartford Making Connections neighborhood is characterized by large proportions of dissatisfied newcomers, dissatisfied stayers, and churning movers. The small proportion in the up-and-out cluster suggests that few are moving on to better housing or neighborhoods. Few of the newcomer households fall into the low-income retirees, suggesting that younger distressed families are the bulk of those relocating to the neighborhood. Milwaukee's mix of movers and newcomers is similar to Hartford's. More positive stayers and fewer negative stayers are in Milwaukee than in Hartford, however.

Louisville stands out in the high proportion of stayers and newcomers in the low-income older clusters. Also, Louisville's movers tend more than the other neighborhoods to remain nearby-attached movers. Few are up-and-out movers and few of the households that stay or move in are doing so for positive reasons. This pattern suggests that many households in the Louisville Making Connections neighborhood are there mainly because housing is affordable and that many are long-term residents with a connection to the neighborhood. The mix of movers, newcomers, and stayers in Indianapolis is similar to Louisville, with the exception that Indianapolis has a higher proportion of positive newcomers.

San Antonio is unique among the neighborhoods in that its movers mostly remain nearby and are seldom bettering their situation by moving out. Nevertheless, San Antonio also has a large group of positive stayers who are remaining in place and are satisfied with the neighborhood. The newcomer mix in San Antonio is unremarkable compared with the other neighborhoods, with a nearly equal mix of newcomers in the positive and dissatisfied clusters. This pattern suggests that the San Antonio Making Connections neighborhood is one with a core of long-term residents, but many of them frequently change housing units within the general neighborhood.

The White Center neighborhood is low on up-and-out movers and high on positive stayers and positive newcomers. It appears, therefore, that residents who are being drawn to the neighborhood are seeking its positive qualities and not moving away for better situations. The neighborhood is also high on churning movers, however, suggesting that an element of frequent moving also exists among residents with unstable living situations.

## **Components of Neighborhood Change**

In this section, we focus on the Making Connections neighborhoods and turn to the question of how residential mobility shapes the overall composition of the neighborhoods. We illustrate this dynamic by calculating separately the components of change in neighborhood poverty rates because concentrated urban poverty has received a great deal of policy attention and poverty reduction is a common goal in community-change initiatives. Across the Making Connections neighborhoods, changes in poverty rates occurred primarily through mobility, not because of changing circumstances

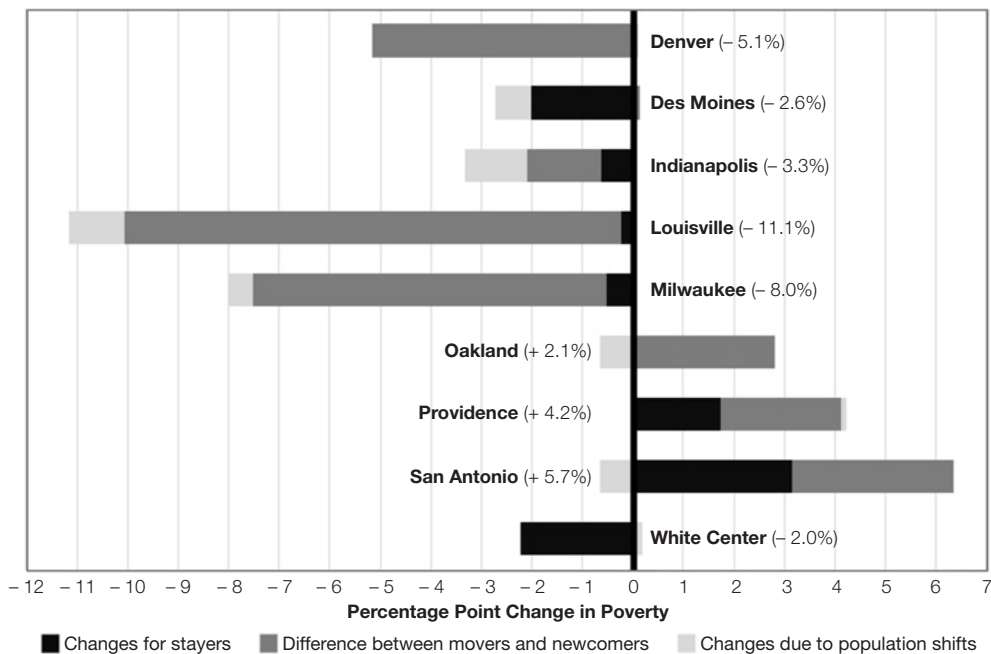
for stayers. Reductions in neighborhood poverty occurred in one of two ways: through a sizable departure of poor residents, or through an influx of better off households. For neighborhoods where stayers saw reductions in the prevalence of poverty, these improvements were not sufficient to produce neighborhood gains. The biggest increases in neighborhood poverty rates occurred where poverty increased both among stayers and as a result of mobility.

At the start of this study, the Making Connections neighborhoods ranged from moderately to severely distressed, with an average poverty rate in 2002 or 2003 of 35 percent. Of the nine neighborhoods analyzed, four saw statistically significant changes in the poverty rate. Of these nine neighborhoods, three experienced reductions in poverty, with the biggest reductions occurring in some of the poorest communities: Louisville (-10.8 percentage points), Milwaukee (-7.5 percentage points), and Denver (-5.2 percentage points). San Antonio experienced an increase in poverty of 6.3 percentage points.

To determine the role that mobility played in these poverty trends, we calculate the components of change for each site using the technique outlined in the methods section of this article. The results appear in exhibit 9. For each city, the first column is the change in neighborhood poverty attributable to changes in stayers' poverty status. The second is the change due to differences between movers' and newcomers' poverty rates. The third column is the contribution of shifts in the neighborhood's population (and the shares of residents who are stayers or who move between the two survey waves). These three components sum to the total neighborhood change in poverty, which is shown in parentheses.

**Exhibit 9**

**The Components of Change in Neighborhood Poverty**



Note: Net percentage point change shown in parentheses.

Source: Making Connections neighborhood-change data, waves 1 and 2



Summarizing our findings, the decline in Denver's neighborhood poverty rate was driven by the arrival of better off residents. In Louisville and Milwaukee, on the other hand, declining poverty rates were driven by the departure of poor residents. In Des Moines and White Center, although the poverty rate remained essentially unchanged, poverty fell slightly among households that stayed in the neighborhood. Poverty in Indianapolis did not change for any group. Somewhat higher poverty rates among newcomers than among movers were not enough to notably shift Oakland's overall poverty rate. Providence saw modest increases in poverty from both stayers becoming poorer and from poor newcomers replacing some nonpoor movers. Finally, in San Antonio, neighborhood poverty rates rose due to increasing poverty among stayers and to higher poverty among newcomers than among movers.

None of the Making Connections neighborhoods saw economic improvements among stayers that were sufficient to produce a statistically significant net reduction in poverty rates. This economic situation is because of the high rates of mobility these neighborhoods experienced and because it is difficult for households to leave poverty (Cellini, McKernan, and Ratcliffe, 2008; Rank and Hirschl, 2001; Stevens, 1999). None of the neighborhoods that experienced rising poverty rates did so solely due to mobility or changing circumstances for stayers—both trends worsened together. A shifting share of the neighborhood's population (that is, the share that was made up of stayers or movers/newcomers) generally had little effect on neighborhood poverty. We explore these findings below—grouping sites that experienced improving, unchanging, or worsening poverty conditions.

One Making Connections neighborhood—Denver—improved, because newcomers were better off than movers. As shown in exhibit 9, the poverty rate declined 5.1 points. This reduction in poverty was entirely attributable to mobility, with newcomers more than 9 percentage points less poor than movers, a sizable shift. Between 2003 and 2006, more than one-half of the Denver neighborhood's residents left (56 percent) and were replaced by newcomers, with no net change in population (exhibit 2). Residents who remained in the neighborhood from 2003 to 2006 were, on average, no more or less poor.

Declining neighborhood poverty can be produced simply through the departure of poor residents, a scenario that some may consider a Pyrrhic victory and others consider a necessary deconcentration of poverty. Both the Louisville and Milwaukee neighborhoods reflect this pattern. Looking at Louisville to illustrate this phenomenon, we see that the poverty rate fell dramatically, dropping more than 11 percentage points in 3 years (exhibit 9). Yet, this improvement was entirely attributable to the departure of some poor households. More than 63 percent of households in Louisville left the neighborhood and many of these residents were not replaced by newcomers—the neighborhood's population declined 17.3 percentage points (exhibit 2). Further driving the changes, newcomers had a substantially lower poverty rate than movers (13.3 percentage points). With a poverty rate approaching 50 percent, however, they were still severely disadvantaged. A sizeable share of Louisville residents relocated between the two survey waves as a result of the HOPE VI program. Public housing revitalization led to poverty reduction in Louisville, but the Milwaukee neighborhood also saw the departure of poor residents, not as a result of a federal program. Households that remained in the Louisville and the Milwaukee communities experienced no improvements in their poverty rates.

Unlike the previously described neighborhoods, five Making Connections neighborhoods did not demonstrate changes in poverty rates, although one group of residents may have experienced a greater or lesser likelihood of being poor. For these neighborhoods, changes among or between individual groups were not sufficient to generate a net change. Because the net poverty rates for these communities did not change, relying on these aggregate figures alone may mask divergent outcomes for the different groups.

In two neighborhoods, Des Moines and White Center, stayers were somewhat less poor at wave 2, an important outcome in assessing community change efforts. Yet this change did not improve the overall neighborhood. Oakland also showed no net change in neighborhood poverty. But in this case, it was stayers who were unchanged, and newcomers were 5.0 percentage points less poor than movers. These components resulted in a 2.1-percentage-point increase in Oakland's poverty. Poverty rates in Indianapolis were not substantially different for stayers, neither as a result of mobility nor shifts in the neighborhood's population. In Providence, poverty increased modestly for stayers and as a result of mobility. These two factors resulted in a 4.1-percent increase in neighborhood poverty, but this change is not statistically significant.

As opposed to improving, neighborhood poverty worsened in only one manner. The poverty rate increased in San Antonio, driven by a worsening situation among stayers and due to mobility. Poverty among stayers rose by 5.5 percentage points from 2003 to 2006—a change that resulted in neighborhood poverty increasing by 3.2 percentage points. At the same time that stayer households experienced greater poverty, the community absorbed even more poor migrants and lost households that were better off. Those who joined the neighborhood had a poverty rate 7.5 points higher than those who left.

In sum, across all Making Connections neighborhoods, this analysis shows few communities with poverty-rate reductions among stayers, a core indicator of neighborhood health and vitality. But in neighborhoods where poverty declined among stayers, that gain would be overlooked by focusing simply on neighborhood change. The magnitude of change among stayers is smaller than change as a result of mobility. The fates of stayers and movers were linked in surprisingly few neighborhoods—only in worsening neighborhoods did they change in the same direction. Given the high rates of mobility and the greater likelihood that movers and newcomers were differentially poor, mobility was a larger influence in changing neighborhoods. Mobility contributed to neighborhood improvement in several cases, even if gains were not experienced by stayers. Also, in no neighborhoods did mobility alone drive neighborhood poverty-rate increases, although, where poverty increased, poor newcomers added to an already deteriorating situation for stayers.

## **Discussion of Functional Differences in Low-Income Neighborhoods**

In this section, we apply the preceding findings about the mix of movers, newcomers, and stayers and the components of neighborhood change to offer some insights on how different low-income neighborhoods may be functioning for the families who live in them (and move through them).

We begin by proposing five stylized models. Two of these stylized types—*incubator* and *launch pad*—function in positive ways for their low-income residents, two types—*neighborhood of choice* and *comfort zone*—are mixed, and one—*trap*—essentially fails low-income families.

If a neighborhood is an incubator, mobility rates will be low. Stayers would be attached and positive about the neighborhood and newcomers would be positive about it as well. If, on the other hand, a neighborhood is a launch pad, mobility rates will be higher. Successful families would be moving out while needier families moved in.

If a neighborhood is a launch pad, mobility rates will be high. Many movers would be transitioning up and out, but those who stayed would be attached and positive, and newcomers (although poor) would be positive about what the neighborhood had to offer.

If a neighborhood is a neighborhood of choice, mobility rates will be moderate and neighborhood outcomes would be improving. These gains, however, should reflect the well-being of neighborhood newcomers, with lesser improvements reflected in stayers' well-being. In addition, although newcomers should be very positive about the neighborhood, many movers are likely dissatisfied and disconnected.

If a neighborhood is a comfort zone, mobility rates will be low and outcomes for long-term residents or the neighborhood as a whole would have little or no improvement. In this way, comfort zones are like traps. In a comfort zone, however, many stayers would be strongly attached and many newcomers would be satisfied with their neighborhood circumstances.

Finally, if a neighborhood is a trap, mobility rates will be moderate and neighborhood outcomes would either remain unchanged or decline over time, reflecting static or worsening conditions among stayers. Short-distance churning moves may be common, although long-distance opportunity moves would be infrequent. Movers, newcomers, and stayers would all be dissatisfied about their neighborhood circumstances.

Patterns of mobility and neighborhood change in most of the Making Connections neighborhoods roughly align with these stylized models. The White Center neighborhood and possibly Indianapolis appear to be functioning as incubators. Des Moines and Oakland look like launch pads. Denver can be best described as a neighborhood of choice. San Antonio and Providence appear to be functioning as comfort zones for low-income households struggling under tough economic circumstances. Louisville, Milwaukee, Hartford, and possibly Indianapolis all have attributes that correspond with traps.

Despite this alignment with a typology of neighborhood functions, the full picture in every Making Connections neighborhood is more complex and messy. All exhibit characteristics that differ from their stylized models. And none unambiguously functions in the same way for all of its residents. For example, even in an incubator neighborhood, some residents feel trapped or dissatisfied and some movers appear to be churning. Likewise, even in a trap neighborhood, some families are able to move up and out. In the following sections, we focus in turn on five Making Connections neighborhoods that most closely match the stylized neighborhood models (see exhibit 10), highlight the complexities and contradictions within these neighborhoods, and suggest possible implications for community-change strategies.

**Exhibit 10**

**Stylized Models of How Neighborhoods Function for Residents**

Site	Mobility	Components of Neighborhood Change			Characteristics of Movers, Newcomers, and Stayers		
		Overall	Among Stayers	Due to Mobility	Family Movers	Newcomers	Stayers
<b>Incubator</b>							
White Center	Low	No change	Improving modestly	No change	High churning; low up-and-out	High positive; low dissatisfied renters	High attached positive; low long-term older
<b>Launch pad</b>							
Des Moines	Low	No change	Improving modestly	No change	High up-and-out; low churning	High positive	High attached positive
<b>Neighborhood of choice</b>							
Denver	Intermediate	Improving	No change	Newcomers better off than movers	High up-and-out	High positive; but also dissatisfied renters	High long-term older
<b>Comfort zone</b>							
San Antonio	Low	Worsening	Worsening	Newcomers worse off than movers	High churning and nearby-attached; low up-and-out	All three types of newcomers	High positive; low dissatisfied
<b>Trap</b>							
Louisville	High	Improving	No change	Movers much worse off than stayers or newcomers	High nearby-attached	High low-income retirees; low positive	High long-term older; low positive

**An Incubator for Many, but Instability Persists Among Poor Renters**

The White Center Making Connections neighborhood has many features suggestive of being an incubator. Stayers are experiencing modest declines in poverty and most are positive and attached to the neighborhood. The population is growing, but mobility is not driving the decline in poverty; the poverty rate among newcomers is essentially the same as among movers. Few movers appear to be up-and-out movers, and most newcomers are positive newcomers.

White Center differs from the stylized model of an incubator in one respect, however. Some movers—in fact, a substantial share of movers (slightly more than one-half)—are churning movers. This category of mover has lived in the neighborhood for only a short time, is not strongly attached to it, moves only a short distance, and is not any more satisfied or optimistic about the new location. Thus, although White Center may be functioning as an incubator for many of its residents, it also exhibits residential churning for some families. Further analysis suggests that these churning movers are mostly young working families, often single parents, who rent homes and apartments. They are considerably more likely than White Center's stayers to be minorities or immigrants.

Because so many of the households moving into White Center are positive newcomers, one might wonder whether the neighborhood is experiencing gentrification. Poverty rates among newcomers are essentially the same as among movers, however. Further analysis shows that even the positive newcomers have lower average incomes than most stayers. Newcomers are also more likely to be minorities or immigrants than the neighborhood's stayers. The positive newcomers are much less likely to have children than stayers, however, which may suggest an influx of singles and childless couples to the White Center neighborhood.

What strategies make sense under these circumstances? White Center already offers substantial assets that attract and retain residents who are positive about the neighborhood and attached to it. And the well-being of those who stay in the neighborhood is rising. Community initiatives should build on these assets and expand their reach so that more families can benefit. In particular, the large share of churning movers need targeted help to achieve greater stability. One strategy might be to target low-income families who rent homes and apartments in the neighborhood, reaching out to draw them into available services and activities, and expanding rental assistance, including short-term emergency assistance to help families remain in place longer. In addition, resident engagement and community-building efforts might explicitly work to engage the neighborhood's newcomers, including childless singles and couples. Many of these households appear very positive about the neighborhood and seem prepared to get involved and contribute to it. But these newcomers are by no means affluent; they too need help connecting to neighborhood-based services and supports.

### **A Launch Pad, Although Many Residents May Be Happy To Stay**

Des Moines's Making Connections neighborhood exhibits dynamics that match the model of a launch pad neighborhood (exhibit 10). In particular, many movers are up-and-out movers and few are churning movers. In addition, many newcomers are positive, although they do not appear to be substantially poorer than the households they are replacing. In addition, the flow of movers out of the Des Moines neighborhood is smaller than one might expect for a launch pad, the stayers' well-being appears to be improving, and many stayers are attached and positive.

In fact, Des Moines' up-and-out movers appear similar to positive stayers in many respects. Most of both groups are renters, most are minorities, and most are native born. The up-and-out movers are somewhat more likely than the positive stayers to rent and somewhat more likely to be native born. So Des Moines may actually be functioning as a launch pad for some residents and an incubator for others.

Not all Des Moines residents are experiencing positive change, however. In particular, low-income immigrants appear to be less well served by the neighborhood. Churning movers have much lower incomes and are more likely to be immigrants than either the up-and-out movers or the stayers. Also, dissatisfied newcomers are more likely to be immigrants than are the positive newcomers.

These findings suggest the need to build on existing neighborhood assets, but to explicitly extend them to reach immigrants living in and coming to the neighborhood. Currently, these households appear substantially less engaged, less positive about what the neighborhood has to offer, and less stable. Because they are immigrants and are more likely to move frequently, they may be left out of community-building and resident-support networks. In addition, community-based work in such a neighborhood might help them retain connections with the up-and-out movers, effectively extending the network of engagement and support beyond the neighborhood boundaries.

### **A Neighborhood of Choice, but Few Gains for Low-Income Residents**

Denver's Making Connections neighborhood appears to be a neighborhood of choice. As shown in exhibit 10, the neighborhood's poverty rate is declining but not due to any gains among stayers. Among stayers, the poverty rate remains unchanged, but newcomers to the neighborhood are much less likely to be poor than movers. Movers include both up-and-out movers and churning movers. Denver is home to a core of attached elderly stayers, however, as well as many positive stayers.

Denver's positive newcomers have substantially higher incomes than any group of stayers or movers. They also have small households on average, with few children. The positive newcomers are more likely to be White, less likely to be Hispanic, and less likely to be immigrants than are movers. The neighborhood as a whole is not undergoing dramatic racial/ethnic change, but the differences between newcomers and movers will gradually make the neighborhood more affluent, with more White households and fewer children.

Finally, although roughly one-half of the newcomers to the Denver neighborhood are positive newcomers, a smaller but still substantial share is dissatisfied renters. These newcomers are much poorer, less likely to be working, more likely to be African American or Hispanic, and more likely to be immigrants. Moreover, Denver has a large group of long-term older stayers. These households have children, high rates of joblessness, and very low incomes. They are more likely to be African American or Hispanic than either the more affluent, positive stayers or the positive newcomers. Thus, at the same time that Denver is a neighborhood of choice, it also continues to serve a large population of needy households and can be characterized as moving toward a more diverse income mix.

Such neighborhood dynamics challenge community-based strategies to engage the positive newcomers, so that they may become active participants in making improvements that benefit residents who are still struggling economically. Many positive newcomers express strong attachment to the neighborhood and optimism about its future. Actively reaching out to them and involving them in ongoing community-building activities and social networks may enable a neighborhood like Denver's to capitalize on its resources and influence to the benefit of the neighborhood as a whole. Yet potential gains from these positive newcomers must be balanced against the risks of future displacement and efforts may be needed to preserve affordable housing and stabilize the income mix.

## **A Comfort Zone, Despite Worsening Economic Outcomes**

The Making Connections neighborhood in San Antonio corresponds closely to the model of a comfort zone. As exhibit 10 illustrates, economic outcomes are deteriorating in the neighborhood as a whole, both because stayers are getting poorer and because newcomers are worse off than movers. Although the rate of mobility is low, the neighborhood's total population is declining. A substantial share of movers is classified as churning movers, but the share of nearby-attached movers is also high, and most stayers are either positive and attached or long-term older stayers. In other words, many residents appear to be attached to and positive about the San Antonio neighborhood, although their economic outcomes are deteriorating.

Most of the San Antonio neighborhood's residents are Hispanic, and the Hispanic residents appear most likely to be attached to and positive about their neighborhood. More specifically, nearly all the neighborhood's stayers are Hispanic, as are the nearby-attached movers. In contrast, nearby-disconnected movers are nearly all African American.

These findings suggest that the San Antonio Making Connections neighborhood may function as a comfort zone for its Hispanic residents, although larger structural factors in the economy prevent much economic advancement. Hispanic residents appear to have established strong social networks and community activities that they enjoy and value. These neighborhood assets, however, may not be capable of compensating for low wages and insecurity in the entry-level labor market. These dynamics suggest that community-based initiatives may not always be able to tackle the larger barriers undermining residents' well-being, and that they need to work in concert with larger policy-change strategies designed to address structural challenges of employment and income.

## **A Trap, Despite a Big Drop in the Neighborhood Poverty Rate**

The Making Connections neighborhood in Louisville suffers from a higher rate of poverty than any other neighborhood. Although the poverty rate dropped 11 points during a 3-year period, the Louisville neighborhood continues to suffer from severe distress, and its dynamics correspond in many troubling respects to the hypothesized characteristics of an isolated neighborhood (exhibit 10). The neighborhood is losing population (in part because a large public housing development was demolished and will ultimately be redeveloped), and the decline in poverty is attributable to the loss of public housing residents. The poverty rate among stayers remained unchanged. Moreover, few movers are up-and-out movers, few newcomers are positive newcomers, and few stayers are positive stayers.

Despite this generally discouraging picture, a large share of the neighborhood's movers remains nearby and appears attached to the community. These nearby-attached movers appear slightly better off than the churning movers; they are a little older, are more likely to be employed, and have fewer children. Although the share of nearby-attached movers is high compared with that of the other Making Connections neighborhoods, in Louisville the much needier churning movers outnumber this group. The Louisville neighborhood is also home to a large group of older attached stayers. These families have lived in the community for a long time and are strongly attached to it. In Louisville, these older stayers typically have children but do not work and are extremely low income.

Given its current dynamics, the Louisville neighborhood might be experiencing a continuing downward spiral of poverty, disinvestment, and distress. At the same time, it might be a good candidate for equitable redevelopment strategies. Presumably, demolition of the public housing project is a first step toward developing new, higher quality housing that serves a wider mix of incomes (including public housing residents). Because the neighborhood has lost population, it should have room to grow by attracting new residents, without risk of displacement. The challenge will be to provide higher quality housing and neighborhood amenities that attract moderate- and middle-income households, while also providing the service and support that current residents need to increase their employment and earnings prospects. In particular, the neighborhood's long-term older stayers and its churning movers are extremely needy. A mixed-income redevelopment strategy probably would not help these families unless it is accompanied by tangible supports for both adults and children.

## **Summary, Limitations, and Implications for Community Initiatives**

The cross-neighborhood survey conducted as part of the Casey Foundation's Making Connections initiative provided a unique opportunity to explore the dynamics of residential mobility from the perspectives of both neighborhoods and families. Several important limitations of the study exist as well. The study neighborhoods are not a nationally representative sample but were deliberately selected for a community-change initiative and may differ from other low-income neighborhoods in important ways. Moreover, the neighborhood boundaries used in this analysis were defined by the stakeholders in the sites and do not necessarily agree with residents' neighborhood definitions (Coulton, Chan, and Mikelbank, 2011). In addition, the analysis of types of movers had to exclude households without children because no data exist on their move destinations. These households may have differed from movers with children in their reasons for moving or the outcomes of their relocation.

This analysis reinforces findings from past research about high rates of residential mobility, but it also offers new insights on patterns of mobility and their implications for neighborhood change in low-income communities located in 10 very different sites. Across all 10 neighborhoods, we found high rates of residential mobility. More than one-half of the households that lived in the neighborhoods at the time of the first survey wave had moved to a new address 3 years later. Although this finding is by no means new, its significance is frequently overlooked by community-based initiatives and local practitioners. Efforts to improve the well-being of families and children by strengthening conditions in poor neighborhoods cannot simply assume that families will remain in one place long enough to fully benefit. Many of the Making Connections movers remained nearby, however. These nearby movers may retain social connections from their original residential location and may still participate in activities and services there. This finding highlights an opportunity for community-based initiatives to continue serving families who move but remain nearby.

Moreover, our findings suggest that many of these nearby movers may need ongoing help. Nearly one-half of the Making Connections families who moved were classified as churning movers; they appear to be moving frequently, renting in different locations without establishing strong



neighborhood attachments. These families tend to be young and have very low incomes. This finding highlights the potential importance of housing assistance to community-based work. By reaching out to engage churning movers and helping them remain in place longer or by helping them move to opportunity neighborhoods, local initiatives could improve outcomes for these vulnerable families and their children.

A move, however, does not always signal problems. For a substantial minority of families, residential mobility represents a positive choice. Across the Making Connections neighborhoods, 3 of every 10 movers were up-and-out movers, often becoming homeowners in better neighborhoods where they were more satisfied and optimistic. In some cases, these up-and-out movers may simply be escaping from a bad environment; in other cases, their moves may reflect the success of community-based services and supports that have helped them obtain the resources they needed to advance.

High rates of residential mobility mean that measuring gross changes in neighborhood outcomes can be misleading. A decline in a neighborhood's poverty rate or an increase in its employment rate does not necessarily mean that the well-being of individual residents has improved. In fact, we find that neighborhood change is often the result of mobility—differences between the characteristics of movers and newcomers. In contrast, changes among stayers over a 3-year period, in general, are small. Efforts to strengthen neighborhoods should acknowledge both the slow pace of change among stayers and the role played by the continuous flow of households into and out of neighborhoods.

That outcomes improved only slowly, if at all, among families who stayed in the Making Connections neighborhoods does not mean that they stayed unwillingly—unable to escape to better neighborhoods. In fact, across the 10 Making Connections neighborhoods, close to one-half of all stayers were attached to their neighborhood and positive about their future. A smaller share of stayers was unambiguously dissatisfied with their neighborhoods, remaining in place primarily because they lacked viable alternatives.

Although it is instructive to classify low-income neighborhoods based on stylized models—incubator, launch pad, neighborhood of choice, comfort zone, and trap—the evidence from Making Connections teaches us that reality is far more complex. Although each Making Connections neighborhood roughly corresponds to one of these models, none of them performs in the same way for all their residents. All 10 have both up-and-out movers and churning movers, all 10 have both attached and dissatisfied stayers, and all 10 have both positive and dissatisfied newcomers. In other words, each neighborhood may be working in different ways for different residents. The goal of community-based initiatives should be to strengthen a neighborhood's performance for all its residents: supporting up-and-out movers while reducing churning, supporting the attached stayers while improving the choices available to dissatisfied stayers, and engaging with both positive and dissatisfied newcomers to draw them into neighborhood networks and supports.

In particular, residential churning appears to pose a significant challenge in all neighborhood types. This finding suggests that addressing “housing instability” should receive more attention in efforts to improve low-income neighborhoods. Vulnerable families need help along many dimensions (from job training to mental health services), but recent evidence on programs that serve chronically homeless people shows that addressing the housing instability first can make it

easier to deal with other challenges (Bratt, 2008; Lipton et al., 2000; Sussman, 2005; Tsemberis et al., 2004). Expanding the availability of high-quality affordable housing, preserving the current stock of moderately priced rentals (most of which receive no subsidy), and helping families apply for and use available housing assistance can all contribute to greater housing stability and reduce churning. In addition, programs that provide short-term emergency assistance to prevent eviction, foreclosure, or a forced move could help vulnerable families remain in place even when long-term housing assistance is scarce.

The evidence from the Making Connections neighborhoods also argues for flexible and fluid definitions of neighborhood boundaries. Instead of focusing exclusively on households living within a defined geography, neighborhood-based services and supports should provide continuity for nearby movers, so that families can remain part of the community and receive uninterrupted services even if they have to change their address. Similarly, community-building efforts should sustain connections with families who move, including those moving up and out, to broaden the social networks for those who choose to stay and for those relocating nearby.

Evidence and analysis from the Making Connections neighborhoods demonstrate convincingly that the dynamics of residential mobility and neighborhood change pose critical challenges for community-change initiatives. Policymakers and practitioners should avoid the mistake of seeing neighborhoods as static areas within which a population of residents waits for services, supports, or opportunities. Instead, community-based interventions must focus on the characteristics and needs of households moving through a neighborhood and of those of longer term residents. Also, it may be unrealistic for every neighborhood initiative to create an incubator for all residents. Neighborhoods can also serve their residents well by offering a launch pad to better environments and opportunities. Understanding how a neighborhood is functioning today may help in defining realistic goals for improving its performance over time.

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# Tracking Mobility at the Household Level

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## Abstract

*Considerable literature supports the desirability of studying individuals in the context of their immediate social unit, the household. Focused studies of household composition reveal that households in economically disadvantaged populations with low homeownership rates are particularly likely to experience additions, subtractions, and substitutions among members. This article examines the methodological challenges associated with defining, tracking, and explaining mobility at the household level. We describe a retroactive approach for linking individual household members across waves that was employed for the Making Connections survey, a cross-sectional and longitudinal study of 10 low-income urban communities. Our method involved comparing individuals at three different points in time using a combination of probabilistic matching software, data queries, and human review. The process produced personal identifiers that could be integrated with the household-level data to identify changes beyond numerical shifts in household size. We use the combined data to examine mobility across a gradient of stability in household composition. Our work advances past studies in two ways. First, our definition of adding or losing individuals is calculated based on the presence or absence of a specific person, rather than numerical change in the number of adults and children in the household. Second, we demonstrate a more comprehensive and nuanced understanding of household mobility by examining various types of change in household composition—gaining, losing, or replacing individuals, or being repopulated entirely with new occupants—in combination with physical relocation during a 6-year period. A series of maps compares the patterns of residential movement and household composition change within a specific territory.*

## Introduction

Considerable literature supports the desirability of studying individuals in the context of their immediate social unit, the household. This approach has only recently been embraced by demographers and other users of population and survey data in studies of residential mobility. In the opening to a special edition of *Population, Space and Place*, Cooke (2008: 1) applauded the emergence of a broader, more transdisciplinary perspective regarding family migration in the last decade, which “emphasizes the broader social and economic implications of family migration processes.” He observed that this shift, which geographers initiated, later spread to include economists and sociologists. Cooke suggests that much of the prevailing literature mischaracterizes migration as the behavior of an individual instead of being a family process. This lingering tendency, despite the increasing diversification of family types and new negotiations of work and domestic life in the United States (Geist and McManus, 2008; Thistle, 2006), bears marked consequences for the study of families living in poverty. Focused empirical work on household composition reveals that households in economically disadvantaged populations with low homeownership rates are particularly likely to experience additions, subtractions, and substitutions among members. Analysts have been constrained in their ability to systematically explore temporal changes in household composition using longitudinal data by relying on summary variables measuring major changes in the life course (for example, a birth), numerical change in household size (the “head count”), or marriage and divorce (du Toit and Haggerty, 2012). Thus, migration tends to be characterized as the movement of “an intact family unit from one location to another,” even in the emerging family migration studies (Cooke, 2008: 6).

This article examines the methodological challenges associated with defining, tracking, and explaining mobility at the household level. We attempt to build on the migration scholarship exploring the interaction of family events with migration events (see De Jong and Graefe, 2008) by outlining a methodological approach that further refines the former down to the level of the individual. We describe a retroactive technique that was employed after two waves of data collection for the Making Connections survey, a cross-sectional and longitudinal study of 10 low-income urban communities. Our method involved linking all individuals within the household at different points in time using a combination of probabilistic matching software, data queries, and human review. The process produced personal identifiers that could be integrated with the household-level data to identify changes beyond numerical shifts in household size. We used the combined data to examine residential mobility across a gradient of stability in household composition. Our work advances past studies in two ways. First, our definition of adding or losing individuals is calculated based on the presence or absence of a specific person, rather than on numerical change in the number of adults and children in the household. Second, we demonstrate a more comprehensive and nuanced understanding of household mobility by examining various types of change in household composition—gaining, losing, or replacing individuals, or being repopulated entirely with new occupants—in combination with physical relocation during a 6-year period. A series of maps compares the patterns of residential movement and household composition change within a specific territory.



## Literature Review

Residential mobility, which has been shown to affect economic and social well-being, has been studied intensely by demographers, sociologists, economists, and geographers. Relocation data may be analyzed to help situate the experiences and perceptions of individuals reported in a survey in a particular geographic context, nested within his or her household. From the perspective of survey operations, changes in residential address increase the complexity and expense of panel studies. For responding households, however, a residential move is symptomatic of a major life change, complete with the challenges associated with adjusting to a new set of neighbors and decisions about where to go for basic services and amenities. Scholars across disciplines have debated the potential motivations for migration but seem to agree that the risks of instability associated with relocation in the short term (if not also in the long term) merit focused study. In his seminal article, “Bowling Alone,” Putnam (1995: 75) wrote, “Mobility, like frequent re-potting of plants, tends to disrupt root systems, and it takes time for an uprooted individual to put down new roots.”

### Space/Place

Numerous studies on space/place, residential mobility, and race and ethnic relations have demonstrated that where one lives has consequences for social and economic well-being. Massey and Denton’s landmark book, *American Apartheid: Segregation and the Making of the Underclass* (1998), convinced many American social scientists that residential segregation limits opportunity and perpetuates the impoverishment of African Americans. Mary Pattillo-McCoy’s (1999, 2007) ethnographic work in middle-class Black communities reveals how neighborhood context shapes individual experiences of race and class. These authors draw heavily on the foundations of the Chicago School of Sociology, centered at the University of Chicago in the early 20th century, which emphasized using ecological approaches to investigate the dynamics of social boundaries across space. Another body of scholarship has focused on the Gautreaux Assisted Housing Program (1976 to 1998), which inspired the relocation of public housing residents from racially segregated areas with concentrated poverty to communities with greater affluence and better resources. Research by Rubinowitz and Rosenbaum (2000) suggests that moving to suburban neighborhoods positively affects educational and employment outcomes among youths whose families moved during the 1980s as part of the Gautreaux Program. These studies have established the need for systematic investigation of the neighborhood-, household-, and individual-level factors that constrain or promote geographic mobility.

### Factors Influencing Residential Mobility

Different populations move at different rates. Between 2007 and 2008, only 12 percent of Americans changed residences—the lowest percentage on record (Cohn and Morin, 2008). Following the economic downturn of 2008, the 2009 rate was slightly higher: 15 percent of Americans were found to have moved in the previous year. This higher rate raises questions about the effect of the downturn among families living in disadvantaged neighborhoods, which generally experience higher rates of mobility (Coulton et al., 2009).

Attempts to isolate the factors influencing residential mobility have produced mixed results. In terms of socioeconomic status, recent reports attribute declines in migration partly to a rise in dual-career

households but observe that movers today—particularly those who move to a new town or city—are likely to be college-educated and/or pulled by job prospects (Cohn and Morin, 2008). Conversely, South and Crowder (1998b) found that, although higher incomes are associated with a lower propensity to end up in a poorer neighborhood among single mothers who move, none of the following variables produced a statistically significant influence: education, employment status, and receipt of benefits from the now-defunct Aid to Families with Dependent Children (AFDC). Another area of interest pertains to life-cycle characteristics. South and Crowder (1998a) found that residential mobility is lower among married and older people, homeowners, and families with children. Longitudinal data from the Panel Study of Income Dynamics (PSID) provide evidence that divorce among parents increases the probability that children will move to a new neighborhood, and that receiving neighborhoods tend to be significantly poorer for children with divorced parents than for children with stable two-parent families (South et al., 1998). Cohn and Morin’s analysis of reasons for living at a current residence supports the expectation that family stability and “staying put” will be correlated; they indicate from their review data from a 2008 Pew Research survey of 2,260 adults that stayers most often report “the tug of family and connections” (Cohn and Morin, 2008: 3). Other social factors, including the race and ethnicity of both the household and neighborhood, have been found to affect migration patterns even after adjusting for other characteristics (South and Crowder, 1998a). The sum of these findings suggests that mobility comprises a complicated set of behaviors that are influenced by a number of primary and intermediary factors.

### **Administrative Challenges for Longitudinal Studies**

Mobility is a major concern for collecting survey data, because it threatens to introduce coverage bias in the results. Tracking individuals from known to unknown locations brings logistical challenges and additional cost (Ansolabehere and Schaffner, 2010; Marshall and Bush, 2010). Survey data collection at the household level proves especially challenging for longitudinal studies, because changes may occur due to births, deaths, marriages, divorces, children leaving home, imprisonment, and countless other situations (Duncan and Hill, 1985; Marshall and Bush, 2010). To define the “household” as a specific combination of individuals is thus inappropriate, leaving most with the option of prioritizing one individual and considering those found to be living under the same roof to comprise a household. Many studies begin by selecting the “head of household” as the respondent and tracking the head and his or her cohabitants over time and space. This definition provides a clean methodological solution but can lead to ill-fitting interpretations in the event that some household members remain constant while others leave, join, or are replaced, and the dynamics among individuals shift. An additional factor pertains to differences in the interpretation of the question, “Who (else) is living here?” (Marshall and Bush, 2010; Martin, 1999). For example, in the Making Connections survey, interviewers were instructed to clarify that individuals who were incarcerated at the time of the interview should be included in the household but adult children living in noninstitutional housing away at school, such as an apartment, should not be included. These guidelines are intended to ensure systematic data collection, but they may not be entirely in sync with every respondent’s understanding of his or her household. It is possible that individuals who play an important positive or negative role in the respondent’s support network might be omitted under these definitions, or that someone who contributes little or not at all to the daily experiences of the household may be included.

Knowing about changes in household composition is important when seeking to understand patterns of change within a population (Laurie and Sullivan, 1991). Some panel surveys build into the initial study design a method for producing unique personal identifiers so that, as the data are collected, matches are established and subsequent individual links are possible across waves (for example, National Survey of Families and Households; National Longitudinal Survey of Youth, 1997; Living in Ireland Survey). Marshall and Bush (2010) point out that, although identifying households as the unit of analysis in cross-sectional research is straightforward, this straightforward approach is not the case in longitudinal studies. The inevitable changes in household composition pose a considerable challenge to following households over time. The Panel Study of Income Dynamics (Duncan and Hill, 1985) found that, after 1 year, 22 percent of households had some compositional change, after 5 years compositional change grew to 55 percent, and after 15 years it grew to 88 percent (Laurie and Sullivan, 1991). “A system (for creating unique personal identifiers) that is foolproof and straightforward is critical, so as to avoid any possibility that data can become mixed from individual to individual over different waves” (Marshall and Bush, 2010: 67).

Scientific and operational variations, as well as some similarities, exist among studies that track household composition. The National Survey of Families and Households uses a national multistage area probability sample. The survey collected data about the composition of families, family background, and the relationship of household members to each other, including marriage, separation, and divorce histories and adoption, child custody arrangements, and stepfamily relations. To facilitate the examination of family household composition and changes over time, the study assigned a unique household identifier to each member of a household. The sample for the Living in Ireland Survey was drawn from voter registration records; however, all members of a household in which a sample member lived were assigned a unique identifier, and, in subsequent waves, an attempt was made to reinterview all household members. This list included those who moved and those who were newly added to an existing household. The movers kept their original identifiers, and all the people living in their housing unit were interviewed and assigned a unique identifier. The National Longitudinal Survey of Youth 1997 (NLSY97) sample is designed to represent U.S. residents in 1997 who were born during the years 1980 through 1984. The household roster section collected information on all members of a respondent’s household, and the nonresident roster portion gathered data on those members of the respondent’s immediate family (for example, parents, siblings, spouse, or children) who lived elsewhere. For each household resident or nonresident relative, those rosters collected demographic information, marital status, educational attainment, and employment status. All household members were assigned a unique household identifier. Finally, the initial sample for the Panel Study of Income Dynamics (PSID) consisted of two independent samples: a cross-sectional, national sample (based on stratified multistage selection of the civilian noninstitutional population of the United States) and a national sample of low-income families. Both samples are probability samples. Although these studies have significant differences in sample design and survey content, each keeps track of household members to allow for the measurement of changes in household composition over time.

## Current Study

In this article, we describe the methodological challenges associated with defining, tracking, and explaining residential mobility at the household level. Our data are derived from the Making Connections survey, a study of a multisite initiative designed to improve conditions in low-income urban communities. We endeavor to improve on past studies by approaching mobility as a dynamic family process. We use Geographic Information System (GIS) software to track the movement of respondents within and around low-income neighborhoods in U.S. cities from 2002 to 2011. We combine the geographic data with measures of household composition change to illustrate and argue for a two-dimensional approach to studying mobility.

## Data

The data for this analysis are derived from the Making Connections survey (<http://mcstudy.norc.org>), a longitudinal and cross-sectional study conducted in 10 low-income neighborhoods across the United States. The survey aimed to gather household- and community-level data to inform program planning and was part of a larger initiative funded by the Annie E. Casey Foundation. The neighborhoods are located in inner-city areas within metropolitan Denver, Colorado; Des Moines, Iowa; Hartford, Connecticut; Indianapolis, Indiana; Louisville, Kentucky; Milwaukee, Wisconsin; Oakland, California; Providence, Rhode Island; San Antonio, Texas; and Seattle, Washington. The demographic and socioeconomic characteristics of the survey neighborhoods vary considerably. For example, the Denver neighborhood is home to large Latino and foreign-born populations with predominate origins in Mexico and Vietnam. Most are renting and display high residential mobility, including considerable long-distance movement (Bachtell and Latterner, 2011). San Antonio is distinct in that it is almost exclusively Hispanic (90 percent), and respondents report low levels of education (45.6 percent of respondents had less than a high school diploma) and low household incomes (with a median of \$18,000). Despite these differences, the sites share three main similarities: they all are located in urban sectors of metropolitan areas, are economically disadvantaged, and are the focus of local community outreach efforts funded in part by the Annie E. Casey Foundation.

NORC gathered baseline survey data between 2002 and 2004 in the 10 sites listed in the previous section, and a first followup effort (wave 2) was completed between 2005 and 2007 at each site. Between 2008 and 2011, NORC completed a second round of followup interviews (wave 3) in 7 of the 10 sites. Interviews for the Making Connections neighborhood surveys were executed in roughly 3-year intervals using a paper-and-pencil questionnaire. The main questionnaire topics include neighborhood connections, community involvement, civic engagement and volunteerism, employment, and income and assets. In addition, a separate set of questions were devoted to the experiences of children living in the household, including topics about childcare arrangements, schooling, participation in extracurricular activities, and health.

The Making Connections survey design is unique because it combines cross-sectional and longitudinal (panel) methodologies. In each wave, NORC employed area probability sampling techniques to select a random set of addresses representative of each target neighborhood. In households with children, interviewers randomly selected one child to be the focal child and chose the parent or guardian who knew the most about the focal child to be the respondent (meaning the selection of the adult respondent was not random, although that of the focal child was random). In adult-only

households, the focal child selection process was omitted and one adult was randomly chosen to be the respondent. In waves 2 and 3, interviewers revisited these sampled addresses in person or by telephone with the goal of collecting data with the current occupants, whether or not they were interviewed in the past. Many times, the occupants had not changed. Other times, new people were found to have moved in. NORC also subsampled new addresses at the start of each followup effort to include buildings that were constructed since the previous wave. This methodology yields a cross-sectional snapshot of neighborhood residents at different points in time. Making Connections is also longitudinal, because NORC (1) reinterviewed families who remained at sampled addresses within target neighborhoods and (2) tracked families with children who moved to a new address either inside or outside of the neighborhood.

A primary benefit of the Making Connections data is that detailed information regarding occupants was gathered in a household roster at three points in time, including the age, sex, and relationship of each person to a focal child in all waves. In waves 2 and 3, interviewers also gathered the relationship of each person to the respondent. A few limitations must also be acknowledged. First, the 7 sites included in our analysis are not representative of poor urban communities nationwide. The Annie E. Casey Foundation, with assistance from local leaders, selected the neighborhoods used for the survey based on the presence of existing grassroots or community organizations whose missions were consistent with the objectives of the Making Connections initiative. It is possible that disadvantaged communities in other cities may demonstrate different patterns of mobility. Similarly, as with any longitudinal study, unmeasured differences due to sample attrition may exist; that is, differences may exist among households that did not participate in later waves of the survey that are not captured in our data.

A final difference between Making Connections and other studies that measure household change in composition, which may also be considered a limitation, pertains to the method by which people were linked across waves. Unlike the National Survey of Families and Households, Living in Ireland Survey, and others mentioned previously, the Making Connections survey design did not include a feature to assign personal identifiers at the time of each interview. After the third wave of data were collected, the research team discussed the importance of understanding household composition down to the individual level and decided to undertake a retrospective matching of people across all three waves of the survey.

## **Methods**

### **Matching People**

In the spring of 2010, NORC developed a detailed process for reviewing the household rosters from all waves completed to date and matching individuals over time. We began the people-matching process by building a dataset, which included information about every individual found in an interviewed household in every site in each of the three waves. We then used Link Plus—probabilistic record linkage software—to compare the names of individuals across waves, identified matches, and generated a unique personal identifier (“PERSONID” hereafter) with a comprehensive list of individuals found in each wave. The PERSONID was set to equal the original household ADDRESSID—an 8-digit number associated with a sampled address inside the Making Connections target neighborhoods—followed by a unique alphabetical letter. We set the parameters for matching based first

on character strings within the first name field, then two numeric fields: age (adjusted for a standard number of years in between waves of data collection) and sex (dummy coded, with 0 = female and 1 = male). The software reports a confidence score for each match—that is, an indication of how likely it is that the individual matched as a pair across records actually represents the same person. Exhibit 1 provides an example of the PERSONID assignment for one fictional linked household, identified with the ADDRESSID of the original household (91105820). In the example, two of the three individuals remain present in all three waves—Clara and Edward, Jr. (91105820A and 91105820C, respectively). The father, Edward, was present in waves 1 and 2 but absent in wave 3. Note that each individual preserves his or her PERSONID across waves.

**Exhibit 1**

**Example of PERSONID Assignment by Link Plus Software for 91105820<sup>a</sup>**

PERSONID	Letter	ADDRESSID	Wave	MOVEID	First Name	Age	Sex	Roster
91105820A	A	91105820	1	NA	Clara	42	F	Adult
91105820B	B	91105820	1	NA	Edward	41	M	Adult
91105820C	C	91105820	1	NA	Edward, Jr.	11	M	Child
91105820A	A	91105820	2	Stayer	Clara	46	F	Adult
91105820B	B	91105820	2	Stayer	Edward	46	M	Adult
91105820C	C	91105820	2	Stayer	Edward, Jr.	14	M	Child
91105820A	A	91105820	3	Stayer	Clara	49	F	Adult
91105820C	C	91105820	3	Stayer	Edward, Jr.	17	M	Child

NA = not applicable.

<sup>a</sup> Names and other information have been edited to protect participants' confidentiality.

Roughly one-half of households with children in the Making Connections sample were found to have moved between each wave. In these instances, the original households were deemed to have “spawned” a “new household,” because interviews were attempted both at the new residence of the focal child selected in the previous wave (the “mover”) and with the new occupants of the focal child’s previous address (the “new household”). Movers and new households inherit the ADDRESSID associated with the original household (91105820 in this case), but the fourth digit of their ADDRESSID is adjusted to signal the movement of the focal child and the change in occupancy at the sampled address (without the focal child), respectively. The labels associated with this fourth digit, the MOVEID, are shown in the fifth column. In exhibit 2, we continue the example of the linked household from exhibit 1 but demonstrate the identification of the Rodriguez family as “movers” and the spawning of a new household in wave 3. In this alternative scenario, data were collected in the final wave of the survey from both the Rodriguez family at their new home and an elderly man named John who had moved into the Rodriguez’s previous home. Note that the link between all individuals in all waves (what makes this a “linked household”) is established with the first eight digits of the PERSONID, the ADDRESSID of the original household.

Further details about the sample design and spawning logic are available at <http://mcstudy.norc.org/study-design/>.

A small team of coders then imported the output from Link Plus into a customized Microsoft Access database for review and editing. NORC designed a form to display the roster data from all waves for each household affiliated with a given baseline address on one screen (a “linked

**Exhibit 2****Example of PERSONID Assignment by Link Plus Software With Spawning for 91105820<sup>a</sup>**

PERSONID	Letter	ADDRESSID	Wave	MOVEID	First Name	Age	Sex	Roster
91105820A	A	91105820	1	NA	Clara	42	F	Adult
91105820B	B	91105820	1	NA	Edward	41	M	Adult
91105820C	C	91105820	1	NA	Edward, Jr.	11	M	Child
91105820A	A	91105820	2	Stayer	Clara	46	F	Adult
91105820B	B	91105820	2	Stayer	Edward	46	M	Adult
91105820C	C	91105820	2	Stayer	Edward, Jr.	14	M	Child
91105820A	A	91125820	3	Mover	Clara	49	F	Adult
91105820B	B	91125820	3	Mover	Edward	49	M	Adult
91105820C	C	91125820	3	Mover	Edward, Jr.	17	M	Child
91105820D	D	91145820	3	New HH	John	75	M	Adult

HH = household. NA = not applicable.

<sup>a</sup> Names and other information have been edited to protect participants' confidentiality.

household" hereafter). To minimize the risk of misrepresenting a given household as a stable unit or missing an important change among specific members over time, NORC reviewed 100 percent of the linked households.

We isolated patterns among the tough-to-code records and made adjustments to streamline the review process. We increased the confidence threshold for accepting matches identified by Link Plus. False positives proved to be fairly common among very large households and those in which several family members had similar-sounding names (for example, "Marcela" and "Marcy") or an adult and child shared a name (for example, Frank and Frank, Jr.). Minor spelling and keying errors contributed to the false positive rate as well. These challenges were exacerbated among Hispanic households by inconsistent recording of matriarchal and patriarchal surnames. After an initial review, between 5 and 10 percent of the linked households were selected for a secondary review. A final set of quality checks was performed using a series of Microsoft Access queries and Microsoft Excel.

The end product was a person-level data set in which every individual ever found in a surveyed household across all waves occupied a row. The ADDRESSID was included at each wave to provide a link between a given individual and the household survey data to which it should be associated. Also included were fields indicating the individual's age, sex, and position on the household roster at each wave. These fields facilitated the linkage between the person- and household-level survey data and facilitated the aggregation of the former, which would be required for developing more sophisticated measures of household composition change.

**Geographic Analysis**

We constructed an address-level dataset to investigate geographic patterns of movement among households that participated in the final wave of the survey. The 7 sites represented are Denver, Des Moines, Indianapolis, Louisville, Providence, San Antonio, and White Center (near Seattle). The dataset contains addresses from four different sources. Three of the sources are derived from the household address reported by the respondent at the end of the wave 1, wave 2, and wave 3



interviews. The fourth source could include up to six additional addresses that represent the places where the respondent lived in between waves 2 and 3 of the survey (or more precisely, since Thanksgiving of 2005 and the date of the wave 3 interview). These six addresses were reported retrospectively during the wave 3 interview and are thus referred to as the “retrospective addresses.” Each set of addresses was then interactively geocoded using MapMarker Plus 24.1. The combined dataset includes 15,077 addresses from the wave 1, 2, and 3 series and 2,966 retrospective addresses, for a total of 18,043 addresses. The coordinates from the 18,043 addresses were then transposed in SAS to create a file with longitude and latitude coordinates for each address by the wave 3 case identifier. This approach resulted in a dataset with nine sets of coordinates for each wave 3 household, including a set of coordinates for each of the three waves and up to six retrospective addresses.

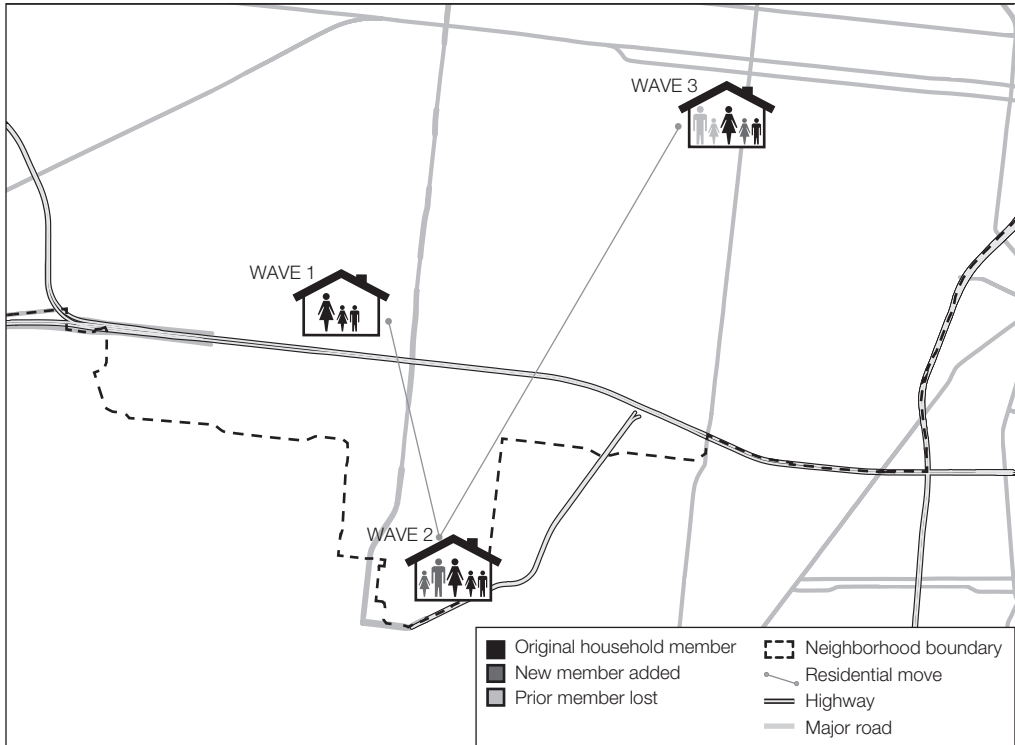
In the interest of maintaining a clear methodological focus, in this article we include maps showing mobility in only one site, San Antonio. A few unique characteristics of West Side, the San Antonio survey neighborhood, are worth noting. First, West Side is the largest of the 10 Making Connections-defined survey neighborhoods; it covers 24.4 square miles compared with an overall median of 4.9 miles for the 10 sites (see Coulton et al., 2009: appendix A). Second, the population is almost exclusively Hispanic (with predominate origins in Mexico) and U.S. born. At the city level, Hispanics comprise most of the population, 63 percent, and 46 percent of people age 5 and older speak a language other than English at home (2010 census). These characteristics are greatly exaggerated in West Side, where 89 percent of wave 3 survey respondents self-identified as Hispanic or Latino. Third, the San Antonio site has a high rate of homeownership: 61.3 percent of residents living in census tracts within the survey neighborhood were homeowners, based on American Community Survey 2005–2009 tract-level estimates. Many families who would be priced out of suburban areas are able to afford homes in West Side because of the availability of an ample stock of small, single-family bungalows built before the 1970s. The diverse social, economic, and spatial characteristics of the other 6 sites may yield different patterns of movement that merit separate study.

After geocoding the addresses, we used MapInfo Professional 11.0 to create points out of the coordinates and lines to connect each of the points for each household. This approach resulted in the creation of 45,664 lines, which were then combined into a single file with 2,979 lines representing the moves of individual households over 6 years. Exhibit 3 depicts an example based on real data of a household that was found at three different addresses during the study period. The small dots represent the physical location of the residence at each wave and the person figures inside the houses represent the household composition. Those figures appearing in black represent people who were part of the original household at wave 1. Those figures appearing in dark gray represent individuals added following wave 1 and those figures appearing in light gray are previous members of the household who were lost or who were not present in a later wave. This example demonstrates the importance of linked-person identifiers for measuring compositional change because, if we were to rely solely on variables indicating the number of children in the household, those present at waves 1, 2, and 3 would appear to have remained stable. The linked-person data make it possible to detect the replacement of one child from the original household with a new child at wave 3. Aside from these “mover” households, 2,729 households reported no change of address during the 6-year period and thus are represented in proceeding maps with a single point and no connecting lines.



### Exhibit 3

#### Example of Linking Households to Track Residential Movement and Composition Change



### Household Composition Change Analysis

In addition to constructing and analyzing the geographic data, we constructed a series of flags using the linked-person data for the 7 sites that participated in wave 3. The flags enable us to distinguish among households with stable membership over time; those that experienced one or more additions, subtractions, or substitutions of an individual; and those in which the initial residents were entirely replaced by a new set of occupants at up to two points in time (waves 2 and 3). We also calculated continuous measures summarizing the total number of adults and children who were added to and subtracted from the household between waves 1 and 2, 2 and 3, and 1 and 3. These calculations reflect not simply numerical change in the household size, but also the presence or absence of each individual household member in each wave. The maps and tables in the following section report findings from the combined geographic and household composition change data.

## Findings

In the following discussion, we use “residential movement” to refer to the geographic relocation of a household from one address to another. We use “household composition change” to account for the addition or subtraction of at least one member between two points in time. We argue that this

latter phenomenon represents an important, if often neglected, aspect of mobility—the transfer of individuals into and out of households. Note that our definition of compositional change is restricted to the addition, subtraction, or replacement of one or more individuals. We do not include natural changes, including the birth of a child to the respondent, minor children moving from the child roster to the adult roster in a later wave, or teenagers age 15 or older leaving the household.

The exhibits in this section display geographic data from sample members in San Antonio. Tables are labeled to distinguish between results for all 7 sites and those only for San Antonio. The results reported in tables are unweighted. Unless otherwise noted, we restrict our analyses to households with one or more children. We again use this distinction to maintain a clean methodological focus on the different measurements of mobility. Adult-only households were not tracked to new locations under the Making Connections sample design. By examining only households with children, we ensure that all observations will have had the same opportunity to change residences and be followed over time. We also omit the retrospective addresses collected at wave 3, representing places where the respondent had lived since Thanksgiving of 2005 to allow for more straightforward comparisons between the geographic and household composition data available for each household. Although the respondents were asked to report up to six retrospective moves, the detailed household roster information was gathered only at the time of the wave 1, 2, and 3 surveys.

## **Residential Movement Among Sample Members**

Residential movement among Making Connections households is frequent, as is commonly observed in populations with high percentages of lower income minority groups and renters. Data from the 2008 Current Population Survey suggest that the percentage of individuals who moved in the previous year was more than five times higher among occupants of rental units compared with those in owner-occupied units (Ruggles et al., 2010). In administering the wave 2 Making Connections survey, NORC found that more than one-half (55 percent) of all households and 61 percent of households with children had moved since wave 1 (unweighted). These moves tended to be short distance: the median distance for all completed child “movers” at wave 2 was 2.4 miles, and 32.6 percent remained in the target Making Connections neighborhoods. The findings in sites like Louisville reflect the situation of residents living in public housing developments undergoing relocation as part of the HOPE VI Program’s relocation effort. The demolition of several of these developments contributed to a movement rate of 67 percent among all households and 78 percent among households with children. In addition, individual sample members—particularly children—sometimes returned to previous addresses after moving away. In between waves 2 and 3, 43 percent of respondents in Denver, Des Moines, Indianapolis, San Antonio, and White Center (Seattle) reported having moved at least once in the retrospective address series (Bachtell and Latterner, 2011). San Antonio had the lowest percentage of respondents reporting at least one retrospective address among 5 sites. Only 37.4 percent of San Antonio respondents had moved in the past 3 years, and, among those who had moved, relocation from outside the county was extremely rare (2.4 compared with 11.5 percent among the 5 sites). Also, despite the proximity of San Antonio to Mexico and the predominance of Hispanics in the survey sample, transnational migration accounted for less than 1 percent of the retrospective moves reported by San Antonio respondents in wave 3.

Exhibit 4 displays all residential moves among households with children during the 6-year period, including potential relocation at waves 2 and 3, for households in San Antonio. Each gray line beginning and ending with a small dot represents the path between one address and another for a given household. These lines are connected to show multiple moves made by the same household. The survey neighborhood boundary is shown with black dashes, and highways and major roads are shown with double black and thick gray lines, respectively. This map makes evident the frequent relocation of households within the survey neighborhood, West Side.

#### Exhibit 4

##### Residential Moves Among San Antonio Households With Children Over a 6-Year Period



Exhibit 5 reveals that composition changes were far more commonly observed than residential moves among San Antonio households with children over a 6-year period (81.4 and 46.7 percent, respectively). As mentioned previously, our definition of compositional change does not include natural changes, including the birth of a child to the respondent, a minor child moving from the child roster to the adult roster in a later wave, or a teenager age 15 or older leaving the household. An important caveat is that differences in the sample sizes for the various household panels (households with children, households without children, movers, stayers, and so on) may account for some of the magnitude of the compositional change percentages, particularly in the wave 1-wave 3 comparisons. It is possible that those households that could not be located or refused to participate in followup waves of the survey were somehow different from those that were successfully interviewed as part of the wave 1–2, wave 2–3, and wave 1–2–3 panels in terms of household composition. In exhibit 5, we also report the incidence of compositional change among households without children to put

in context the mobility patterns of this subgroup relative to the full sample. We find that households with children in West Side are far more likely to undergo compositional changes than adult-only households. Returning to only families with children in exhibit 6 (and in subsequent exhibits), we find that 44.1 percent of San Antonio households moved one or more times during the 6-year period. Of those households, 26.0 percent moved only once and 18.2 percent moved two times.

**Exhibit 5**

**Residential Movement and Composition Change Among San Antonio Households<sup>a</sup> Over a 6-Year Period**

Type of Change	Households With Children		Households Without Children	
	N	%	N	%
Total at wave 1	533	100.0	132	100.0
Residential movement	249	46.7	NA <sup>b</sup>	NA
Composition change	434	81.4	67	50.8

NA = not applicable.

<sup>a</sup> Includes only households that were interviewed at wave 1 and wave 3.

<sup>b</sup> As part of the sample design, only households with children were followed to new locations in followup waves of the survey.

**Exhibit 6**

**Residential Movement Among San Antonio Households With Children Over a 6-Year Period**

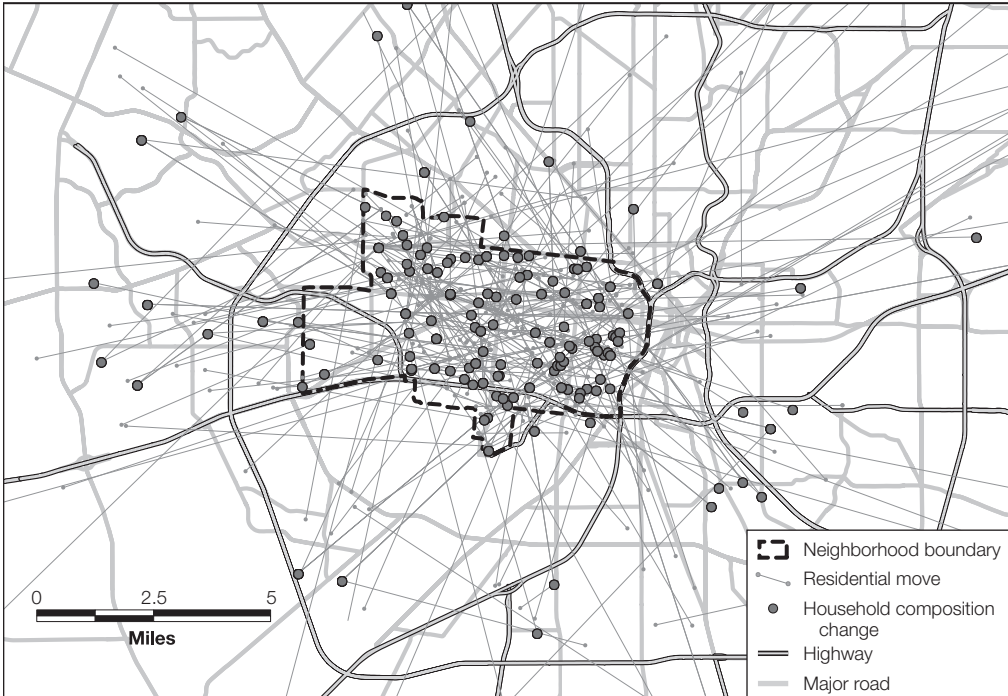
Number of Moves	N	%
None	366	55.9
One	170	26.0
Two	119	18.2
<b>Total</b>	<b>655</b>	<b>100.0</b>

Note: Includes households that were interviewed in wave 3 and any combination of waves 1 and 2.

**Residential Movement and Household Composition Change**

In the next series of maps, exhibits 7 and 8, we demonstrate the distinction between residential movement and household composition change using spatial markers. We again display residential moves among San Antonio residents with children and add a layer to show the locations at which households experienced a change in composition. Exhibit 7 displays the two distinct aspects of mobility over a 3-year period, between waves 1 and 2. Exhibit 8 extends the period to 6 years, between waves 1 and 3.

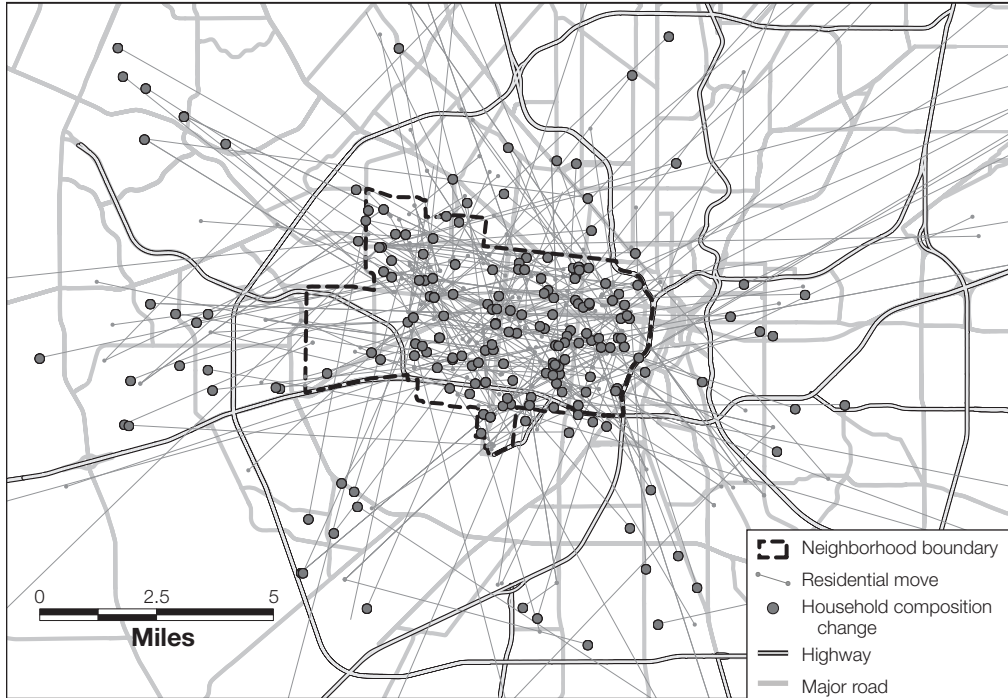
Exhibit 8 reveals that, although residential movement in San Antonio is concentrated within the survey neighborhood, over the 6-year period we see both a slight increase in families experiencing household composition change (87.1 percent between waves 1 and 3 compared with 81.2 percent between waves 1 and 2; see exhibit 9) and the dispersion of the addresses at which this change occurs among households in the wave 1–3 panel. More families who moved at least once during the 6-year period are also experiencing a “shuffling” of individuals in and out of the household. As shown in exhibit 9, families who move are on average 9.4 percent more likely to have undergone a compositional change across the three periods (wave 1 to 2, wave 2 to 3, and wave 1 to 3) than families with no moves.

**Exhibit 7****Residential Moves and Household Composition Change Among San Antonio Households With Children Between Waves 1 and 2 (3-year interval)**

Before performing the linkage of people to create the PERSONID data, the mobility of Making Connections households was tracked using a “MOVEID” variable that was captured at the time of each interview. The MOVEID data enable us to evaluate the effect of adding household composition change as a second component of mobility beyond residential movement. Households were classified as “stayers,” “movers,” “new households” (or “in-movers”), “aged-out movers,” and “fresh cases.” Stayers can be described as the original household (although certain compositional changes are possible) at a sampled address. These classifications were depicted in the example shown in exhibit 1. Movers were identified when the family associated with a previous wave focal child moved to a new address, and the focal child remained under age 18 (see example in exhibit 2). Conversely, aged-out movers were identified when the family associated with a previous wave focal child moved to a new address and the focal child turned age 18 or older. New households (or “in-movers”) represent different people living at a sampled address than those who had lived there in the previous wave (again, see example in exhibit 2). Finally, fresh cases include the occupants of recently constructed or renovated buildings. The important distinction for the present analysis is between stayers and movers. All households identified in the latter group will have undergone residential movement, defined by the physical location of the focal child at each wave. They may also have experienced a departure of one or more household members, an addition of a new person or set of people, or both a departure and an addition, but these changes are not captured in the MOVEID. As reported in exhibit 10, using this one-dimensional approach, we find

**Exhibit 8**

**Residential Moves and Household Composition Change Among San Antonio Households With Children Between Waves 1 and 3 (6-year interval)**



**Exhibit 9**

**Household Composition Change Among San Antonio Households With Children Over a 6-Year Period**

Change Over Time Period	No Moves		One or More Moves	
	N	%	N	%
<b>Waves 1 to 2</b>				
Total at wave 2	273	100.0	234	100.0
Composition change between waves 1 and 2	178	65.2	190	81.2
<b>Waves 2 to 3</b>				
Total at wave 3	344	100.0	258	100.0
Composition change between waves 2 and 3	223	64.8	171	66.3
<b>Waves 1 to 3</b>				
Total at wave 3	284	100.0	249	100.0
Composition change between waves 1 and 3	217	76.4	217	87.1



**Exhibit 10****Comparison of One and Two-Dimensional Approaches to Mobility—Percentage of Households With Children Defined as Experiencing Mobility (7 sites)**

	Waves 1-2		Waves 2-3	
	N	%	N	%
One-dimensional—using only residential movement to define mobility	1,817	62.6	2,354	64.6
Two-dimensional—using residential movement and composition change to define mobility	2,320	79.9***	2,851	78.3***
Missed mobility when employing one-dimensional approach	503	17.3	497	13.6

\*\*\* $p < 0.001$ .

Notes: The numbers for waves 1-2 and waves 2-3 are 2,904 and 3,643, respectively. Significance testing was performed using a one-sample binomial test to assess whether the proportion of households defined as mobile under the two-dimensional approach significantly differs from the proportion defined as such under the one-dimensional approach (0.626 and 0.646 for waves 1-2 and 2-3, respectively).

that 62.6 percent of households with children in our analytic sample from 7 sites between waves 1 and 2 and 64.6 percent of households with children between waves 2 and 3 are classified as having experienced mobility. In the second row, we report the percentage of households with children who are classified as mobile after we combine this information with a measure of composition change. Households that changed residences, changed individuals, or changed both are counted in the second row. Of households with children between waves 1–2 and 2–3, 79.9 and 78.3 percent, respectively, are found to be mobile, using this two-dimensional approach. A binomial test confirms that the differences between these two proportions in each period are statistically significant. When employing the one-dimensional definition of mobility, we fail to account for an additional 17.3 and 13.6 percent of households between waves 1–2 and 2–3, respectively, that experienced a change in composition.

Exhibits 11 and 12 demonstrate the differences in the aggregate sum of residential movement and household composition change over 6 years at the census tract level. In exhibit 11, tracts are shaded to show the percentage of households with children that relocated one or more times during this period. In exhibit 12, tracts are shaded to show the percentage of households with children that underwent any form of compositional change. Households experiencing each type of change were added and then divided by the total number of sampled households residing in a given census tract at wave 1. The increase in the tracts with percentages in the highest category (75 percent or more) and the overall “darkening” of the neighborhood in exhibit 12 support the depiction of households as dynamic collections of individuals and highlight the degree of individual turnover occurring among families in West Side.

Exhibit 13 presents the type of compositional change over time among households with children. The columns to the right isolate the change among only stayers and movers, as defined by the MOVEID variable that was maintained during data collection to assess the movement history of each household. Note again that the sample design for Making Connections requires that households include one or more children to qualify as a mover. These two groups, stayers and movers, are combined in the “All” column. We do not report changes between waves 1 and 3 because the

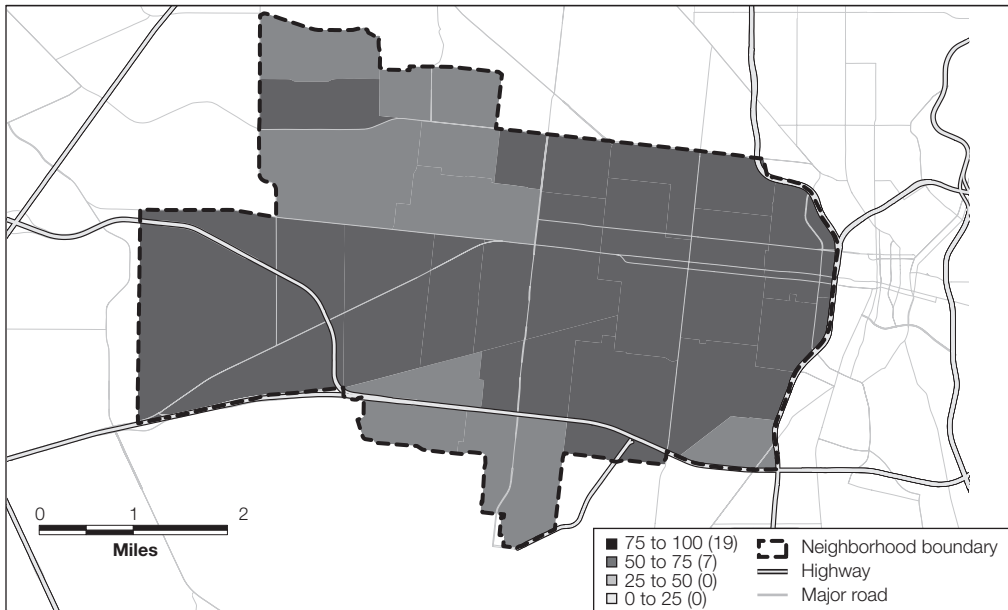
**Exhibit 11**

Percent of San Antonio Households With Children Experiencing Residential Moves Over a 6-Year Period: Aggregate for Census Tract Based on Wave 1 Address



**Exhibit 12**

Percent of San Antonio Households With Children Experiencing Household Composition Change Over a 6-Year Period: Aggregate for Census Tract Based on Wave 1 Address





**Exhibit 13****Type of Composition Change Between Waves<sup>a</sup> Among Households With Children by MOVEID Subgroup<sup>b</sup> (7 sites)**

Change Over Time Period	All <sup>c</sup>		Stayers		Movers <sup>d</sup>	
	N	%	N	%	N	%
<b>Waves 1 to 2</b>						
No change	819	52.1	584	55.5	235	45.1
Added one or more adults	381	24.2	228	21.7	153	29.4
Added one or more children	224	14.2	153	14.5	71	13.6
Lost one or more adults	423	26.9	234	22.2	189	36.3
Lost one or more children	141	9.0	72	6.8	69	13.2
<b>Total</b>	<b>1,573</b>	<b>NA</b>	<b>1,052</b>	<b>NA</b>	<b>521</b>	<b>NA</b>
<b>Waves 2 to 3</b>						
No change	1,332	55.2	651	60.6	681	50.8
Added one or more adults	570	23.6	208	19.4	362	27.0
Added one or more children	305	12.6	144	13.4	161	12.0
Lost one or more adults	632	26.2	214	19.9	418	31.2
Lost one or more children	190	7.9	57	5.3	133	9.9
<b>Total</b>	<b>2,415</b>	<b>NA</b>	<b>1,075</b>	<b>NA</b>	<b>1,340</b>	<b>NA</b>

NA = not applicable.

Note: The total number for all households, stayers, and movers is not equal to the sum of the five preceding rows within each time period because categories are not mutually exclusive. Similarly, percentages do not add up to 100.

<sup>a</sup> Adjusted for new births and teenagers/adult children ages 18 to 30 moving out.

<sup>b</sup> As indicated by the MOVEID value for the later wave in each comparison.

<sup>c</sup> This includes stayers and movers (as indicated by the MOVEID value for the later wave in each comparison).

<sup>d</sup> Households that changed residences between waves 1 and 2 but remained in place between waves 2 and 3 are considered movers.

MOVEID values were generally assigned by comparing the location of the focal child at the current wave with the wave immediately before. Percentages in this exhibit do not add up to 100 percent within each period by group (all, stayers, and movers) because the categories of compositional change are not mutually exclusive. For example, it is possible for a household to have added some adults and lost some adults, added some adults but lost some children, or both. Recall that these results are based on linked person-level data rather than numerical change in household size. When examining both groups, we find that 47.9 and 44.8 percent experienced a change in household composition between waves 1–2 and 2–3, respectively. The most common transfer involves the loss of one or more adults. Of households with children, 26.9 and 26.2 percent lost an adult between waves 1–2 and 2–3. Conversely, nearly one-fourth (24.2 percent) gained an adult after the first wave and 23.6 percent did so after the second wave. Transfers of children were less common, with 14.2 and 12.6 percent of households gaining and 9.0 and 7.9 percent losing a child, respectively.

Unlike our expectation for the mover subgroup, our general expectation for the stayer subgroup going into this analysis was that the individuals residing in these households should be relatively stable over time. By definition, these households are those in which at least the focal child from the previous wave remained present at the followup wave in question. While acknowledging that migrations of other members around these key individuals could occur, we might still hypothesize

that less than one-half would experience a change in composition over 6 years. In fact, both the adult and child populations in stayer households prove more stable than those in mover households. For example, an average of only 20.5 percent gained an adult across the two periods compared with 28.2 percent among movers, and an average of 21.1 percent lost an adult compared with 33.7 percent among movers. Differences in the percentage of children added and lost between stayers and movers are more mixed, with additions being more common among stayers and subtractions more common among movers in both intervals. These data suggest that, although by definition the mover subgroup is subject to residential relocation of children, the population of adults associated with these households is even more in flux. It is also worth noting that, among the more stable group of stayers, a sizeable minority of households with children—an average of 42.0 percent—experienced some shift in membership during the 3-year interval between waves.

Exhibit 14 provides additional detail regarding the magnitude of gains and losses of adults and children over time. Not surprisingly, we find that transfers are generally restricted to one adult or child per household. A modest exception is the loss of multiple adults among movers; 10.2 and 6.8 percent of households with children in this subgroup experienced a departure of two adults between waves 1–2 and 2–3, respectively.

**Exhibit 14**

**Detail of Composition Change Between Waves<sup>a</sup> by MOVEID Subgroup<sup>b</sup> (7 sites)—Percentage of Households With Children That Gained and Lost Adults and Children**

Change Over Time Period	All <sup>c</sup>				Stayers				Movers <sup>d</sup>			
	Adults		Children		Adults		Children		Adults		Children	
	Gained	Lost	Gained	Lost	Gained	Lost	Gained	Lost	Gained	Lost	Gained	Lost
<b>Waves 1 to 2</b>												
None	75.8	73.1	85.8	91.0	78.3	77.8	85.5	93.2	70.6	63.7	86.4	86.8
One	18.8	18.8	10.6	6.7	16.5	17.7	10.8	5.2	23.2	20.9	10.0	9.8
Two	4.5	5.5	2.2	1.5	4.5	3.2	2.0	1.1	4.6	10.2	2.7	2.1
Three	0.8	1.8	1.1	0.5	0.5	1.2	1.2	< 0.5	1.3	2.9	1.0	1.0
Four or more	< 0.5	0.8	< 0.5	< 0.5	< 0.5	< 0.5	0.5	< 0.5	< 0.5	2.3	< 0.5	< 0.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Waves 2 to 3</b>												
None	76.4	73.8	87.4	92.1	80.7	80.1	86.6	94.7	73.0	68.8	88.0	90.1
One	17.3	19.3	8.2	5.5	14.5	15.9	8.9	4.5	19.5	22.1	7.6	6.3
Two	5.0	5.0	2.6	1.7	3.7	2.8	2.8	0.8	6.0	6.8	2.5	2.3
Three	1.1	1.4	1.2	0.4	1.0	1.2	1.1	0.0	1.2	1.5	1.3	0.7
Four or more	< 0.5	0.5	0.6	< 0.5	< 0.5	< 0.5	0.6	< 0.5	0.4	0.8	0.7	0.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>a</sup> Adjusted for new births and teenagers/adult children ages 18 to 30 moving out.

<sup>b</sup> As indicated by the MOVEID value for the later wave in each comparison.

<sup>c</sup> This includes stayers and movers (as indicated by the MOVEID value for the later wave in each comparison).

<sup>d</sup> Households that changed residences between waves 1 and 2 but remained in place between waves 2 and 3 are considered movers.

## **Discussion**

In past works, analysts have frequently used household size as a proxy for household composition. In this article, we attempted to demonstrate the importance of considering specific changes in household composition—that is, shifts in the presence of individuals over time—in studies of mobility. Our research among households with children in 7 low-income communities suggests that nearly one-half experienced some change in composition during a 6-year period (exhibit 13). Employing a two-dimensional approach that combines residential movement and compositional change significantly increases the percentage of households identified as having experienced mobility between waves, by a difference of 17.3 percent between waves 1–2 and 13.6 percent between waves 2–3. Our findings also raise substantive questions about the relationships among individuals in households experiencing compositional change compared with those that remain a consistent unit over time. We intend to explore these questions in future analyses by examining mobility among various types of families, including single parents, two-parent families, and extended (multigenerational) families.

The ideal methodological technique for tracking household members in longitudinal studies is to assign personal identifiers at each wave and to adjust for additions, subtractions, and substitutions of individuals in real time. Our work demonstrates that such identifiers can be assigned retroactively, although this option is contingent on the availability of identifying information such as the name, age, and sex of each individual, as well as variables indicating the relationship of each individual to at least one other person in the household (for example, the respondent and/or focal child). The linked PERSONID data allow for a more sophisticated, two-dimensional approach to tracking mobility at the household level that we think better captures the shifting nature of real lives.

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# Moving and Staying in Los Angeles Neighborhoods: Money Matters, but So Does Family Composition

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## Abstract

*In this article, I use data from the Los Angeles Family and Neighborhood Study to examine the residential selections that households and individuals make when they change residences and, in particular, the relationship between their choices and their socioeconomic status. I evaluate outcomes across neighborhoods grouped into deciles and quintiles of advantage and disadvantage, where the neighborhoods are allocated to groupings of advantage and disadvantage based on the first factor of a principal components analysis.*

*Resources—income, homeownership, and education—play important roles in neighborhood selection and can also affect the decision to move. Commonly accepted, and as demonstrated in this study, households on the whole move short distances within cities, and, thus, where an individual originates has an important effect on his or her ability to positively change his or her neighborhood status. The research shows that family composition and ethnicity can constrain how much of a change in outcome is possible with a move and highlights the difficulty of neighborhood or household interventions intended to improve outcomes after a move. Modest evidence points to an increase in satisfaction when households move up the hierarchy of the sociospatial scale.*

## Introduction

Interest is increasing among researchers as to what role places can play in the outcomes of families and individuals. It seems reasonable to expect that where a person lives can influence a wide variety of outcomes such as access to schools, health care, and jobs, hence the continuing research interest in the role of neighborhoods and communities in the urban fabric. Although an extensive literature addresses mobility across low-income and poverty neighborhoods and whether or not households in poor neighborhoods can escape those environments, the broad spectrum of neighborhoods has received less attention. Often, the focus is on movers and less is known about stayers or those who move within similar kinds of neighborhoods. Thus, it is useful to put the mobility across low-income neighborhoods into a wider perspective, while at the same time not losing interest in the problems of low-income movers. The research in this article aims to broaden the interest from deprived neighborhoods to the whole range of socioeconomic statuses within the urban fabric, and to contrast the outcomes at the different ends of the spectrum of income and education.

A significant body of research has established that residential mobility is a function of age, tenure (homeowner or renter), family status (income level, education level), the demand for living space, and changes in household composition. Less developed is the outcome of residence change. Although it is generally assumed that people move to improve, in many cases mobility is not voluntary and people do not always gain from residential changes. These questions then arise: Which households make gains in neighborhood quality? Do families who move make, at the least, subjective gains after moving? Specifically, the article examines a set of questions about neighborhood outcomes and individual levels of satisfaction from the Los Angeles Family and Neighborhood Survey (LAFANS).

It is common knowledge that cities are divided by socioeconomic status and that the division has a spatial pattern. It is this pattern that is summarized in neighborhoods, leading to the question: How do people sort themselves into these spatial units? The research in this article is about that sorting process—about the outcomes of residential relocation within the structure of the city. The survey asks these questions: (1) Which of the families who move are able to locate to better neighborhoods and which are not? (2) What are the differences between those who stay in their neighborhood, those who move within a similar neighborhood type, and those who move to more or less advantaged neighborhoods? (3) Are families who move and make gains in neighborhood quality more satisfied than those who move but do not make neighborhood quality gains? (4) What evidence shows that moving improves neighborhood quality?

## Previous Studies of Mobility and Neighborhoods

The research in this article is set within a rich body of previous investigations of mobility and neighborhood sorting. A limited review of what is now a very large literature can usefully be organized around studies of mobility and residential sorting, specific studies of entering and leaving deprived neighborhoods, and studies of household neighborhood intervention. Within the latter, the Moving to Opportunity (MTO) program tried to measure the outcomes for individual families and provides an opportunity to view the difficult issue of translating findings into contributions to solving the problems of poverty.



## **Mobility and Sorting in the Urban Mosaic**

The creation of neighborhoods is not a random process but is embedded in the preferences people reveal in their wish to live near similar households in terms of income, composition (presence of children, for example), and ethnicity. A set of analytic and simulation studies established the relevance of these sorting mechanisms and the grouping of like individuals into spatially defined areas (neighborhoods) from which similar behaviors and common outcomes are observed (Bruch and Mare, 2006; Clark, 1991, 1992; Clark and Fossett, 2009; Fossett, 2006; Schelling, 1971). The differential choices of movers and stayers are important, and these choices are an essential element of the creation of spatial stratification (Clark and Morrison, 2012; Sampson and Starkey, 2008). Then, if the residential sorting process leads to a widening of differences between neighborhoods, some places will experience a more rapid descent socioeconomically than others and generate characteristics that may initiate threshold effects on social behavior of the associated residents (Meen, 2006). At the same time, some neighborhoods may experience increases in socioeconomic status or, at the least, the maintenance of present levels of high socioeconomic status. In this sense, neighborhood outcomes (both positive and negative) can result directly from residential mobility, as extensive reviews of the literature show (Dietz, 2002; Durlauf, 2004).

Choices or the lack of choices have been related to family and household resource characteristics, especially income, assets as measured by home ownership, and social capital (education). The choices up the hierarchy of neighborhoods tend to be related to higher education levels, professional occupations, ownership, and income (Clark, 2007; Clark and Dieleman, 1996; Clark and Rivers, 2012; Sharygin, 2010). Measures of income and socioeconomic status are also associated with movements in and out of deprived neighborhoods, although race plays a role as well (Bolt et al., 2008; South et al., 2005). Whites are more likely to choose largely White tracts (Clark, 2009), but it is notable in a national study that more than one-fifth (21 percent) of African-American households, 51 percent of Asian households, and 23 percent of Hispanic households move to tracts that are 70 percent or more White (Clark and Rivers, 2012). Clearly, considerable fluidity exists in the choice processes and outcomes in terms of racial and ethnic composition. Many of these households that move to White areas are in fact moving to areas that overall are more advantaged, not because they are White per se, but because, in general, Whites have been able to secure more advantaged neighborhoods. Overall, the residential mobility studies clearly show that individuals do adjust their neighborhood location to fit with changes in income as well as to accommodate changing preferences for family and ethnic composition over the life course.

Research on mobility in the context of family behavior shows that, indeed, those families who can leave unsatisfactory locations are more satisfied. As part of the Making Connections initiative, Coulton et al. (2009) found that 30 percent of their movers were up-and-out movers who often became homeowners in better neighborhoods. At the same time, those households that cannot make such transitions are often vulnerable households that “need help along many dimensions” (Coulton, 2009: 28). Thus, as Cheshire et al. (2003) found, mobility often leads to an increase in the average level of deprivation of the area of exit. Mobility behavior is also intertwined with the composition of the household. When vulnerable households are affected by unforeseen changes, housing stress and downward housing career moves are often the outcome.

## **The Role of Selective Mobility**

A small, important literature looks specifically at the propensity to enter and to leave areas ranked by levels of deprivation. These studies are variants of the question posed in the previous section—who gets on and moves out and who moves in to replace the households that are able to relocate. Although, in most cases, the focus is on only the most deprived neighborhoods, several studies, in both the United States and Europe, documented that selectivity matters in the ability to escape deprivation and, even though resources matter, minority status increases the difficulty of leaving (Bolt and Von Kempen, 2003; South and Crowder, 1997; South, Crowder, and Pais, 2011). Other research also documents that selection occurs across communities even when a policy commitment to social integration exists; for example, the planning process in the Netherlands. Studies show people leave some neighborhoods and choose others, with the mobility decision often being triggered by the presence of minority populations (Bolt et al., 2008; Van Ham and Feijten, 2008). Obviously, the response to neighborhood composition is then embedded in the selectivity process.

The focus on deprived neighborhoods draws on the notion that social networks and place attachment in such situations shape young people's attitudes toward education and work opportunities. Thus, the notion that deprived areas serve as conditioning communities in creating an underclass population becomes a basis for intervention to either help disadvantaged populations to selectively move, or to provide place-based assistance to improve the neighborhood. Given the selective nature of mobility, however, it is difficult to affect these place-based interventions. Evidence reveals that, "net migration flows act to maintain the gap between deprived areas and the average and, as a result, work to undermine efforts to regenerate deprived neighborhoods" (Bailey and Livingston, 2008: 948). In addition, Sharkey (2012) showed that unselected change (that is, a change in neighborhood conditions after a move into a new neighborhood) can undo the gains of moving up.

Clearly this process is complicated. It is a process in which mobility occurs against a changing backdrop and with changes in the household and family as well. The changes in the backdrop have been examined recently in the context of the decline in housing values, the foreclosure crisis, and the implications for mobility. On the one hand, foreclosure may have stimulated mobility and created neighborhood changes (Sharygin, Ellen, and Lacoë, 2010), while on the other hand, the sudden decline in home values has locked homeowners into their locations and made moves that much more difficult (Ferreira, Gyourko, and Tracy, 2010). They show that about a 12-percent decline exists in mobility with every \$1,000 increase in negative equity. This finding is especially troubling for African-American households that often stretched their finances to become homeowners in the middle of the 2000s (Clark, 2011). All of these findings raise the issue of how to intervene to bring about substantive change for families, and what is the probability of success if some manner of intervention is made.

## **Mobility and Policy**

Interest in using mobility to provide opportunities for disadvantaged households has existed for two decades. Some research suggested that vouchers to aid relocation to suburban areas would increase job opportunities for low-income populations and solve some of issues of residence in inner-city neighborhoods with problems of substance abuse, poor schools, and crime. Beginning with the Gautreaux studies, some researchers suggested that vouchers to move out to suburban

locations have provided gains for families who can successfully relocate (Rosenbaum, 1993, 1995). The MTO studies also argued for real gains from relocation (Goering, 2005; Briggs, 2005; Orr et al., 2003). Others suggest more caution on the outcomes of these interventions (Clark, 2008; Imbroscio, 2012; Varady, 2003). Although it may be possible to disperse some individual households, whether using voucher programs as a policy intervention to change the distribution of poverty is successful is far from clear (Sampson, 2008). Overall, it is likely to take a lot of individual moves and money to affect any substantial deconcentration of the poor (Goetz, 2003).

When examining the mobility of the households between those who received help to move and those who were the control group (received no help to move), this study found that the unaided groups in some cities achieved residence in low-income neighborhoods to the same extent as those who had help. Moreover, those who moved with help often moved to neighborhoods like the ones they came from and, in some cases, moved back to their old neighborhoods. Households vote with their feet, so to speak, and decisions by governments are always embedded in the dynamic demography of the city (Tiebout, 1956). Income and asset levels are central elements of the choice process and, as will become clear in the empirical section of the article, it is difficult to determine how to change the choice process without fundamentally changing income levels.

This critique is not designed to ignore the fact that some households benefited from the MTO intervention. Overall, initial gains were made for nearly all moving households in the MTO program; these gains, however, could simply not be sustained for most households (Clark, 2008). The intervention takes place, as mentioned previously, in the context of the sociospatial structure of the city, which is a moving target because cities continue to change when new immigrants arrive and when established households leave. More change probably occurs in Los Angeles neighborhoods from immigration than could be influenced by government intervention. Behavioral changes will continue to affect the metropolitan structure. Understanding the bases for choice and selection may provide the environment for creating the connections to community and providing the gains for disadvantaged households.

## **Analysis Format, Data, and Methods**

This study draws the data for analysis from the LAFANS and an analysis of census data of neighborhood characteristics. It uses the data from the first wave of interviews and examines the 994 mover households from the LAFANS data in the context of all households in the survey. It is possible to track the movers across tracts in Los Angeles County and to match the households and families to their neighborhoods, identified in this study as census tracts. It is possible to assess their progress across neighborhoods that are defined by levels of advantage and disadvantage. This specific analysis uses matrices of neighborhoods that are grouped into deciles and quintiles of advantage and disadvantage and examines the mobility behavior of families and individuals across these combinations of geographic units.

The deciles and quintiles of advantage and disadvantage are created from census tract data for Los Angeles County. Tracts are assigned to deciles based on their factor scores from the first factor of a principal components analysis that uses nine variables from the 2000 census. The variables used to create the scores are broadly similar to those used in other studies of neighborhood advantage and disadvantage, including studies in the United Kingdom (Noble et al., 2004) and New Zealand

(White et al., 2008). These measures are designed to capture the demography of the underlying urban structure, the levels of poverty and deprivation, and the socioeconomic status of the tracts.<sup>1</sup> Thus, this study measures the proportion of single-headed families, the levels of education, levels of unemployment, and whether they had access to vehicles, among other variables.<sup>2</sup> Experiments that use other sets of variables and a more parsimonious list do not materially alter the position of tracts across the first principal component. The underlying assumption of creating a neighborhood index is that these areas provide varying contexts, from good to not so good, for individual households that live in these areas and that may try to use their resources to improve their level of advantage by moving and by moving up the hierarchy. This index, however, does not capture either the larger picture of urban sustainability or the externalities of crime and disorder, although it is likely that these externalities are associated with the index as it has been constructed here.

Using the index, the movements of individuals and households are tracked through the levels of advantage and disadvantage. The moves are in the interval 2000 to 2002, which is close to the time of the 2000 census measures. The second wave of LAFANS data will require attention to change in these neighborhoods over time, but, for this analysis, any single change in an individual neighborhood is unlikely to change that neighborhood's ranking. The map of the neighborhoods illustrates the common urban distribution of advantaged neighborhoods in more suburban locations and a greater distribution of deprivation in the inner-city neighborhoods of Los Angeles (exhibit 1). The map is presented in quintiles with a gray scale, but a decile map in color is accessible on the *Cityscape* website at <http://www.huduser.org>. The population flows across the levels of deciles and quintiles are presented in a series of matrices, and then these population flows are modeled using multinomial logit models pertaining to choice on the diagonal line, either above the diagonal line (more advantaged) or below the diagonal line (less advantaged).

The findings use a framework from a national study of household moves across tracts using the Panel Study of Income Dynamics (Clark and Rivers, 2012). In that study, and in this specific city study, the aim is to build a picture of exactly how much dynamism is in neighborhood selection and where movers end up as a result of their move. Also relevant is not simply who moves, but who stays in a similar neighborhood, and how households and individuals who move, locally and otherwise, compare with those who do not move. Unlike the national study, this study measures the extent to which households and individuals express varying levels of satisfaction with their move.

This article presents findings on the following variables:

1. Matrices of movement across neighborhood deciles and quintiles.
2. The intersection of income, education, and tenure for movers across quintiles.
3. The intersection of expressed satisfaction levels by mobility outcomes.
4. Models of mover choices across quintiles.

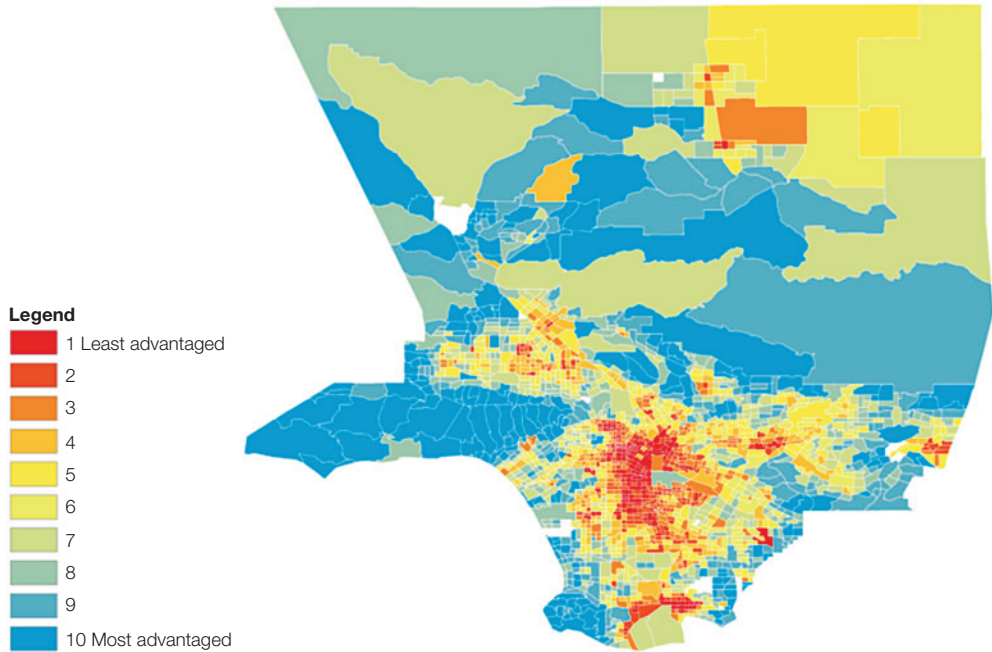
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<sup>1</sup> To clarify, I use the word *neighborhood* for the tract in which the respondents live and use U.S. Bureau of the Census data for census tracts to create the deciles and quintiles of advantage and disadvantage.

<sup>2</sup> The variables in the factor score index are percent single family, percent linguistically isolated, percent high school, percent unemployed, percent public assistance, percent below poverty, percent high-density housing occupation, percent no vehicle, and percent median household income.

## Exhibit 1

### Advantaged and Disadvantaged Neighborhoods in Los Angeles County, 2000



Source: 2000 Census

The use of both deciles and quintiles for presentation and analysis is necessitated by sample size constraints and the opportunity to provide more details in some aspects of the presentation.

## Findings

To build the picture of how people and households choose within a complex urban structure and to illustrate how these choices create and perpetuate residential patterns of advantage and disadvantage, the article examines both aggregate movements and movements by race and ethnicity. It also examines the intersection of the choices and the underlying resources available to the household.

### 1. Matrices of Choice

The matrix of choices across the matrix of deciles of advantage and disadvantage shows both concentration and dispersal (exhibit 2). As expected, there is a significant probability of moving on the diagonal line (that is, within the same decile) or to deciles that are one cell above or below the diagonal line. Slightly more than 38 percent of all movers remain on the diagonal line. Overall, 37.4 percent of movers make gains in status and 24.3 percent lose a level in the hierarchy when they move. The mobility behavior and selection in Los Angeles reflect the overall likelihood of moving very short distances. In general, in residential mobility, the moves are short, often not

**Exhibit 2**

**Matrix of Changes in Neighborhood Decile for Household Moves (weighted responses)**

	Advantage Status Destination Decile Wave										Total	
	Least	1	2	3	4	5	6	7	8	9		Most
Origin decile	1	42.8	20.3	15.2	4.3	7.2	5.3	1.1	.8	1.3	0	98.3
	2	12.0	44.8	16.5	12.7	2.0	2.8	.9	1.5	.5	9.9	103.5
	3	1.6	11.5	61.4	1.2	6.9	8.0	10.1	4.7	6.2	7.3	118.8
	4	4.5	1.2	10.7	27.1	1.7	5.2	1.6	14.7	6.1	4.3	77.1
	5	1.5	11.7	18.5	3.9	25.4	10.2	12.0	7.3	1.4	10.2	102.0
	6	3.6	1.8	10.7	10.5	4.0	27.8	13.6	21.3	22.2	0	115.0
	7	.5	.6	2.0	11.4	10.2	2.3	42.0	11.5	16.7	10.6	107.8
	8	.1	1.6	4.0	3.1	1.5	6.7	25.5	28.4	3.8	22.3	97.0
	9	.8	0	0	0	4.6	4.1	1.6	12.5	26.6	28.2	78.5
	10	0	0	.3	.4	2.7	5.2	8.9	17.5	5.3	55.6	95.8
	Total	67.4	93.6	139.2	75.6	66.3	77.5	117.3	120.2	90.2	148.3	994.4

Note: Because the numerical values sum to about 1,000, they can also be interpreted as percentages.

breaking neighborhood ties, but the moves in Los Angeles appear to be even more limited. Nearly 20 percent moved within the same census tract; overall, 36 percent of the moves were less than 1 mile away, and another 13 percent were less than 2 miles away. Such short-distance moves are unlikely to break the ties with the decile of origin, and considerable continuity can be expected in neighborhood outcomes.

The results for the mobility data at the quintile level naturally show a greater concentration directly on the diagonal line (exhibits 3–6). For all movers, 51.3 percent begin and end in the same quintile on the diagonal line, 30 percent gain a level, and 19 percent lose a level. The conditional row probabilities emphasize the likelihood of staying in the highest and lowest quartiles, but it is the breakdown of moves across ethnic and racial groups that add to understanding relocation behavior. The data samples are modest for some groups, but it is significant that, across all groups, if a mover is in the highest quintile, he or she has an extremely high probability of staying in that quintile.

Overall, White households have the highest probability of moving up in status. Less than 50 percent of White households remain on the diagonal line, nearly 33 percent gain a level, and 20 percent lose a level. In contrast, more than 52 percent of Hispanic households stay on the diagonal line, 29 percent gain a level, and only 17 percent lose a level. The fact that Hispanic households either maintain or gain status is testimony to their increasing gains in socioeconomic status, in general. This type of move is significantly different from the moves by African-American households, where more than 56 percent remain on the diagonal line, only 19 percent gain a level, and more households are moving down in quintile status than are moving up. White households, even those with their origin in the lowest quintile, show significant probabilities of being able to access higher level quintiles, but this probability is much less for Hispanic and African-American households; more than 70 percent of African-American households and 64 percent of Hispanic households that began in the lowest quintile remained there after their move. In addition, although nearly one-third of White households are able to move from the lowest to the highest quintile, nearly no Hispanic or African-American households can experience this outcome.

**Exhibit 3**

Weighted Distribution (a) and Conditional Row Probabilities (b) of All Household Choices Across Quintiles (low/high)

(a)	Destination					Total	(b)	Destination					Total
	1	2	3	4	5			1	2	3	4	5	
Origin quintile 1	120	49	17	4	12	202	Origin quintile 1	.594	.242	.086	.021	.058	100.0
Origin quintile 2	19	100	22	31	24	196	Origin quintile 2	.096	.512	.111	.158	.122	100.0
Origin quintile 3	19	44	67	54	34	218	Origin quintile 3	.085	.200	.310	.249	.156	100.0
Origin quintile 4	3	20	21	107	53	205	Origin quintile 4	.014	.100	.101	.524	.261	100.0
Origin quintile 5	1	1	17	41	116	174	Origin quintile 5	.005	.004	.095	.233	.664	100.0
Total	161	214	144	237	238	994	Total	.162	.215	.145	.239	.240	100.0

**Exhibit 4**

Weighted Distribution (a) and Conditional Row Probabilities (b) of White Household Choices Across Quintiles (low/high)

(a)	Destination					Total	(b)	Destination					Total
	1	2	3	4	5			1	2	3	4	5	
Origin quintile 1	7	2	9	1	9	27	Origin quintile 1	.259	.088	.325	.009	.319	100.0
Origin quintile 2	4	7	4	9	13	37	Origin quintile 2	.097	.191	.102	.255	.355	100.0
Origin quintile 3	6	8	48	35	21	118	Origin quintile 3	.052	.064	.407	.296	.182	100.0
Origin quintile 4	1	5	10	63	36	114	Origin quintile 4	.005	.041	.085	.551	.312	100.0
Origin quintile 5	0	1	11	36	76	174	Origin quintile 5	.000	.003	.090	.290	.616	100.0
Total	18	22	81	143	156	419	Total	.004	.005	.194	.342	.371	100.0

**Exhibit 5**

Weighted Distribution (a) and Conditional Row Probabilities (b) of Hispanic Household Choices Across Quintiles (low/high)

(a)	Destination					Total	(b)	Destination					Total
	1	2	3	4	5			1	2	3	4	5	
Origin quintile 1	72	29	6	2	3	111	Origin quintile 1	.642	.263	.054	.017	.026	100.0
Origin quintile 2	9	68	10	11	2	100	Origin quintile 2	.092	.680	.103	.106	.019	100.0
Origin quintile 3	7	22	8	9	9	55	Origin quintile 3	.133	.391	.154	.165	.157	100.0
Origin quintile 4	0	6	8	12	8	35	Origin quintile 4	.006	.175	.239	.348	.233	100.0
Origin quintile 5	0	0	0	0	6	6	Origin quintile 5	.000	.000	.000	.006	.933	100.0
Total	88	125	33	34	27	307	Total	.287	.406	.108	.112	.088	100.0

**Exhibit 6**

Weighted Distribution (a) and Conditional Row Probabilities (b) of African-American Household Choices Across Quintiles (low/high)

(a)	Destination					Total	(b)	Destination					Total
	1	2	3	4	5			1	2	3	4	5	
Origin quintile 1	28	9	1	1	1	40	Origin quintile 1	.717	.225	.024	.023	.011	100.0
Origin quintile 2	6	12	6	0	3	27	Origin quintile 2	.218	.462	.213	.000	.023	100.0
Origin quintile 3	1	11	4	1	1	18	Origin quintile 3	.075	.605	.203	.057	.060	100.0
Origin quintile 4	2	9	1	10	1	23	Origin quintile 4	.087	.373	.047	.447	.046	100.0
Origin quintile 5	1	0	0	0	16	17	Origin quintile 5	.046	.000	.000	.000	.954	100.0
Total	38	41	11	12	22	125	Total						100.0



An examination of the two top quintiles as a measure of continuing concentration of outcomes provides a real contrast between the White sample, where approximately 50 percent of households moved into or within the top quintiles, and the Hispanic (8.5 percent) and African-American (21.6 percent) samples. To put these selections into context, the national data suggest that only 31.0 percent of White households, 5.3 percent of African-American households, and 9.9 percent of Hispanic households move within the top quintiles (Clark and Rivers, 2012). White households clearly are concentrating more in their selections in Los Angeles than they do nationally, but African-American households are nearly four times more likely to be in, or moving into, the top deciles than African-American households nationally. Hispanic households in Los Angeles are similar to their national averages. How can these numbers be interpreted? The numbers suggest that two forces are competing in Los Angeles: one is creating greater concentration and another is reflecting the greater fluidity for minorities who have greater resources. The finding is consistent with previous research that showed very different results (from the data for Baltimore, Chicago, and New York) for the MTO sample that moved in the Los Angeles metropolitan area (Clark, 2008).

The focus of this study, however, is not only about the ethnic makeup of those who gain and lose; it is also about their associated socioeconomic characteristics. This analysis was conducted for movers within quintiles, stayers within quintiles, and movers who were above and below the diagonal line and who were disaggregated by the nature and direction of the move.

## **2. The Intersection of Race and Socioeconomic Status and the Implications for Mobility**

Movers and stayers within quintiles are not that different in lower status neighborhoods, although, in general, movers have higher incomes, are more likely to have college degrees or attended college, and are more likely to be homeowners (exhibit 7).

Of course, the differences in outcomes are greatest when a household moves up the status quintiles, which is expected (median income is one of the variables in the index). Indeed, incomes are nearly five times higher for movers in the most advantaged quintiles, and they have a nearly linear increase across the distribution of quintiles. This pattern holds fairly well across all racial and ethnic groups. The outcomes in homeownership reflect, of course, the differences in income. Differences in education levels, specifically the proportion with some college or a complete college education, demonstrate the importance of education in creating the basis for homeownership and upward mobility. Overall, the differences are much more striking over the distribution of quintiles than they are over the differences in race and ethnicity (exhibit 8).

It is important to note that the small sample sizes do not negate the overall conclusion—that socioeconomic status for households is closely associated with the place of residence and movement into more advantaged areas. Overall, homeowners prevail in high-status areas and renters dominate low-status areas. Demonstrated in the quintile matrices, White households dominate the higher status quintile, but some Hispanic and African-American households do live in these most favored areas.<sup>3</sup> Still, the number of households is a very small fraction of the populations in those high-status areas.

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<sup>3</sup> In the quintile matrices, the data are reported as weighted results. The data for the socioeconomic characteristics are unweighted. The weighting produced unreliable estimates on income and homeownership.



## Exhibit 7

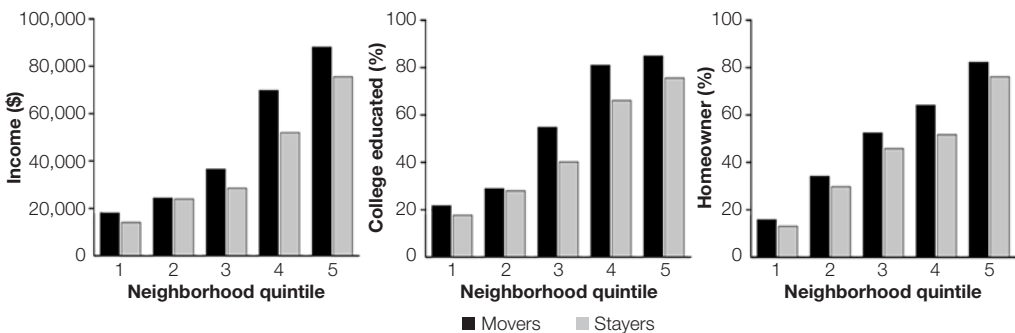
### Stayers and Movers Within Quintiles, by Race and Ethnicity (unweighted)

Quintile	Households (n)		Family Income (\$)		Have College Degree (%)		Homeowner (%)	
	Movers	Stayers	Movers	Stayers	Movers	Stayers	Movers	Stayers
<b>All Households</b>								
1	253	627	18,119	14,109	21.7	17.7	15.8	13.0
2	90	432	24,384	23,964	28.9	28.0	34.1	29.7
3	42	276	36,620	28,577	54.8	40.2	52.4	45.8
4	79	251	69,823	52,008	81.0	66.1	64.1	51.7
5	73	213	88,100	75,568	84.9	75.6	82.2	76.1
<b>White</b>								
1	9	39	21,358	16,149	66.7	59.0	0.0	14.3
2	5	42	35,500	44,329	60.0	76.2	60.0	55.0
3	21	82	41,710	30,966	61.9	53.7	52.4	54.4
4	56	122	78,730	63,667	85.7	76.2	64.3	60.2
5	49	147	92,581	77,236	95.9	78.9	85.7	78.3
<b>Hispanic</b>								
1	193	500	18,929	14,136	10.9	9.0	15.0	11.0
2	75	317	23,654	20,368	24.0	15.1	29.7	23.5
3	11	147	28,273	24,850	27.3	23.1	63.6	46.0
4	11	68	63,750	35,789	63.6	50.0	63.6	51.5
5	6	24	82,717	63,242	50.0	58.3	66.7	60.9
<b>African American</b>								
1	42	65	10,603	12,213	54.8	52.3	19.0	26.7
2	5	44	33,333	33,032	80.0	65.9	75.0	45.2
3	5	15	*	30,357	*	93.3	*	33.3
4	3	21	*	40,308	*	81.0	*	26.3
5	4	8	*	37,500	*	62.5	*	42.9

\* Small sample sizes.

## Exhibit 8

### Mover-to-Stayer Differences Across Quintiles



An analysis of the movers who change quintiles provides greater detail about the role resources play in making gains or suffering losses in neighborhood quality. The study examines all gains (moves from the lowest quintile to quintiles 3 to 5, from quintile 2 to quintiles 3 to 5, from quintile 3 to quintiles 4 to 5, and from quintile 4 to quintile 5) and all losses (moves from quintile 2 to quintile 1 and from quintiles 3 to 5 to quintiles 1 to 2). In effect, the study does not consider the very lowest exchanges; it examines income, education levels, and homeownership status for White, Hispanic, and African-American households that gain or lose a level, defined in the previous section. Does socio-economic status matter in the available choices, especially for minority households? Clearly, it does (exhibit 9).

Across all income, education, and homeownership levels, the number of moves made from lower to higher quintiles are about twice the moves made from higher to lower quintiles (exhibit 10). The exceptions to this observation are education levels for White households and homeownership levels for African-American households. The biggest contrasts are for Hispanic households—those moving up are nearly five times more likely to have a college education and four times more likely to be homeowners. White households that make the transition to the highest quintile, in general, are likely to be homeowners, have higher levels of college education, and have significantly higher incomes.

**Exhibit 9**

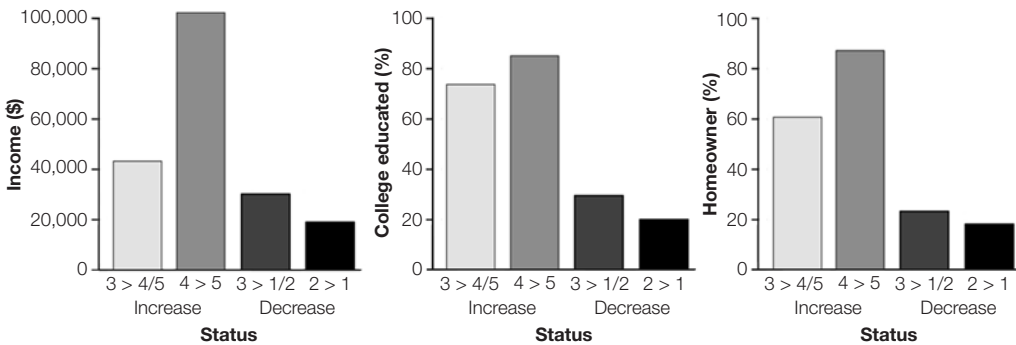
**Aggregate Moves to More and Less Advantaged Quintiles**

Race or Ethnicity	Advantage Moves				Disadvantage Moves			
	Households (n)	Family Income (\$)	Have College Degree (%)	Homeowner (%)	Households (n)	Family Income (\$)	Have College Degree (%)	Homeowner (%)
All	189	61,513	71.4	69.1	124	28,119	30.6	26.2
White	89	72,204	75.3	71.9	15	43,400	70.0	33.3
Hispanic	59	49,595	55.9	71.2	78	25,586	10.3	18.4
African American	14	43,846	78.6	38.5	23	19,762	56.5	39.1

*Note: Advantage moves are defined as from the lowest quintile to quintiles 3 to 5, from quintile 2 to quintiles 3 to 5, from quintile 3 to quintiles 4 to 5, and from quintile 4 to quintile 5. Disadvantage moves are defined as from quintile 2 to quintile 1 and from quintiles 3 to 5 to quintiles 1 to 2.*

**Exhibit 10**

**Characteristics of Households That Move Up and Move Down Across Neighborhoods in Los Angeles**



A specific analysis of moves made up and down from the middle quintiles provides some of the most useful data for understanding the selection process and its outcomes. The moves from the 4th quintile to the 5th quintile typically involve high-earner homeowners with college educations. The moves into the bottom quintile are composed of low-income and less educated homeowners and renters (exhibit 11). When the data are graphed, the differences between the uniformly high values on income, education, and tenure for those who gain a level and the much more varied outcomes for those who lose a level are striking (exhibit 12). In one way, this outcome parallels the structure of the quintiles, which reflect income differences as well as other socioeconomic characteristics. A detailed decomposition of the movers provides further understanding of what underlies a household's move up, and especially, a household's move down the hierarchy. What is the composition of the movers, especially of those moving at the bottom of the advantage and disadvantage structure?

### Exhibit 11

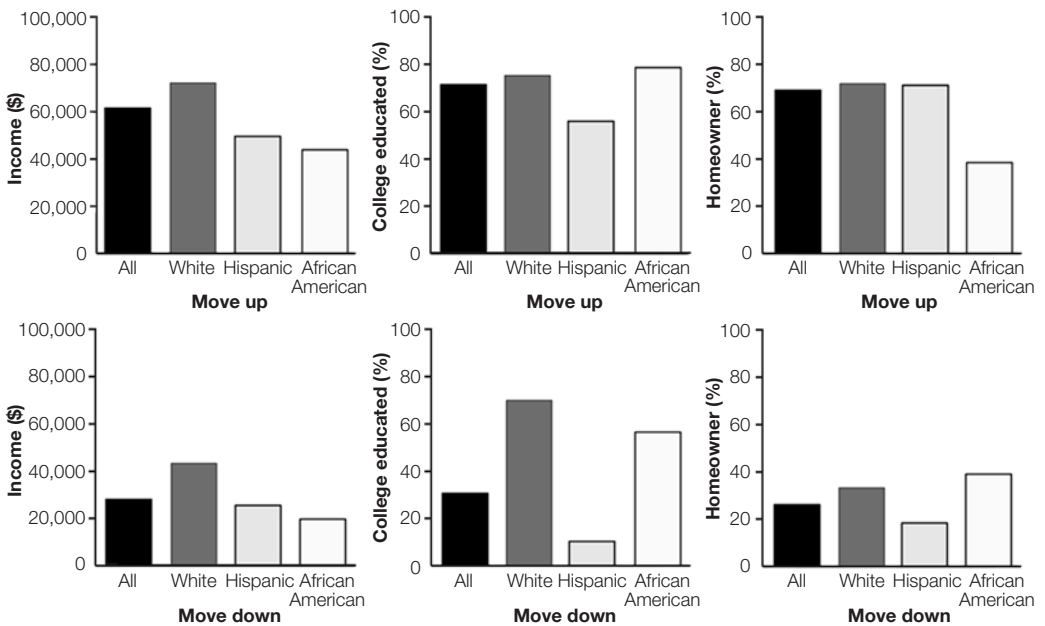
Moves Up or Down From the Middle Quintiles to More and Less Advantaged Quintiles

Move <sup>a</sup>	Households (n)	Family Income (\$)	Have College Degree (%)	Homeowner (%)
<b>Advantage moves</b>				
3 to 4-5	57	43,245	73.7	66.7
4 to 5	47	101,650	95.1	87.2
<b>Disadvantage moves</b>				
3 to 1-2	61	30,166	29.5	23.3
2 to 1	45	18,992	20.0	18.2

<sup>a</sup> Among quintiles.

### Exhibit 12

Differences Between Moves Above and Below the Middle Quintile



The decomposition of movers into their family structures and additional details on their socioeconomic characteristics help reveal the processes of choice and who is likely to choose or be constrained to lose a level in the neighborhood hierarchy (exhibit 13). The results add considerable detail to the focus on resources, per se. Nearly one-half of those individuals who drop from quintile 2 to 1 are divorced, are divorced with children, or have never been married or had children; nearly all are renters; and only a few have some college education. It is a similar story for moves from quintile 3 to 1. The structure of the table is striking, with increasing numbers with incomes of more than \$50,000—the resource effect; a changing distribution of age—the life-cycle effect; and the role of education—the knowledge effect, knowing how to negotiate in an increasingly complicated world, as the moves to more advantaged neighborhoods take place. The analysis reveals that marginal households with only tenuous links to their communities suffer from downward mobility. For the moves made to the highest quintile, lower incidences of household dissolution and children in never-married households exists. The breakdown of household structure is being played out in neighborhood choice at the lower end of the advantage and disadvantage scale.

**Exhibit 13**

Individual Relocation Moves Between Quintiles

Move <sup>a</sup>	Percent Minority	Percent College Educated	Percent Renter	Percent Income ≥ \$50,000	Percent Divorced	Percent Never Married	Percent Age < 35
2 to 1	98.4	19.0	81.0	6.3	17.5	27.0	55.6
3 to 1	87.1	35.5	83.9	12.9	16.1	22.6	38.7
3 to 2	86.7	24.0	62.2	20.0	8.8	13.3	35.6
3 to 4–5	53.4	72.6	37.0	45.6	13.7	17.8	24.7
4 to 5	35.0	88.0	10.0	86.8	10.0	3.3	18.3

<sup>a</sup> Among quintiles.

Some national data reveal that younger households lose a level in the hierarchy to enter the homeowner market, but this trend does not appear in this Los Angeles study. It is clear that younger renters are the movers in the lowest quintiles, but, in general, they are not entering the homeowner market. That being said, some African-American households become homeowners in the lowest deciles. This trend may be an outcome of the push to homeownership created when the U.S. Department of Housing and Urban Development required Fannie Mae to dedicate 50 percent of its business to low- and moderate-income families. Certainly this allotment increased homeownership for lower income households, although they now are dealing with the associated debt burdens and declining house values. In general, however, the moves from the middle quintile to the lowest quintiles exhibit traces of family breakup or instability often associated with lower education levels. It is important not to stereotype these processes, as recently occurred with the Coming Apart study (Murray, 2012). Still, the issue of household composition and the difficulty in sustaining family stability, and consequently improving residential locations, are clear. As in the Coulton et al. (2009) study, households that run into social problems have higher likelihoods of slipping down the social scale.

**3. Satisfaction With Mobility**

For those households that gain a level in status and have better outcomes, what is the intersection with levels of satisfaction for moving above the diagonal line versus remaining on the diagonal

line or moving below the diagonal line? Data from the LAFANS enable us to look at the cross-classification of several characteristics of neighborhoods in contrast with the neighborhood gains that were observed from the mobility behavior. The data enable cross-classification of overall satisfaction and neighborhood safety, and they reveal whether the neighborhood is close knit and whether the neighbors share the same values. Each of these outcomes can be ranked by where gain intersects satisfaction on a four-point scale. For example, it is possible to examine overall satisfaction, when analyzed in terms of those who make a gain, those who stay the same (but have no change in satisfaction), or those who make a selection that puts them below the diagonal, and to examine their outcomes on whether or not they were very satisfied, satisfied, dissatisfied, or very dissatisfied with the outcome (exhibit 14).

## Exhibit 14

### Mobility Outcomes and Responses to Neighborhood Characteristics

#### (a) Overall Satisfaction<sup>a</sup>

Moves	Very Satisfied		Satisfied		Dissatisfied		Very Dissatisfied	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Advantage	126	43.2	149	50.9	16	5.5	1	0.3
Same	139	27.9	274	54.9	58	11.6	10	2.0
Disadvantage	27	15.0	118	65.6	26	14.4	6	3.3

#### (b) Neighborhood Safety<sup>b</sup>

Moves	Completely Safe		Fairly Safe		Somewhat Dangerous		Dangerous	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Advantage	109	37.2	143	48.8	27	9.2	14	4.8
Same	125	25.0	258	51.7	94	18.8	23	4.6
Disadvantage	31	17.2	92	51.0	40	22.2	17	9.4

#### (c) Close-Knit Neighborhood<sup>c</sup>

Moves	Strongly Agree		Agree		Disagree		Strongly Disagree	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Advantage	42	14.3	147	50.2	79	27.0	9	3.1
Same	44	8.8	260	52.1	154	30.9	33	6.6
Disadvantage	4	2.2	92	51.1	74	41.1	1	0.6

#### (d) Neighbors Share Same Values<sup>d</sup>

Moves	Strongly Agree		Agree		Disagree		Strongly Disagree	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Advantage	21	7.2	156	53.2	57	19.5	19	6.5
Same	19	3.8	245	49.1	157	31.5	14	2.8
Disadvantage	1	0.6	60	33.3	92	51.1	6	3.3

<sup>a</sup> Chi square for 3x3 table (collapse dissatisfied) 49.8  $pr > .0001$ .

<sup>b</sup> Chi square for 3x3 table (collapse dangerous) 35.1  $pr > .0001$ .

<sup>c</sup> Chi square for 3x3 table (collapse disagree) 22.9  $p > .0001$ .

<sup>d</sup> Chi square for 3x3 table (collapse disagree) 47.5  $pr > .0001$ .

Notes: Advantage (n = 293) is a move above the diagonal, same (n = 499) is a move on the diagonal, and disadvantage (n = 180) is a move below the diagonal of the matrix of moves. The response "unsure or neutral" is omitted for overall satisfaction, close-knit neighborhood, and neighbors share same values, but the number can be computed by subtraction from the total.

The four matrices of gains, when cross-referenced with satisfaction, safety, neighborhood connections, and neighborhood values, provide convincing evidence that those who move above the diagonal line (that is, those households that make gains) are also significantly more satisfied, feel safer, and agree that they live in close-knit neighborhoods with people who have similar values, versus those who move below the diagonal line (exhibit 14). Regarding overall satisfaction, those households that moved above the diagonal line are nearly three times more likely to be very satisfied than those that moved below the diagonal line and are even more satisfied than those that moved on the diagonal line. This powerful evidence makes a connection among moving, improving outcomes, and outcomes of satisfaction. Similarly, those households that made gains are twice as likely to feel completely safe and many more times as likely to agree that they live in a close-knit neighborhood and one that shares the same values than those households that do not. Collapsing those tables to the simple 3-by-3 gain and loss versus satisfaction generates statistically significant results. The chi-square values are all greater than 0.001.

What are the conclusions from this analysis of mobility behavior and neighborhood satisfaction outcomes? Moving matters, and moving brings gains in general life satisfaction for many movers. Those who stay often are not especially dissatisfied, but the movers who lose a level are less satisfied. It is a reiteration of the general view that those who can move, move out and move up, which of course leaves those who are less advantage behind. Still, many households that move below the diagonal line are still somewhat satisfied or feel that they are fairly safe. Of course, their satisfaction is not totally unexpected because, in many cases, the household will have chosen that neighborhood. It will be only with the second wave of data that longer term satisfaction can be evaluated.

It is only for the response to the question of whether households feel they are in a neighborhood where neighbors share the same values that we see strong discrepancies in feelings about their neighborhood. These results matter, because they reveal something about how people are reacting to the outcomes from the mobility behavior. In essence, mobility does not always work out. In these instances, people make the best of the situation. However, in the end, the matching of values may be one of the most important indicators of future mobility. If individuals and households can find places where they feel at home, sharing the same values is certainly a presumption of a lower probability of future mobility.

#### **4. Models of Choice**

A series of multinomial logit models were constructed to further explore the associations with census tract choice that can be observed in the matrices of moves. The study examines the variables that are associated with moves above and below the diagonal line, using the diagonal line as the reference category. It examines total number of moves made and the choices made by White, African-American, and Hispanic households, each analyzed separately.

The model for all moves, including variables that measure the tract proportion of African-American and Hispanic households, is significant and confirms the discussion of the roles of income, education, and tenure in the quintile outcomes (exhibit 15). Age is significant, as are education and tenure, but clearly tenure is substituting for income, because when income is used as an independent measure, it is not significant. The race and ethnic variables are not significant. When the same model is examined for moves above and below the diagonal line, with the diagonal line being used as a reference

category for White, African-American, and Hispanic movers, education dominates in influence over outcomes (exhibit 16). Indeed, it is the only variable that is significant across all three groups. In addition, for Hispanic households, tenure is a significant measure of moving above the diagonal line and marital status is marginally significant at level .10 for both White and African-American households, as is income for African-American households.

A preliminary interpretation of the findings from the advantage and disadvantage moves suggests that status, as measured by education, is a critically important measure of the choices that matter across neighborhoods in metropolitan Los Angeles. Income lurks in the background for African-American and Hispanic households, although it is only marginally significant in both cases. Family status is also a background variable for White and African-American households' ability to make more positive moves. That tenure is not important when the data are broken down by ethnicity emphasizes the much lower ownership levels of African-American and Hispanic households overall. The results reveal two forces that were discussed in previous sections. First, the income effect seems to be greatest for the higher quintiles—that is, the increase in income across quintiles is not linear but increases rapidly in the two highest quintiles. Second, the strong findings on the influence of education level achieved upon positive outcome, reflect and include the status differences that are highlighted for families who are moving down the neighborhood hierarchy because of family trauma.

### Exhibit 15

#### Multinomial Models of Advantage and Disadvantage Moves Across the Mobility Matrix

Variable	Chi Square	Pr > Chi Square
Intercept	24.14	.0001
Age	7.21	.0272
Married family	3.21	.2004
Family income	2.35	.3095
College educated	7.65	.0219
Homeowner	16.16	.0003
African American	0.25	.8808
Hispanic	4.37	.1127

Notes: An advantage move is a move above the diagonal, and a disadvantage move is a move below the diagonal of the matrix of moves. The diagonal is the reference category.

### Exhibit 16

#### Multinomial Models of Advantage and Disadvantage Moves Across the Mobility Matrix by Race and Ethnicity

Variable	White		African American		Hispanic	
	Chi Square	Pr > Chi Square	Chi Square	Pr > Chi Square	Chi Square	Pr > Chi Square
Intercept	3.74	.1539	0.49	.7811	23.62	< .0001
Age	5.34	.0692	0.05	.9740	2.37	.3065
Married family	5.25	.0724	5.22	.0736	1.65	.4377
Family income	0.69	.7067	4.88	.0870	4.45	.1081
College educated	9.50	.0087	15.45	.0004	12.83	.0016
Homeowner	2.35	.3089	2.43	.2960	6.07	.0482

## Observations and Conclusions

A great deal of selectivity is occurring across neighborhoods in metropolitan Los Angeles, and that selectivity is tending to reinforce patterns of separation—patterns that have long been in place in neighborhoods across the urban area. The evidence of the tendency to reinforce patterns comes from the robust probabilities of selection on the diagonal line and across all levels of socioeconomic status, but—and it is a very important caveat—at the same time, there is substantial fluidity in the mobility outcomes in the Los Angeles metropolitan area, and there is considerable evidence from this study of people moving to improve. The proportions of households that move up vary by race and ethnicity but, among Whites and Hispanics, one-third and one-fifth of movers, respectively, make gains in their neighborhood status. It is a positive view of opportunities in the urban mosaic, a view that there are opportunities to access better neighborhoods and that those with resources are able to do so. Moreover, the levels of satisfaction for those households that can access high-quality neighborhoods are greater than for those that find themselves below the diagonal line of the matrix of moves. In particular, substantial numbers of Hispanic movers are able to increase both their socioeconomic status and, by extension, their greater levels of residential integration, defined as living in census tracts with larger proportions of White residents.

To the extent that education and income are intertwined (that is, that people with a higher level of education are more likely to have higher incomes), a persuasive argument can be made that money matters in the choices that are available to households in Los Angeles neighborhoods. Money and resources matter more than most people want to acknowledge. Given that money matters so much, what are the available options to bring policy to bear on the mobility and moving patterns in large urban areas?

As others have noted, it would take a lot of money and a lot of moves to solve poverty. This assumption returns the debate to—How is it possible to intervene in society and the urban fabric? As Coulton and colleagues (2009) noted, the critical challenge may be to figure out how to help those who are falling down the hierarchy. In this sense, it picks up an issue that was discussed previously in this article, regarding moves to the lowest status quintiles. Social issues are clearly an important part of solving the problems for households that run into the problems of surviving and improving in modern urban society. Perhaps the most troubling aspect of the downward urban mobility is the negative outcomes for children. Those movers and their children who move to inner-city, challenged neighborhoods have fewer resources, and their children are not doing as well as those leaving inner-city areas in Los Angeles.

Can places or people's outcomes, or both, be improved? Recent discussions of this exact problem again juxtapose the very different approaches of groups with different agendas and juxtapose those who have place effects at the forefront of their approach to the problem with those who are more interested in individual outcomes. Nearly two decades ago, a vigorous debate ensued about whether to invest in places or people—the place prosperity versus the people prosperity debate. This debate may now be subsumed by the increasing importance of issues of equity and fairness and by the question of whether a developed society can continue to ignore the high levels of inequality that are at the heart of the issues and outcomes that this article reveals in microcosm.



## Author

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# Public Housing Transformation and Crime: Making the Case for Responsible Relocation

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## Abstract

*The research in this article examines the effect on crime rates of public housing transformation in Atlanta and Chicago, focusing on the neighborhoods receiving households relocated with housing vouchers. Modeling the complex relationship between voucher holder locations and crime, using quarterly data, our analysis found that crime rates fell substantially in neighborhoods with public housing demolition, whereas destination neighborhoods experienced a much lesser effect than popular accounts imply. Nevertheless, on average, negative effects emerge for some neighborhoods with modest or high densities of relocated households compared with conditions in areas without relocated households. Overall, we estimate small net decreases citywide in violent crime over study periods during which crime declined significantly. These findings suggest a need for thoughtful relocation strategies that support both assisted residents and receiving communities.*

## Introduction

Chicago and Atlanta are very different cities but, in the 1990s, both faced serious problems with their public housing—distressed, high-crime developments that were damaging residents' lives and contributing to neighborhood decline. By the end of the decade, both cities' housing authorities had used federal HOPE VI<sup>1</sup> grants to launch ambitious citywide transformation efforts, with the goal of demolishing their worst developments and replacing them with new, mixed-income communities. Transforming public housing meant relocating thousands of households while the new housing was constructed, a process that often took years and required developing new services to support residents through the process. As part of the relocation effort, many former public housing residents in both cities received housing choice (Section 8) vouchers (HCV) and moved to private-market housing; most opted to keep their vouchers and stay in their new neighborhoods rather than return to the new mixed-income communities.

Not surprisingly, the nation's two largest public housing transformation efforts—the Chicago Housing Authority's (CHA's) Plan for Transformation and the Atlanta Housing Authority's (AHA's) Olympic Legacy Program and Quality of Life Initiative (QLI)—generated a variety of concerns, and many affordable housing advocates focused on how former residents fared during the relocation process (Bennett, Smith, and Wright, 2006; Keating, 2001; NHLP et al., 2002). Local politicians and press accounts in these cities and others have also raised questions about whether households receiving vouchers bring crime and disorder to their new communities (Dumke, 2011; Medina, 2011).

A 2008 *Atlantic Monthly* article sparked a media controversy by claiming that HOPE VI—specifically, relying on vouchers to relocate residents in private rental housing—was to blame for rising crime in Memphis (Rosin, 2008). The article drew a grim picture of rapidly increasing crime in previously safe Memphis communities and then used an analysis that associated crime incidents with the movement of voucher recipients to make the case that HOPE VI was responsible for these problems. The article ignited a national debate about the effect of housing vouchers on crime, with many researchers and advocates arguing that the *Atlantic Monthly's* analysis was too simplistic, blaming voucher holders unfairly for broader trends (Briggs and Dreier, 2008). Until recently, however, no systematic efforts have tried to understand whether empirical evidence supports these fears or if they simply represent negative stereotypes of public housing residents.

Using a panel data set of administrative records from each housing authority and reported Part I crimes at the census tract level for more than 30 quarters in Chicago and Atlanta, our research examines the relationship between crime and relocation from public housing using advanced modeling techniques. The three questions we explore in this article are (1) the degree to which the entrance into a neighborhood of relocated voucher households has a significant effect on crime; (2) whether any detected effect varies according to thresholds in the concentration of relocated households; and (3) the degree to which the transformation efforts affected overall crime, looking at tracts where public housing was demolished and at destination neighborhoods for relocated households.

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<sup>1</sup> HOPE VI stands for Housing Opportunities for People Everywhere. Begun in 1992, it funded the demolition and rehabilitation of public housing around the country. For more information on the program, see Popkin et al. (2004).

This article begins a discussion of the possible way that public housing transformation might influence neighborhood crime rates and an overview of the transformation efforts in Atlanta and Chicago. We describe the data used, the methodology employed, and the challenges we faced in trying to answer our research questions. We review the results of the analysis on destination neighborhoods first and then describe how results are a part of an analysis on the citywide net effects of the transformation efforts.

The relationship between crime rates and public housing households relocating into the private market is complex. Crime declined dramatically in both cities throughout the 2000s, even in neighborhoods that received many relocated households. Furthermore, the transformation efforts led to substantial decreases in crime in neighborhoods<sup>2</sup> where the CHA and the AHA demolished public housing communities. This decline contributed to a small but significant net decrease in violent crime across all Chicago neighborhoods and a small decrease in violent crime and property crime in Atlanta neighborhoods. The picture is not entirely positive, however. The transformation contributed to slightly more property crime overall in Chicago, and some neighborhoods in both cities have experienced problems associated with concentrations of relocated households. After the number of relocated households reached a certain threshold, crime rates, on average, decreased less than they would have if no former public housing residents had moved in. We conclude the article with a discussion of the policy implications of these findings and suggest that future relocation efforts need to learn from Chicago's and Atlanta's experiences, particularly the responsible relocation strategies both housing authorities developed as they learned more about residents' needs (AECF, 2008).<sup>3</sup>

## **How Could Public Housing Transformation Affect Crime?**

Over the past two decades, housing assistance in the United States has undergone a profound transformation (Turner, Popkin, and Rawlings, 2009). The \$6 billion HOPE VI Program facilitated the demolition of hundreds of distressed inner-city public housing developments and enabled housing authorities to replace them with a combination of new, mixed-income communities and vouchers. Underlying this transformation was the hope that public housing residents would benefit both socially and economically from living in more diverse, higher opportunity neighborhoods (Joseph, Chaskin, and Webber, 2007). Although not every public housing revitalization project has realized all these hopes, a large body of research shows that former residents are generally living in better housing in safer neighborhoods where they experience less stress and anxiety (Briggs, Popkin, and Goering, 2010; Popkin, Levy, and Buron, 2009; Turner, Popkin, and Rawlings, 2009).

Public housing transformation also intends to improve neighborhoods. Removing distressed public housing properties that cause blight may allow for new development, increase property values, and

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<sup>2</sup> For purposes of this analysis, we define neighborhoods as census tracts. Throughout this article, we use the terms neighborhood, census tract, and tract interchangeably. These terms are not in reference to Chicago's 77 community areas, which are much larger, typically containing about nine census tracts each.

<sup>3</sup> Responsible relocation provides relocation counseling and other direct services to ensure that residents receive appropriate relocation benefits and have the opportunity to move to better neighborhoods than those they are leaving.

attract more affluent residents (Turner, Popkin, and Rawlings, 2009). Although large-scale relocation of public housing families is controversial, however, the question of how such moves might affect destination communities has received relatively little attention from researchers, despite real concerns about the potential for creating new concentrations of poverty (Galster et al., 2003). Only one major study rigorously explored how voucher holders living in a community might affect crime rates, and it found no evidence to support a link between the presence of voucher holders and increased crime (Ellen, Lens, and O'Regan, 2011). That study, however, looked only at traditional<sup>4</sup> voucher holders (who are not generally former public housing residents), used annual data on voucher holders, and did not explicitly examine the question of the potential effect of large-scale public housing relocation.<sup>5</sup>

We have several reasons to expect that large-scale public housing demolition and relocation might affect crime in destination communities more than the presence of traditional voucher holders.<sup>6</sup> First, relocating public housing residents for redevelopment could disrupt their social networks (Hagedorn and Rauch, 2007), increasing their risk for either perpetrating or becoming victims of crime in their new neighborhoods (Haynie and South, 2005; Sharkey and Sampson, 2010). Second, new residents moving into a neighborhood could disrupt the community's *collective efficacy*—the degree of mutual trust and social cohesion that acts as a protective factor for residents—thereby making the residents of these neighborhoods less safe (Sampson, Raudenbush, and Earls, 1997). Third, some public housing residents or their associates could simply bring crime with them, essentially displacing problems like drug trafficking and gang activity from one neighborhood to another.<sup>7</sup>

## Transforming Public Housing in Chicago and Atlanta

Atlanta and Chicago have undertaken the two most prominent public housing transformation efforts in the nation, initiatives that have been both widely lauded and extremely controversial. In both cities, the most visible change has been replacing notorious developments like Robert Taylor

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<sup>4</sup> Throughout the article, we refer to those households that receive a housing choice voucher subsidy but that did not relocate from public housing as “traditional” or “regular” voucher holders.

<sup>5</sup> Research is thin on the differences between housing choice voucher households and public housing households, but evidence indicates that public housing households are more likely to include elderly people and less likely to include children.

<sup>6</sup> The connection between public housing and crime is complex, but the two are clearly related. For example, research shows a moderate-to-strong positive relationship between the location of subsidized housing in cities and crime hotspots (Galster et al., 2002; McNulty and Holloway, 2000; Roncek, Bell, and Francik, 1981; Suresh and Vito, 2007), and that public housing might impose negative crime externalities on surrounding neighborhoods (Sandler, 2011). Opportunities for involvement in gang violence and drug sales, among other kinds of offending, are more readily available to youth who reside in public housing developments than to those who live elsewhere (Popkin et al., 2000; Venkatesh, 2000). Public housing residents also experience elevated levels of criminal victimization relative to their nonpublic housing counterparts (DeFrances and Smith, 1998; DeKeseredy et al., 2003; Griffiths and Tita, 2009; Holzman, Hyatt, and Dempster, 2001; Kling, Liebman, and Katz, 2005).

<sup>7</sup> Evidence across multiple U.S. cities is mixed (Kleinhaus and Varady, 2011; Suresh and Vito, 2009; VanZandt and Mhatre, 2009), although the most rigorous research suggests this phenomenon is not occurring as a result of HOPE VI demolition (Cahill, Lowry, and Downey, 2011; Santiago, Galster, and Pettit, 2003).



Homes in Chicago and Techwood Homes in Atlanta with new, mixed-income housing that reflected the current thinking on how to provide affordable housing without creating concentrations of poverty.<sup>8</sup>

Chicago has been one of the country's housing policy bellwethers, and efforts there have received considerable national attention. The CHA's Plan for Transformation began in 1999, when the agency announced its goal to replace or rehabilitate 25,000 units of public housing.<sup>9</sup> As in many cities, relocation proved the most challenging aspect of the transformation initiative. First, with more than 16,000 households to relocate, the sheer magnitude of the problem was daunting. Second, many CHA residents faced numerous barriers that made relocation particularly challenging. Because of the terrible conditions in CHA family developments, tenants who had better options had left long ago, leaving behind a population dominated by extremely vulnerable families (Popkin et al., 2000). Third, like most housing authorities, the CHA had little experience providing supportive services and certainly had not previously attempted a large-scale relocation.<sup>10</sup> The challenges only intensified over time, as families who were easier to relocate moved, leaving the CHA with a population increasingly dominated by the most vulnerable households (Popkin, 2010). The agency ultimately overcame these challenges. Using the funding and regulatory flexibility that the U.S. Department of Housing and Urban Development's (HUD's) Moving to Work (MTW) program provided, the CHA built a robust resident services department; by 2011, the CHA had completed work on more than 85 percent of its planned units (Popkin et al., 2010).

CHA residents had three relocation options; they could (1) move to new mixed-income housing, (2) live in rehabilitated public housing, or (3) use a voucher to rent a private-market unit. By 2008, approximately 6,400 former public housing households had relocated to the private market with vouchers. The limitations of the voucher program—that rents must fit HUD's guidelines for affordability and landlords must be willing to comply with program rules and regulations—meant, however, that voucher rental units tended to concentrate in lower income, heavily minority areas (Cunningham and Drosch, 2005). Although the CHA offered residents relocation assistance and mobility counseling to encourage them to move to *opportunity areas* that offered better schools and services, and although those who chose vouchers could move to any unit that met housing quality and rent payment standards, many chose to stay in familiar areas on the city's South and West Sides (Popkin, Levy, and Buron, 2009). Furthermore, one benefit of tenant-based vouchers is that recipients have the freedom to move, and many residents moved several times after leaving public housing.

Although the CHA did not launch its Plan for Transformation until 1999, the AHA was an early leader in the national movement to replace distressed public housing developments with market-quality communities. In 1996, the Atlanta Blueprint called for using a HOPE VI grant to revitalize the Techwood-Clark Howell Homes, the nation's oldest public housing development, marking an

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<sup>8</sup> For an overview of the CHA's history and the Plan for Transformation, see Popkin (2010).

<sup>9</sup> The CHA's Plan for Transformation included providing relocation and self-sufficiency services to the existing lease-compliant households living in public housing as of October 1, 1999 (known as original 10/1/99 residents), to help them relocate (CHA, 2011).

<sup>10</sup> The agency's long history of mismanagement and broken promises compounded its problems with relocation (Bennett et al., 2006; Popkin and Cunningham, 2005; Venkatesh et al., 2004).

important point in the evolution of the HOPE VI program nationally. When the first phase of Centennial Place—in reference to the Centennial Olympic Games that Atlanta hosted that year—opened in summer 1996, it was the nation’s first mixed-income development that included publicly assisted housing. Also in 1996, the AHA unveiled its Olympic Legacy Program, the agency’s effort to bring to scale the mixed-income revitalization model for traditional public housing. The AHA was able to build on the momentum from the Centennial Place revitalization and leverage additional local investment to support replacing three additional public housing developments with mixed-income communities.<sup>11</sup> After nearly a decade of experience in turning distressed public housing into mixed-income, mixed-use developments, the AHA launched its final and even more ambitious effort to fully transform public housing in the city of Atlanta. As with the CHA, the AHA’s participation in the MTW program, which began in July 2003, made possible the legal and regulatory framework for that effort. Among the key initiatives were a number of policy changes in AHA leasing standards and practices and the adoption of a set of strategies intended to enable families to use their vouchers in a broader range of neighborhoods. In addition, like the CHA, the AHA introduced in 1998 a 5-year, family-focused coaching and counseling program to provide comprehensive assistance to tenants throughout and after the relocation process.

AHA’s QLI, launched in 2007, aimed to demolish nearly all of the city’s remaining family public housing developments and to replace those units with new mixed-income communities. Just as the CHA discovered, the AHA found that the families still needing to be relocated during these later phases of the transformation initiative were more vulnerable and required more substantial support. The AHA’s comprehensive supportive services, launched as part of its expanded relocation strategy, were available to relocated families for up to 5 years. Relocated households that received this comprehensive support reported substantial improvements in their quality of life (Rich et al., 2010). By 2010, the AHA no longer owned or operated any large-scale family public housing developments. To underscore the magnitude of the transformation, in 1996, more than 70 percent of AHA assisted households lived in conventional public housing; by 2011, nearly 70 percent of AHA residents had vouchers, another 15 percent lived in new mixed-income housing, and the rest lived in other mixed-income properties throughout the city with project-based rental assistance. In the course of this transformation, about 10,000 households relocated, and most, by far, used vouchers to move to the private market.

## Data

Our analysis draws on several data sources: data on voucher holders and relocated households from housing authority administrative records in Atlanta and Chicago, crime incident reports, and census data.

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<sup>11</sup> Overall, the AHA included 10 family public housing projects in the Olympic Legacy Program, with 7 receiving assistance through the HOPE VI Program.

## **Housing Authority Administrative Data**

Using HUD Form 50058<sup>12</sup> data obtained from the AHA and the CHA, we tracked voucher holders longitudinally, from January 2002 through December 2009 in Atlanta and from October 1999 through December 2008 in Chicago, and we created a data set with the number of voucher holder households aggregated to the census tract level for each quarter.<sup>13</sup> We were able to distinguish voucher holder households that had relocated from public housing developments from those participating in the regular Section 8 program.<sup>14</sup> Using the number of households in a tract (a description of the calculation follows), we generated separate rates for relocated voucher holder households per 1,000 households and for regular voucher holder households per 1,000 households. We refer to the former group as “relocated households per 1,000 households” and the latter as “regular voucher holders per 1,000 households” in the remainder of this article. To answer our question about the effect voucher holders have on crime in their destination neighborhoods, we removed from the analysis sample tracts with substantial demolition of public housing units (because, by definition, these areas would not be receiving communities) and those that are non-residential.<sup>15</sup> These data do not include households relocated from public housing that did not take a housing choice voucher, such as those that relocated to mixed-income developments.

## **Crime and Population Data**

We obtained the quarterly tract-level crime data containing Part I crime<sup>16</sup> and gun crime<sup>17</sup> reports for our study period. We also separately tabulated and included with our data reports of crimes that involved a gun. The Chicago estimates used tract-level data from the 2000 and 2010 decennial censuses to create intercensal population and household estimates for each quarter in Chicago, whereas the Atlanta estimates used 2000 census data and population estimates that the Atlanta Regional Commission calculated. The final analysis sample in Chicago contained observations for 813 tracts over 37 quarters, and the Atlanta sample contained observations for 121 tracts over

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<sup>12</sup> Form 50058 is a module of HUD’s Inventory Management System/Public and Indian Housing Information Center, a system that stores information on families who participate in public housing or Section 8 rental subsidy programs ([http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/public\\_indian\\_housing/systems/pic](http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/systems/pic)).

<sup>13</sup> The Chicago study period begins with the fourth quarter of 1999 to include the start date of the Plan for Transformation and the significant improvements in data quality after the HUD takeover of the CHA. Although Atlanta’s public housing transformation began in the early 1990s, data on relocated public housing households were not available before 2002, so the Atlanta study period begins then.

<sup>14</sup> For Chicago, we matched public housing residents on the CHA’s 10/1/99 list to the data and created flags to indicate if a voucher holder was part of the Plan for Transformation. For Atlanta, we derived data from the AHA’s housing choice voucher and relocation administrative databases, which included a field indicating whether voucher holders received their vouchers as a result of public housing transformation.

<sup>15</sup> This excluded group includes tracts with 100 or more public housing units demolished: 18 total tracts in Atlanta and 30 total tracts in Chicago.

<sup>16</sup> Part I violent crime includes aggravated assault, forcible rape, murder, and robbery. Part I property crime includes arson, burglary, larceny, and motor vehicle theft.

<sup>17</sup> Gun crimes (those involving handguns or other firearms) include homicide, sexual assault, robbery, battery, ritualism, and assault.

32 quarters. We chose quarters as the unit of time for this analysis because we sought to accumulate sufficient numbers of reported crimes of various types and thereby avoid substantial numbers of observations with zero counts.

Exhibit 1 shows the summary statistics over the analysis period for our dependent and independent variables of interest. We did not model gun crime in Atlanta. The two cities’ average quarterly violent crime rates are similar: 4.9 crimes per 1,000 people in Chicago and 4.4 in Atlanta. Property crime rates are substantially higher in Atlanta than in Chicago. The average population in a census tract is roughly the same between cities, with a slightly higher average in Atlanta, about 3,800 compared with about 3,400 in Chicago. On average, the density of relocated households is very similar between the two cities, but Atlanta has higher densities of regular voucher households.

To give a sense of how these variables change from quarter to quarter in Chicago, the average absolute change in the voucher holder rates is 0.39 for relocated households and 1.6 for regular voucher households. For crime counts, the average change is 4.19 for violent crime, 9.78 for property crime, and 2.35 for gun crime.

**Exhibit 1**

**Descriptive Statistics of Dependent and Independent Variables for Analysis Samples**

Variable	Chicago		Atlanta	
	Mean	Standard Deviation	Mean	Standard Deviation
Part I violent crimes	12.3	13.2	14.5	11.9
Part I violent crimes per 1,000 population	4.9	5.9	4.4	3.8
Part I property crimes	41.3	37.3	75.4	60.3
Part I property crimes per 1,000 population	17.5	28.6	21.9	22.9
Gun crimes	4.7	5.8	NA	NA
Gun crime per 1,000 population	1.8	2.4	NA	NA
Population	3,382	2,525	3,788	2,080
Relocated HH per 1,000 HH	3.5	7.0	3.3	6.7
Regular HCVP HH per 1,000 HH	31.2	40.8	50.2	63.3
Number of Observations	30,081		3,296	

*HCVP = Housing Choice Voucher Program. HH = households. NA = data not available.*

*Source: Analysis of 50058 data from Chicago and Atlanta Housing Authorities, Chicago and Atlanta Police Departments and the U.S. Census Bureau*

**Methodology**

The question of whether relocated households cause crime in their new neighborhoods appears straightforward superficially. Substantial analytical challenges make answering it very difficult, however, because of three potential problems—selection bias, endogeneity bias, and spatial autocorrelation—that violate the basic statistical assumption about the independence of errors associated with observations.

**Efforts To Confront Statistical Challenges**

*Selection bias* occurs when one or more unmeasured (uncontrolled in the model) neighborhood characteristics causally affect both crime and where voucher holders decide to live. This problem

can bias the estimated coefficients; the amount of bias depends on the strength of the correlation between the voucher holders' residential selections and the unmeasured variables. In this case, several neighborhood characteristics—availability of affordable housing, layout of streets, architectural character of buildings, access to mass transit, and presence and design of public spaces and facilities—will likely affect both how many voucher holders move into the neighborhoods and how much crime will occur there. To minimize selection bias, we estimate a fixed-effects model in which the dummy variable we specify for each tract serves as a summary proxy for all the aforementioned, unmeasured characteristics.

*Endogeneity bias* arises if crime rates and voucher holder concentration are mutually causal. Voucher holder concentration might indeed affect the crime rate in a neighborhood, for any or all of the reasons noted previously. The causation might also work in reverse, however. Landlords in neighborhoods with rising crime rates, who face falling property values and skyrocketing vacancies, might respond by recruiting voucher holders more aggressively. Concurrently, rents might fall in these areas so that they become more economically attractive destinations in which voucher holders can save out-of-pocket contributions to rent payments. This circular pattern of causation can bias the coefficients of the endogenous crime and voucher concentration variables, with the strength of the bias depending on the degree of reverse causation. Our use of quarterly data helps address some issues with endogeneity bias because it precisely estimates the sequence of voucher holders and crime. We count voucher holders in a tract if they are present at the beginning of the quarter and count crimes during each quarter.<sup>18</sup> Although this approach does not address endogeneity completely, it reduces potential feedback bias if the market does not respond quickly to changes in crime—that is, if landlords take several quarters or longer to reduce rents in response to crime increases.<sup>19</sup>

*Spatial autocorrelation* occurs when observations with similar values cluster across geographic space. Clusters of this sort undoubtedly occur with the phenomenon of crime, for which spatial spillovers have long been considered the norm. Statistical analyses that do not correct for spatial dependency can have unstable parameter estimates and yield unreliable significance tests. We make this correction by employing a spatial lag variable in our model, defined using the tract centroids and an inverse distance decay function,  $\alpha = 1$ , with a 2-mile cutoff (Hipp, 2010).

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<sup>18</sup> The voucher population in a tract is highly correlated quarter to quarter. A test of lagged or future voucher holder rates in the same model with the current rate violates assumptions about the independence of errors.

<sup>19</sup> We tested a specification of the model employing the lagged (one quarter) value of tract median sales prices for single-family homes and condominiums as a control, but the additional term did not appreciably affect our results and caused a number of tracts to drop from the analysis because of missing data. With Chicago data, we also experimented at length with instrumental variables (IVs) as a way of confronting endogeneity bias. Unfortunately, the number of relocated voucher households was zero for most observations and very small in nearly every other observation, thus rendering the predictive power of our first-stage residential location models very poor. Because of this weak instrument in the second stage, we were reluctant to report those results. We stress, however, that our IV estimates supported the conclusions we report here regarding the effect of relocated voucher households on neighborhood crime rates. Thus, we have some confidence that our conclusions have not been seriously distorted by endogeneity bias.

## Specification of the Crime Models

We estimate negative binomial, fixed-effects panel models of crime counts as a function of relocated households per 1,000 households.<sup>20</sup> Our base model treats this key variable as continuous; our threshold model breaks the rate into various categories to test for nonlinear effects. As a control for the aggregate concentration of all vouchers, we enter the rate of regular voucher holders per 1,000 households in the models. We also control for the citywide crime trend and seasonality of criminal activity by including dummy variables for each quarter and omitting the first quarter. Tract fixed effects and the spatial lag of the given crime dependent variable, as explained previously, complete the specification.

Following recent convention in criminological research, we employ a negative binomial specification (Hipp and Yates, 2009; Osgood, 2000). This specification handles crime counts instead of crime rates and includes population as a separate explanatory variable with its coefficient constrained to 1. Constraining the coefficient for population enables us to interpret the estimates in relation to crime rates per capita instead of counts. A negative binomial estimation is preferable to standard ordinary least squares (OLS) regression on crime rates because it accounts for skewed crime rate distributions, particularly in areas with small populations like census tracts, where small increases in crime counts can produce dramatic changes in crime rates (Osgood, 2000). This estimation uses the Poisson distribution for counts and includes an error term with a gamma distribution, the latter to allow for overdispersion caused by dependence between crime events.

Given the critical policy importance of identifying whether a threshold of voucher holder concentration that triggers crime exists, we also estimate a threshold model. Based on the literature, we expect that threshold points might exist below which voucher holders have no effect on crime (Galster, Tatian, and Smith, 1999). Because the distribution of voucher households in neighborhoods is highly skewed, and because many neighborhoods have no voucher households, we use separate categorical dummy variables for various threshold levels of both relocated and regular voucher households per 1,000 households, with zero voucher holders as the omitted category. We created threshold categories using the quartiles for tracts with nonzero values of relocated and regular voucher households separately over four quarters at the end of the study period in Chicago, the fourth quarter of 2007 through the third quarter of 2008. Atlanta tracts fell into similar threshold categories, so we applied the Chicago threshold categories to the Atlanta data for comparability.

Finally, we experimented with a variety of models that enabled the potential effect of relocated households on crime to differ according to the neighborhood context, as measured by variables operationalized with 2000 census tract-level data. Given that our models include tract fixed effects, these contextual variables enter the model as interactions with the relocated household rates variable. We tried a wide variety of variables that attempted to measure the degree of collective efficacy and pre-existing concentrations of poverty in the neighborhood. Unfortunately, none of these

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<sup>20</sup> A test of the model using the count of relocated households instead of the rate per 1,000 households did not produce any substantive differences in the coefficients estimated.

experiments provided sufficiently consistent, meaningful, or robust results to report here. The Atlanta research team is continuing to experiment with other tract-level data sources that might serve as proxies for collective efficacy.<sup>21</sup>

Our model estimates the marginal effect of relocated households on crime in destination neighborhoods during the transformation efforts, but it does not tell us what effect relocation under these efforts had on crime in neighborhoods where public housing was demolished. To predict how many crimes would have been reported in these neighborhoods in the absence of the demolition of the public housing developments, we estimated an OLS model for the public housing tracts for each crime type, using data from 1991 through 2008 for Chicago and from 1997 through 2009 for Atlanta ( $n = 30$  in Chicago;  $n = 18$  in Atlanta). In each tract, actual crime counts were set to *missing* after the start date for the relocation of households in preparation for the first building demolition.<sup>22</sup> We used the coefficients from the terms in this model, including controls for time, tract fixed effects, and indicators for season, to produce an expected crime count in these neighborhoods in the absence of public housing demolition.<sup>23</sup> Subtracting the expected number from the actual number of crimes gives us the change in crime because of the public housing transformation and demolition in these tracts.

For the other residential, or *destination*, neighborhoods, we divided the number of actual crimes in each tract by the appropriate coefficient from the threshold model to estimate what crime would have occurred in these neighborhoods if no households had relocated there and the public housing transformation had not occurred. By aggregating the results across tracts and over the study periods of what expected crime would have been without the transformation efforts in the public housing demolition tracts and the destination neighborhoods, we arrive at a citywide net effect of the efforts.

## Results

Overall, our negative binomial fixed-effect models<sup>24</sup> of crime in Atlanta or Chicago suggest a more complex relationship between crime and public housing transformation than has been implied in the popular media. The control variables indicated that, as expected, higher counts of similar crimes within a 2-mile radius were associated with higher counts of that crime in the particular neighborhood.<sup>25</sup> Most tract fixed effects proved statistically significant, suggesting substantial,

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<sup>21</sup> Residential churning within a tract might also contribute to decreased collective efficacy. We do not have a reliable method of measuring all residential movement at the census tract level, either annually or quarterly. If residential churning within tracts is consistent over time, however, the inclusion of tract fixed effects in the model would account for it.

<sup>22</sup> The relocation of households in public housing units took place over an extended period. We assumed that relocation began at least 1 year before the “notice to proceed” date for the demolition of each building (obtained from the CHA).

<sup>23</sup> Regression results for this model are available from the authors on request. We excluded one tract in Chicago with public housing demolition (818.00) from this model for property crime only because of its unusually high volume of property crime and crime trend over time. We used a linear extrapolation for this tract to estimate the quarters after demolition occurred. This procedure did not alter our conclusions overall.

<sup>24</sup> We estimated parameters using the NBREG procedure in STATA MP 11.

<sup>25</sup> Details are available on request; they are omitted from exhibit 2 for brevity.

persistent crime differentials among census tracts in Chicago and Atlanta, but we do not discuss them here because they offer no important insights. The results of central interest, however, indicate that greater concentrations of relocated households were associated with higher crime rates of all types investigated; this relationship manifested itself only after surpassing a threshold occurring in a minority of tracts.

### Violent, Property, and Gun Crime Effects on Destination Neighborhoods

The estimation of our base model specification shows that higher rates of relocated households in a neighborhood (census tract) in both Atlanta and Chicago are associated with higher violent crime rates during that quarter (exhibit 2). In these negative binomial models, because tract population has been logged and its coefficient constrained to 1, we can interpret the coefficient on relocated households per 1,000 households as the percentage increase in crimes per capita for each additional relocated household per 1,000 households in a quarter. The coefficient of 0.00769 for violent crime in the Chicago base model indicates a 0.77-percent increase in per capita crime for each additional relocated household per 1,000 households. We found similar results in Atlanta, where an additional relocated household per 1,000 households is associated with a 0.72-percent increase in per capita crime. The associated effect on crime for relocated households is slightly less for property crime in both cities and slightly more for gun crime in Chicago.

#### Exhibit 2

Base Models All Residential Tracts (Except Public Housing Demolition Tracts)

Dependent Variable (Crime Count)	Violent		Property		Gun
	Chicago	Atlanta	Chicago	Atlanta	Chicago
Relocated voucher holder HH per 1,000 HH	0.00769*** (0.000539)	.00717*** (0.00128)	0.00657*** (0.000450)	0.00477*** (0.000936)	0.00926*** (0.000795)
Regular voucher holder HH per 1,000 HH	0.000725*** (0.000152)	- 0.00035 (0.000245)	0.000766*** (0.000132)	0.0002562 (0.000172)	0.000831*** (0.000227)
Spatial lag of crime	0.0374*** (0.000754)	0.0212*** (0.00254)	0.0150*** (0.000239)	0.00713*** (0.00053)	0.0887*** (0.00189)
Constant	- 6.010*** (0.0485)	- 7.339*** (0.119)	- 5.697*** (0.0444)	- 5.073*** (0.0631)	- 7.130*** (0.0792)
Observations	30,081	3,296	30,081	3,296	30,081

HH = households.

\*\*  $p < 0.05$ . \*\*\*  $p < 0.01$ .

Notes: All models include population, tract fixed effects, and indicators for each quarter as described in the text. Standard errors included in parentheses.

### Effect by Density of Relocated Households

The base models show small effects associated with relocated households on average across census tracts, but we expected that variation across neighborhoods was possible based on the density of relocated households. The findings from our threshold models, shown in exhibit 3, indicate a much smaller effect of public housing transformation on destination neighborhood crime rates than the popular accounts we discussed in the beginning of this article imply. Nevertheless, they



**Exhibit 3**

**Threshold Models All Residential Tracts (Except Public Housing Demolition Tracts)**

Dependent Variable (Crime Count)	Violent		Property		Gun
	Chicago	Atlanta	Chicago	Atlanta	Chicago
Very low density Relocated HHs per 1,000 HHs: > 0 to 2	- 0.0100 (0.00823)	- 0.0389 (0.0236)	0.00517 (0.00594)	- 0.0308 (0.0164)	- 0.0301** (0.0124)
Low density Relocated HHs per 1,000 HHs: 2 to 6	0.0465*** (0.00978)	0.0354 (0.0274)	0.0449*** (0.00747)	0.00551 (0.0197)	0.025 (0.0146)
Moderate density Relocated HHs per 1,000 HHs: 6 to 14	0.126*** (0.0119)	0.106*** (0.0331)	0.0918*** (0.00925)	0.0573** (0.0236)	0.119*** (0.0177)
High density Relocated HHs per 1,000 HHs: 14+	0.193*** (0.0145)	0.190*** (0.0432)	0.168*** (0.0114)	0.0865*** (0.0306)	0.209*** (0.0216)
Very low density Regular voucher holders per 1,000 HHs: > 0 to 5	- 0.00530 (0.0170)	0.0223 (0.0407)	0.0103 (0.00915)	0.0373 (0.0224)	0.0163 (0.0297)
Low density Regular voucher holders per 1,000 HHs: 5 to 22	- 0.00855 (0.0196)	0.0979 (0.0565)	0.0135 (0.0111)	0.0347 (0.0333)	0.00432 (0.0335)
Moderate density Regular voucher holders per 1,000 HHs: 22 to 64	0.0316 (0.0229)	0.0868 (0.0659)	0.0139 (0.0142)	0.0389 (0.0401)	0.0812** (0.0382)
High density Regular voucher holders per 1,000 HHs: 64+	0.0770*** (0.0249)	0.0739 (0.0704)	0.0550*** (0.0164)	0.0142 (0.0437)	0.139*** (0.0407)
Spatial lag of crime	0.0367*** (0.000753)	0.0217*** (0.00257)	0.0149*** (0.000240)	0.00708*** (0.000537)	0.0882*** (0.00189)
Constant	- 5.967*** (0.0527)	- 7.347*** (0.121)	- 5.665*** (0.0464)	- 5.081*** (0.0650)	- 7.125*** (0.0868)
Observations	30,081	3,296	30,081	3,296	30,081

HCVP = Housing Choice Voucher Program. HH = household.

\*\*  $p < 0.05$ . \*\*\*  $p < 0.01$ .

Note: All models include population, tract fixed effects, and indicators for each quarter as described in the text. Standard errors included in parentheses.

suggest negative effects for some neighborhoods when relocated households take up residence in them. Using neighborhoods with at least one relocated household, we defined four categories of relocated household density: **very low**-density areas have more than 0 to 2 relocated households per 1,000 households; **low**-density areas have more than 2 to 6; **moderate**-density areas have more than 6 to 14; and **high**-density areas have more than 14.

In Chicago, for instance, a neighborhood with a low density of relocated households at the beginning of the quarter has a (statistically) significantly higher rate of violent and property crimes per capita (5 percent) during that quarter than a neighborhood without relocated households, all

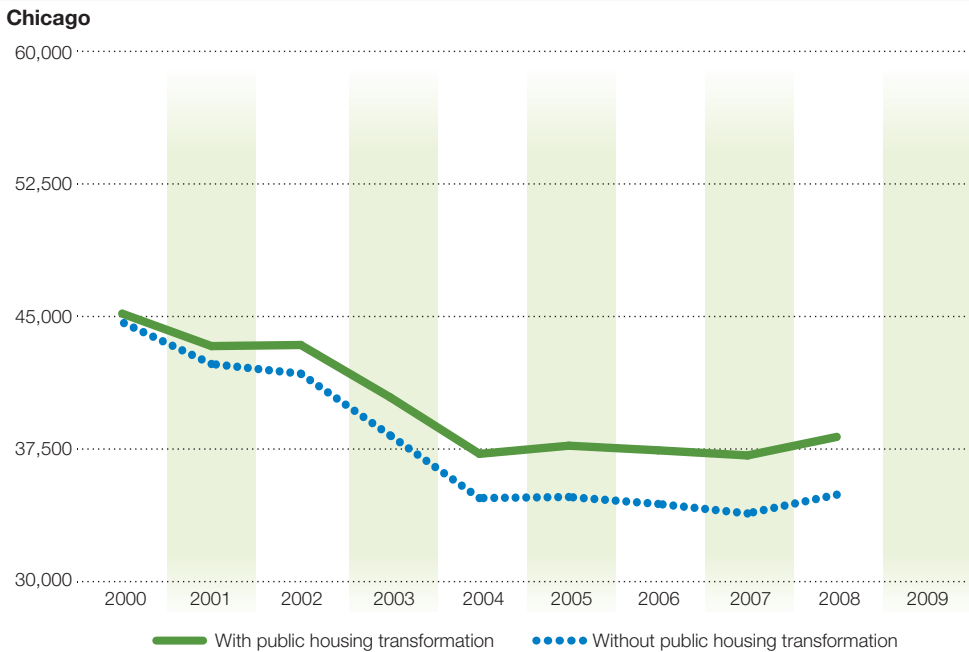
other things being equal.<sup>26</sup> Relocated households have no effect on gun-related crime in Chicago or either property or violent crime in Atlanta until they reach a moderate density. A neighborhood with a moderate density of relocated households compared with a similar neighborhood with no relocated households has a violent-crime rate, on average, 11 percent higher in Atlanta and 13 percent higher in Chicago. Compared with a similar neighborhood with no relocated households, a neighborhood with a high density of relocated households has 21 percent higher violent-crime rates in both Atlanta and Chicago.

### Aggregate Effect in Destination Neighborhoods

Crime generally decreased during the study periods in the residential neighborhoods without public housing demolition in Atlanta and Chicago. The solid line in exhibit 4 represents the actual number of crimes reported. The dashed line shows how much crime we predict would have occurred in these neighborhoods if no households had relocated there and public housing transformation had not occurred. We used the estimates from the previously described threshold models to calculate the dashed line. The difference between the two lines is our estimate of the effect of the relocated households on crime in these neighborhoods.

#### Exhibit 4

Annual Number of Violent Crimes in Destination Tracts (1 of 2)



Source: Urban Institute analysis of data from the Chicago Police Department and the Chicago Housing Authority

<sup>26</sup> To the extent that neighborhoods with higher pre-existing crime rates attracted more relocated households because vacancies were higher, rents were lower, or landlords were more heavily recruiting there, our estimates will overstate the true effect of these households on subsequent crime rates.

**Exhibit 4**

**Annual Number of Violent Crimes in Destination Tracts (2 of 2)**



Source: Emory University analysis of data from the Atlanta Police Department and the Atlanta Housing Authority

Our estimates of the effects of relocated households on crime in the destination neighborhoods vary depending on the density of relocated households; these estimates suggest that overall crime reports in the destination neighborhoods would have been 2.8 and 5.5 percent less, respectively, for violent crime in Atlanta and Chicago if public housing transformation had not occurred. Without relocated households in these neighborhoods, property crime would have been 1.1 percent less in Atlanta and 2.8 percent less in Chicago. Gun crime in Chicago would have been 4.3 percent less in destination neighborhoods.

**Aggregate Effect in Neighborhoods With Public Housing Demolition**

In the Chicago neighborhoods where public housing was demolished, violent crime decreased more than 60 percent compared with our estimate of crime if housing transformation had not occurred. Property crime declined 49 percent and gun crime declined 70 percent between 2000 and 2008. In Atlanta, violent crime declined 13 percent and property crime declined 9 percent between 2002 and 2009 in neighborhoods with public housing demolition.

**Aggregate Effect of Public Housing Transformation Citywide**

By combining our analyses of destination and public housing demolition neighborhoods, we can estimate the aggregate effect across each study period of the transformation efforts on crime in Chicago and Atlanta. As in many American cities, crime declined in both Chicago and Atlanta during

the study period. In both cities, however, tearing down public housing and relocating residents with vouchers meant a modest, statistically significant reduction in violent crime overall.<sup>27</sup> Over the period from 2000 to 2008, the CHA's Plan for Transformation is associated with a 1.0-percent net decrease in violent crimes reported and a 0.3-percent increase in property crimes reported, independent of other factors affecting crime rates. The demolition of CHA housing had a greater effect on gun crime, which was more heavily concentrated in public housing; reports of gun crime decreased, on net, 4.4 percent citywide. In Atlanta, the effects of public housing transformation from 2002 through 2009 yielded a 0.7-percent net decrease in violent crimes and a 0.5-percent decrease in property crimes.<sup>28</sup>

Although the overall effect on crime in both cities was generally positive, as with any major social policy intervention, CHA and AHA efforts generated positive effects in some places and negative effects in others. Both cities experienced significant and lasting crime declines in neighborhoods where they tore down public housing and in many neighborhoods where former public housing residents moved. In a relatively few areas in Chicago and Atlanta that received more than a few relocated households, however, crime decreased less than it would have if no former public housing residents had moved in.

The analyses also examined the effect of traditional voucher holders—those who were not relocated from public housing—on crime (exhibits 2 and 3). Traditional voucher holders have much smaller effects on crime rates than do relocated households, and a much higher density of traditional voucher holders is necessary before we see any effect at all. For violent crime in Chicago, compared with a similar neighborhood with no traditional voucher holders, the density of traditional voucher holders in the neighborhood has no effect on crime until it exceeds 64 households per 1,000 households, which is nearly five times greater than the high-density threshold for public housing relocation vouchers. Violent crime per capita in Chicago neighborhoods with a high density of traditional voucher holders is about 8 percent higher, on average, than a neighborhood with no voucher holders.<sup>29</sup> In Atlanta, no statistically significant threshold effects emerged at any level for traditional voucher holders in regards to property or violent crime.

These findings raise the question of how many and how often census tracts have densities of relocated households that are associated with higher crime rates. Because households move, census tracts might shift among our four density categories over the course of the study period. Also, because we based these thresholds on cumulative voucher holders in a neighborhood, as more public housing relocation vouchers enter the private market over the study period, the number of census tracts with moderate and high densities of relocation households is more likely to be greater. During the study period, most Chicago tracts (52 percent) had no (33 percent) or very low (19 percent) densities of relocated households—the categories for which no effects on crime exist. Another

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<sup>27</sup> Note that this analysis of public housing transformation includes only former public housing residents relocated with Section 8 vouchers and does not include analysis of residents living without vouchers in rehabilitated public housing or mixed-income developments.

<sup>28</sup> Because of data limitations, we were unable to perform the analysis for gun crime in Atlanta.

<sup>29</sup> We found that traditional voucher holders were associated with a very small effect on property crime per capita in Chicago (an average of less than 0.1 percent more), but we could not identify thresholds for the effect.

one-third of tracts had relocated households at the density levels associated with effects on crime (low, moderate, and high) for most of the study period. In the remaining 15 percent of tracts, the density of relocated households was also at these levels but not for most of the study period.

Similarly, most of Atlanta's census tracts fell into the lowest relocated household categories. From 2002 through 2009, about one-half of the Atlanta census tracts included in the analysis had either no public housing transformation relocation households (21 percent) or a very low or low density of relocation households (25 percent), in which the effects of public housing transformation on crime were not statistically significant. Only about 13 percent of the census tracts in Atlanta had moderate or high densities of relocated households during most of the study period, whereas 41 percent had moderate or high densities of relocated households for less than one-half of the study period, with most of these tracts reaching that threshold level during the final four quarters of the study period.

Finally, the tracts in both cities that experienced the greatest effect on crime associated with relocated households were neighborhoods that were already vulnerable, with high poverty and crime rates before the arrival of public housing relocation households. In other words, our story is not the popular version of previously stable communities spiraling into decline because public housing residents moved in, but rather a story of poor families moving into areas that were already struggling. In Chicago tracts where at least a low density of relocated households persisted for at least one-half of the study period, the median income was \$31,400 and the poverty rate was 31 percent (citywide figures were \$38,600 and 20 percent, respectively). In 2000, the violent crime rate in these tracts was 29.6 per 1,000 people compared with 16.6 per 1,000 people for Chicago overall. The tracts that received relocated households only at the lowest category are much less vulnerable. In these tracts, the median income (on average) was \$50,858, the poverty rate was 15 percent, and the violent crime rate was 8.8 per 1,000 people. In 2008, the proportion of the city that experienced the effects on crime associated with relocated households included 12 percent of tracts with a low density of relocated households, 16 percent with a moderate density, and 14 percent with a high density. Of the remaining tracts, 41 percent did not contain any relocated households and 17 percent had a very low density of relocated households, so the effects were not statistically significant.

In Atlanta, the census tracts classified as having a moderate or high density of relocated households for more than one-half of the study period had a median income of only \$26,000 and a 32-percent poverty rate (citywide figures were \$37,200 and 24 percent, respectively). The violent crime rate in these tracts in 2002 was 29.7 per 1,000 people; the rate for Atlanta overall was 22.7 per 1,000 people. By comparison, in the tracts that had relocated households but never at sufficient densities to classify them into the two highest threshold categories at any point during the study, the median income (on average) was \$56,090 and the poverty rate was 22.6 percent. The violent crime rate in these tracts was 22.6 per 1,000 people, equivalent to the overall rate for Atlanta. By the end of 2009, 14 percent of tracts in the city had a moderate density and 37 percent had a high density of relocated households. Of the remaining tracts, where we found no effect on crime, 22 percent had no relocated households, 15 percent had a very low density, and 12 percent had a low density of relocated households.

## Policy Implications

Untangling the relationship between public housing transformation and crime trends is extremely challenging. Neighborhoods with higher pre-existing crime rates are also more likely to be affordable and accessible to voucher holders because they have more vacancies, lower rents, and more landlords actively recruiting them (Popkin and Cunningham, 2000). The econometric techniques we developed for this research provide the best estimation possible of the effect of large-scale public housing relocation on crime trends in the neighborhoods where relocated households move. This analysis shows a similar pattern in both Chicago and Atlanta: not the simplistic relationship implied by media accounts, but rather a complex picture of declining crime rates in both cities, a small net decrease in violent crime citywide associated with the transformation efforts, and effects in some neighborhoods—those that received more than a few relocated households—that suggest that crime would have been less there had no public housing transformation occurred. Overall, our findings show that most neighborhoods in both cities were able to absorb public housing relocation voucher households without any adverse effect on neighborhood conditions.

This research raises many questions, most notably *why* the presence of even relatively small clusters of relocated households in destination neighborhoods is associated with statistically significant differences in crime rates during that quarter, on average, compared with tracts without any relocation voucher holders, whereas the presence of traditional voucher holders seems to have little to no effect. In a historical context, public housing developments suffered extreme violent crime and drug trafficking rates; many households had members tied to gangs or the drug trade (Popkin, 2010; Popkin et al., 2000). Some former households might have brought problem behaviors—or associates—with them or, conversely, might have become targets in their new communities because of gang turf issues.<sup>30</sup> Ethnographic research might help shed light on how relocated households affect neighborhood dynamics.

Regardless of the mechanism, a crucial policy implication from this research is the need for responsible relocation strategies—like those both Chicago and Atlanta now employ—that offer former residents a real choice of housing and neighborhoods and that provide long-term support after those residents leave public housing.<sup>31</sup> Other housing authorities planning large-scale redevelopment should learn from the experiences of these two cities about how to support former residents in moving to a wider range of communities and how not to create new concentrations of poverty in other vulnerable communities.

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<sup>30</sup> We do not have empirical evidence on which to stake this claim, which would require linking addresses of crime victims and crime perpetrators to addresses of voucher holders. We are attempting to do this follow-up work in Chicago, although we may encounter considerable data limitations in the completeness of reported unit numbers for multifamily residences. We also acknowledge that the housing authorities do perform background checks on households before enrolling them in public housing or the voucher program.

<sup>31</sup> This recommendation is consistent with a wide range of research showing how concentrations of disadvantaged households adversely affect neighborhoods (Galster, Cutsinger, and Malega, 2008; Galster et al., 2003). How to best prevent such reconcentration has been discussed at considerable length (Briggs, Popkin, and Goering, 2010; Galster et al., 2003; Grigsby and Bourassa, 2004; Katz and Turner, 2008, 2001; Pendall, 2000; Popkin and Cunningham, 1999; Popkin, Cunningham, and Burt, 2005; Turner and Williams, 1998).

These strategies include—

- Comprehensive supportive services for relocated households before and after relocation.
- Mobility counseling to ensure that residents make informed choices about their housing and neighborhood options.
- Financial incentives, such as raising allowable Fair Market Rent levels, to voucher holders and potential landlords in desirable areas.<sup>32</sup>

Other types of strategies that HUD or local housing authorities should consider are—

- Direct leasing and brokerage for connecting voucher holders to market-rate rental housing and subsidized developments in a wider range of neighborhoods.
- Performance incentives for housing authorities, rewarding those that help voucher holders move outside disadvantaged neighborhoods and that avoid creating new concentrations of poverty.
- Prohibitions on the use of vouchers in certain neighborhoods that already have high concentrations of assisted housing and requirements that they be used only in more opportunity-rich neighborhoods.
- Requirements for all landlords to participate in the voucher program on request.
- Intensified fair housing enforcement aimed at expanding choices for minority voucher holders and families with children.
- Coordination with local law enforcement to ensure that patrol officers and narcotics and gang units are aware of the neighborhoods receiving relocated households and take action in preventing any violence that might result.

Promoting opportunity and choice will not be sufficient, however, to address the needs of many relocated households—the families who endured the worst of the gang violence, drug trafficking, and management neglect that characterized the nation’s most distressed public housing. The substantial differences in crime effects between relocated households and traditional voucher holders underscore the unique challenges of long-term public housing residents and suggest that observers should not apply these findings regarding relocated households to the general voucher holder population. Many of these residents—who are, after all, moving involuntarily—require much more intensive support throughout the search, relocation, and postmove process than most housing authorities have provided to date. Other research on CHA families has found that many of these residents have never lived anywhere other than public housing and lack the skills and experience necessary to negotiate the private market (Popkin, 2010). The Chicago Family Case Management Demonstration showed that providing intensive, wraparound services—more intensive than the comprehensive services that the CHA offers to all residents—to vulnerable families is feasible, even after relocation (Popkin et al., 2010). The costs of these services were not insignificant, but they were not more expensive than standard place-based services. Furthermore, the benefits in terms of stable households could be significant for both former public housing residents and the communities to which they move.

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<sup>32</sup> Both the AHA and the CHA were able to use the flexibilities that MTW afforded to institute these reforms.

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# Addressing Residential Instability: Options for Cities and Community Initiatives

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## Abstract

*Recent research based on surveys of low-income neighborhoods in 10 cities, part of the Annie E. Casey Foundation's Making Connections initiative, confirms that overall rates of residential mobility in such neighborhoods are high but also shows that the overall rate is made up of very different types of moves with dramatically different implications. Perhaps most important is the finding that a large share of all moves are churning moves—frequent, usually short-distance moves by vulnerable families. Research has shown this kind of mobility to be associated with negative education and health outcomes for young children.*

*After summarizing key findings from the Making Connections initiative, this article reviews policy and programmatic options that might address these outcomes. It finds considerable relevance at the citywide level in new approaches to homelessness prevention being considered. It also identifies actions that can be taken at the community level. The article focuses, in particular, on how the network organizing approach might be mobilized toward this end.*

## Introduction

Researchers have known for some time that the rate of residential mobility among low-income families is high. In 2011, 17.5 percent of households in the lowest income quintile moved compared with only 11.5 percent of the nation's households, on average (Theodos, 2012).

Knowledge of high movement rates among low-income people, however, has not led to consensus regarding what, if anything, policymakers should try to do about mobility. Those who manage community-improvement initiatives typically find the subject disturbing. How are they to build strong social networks and social capital if many residents are likely to soon move away? Others, however, see opportunity in mobility: the possibility of devising policy approaches that result in more families escaping the effects of concentrated poverty.

Surveys conducted in low-income neighborhoods in 10 cities that were a part of the Annie E. Casey Foundation's Making Connections initiative, however, offer a fundamentally different understanding (Coulton, Theodos, and Turner, 2012; Coulton, Theodos, and Turner, 2009). Total mobility, in fact, comprises very different types of moves with dramatically different implications, some good and some bad.

The surveys confirm that the mobility rate in distressed neighborhoods is indeed high; 28 percent of families with children move each year. Surprisingly, however, most movers (20 of the 28 percent) do not actually "move away." Rather, they relocate in or near their original neighborhood, remaining "within reach" of the community. The number of cases in which residents actually leave the neighborhood is comparatively small—about 8 percent per year—and it is difficult to argue that either the scale or the nature of that mobility is problematic.

A large share of the shorter moves, however, do represent a problem. This share of moves appears to be a product of residential instability, a *churning* kind of mobility; in many cases, they are moves made by vulnerable families likely to be near the edge of homelessness. To be clear, families in this situation were by no means dominant in any of the Making Connections neighborhoods. Nonetheless, reducing this type of mobility seems to be a challenge that policymakers ought to consider how to address.

The opening sections of this article summarize the basic findings about residential mobility and explain why residential instability is a serious problem. The remainder of the article explores policy and programmatic options. After briefly framing possible policy responses related to positive mobility, the article focuses on how to address residential instability. One section looks at relevant citywide systems, emphasizing approaches that have evolved to deal with homelessness; in particular, it addresses the logic behind the shift from the initial shelter-dominated responses to the concept of homelessness prevention. The final section explores how to address the issue at the neighborhood level in the context of community-based improvement initiatives.

## **Mobility in Low-Income Neighborhoods**

The Annie E. Casey Foundation's Making Connections initiative began in 2000 and operated in selected neighborhoods (most often groups of neighborhoods) in 10 cities for most of the decade. The initiative collected survey data in three waves: at the beginning, middle, and end of the 2000 decade, at approximately 3-year intervals. The findings reported in this article are based on first- and second-wave survey data.<sup>1</sup>

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<sup>1</sup> Information about the Making Connections initiative and details about the surveys can be found at <http://www.aecf.org/MajorInitiatives/MakingConnections.aspx>. Also see <http://mcstudy.norc.org/>.

As of the 2000 census, the populations of the Making Connections neighborhoods averaged 40,500 per city. Three of the areas—in Hartford, Louisville, and Milwaukee—were in the extreme poverty range (rates of 40 percent or more). Four more areas—in Denver, Oakland, Providence, and San Antonio—were in the high poverty range (rates of 30 to 40 percent). The remaining three areas—in Des Moines, Indianapolis, and White Center, Washington (just south of Seattle)—were in the moderate range (15 to 30 percent), but even these neighborhoods are clearly more distressed than the average neighborhood in metropolitan America.

The 10 neighborhoods also differed from each other notably in racial and ethnic composition. The populations of all were predominantly minority, but only two (in Louisville and Milwaukee) were predominantly African American and one (in San Antonio) was predominantly Hispanic. The others were mixed. In three of the mixed neighborhoods (in Hartford, Oakland, and Providence), the foreign born comprised more than one-half of the population (by contrast with 6 percent or less in Louisville, Indianapolis, and Milwaukee).

Coulton, Theodos, and Turner (2012) analyzed in detail the data on mobility between the first two waves of Making Connections surveys. Exhibit 1 annualizes and presents overall levels of mobility from that analysis.<sup>2</sup> The data indicate that the average household mobility rate (share of households that move per year) was 24 percent over this period, but rates were quite different for different types of households: 28 percent for households with children compared with only 20 percent for childless households (a group that includes many elderly couples and singles who tend to move less frequently, on average, than younger households).

### Exhibit 1

#### Household Mobility in Making Connections Sites

	Movers per Year (%)		
	Total	Households Without Children	Households With Children
Average	24	20	28
Denver	24	22	27
Des Moines	21	18	23
Hartford	27	20	30
Indianapolis	26	21	33
Louisville	31	26	40
Oakland	26	27	25
Providence	24	22	25
San Antonio	17	10	23
White Center	20	17	22
Correlation to poverty	0.60	0.23	0.64

Source: Making Connections cross-site surveys, first and second waves

<sup>2</sup> We annualized the data on moves between survey waves assuming a period of exactly 3 years. The actual periods between interviews varied modestly from that number, but those variations were not enough to affect the numbers presented here.

The correlation between mobility rates and poverty rates across sites for households with children was fairly strong (0.64); that is, it was consistent with the CPS data we noted previously showing that lower income households move more often. That correlation was not as strong, however, for childless households (0.23).

Annual mobility rates for households with children varied from a low of 22 percent in White Center to a high of 40 percent in Louisville. The Louisville rate was likely above normal in this period because of the relocation of families from about-to-be-demolished public housing in the HOPE VI Program. The next highest rate was 33 percent, in Indianapolis.

Coulton, Theodos, and Turner (2012) recognized that households decide to move for various reasons; normally, they seek a balance between the positives associated with a new home and neighborhood and the negatives associated with inadequacies they see in their current structure and/or location. Some families move of their own volition to a better place, but some are forced by circumstances to move (for example, because the loss of a job reduces their income) and might have to move to lower quality locations.

Accordingly, the authors conducted a cluster analysis to see if they could identify meaningfully different groups of movers based on characteristics that might affect their mobility decisions and the way the move might improve or worsen their residential situations. This analysis across sites led to the identification of three basic types of movers among families with children.<sup>3</sup>

- **Churning movers.** Households with very low incomes (median \$14,000), mostly renters who had not lived in their unit very long before the most recent move (median 2 years). They generally viewed their neighborhood as unsafe and not good places to raise children. They moved only short distances (median 1.7 miles), benefiting little from the moves in terms of neighborhood amenities and satisfaction. Their moves were most often in response to financial stress or problems with their rental housing arrangements.
- **Nearby attached movers.** Households, also with low incomes (median \$15,000) and moving very short distances (median 1.1 miles), that had lived in their homes much longer before the move (median 7.5 years) and were more likely to be homeowners before moving. They were more involved in neighborhood activities before the move, and the indications are that the moves were because of life-cycle factors rather than a desire to leave their old house or neighborhood. In general, they had positive views of their neighborhood and their new unit after the move.
- **Up-and-out movers.** Households with much higher incomes (median \$28,000) who had not lived in their old house very long (median 3 years) and were the most dissatisfied with their original Making Connections neighborhood. They moved by far the longest distances (median 5.8 miles) and were more satisfied and optimistic about their new neighborhoods, where lower shares of the population were low income and minority and where home prices were high and increasing.

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<sup>3</sup> Appendix C of Coulton, Theodos, and Turner (2009) explains the details of the cluster analysis. The cluster analysis for movers could be conducted only for households with children since only they were tracked and interviewed in the second survey wave.



On an annual basis, 8 percent of families with children made up-and-out moves, 7 percent made nearby attached moves, and 13 percent made churning moves (exhibit 2). Therefore, the up-and-out movers, the only group that normally moves to locations a long distance from the original neighborhood, accounted for only 30 percent of the total moves.

Two groups that typically moved within or near their original neighborhood accounted for the remaining 70 percent. The nature of the moves for these two groups was strikingly different, however. Nearby attached moves (25 percent) appeared to be fairly positive and normal adjustments within the neighborhood; for example, people moving because they want a larger or better apartment. Churning movers (45 percent), however, in general, were negative about their moves. For them, the circumstances suggested mobility caused by vulnerability rather than the seeking of some positive result.

The variations across sites in the shares that made up-and-out moves were not strongly correlated with site poverty rates. As one might expect, correlations with poverty were stronger for the nearby attached and the churning movers.

## Exhibit 2

### Types of Moves, by Households With Children

	Movers per Year (%)			
	All Moves	Up-and-Out	Nearby Attached	Churning
Average	28	8	7	13
Denver	27	10	5	12
Des Moines	23	9	5	9
Hartford	30	9	8	13
Indianapolis	33	10	8	15
Louisville	40	12	11	16
Oakland	25	9	4	12
Providence	25	7	6	12
San Antonio	23	4	7	11
White Center	22	5	5	12
Correlation to poverty	0.64	0.43	0.70	0.53

Source: Making Connections cross-site surveys, first and second waves

## The Challenge of Residential Instability

Although we do not have information on the move histories for the churning movers, given what we know about them, the term *residential instability* would seem to fit their situations. That condition certainly appears problematic. Cunningham, Harwood, and Hall (2009:1) noted a “growing body of evidence showing that residential instability (for example, frequent moves, doubling up, homelessness) is associated with poor academic outcomes among children” and reviewed that literature. In another literature review, Cohen and Wardrip (2011:4) stated that “Hyper-mobility can present special challenges to children’s well-being, both through direct effects on children (for example, the disruption of being uprooted, the difficulty of catching up with classmates at school) and as mediated through their parents (for example, the parents’ preoccupation with the move and the forces behind it could reduce their ability to be supportive to their children).”

Previous research has associated residential instability with a number of negative outcomes, such as educational problems, including low reading scores and low school completion rates. Explanatory factors include disruptions in instruction, excessive absenteeism, and disruption of peer networks (Hango, 2006; Kerbow, Azcoita, and Bell, 1996; Pribesh and Downey, 1999; Rafferty, Shinn, and Weitzman, 2004; Rhodes, 2005; Rumberger, 2003; Tucker, Marx, and Long, 1998).

Other studies have associated it with disruptions in access to healthcare services and other, broader physical and mental health problems (Jelleyman and Spencer, 2008; Pettit, Kingsley, and Coulton, 2003). A host of other negative outcomes range from behavioral problems in adolescence to longer term effects, have also been documented (Hagan, MacMillan, and Wheaton, 1996; Jelleyman and Spencer, 2008; McCoy-Roth, Mackintosh, and Murphey, 2012; Moore, Vandivere, and Ehrle, 2000; Pettit, 2004).

All these factors create stress for the child in what is likely to be an increasingly troubling family environment, and stress itself has negative effects on physical and mental health. One or two moves for a young child, particularly when they result in a better neighborhood, can of course be beneficial. In addition, Hendershot (1989) showed that the right kind of parental support can reduce the negative consequences of high mobility. The evidence overall, however, suggests that reducing family residential instability and hypermobility for children is a policy objective worth seeking.<sup>4</sup>

Two facts about churning movers are important in considering how best to address this issue. First, churning movers were not concentrated in only one or two Making Connections neighborhoods but, rather, were significant in all of them (ranging from 9 percent of all households per year in Des Moines to 16 percent in Louisville). Therefore, residential instability is almost certain to represent a nontrivial issue in all neighborhoods likely to be candidates for community-improvement programs.

Second, although nearly all have low incomes, churning movers appear varied in terms of their probable need for services and support. To demonstrate this point, we compare the representation of families across the different categories of Making Connections mover groups, in terms of their degree of vulnerability, along the following continuum.

- **Most vulnerable.** Low-income households (incomes below 200 percent of the poverty threshold) in which no adult had a full-time job at the time of either the first or the second survey wave (a sign that they are likely to have severe or multiple problems that reduce their capacity).
- **Other vulnerable.** Low-income households in which one or more of the following barriers pertained: (1) the survey respondent lacked a high school degree, (2) the respondent had a permanent disability, or (3) any of the children in the household had poor health or a disability.

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<sup>4</sup> Murphey, Bandy, and Moore (2012) examined outcome indicators for children in the 2007 National Survey of Children's Health who were younger than age 6 and had moved five or more times since birth. They found that "frequent mobility by itself was associated with few effects once other child/family characteristics were taken into account" (Murphey, Bandy, and Moore, 2012: 4). They said that frequent mobility might be a marker for other characteristics (for example, poverty and single-parenthood) that might be the main drivers of bad outcomes for children. This finding suggests that the problems we have been discussing will not be fixed only by reducing hypermobility, but it does not suggest that reducing hypermobility (in conjunction with other forms of family strengthening) does not remain a valid objective. Frequent moves under pressure still create stress for all family members.

- **Other low-income.** Low-income households that do not meet the criteria for the most vulnerable or other vulnerable categories.
- **Higher income.** Households with incomes greater than 200 percent of the poverty threshold.

Exhibit 3 shows distributions of the survey sample across sites and across these groups and categories of movers. Two findings are important. First, household types vary considerably within each of these categories; we find nontrivial numbers of households in each of these groups in every column. Second, however, the distributions are markedly different from each other. The fact that the most vulnerable families account for a notably larger share of churning movers than of any other category is most relevant to this discussion. The most vulnerable and other vulnerable households together account for 46 percent of churning movers compared with 39 percent of all households.

Although we cannot be precise about the numbers, this finding suggests that churning movers are indeed likely to include many *multiproblem families*—families who might require fairly intensive services for a long period of time to become stable. Still, more than one-half of churning movers are in the less troubled categories whose needs for service and support to overcome residential instability might be more modest.

Of interest is that the most vulnerable and other vulnerable groups together also account for a large share (45 percent) of nearby attached movers, but a smaller share (30 percent) of up-and-out movers. By contrast, higher income households account for 29 percent of up-and-out movers but only 8 percent of churning movers. This suggests that, although trying to retain some community ties to up-and-out movers in their new locations may well be worthwhile, their ongoing service needs may be considerably less extensive, on average, than those of the other groups.

### Exhibit 3

Mover Clusters by Vulnerability and Income Status, as of First Wave

2002/03 Status	All Households	Movers (annual)			
		Total	Up-and-Out	Nearby Attached	Churning
All households	100	28	8	7	13
Low-income (< 200% of poverty)					
Most vulnerable	13	15	6	22	18
Other vulnerable	26	25	24	23	28
Other low-income	40	44	42	42	46
Total low-income	80	84	71	86	92
Higher income (> 200% of poverty)	20	16	29	14	8
Total	100	100	100	100	100

Source: Making Connections cross-site surveys, first and second waves

## Residential Mobility Overall—How Should Policymakers Respond?

The complex picture of residential mobility that the Making Connections data paint calls for new ways of thinking about policy. Seeking responses that attempt simply to either expand or diminish mobility overall now seems inappropriate. Distinctly different types of mobility—good and bad—exist, and policymakers should tailor responses to fit the circumstances of each type. In the following review, we note what appear to be appropriate directions for policy in each case, and then, in the rest of the article, we explore policy options for addressing the most troubling case: the residential instability of churning movers.

### Up-and-Out Moves and Nearby Attached Moves

Two types of moves that Coulton, Theodos, and Turner (2012) identified appear largely positive for the families involved. Most up-and-out movers moved to new homes in new neighborhoods, presumably meeting one or more of a number of possible personal objectives; for example, to be near to a new job, to enable their children to attend a better school, or to become homeowners in a neighborhood with higher and rising property values. Nearby attached movers did not move to new neighborhoods, but they found a new housing unit nearby that they felt would be a better fit for them. Both groups, in general, were happy with the results of their moves regarding both housing and neighborhood characteristics.

Is policy intervention related to such movement needed? Perhaps not, in general, but a case exists that, for low-income households, supportive counseling would facilitate positive mobility. The type of counseling that would be relevant would offer advice on how to make sensible choices about mobility options and how to deal effectively with actors in the real estate market. Counseling to help renters who want to become homeowners is well established, but many renters could probably use guidance in navigating the process of moving from one rental unit to another. In both situations, practitioners advocate offering this sort of guidance in conjunction with broader counseling on family financial management and asset building.

Would such counseling expand the share of residents who move to lower poverty neighborhoods; that is, those who make up-and-out moves to what are now often termed *opportunity neighborhoods*? The answer no doubt depends on what the counseling includes. Many living in low-income neighborhoods might limit their choice to neighborhoods with which they are familiar unless provided with exposure to a wider range of places. Cunningham and Sawyer (2005) studied the mobility of households that relocated with housing vouchers as part of Chicago's massive public housing demolition program in the early 2000s. This program offered search assistance and connected interested voucher holders with landlords in low-poverty neighborhoods. The authors found that program enrollees who received mobility services were "significantly more likely to move to opportunity neighborhoods" (Cunningham and Sawyer, 2005:6. They also suggested, however, that much remains to be learned about what makes mobility counseling programs effective.

Considerable debate has surrounded *mobility* versus *neighborhood improvement* approaches to dealing with the problems of concentrated poverty, and this article is not the place to review them

fully.<sup>5</sup> This debate widely recognizes that barriers to full mobility because of racial discrimination and other factors remain enormous and that reducing those barriers must remain a high priority for policy. Consistent with that objective, we find it difficult to fault the idea of providing counseling to help residents of low-income neighborhoods become more informed about the mobility opportunities open to them with a reasonable assessment of their costs and benefits.

## **Churning Moves**

Because of the damage it can do in the short term, however, the other type of mobility we have discussed—the churning move—seems an important case for policy intervention, and we explore that type more fully here. The main purpose of the remainder of this article is to identify and review programmatic approaches to diminishing residential instability and its harmful effects.

First, however, it is necessary to discuss the most obvious solution and why it alone is not sufficient at this point. For the residentially unstable, clearly, the main barrier to securing decent housing on a stable basis is insufficient income. Means-tested programs that offer to pay rent directly, or supplement income to enable the family to do so, are therefore central to the results of all of these efforts. U.S. Department of Housing and Urban Development (HUD) housing vouchers, for example, have proven effective at preventing homelessness and rapidly restoring housing to those who do experience homelessness (Khadduri, 2008).

The problem, however, is that HUD assistance programs are woefully underfunded in relation to the need. As of 2005, only 5.5 million (31 percent) of the 18.0 million eligible households with housing problems nationwide actually received HUD assistance (Turner and Kingsley, 2008). The economic recession and housing crisis that have occurred since then have been accompanied by a further reduction in the housing stock available and affordable to the lowest income groups (HUD, 2011), and housing assistance budgets are now tightly constrained. In fact, concerns exist that future budgets for housing assistance might not be sufficient to support as many households as they do now (Rice and Sard, 2012). Although continued pressure to increase the national housing assistance budget is clearly important, it is difficult to be optimistic about much expansion in the near term.

What is the appropriate policy response in this environment? Looking for approaches to helping residentially unstable families that are designed to use available assistance resources (HUD and other) with as much efficiency as possible appears to make sense. A scan of the types of social service and community building programs that now operate in American cities suggested that two areas seem promising in this regard and warranted further exploration in the last two major sections of this article:

- **Homelessness prevention services for families.** Virtually the only programs in the social service sphere whose mandate relates directly to residential instability are those concerned with homelessness. In this section, we note how this field has evolved. As it has shifted emphasis to homelessness prevention, it has prioritized finding more efficient and effective

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<sup>5</sup> Recognition is growing of the benefits of seeing these approaches as complementary rather than in opposition (see, for example, Pastor and Turner, 2010).

forms of service delivery. These forms recognize the importance of varying the nature and level of service to match families' circumstances and seem highly relevant to this inquiry. Although directly comparable descriptive data are not available, what is known about homeless and near-homeless families suggests strong similarities to the churning mover populations in Making Connections neighborhoods (Culhane et al., 2007; Shinn et al., 1998).

- **Community networks: strengthening families and links to service.** Citywide organizations are likely to continue taking on the central roles in homelessness prevention and related services. Such agencies, however, often have a harder time meaningfully connecting with low-income families than do grassroots neighborhood organizations. We focus on one community approach—network organizing—that seems a particularly promising adjunct to city systems in addressing residential instability.

In the next two sections, we review relevant activity in these two areas and consider how to learn more about them to better harness their potential.

## Addressing the Needs of Churning Movers Through Homelessness Prevention Services

To help understand the strategies and programmatic approaches emerging in this area, we begin by briefly reviewing the history of how America's response to homelessness has evolved over the past few decades.

### Initial Responses to Homelessness

For some time after the problem of homelessness emerged and spread in U.S. cities in the 1980s, responses focused on serving those who had lost their housing by expanding emergency shelter capacity, then transitional housing. Most homeless then were adult males, many with chronic problems (for example, substance abuse and mental illness).

The view was widespread that people who experienced homelessness needed to overcome their personal problems before they were ready for permanent housing. Accordingly, many shelter systems were organized in a *continuum of care* approach that, as Culhane, Metraux, and Byrne (2011: 301) noted, “re-creates community based services systems inside the homelessness system, and often functions to extend people’s homeless spells through service rich transitional housing;” programs that can extend periods of homelessness for up to 2 years.

Although single men were dominant among the homeless at the outset, residentially unstable families with children (the group that is the central concern of this article) are now a sizeable and expanding part of the total. In 2008, 30 percent of all people using homeless shelters were members of homeless families (474,000 individuals, approximately 300,000 of whom were children, according to HUD, 2008).

Most who enter the shelter system stay for only a short time, but some subgroups remain for considerably longer periods. Nationwide, the median length of stay for single adults is 18 days. The median is longer for families (30 days), but even most of their stays are quite short; 23 percent leave within 1 week, 76 percent leave within 3 months (Cunningham, 2009; HUD, 2008).

This system grew significantly over the years. HUD (2008) reported that 1.6 million people used homeless shelters in a 1-year period, that 211,000 emergency shelter beds existed nationwide, and that an equal number of beds existed in transitional housing facilities.

Still, as early as the late-1990s, criticisms of this system arose. Shelters were often stressful places to stay even for a short time, and the whole system was expensive. As noted previously, the transitional housing that developed as a part of the homeless system incorporated housing management activities and social services that duplicated other mainstream systems operating in most communities, and, as such, reasonable concerns arose about comparative costs. Interest grew in the idea that preventing homelessness among large groups in this population in the first place might be both far less painful and more cost effective.

Furthermore, University of Pennsylvania research sharply contradicted the view that the homeless were not ready for permanent housing. This research showed that a small subgroup of about 10 percent of single, homeless adults with serious personal problems used 50 percent of shelter services and that the cost of instead providing permanent supportive housing to them initially would be more than offset by savings in public services thereafter (for example, reduced emergency room visits, mental health services, and jail stays; see Culhane, Metraux, and Hadley, 2002; Kuhn and Culhane, 1998). For this population, therefore, preventing homelessness might not be possible, but dealing with it in a much more cost-effective manner by providing permanent housing first does appear possible.

Homeless families are less likely to suffer from the personal and social barriers that affect so many unaccompanied single adults (Burt and Cohen, 1989), but, while perhaps not yielding the same cost-effectiveness advantage, the housing first approach is being widely advocated for them as well, hopefully avoiding longer term entanglement with the shelter system.

### **Addressing Degrees of Residential Instability Through Preventive Services**

In general, homelessness prevention aims to divert households that are either homeless or at risk of homelessness from the shelter system and to expedite rapid exit from that system for those already in it. As early as 2000, the National Alliance to End Homelessness put forward a plan that recognized these themes (Cunningham, 2009). Burt, Pearson, and Montgomery (2005) then developed a comprehensive framing of the approach, emphasizing both efficiency and effectiveness (also see the discussion in Culhane, Metraux, and Byrne, 2011). They suggested the following three levels of prevention.

- **Primary.** Preventing new cases of homelessness and stopping people from ever becoming homeless.
- **Secondary.** Intervening early during the first spell of homelessness to help people leave homelessness and not return.
- **Tertiary.** Providing services to assist those with serious barriers; those who without help would probably remain homeless for a long period of time.

This approach would seem to fit the data on the variety of circumstances among churning movers presented previously. At one end of the spectrum are households with multiple problems that are likely to require considerable support (housing and services) to become stable. At the other end are people with more capacity, whose residential instability, we can reasonably assume, might have been triggered by one-time problems that are probably easier to fix at a lower cost.

Primary prevention efforts to reduce residential churning have been under way in a number of cities for some time (see Burt, Pearson, and Montgomery, 2005; Cunningham, 2009; Shinn, Baumohl, and Hopper, 2001). Approaches include—

- **Mediation with current housing providers.** In some cases, residential stability might be promoted and homelessness avoided at very low cost simply by having an independent party help by talking things over with the landlord or family with whom the at-risk household has been staying and modifying some aspect of their arrangements (at least to secure additional time). One local group that provides this type of service is the Eastside Housing Opportunity Program in St. Paul (Mohr and Mueller, 2008).
- **Cash assistance to cover rent or mortgage arrears.** When mediation alone is unable to do so, a comparatively small amount of one-time cash assistance might cover deficiencies in the near term and avoid evictions; that is, for households that do not need sizeable income support over the long term.
- **Legal services to prevent evictions.** Programs that offer mediation in housing courts after landlords have filed for eviction have also been able to promote residential stability and preserve tenancy. For example, Burt, Pearson, and Montgomery (2007) reported that as a result of such mediation services, 69 percent of the cases filed against families in the Hennepin County, Minnesota housing court were settled without eviction, and the family retained housing.
- **Discharge planning and programs to ameliorate domestic conflicts.** Former prisoners released back into the community and youths aging out of foster care face higher-than-average risk of residential instability leading to homelessness. Domestic conflicts in the family environment also heighten the risk. Programs to identify individuals and families in these situations early, then provide counseling and help in finding affordable housing, could presumably reduce incidence.

It turns out, however, that reliably identifying households that will become homeless ahead of time is much more difficult than might be thought. Of the residentially unstable households that have characteristics that make them seem to be at high risk of homelessness, a very large share somehow manage to avoid it. Thus, providing assistance to all families in a defined risk group would result in spending more than is needed to avoid homelessness. Using data on characteristics and case histories of homeless families in New York, Shinn et al. (1989) defined what seemed to be a reasonable high-risk group and found that serving that group would imply providing assistance to six households for every one that ultimately became homeless.

One response to this problem would be waiting to assist only those who have actually become homeless (see the discussion of secondary treatment in the following paragraph) or those who exhibit clear indications that homelessness is imminent (for example, receiving an eviction notice).



By no means has any study demonstrated, however, that efforts to identify and deal with likely residential instability at an earlier stage cannot be made more effectively. The goal is not only to avoid homelessness but also to put families on a path that leads to self-sufficiency (stability in a broader sense) over time. Doing that would require considerable strengthening of outreach and referral networks. This strengthening could entail beefing up the 311 systems that now exist in many cities and making homelessness prevention a greater priority for established referral networks (for example, churches and community nonprofits) that attempt to connect those in need to appropriate services. It would then require highly efficient targeting of prevention resources. (We discuss the way community networks might help with both referrals and strengthening families directly in the next section.)

Secondary treatment, in a prevention context, emphasizes getting families who appear at the door of the shelter system back into stable housing outside of that system as rapidly as possible. *Rapid rehousing* has in fact become an accepted programmatic theme in many systems nationwide. This approach uses techniques identified previously: negotiating and providing modest cash assistance as needed to enable the family to return on a stable basis to the apartment they have just left. Alternatively, it can mean referrals and help in securing other housing opportunities in the private market (often with subsidies) or in publicly subsidized projects.

The field increasingly recognizes the need for some type of up-front diagnostic function; that is, some way to assess the nature and severity of a family's particular needs and circumstances as a basis for guiding them to an appropriate mix of housing opportunities, services, and supports.<sup>6</sup> Because so many shelter users leave after only a night or two, systems often wait a few days before administering interviews. Regular staff might be able to make these assessments for the more capable among the residentially unstable, but trained case managers will usually be needed to work out a realistic course for the more distressed, multiproblem families.

A prevention approach triggers tertiary treatment in a very different way than in the past. In traditional shelter systems, lengthy stays in the shelter were often the key indicator that initiated a more intensive service regime for a multiproblem individual or family. In the new approach, staff conduct a diagnosis (discussed previously) early, hopefully leading not only to rapid rehousing, but to rapid rehousing linked to a sensible mix of services designed to promote residential stability by addressing the households' specific needs. Housing professionals often assume that the right solution for most multiproblem cases is an apartment in a *supportive housing* development (decent housing with needed services provided on site). The Chicago Family Case Management Demonstration, however, has shown that in many cases the approach can work as well for families with vouchers living in independent apartments with services brought to the property from outside (Popkin et al., 2010; Theodos et al., 2011).

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<sup>6</sup> Theodos et al. (2011) identify and review a number of formal assessment tools that have been developed to try to help practitioners perform this function more effectively and reliably.

## Assessing Directions for Promoting Residential Stability Through Homelessness Prevention Services

Although progress has been uneven, movement away from a shelter-dominated homelessness system and toward a more prevention-oriented approach to promoting residential stability is now evident in a number of cities. Important support for this orientation has come at the federal level. First, HUD's 2008 appropriation included a \$25 million demonstration of the Rapid Re-housing for Families Program. Then, the 2009 American Recovery and Reinvestment Act allocated \$1.5 billion for a new Homelessness Prevention and Rapid Re-housing Program (HPRP) that aims both to prevent individuals and families from becoming homeless and to move those that are already homeless into permanent housing on a stable basis as rapidly as possible. Furthermore, a 2009 reauthorization made important changes to the McKinney-Vento Act in support of prevention; among other things, changing the name of the Emergency Shelter Grants to the Emergency Solutions Grant Program, with more emphasis on prevention and rapid rehousing (as Culhane, Metraux, and Byrne, 2011, have explained).

Very little hard information is yet available on how this shift is working in practice, so this article cannot assess the progress. Substantial new information will likely be available over the coming year, however, as two major federally funded research efforts reach completion. First, Abt Associates is conducting a \$1.25 million evaluation of the Rapid Re-housing for Families Program, involving all 23 grantees in the demonstration. Second, the Urban Institute is conducting the Homelessness Prevention Study, which began in 2010 and entails, among other things, site research on HPRP implementation in 17 communities.

In addition, an evaluation is nearing completion of what is probably the most extensive local implementation of the prevention approach to date: the HomeBase initiative in New York City. HomeBase operates through a network of eight community service providers in designated high-need areas throughout the city. The providers offer an array of prevention-oriented services to households at risk of homelessness, including benefits advocacy, mediation, employment assistance, legal referrals, and financial assistance. The evaluation involved the monitoring of outcomes for approximately 400 eligible households that HomeBase randomly assigned to treatment and control groups.

Also keep in mind that the trend toward prevention could motivate broader systems changes beyond what these initial studies will show. Culhane, Metraux, and Byrne, (2011), in fact, saw the evolution of ideas about a prevention approach leading to a dramatic transformation in the way the United States addresses residential instability and homelessness. This transformation would entail streamlining and revising the operating philosophies of many shelter systems, including the elimination of duplicative services and other functions the shelters now perform that mainstream social service and human development agencies should ideally handle better. Culhane, Metraux, and Byrne, recognize, however, that this transformation will require challenging expansions of capacity and changes of approach for many of those mainstream agencies as well. Trying to fund this vision via federal homelessness subsidies alone would clearly be inappropriate; rather, the mainstream agencies' funds would need to expand to cover the costs of ongoing housing and services for needy

individuals whom the homelessness system hands off to them. Addressing these issues successfully will be difficult unless the nation expands resources targeted at these issues, but this vision seems to suggest a way to more effectively use the resources that are available.

## Community-Based Approaches To Promoting Residential Stability

The previous section addressed an emerging approach to homelessness prevention that would make addressing residential instability one task of an expanded and better integrated social and human development services delivery system. Although the existing literature is not fully clear about which institutions should take on which tasks, it seems to assume central roles for the public bureaucracies (and the nonprofits that work for them) traditionally assigned those responsibilities. In most cities, however, observers know those systems to be strained financially and in other ways. Many factors that have traditionally inhibited integration—factors that perpetuate *silos* have not yet been eliminated.

In this environment, exploring the roles that grassroots neighborhood organizations might play in addressing the mobility issues we have discussed also seems worthwhile. These organizations would not serve as an alternative to the citywide systems but in a collaborative mode, taking on some tasks that might be difficult for public systems to perform and assisting on others in a manner that would enhance overall effectiveness.

Observers often consider community-level groups better suited than public bureaucracies for tasks like strengthening social networks and building social capital in neighborhoods, and these activities might be critical. Many among the churning movers are likely to be socially isolated families who lack confidence, have few trusted friends to help them, and do not know how to access the services they need and opportunity more broadly. Prospects for effectively addressing residential instability might be quite different in a neighborhood where social networks are strong than in one where they are not.

Accordingly, this section first focuses on one advanced approach to achieving these goals: network organizing. We then look at more specific tasks that neighborhood-level groups might take on to address residential mobility issues in this context.

### Lawrence CommunityWorks: A Case Study in Strengthening Informal and Formal Supports for Families at Risk of Residential Instability

The term *community organizing* is most often associated with developing resident leadership and other activities focused on achieving political ends. *Network organizing*, by contrast, gives more priority to basic interpersonal relationships and strengthening family capacity. It refers to the “process of getting involved” and argues that “community building has to build habits of engagement to replace deeply embedded habits of detachment that dominate place” (Traynor, 2008:10).

The work of a Lawrence, Massachusetts community development corporation, Lawrence CommunityWorks (LCW), is an example of this approach. LCW began in an early-1980s struggle to

build affordable housing in the North Common area of Lawrence. LCW's mission is to (1) foster individual and neighborhood empowerment and leadership by organizing residents to develop politically, economically, and socially; (2) produce and preserve safe, decent, and affordable housing for low- and moderate-income families; (3) create programs and facilities that build the educational and economic assets of neighborhood young people, adults, and families; and (4) build a sustained institutional infrastructure for community revitalization through strategic local, regional, and national partnerships.

Since 2000, developing and implementing the principles of network organizing in its community, functioning as a *membership network*, has been one area of focus for LCW. A basic premise of LCW network organizing is that all members have value and assets to contribute, and all members have needs that the activities and programs in the LCW network meet. Participating residents are not treated as clients; they are members who at times gain knowledge and skills and at other times provide mutual assistance to other members, volunteer, or take up a leadership position within the network. As a membership organization, LCW is designed to increase the formal and informal social supports available to participating residents by increasing the flow of information, the opportunity, and the connections that families have with each other. Network organizing, as LCW practices it, focuses on creating the space and opportunity for formal and informal engagement and interaction among member residents (what LCW calls “bumping and sparking”) and building the habits, devices, skills, and awareness that enable members to take constructive action based on the connections they make and knowledge they gain through that “bumping and sparking.”

One strategy for strengthening social networks practiced by LCW is “NeighborCircles,” in which “LCW-trained facilitators convene a group of neighbors in a given area for a series of dinner discussions focused on getting to know each other, identifying common challenges, ... and developing discrete, manageable projects for tackling those challenges” (Traynor and Andors, 2005:5). LCW has assisted more than 500 families using this approach. Another strategy is to house many concurrent activities for people with varied needs and interests in a common space. Most LCW networking functions are based in a former mill building subdivided to house a variety of concurrent activities; for example, a meeting to talk about a proposed zoning change, a sewing club, a Scholastic Assessment Test preparation class for teens, a seminar on managing personal finances, a session to plan a neighborhood cleanup campaign, a job-training course, and so on. The premise is that people engaged in one activity will develop an interest in other activities being offered and get to know a broad range of their neighbors in the process (Traynor and Andors, 2005).

LCW intends its network development strategies to endow members with the connections necessary to give and receive the kind of formal and informal help that enables families to thrive and averts the kinds of crises that can precipitate severe social and economic problems, including residential churning. An added value of these strategies is that LCW designs them to build members' skills and habits to participate in—or recreate—the network environment, even if they choose or are forced to relocate.

LCW has not attempted to establish a full array of programmatic responses to deal directly with the issue of residential instability, but it has put a number of the basic mechanisms in place. The network-organizing approach is designed so that, when confronted with a crisis that might force

them to move—a loss of income (temporary or long term) that prevents them from honoring their lease obligations, a health emergency, an impending eviction for any reason, and so on—LCW member families have the diverse and trusted connections that can enable them to find advice and help. The network can provide some kinds of help directly. Alternatively, friends and staff in the network know who to contact for outside assistance if that is what is required.

### **Specific Community-Based Activities To Address Residential Instability**

LCW is one of a number of neighborhood-level organizations that provide services that might assist residentially unstable families. Based on a review of such work, a list of six activities that community-based groups could take on to more directly address this issue follows. In general, we recognize that the core staff that operate community initiatives in individual neighborhoods are already stretched thin. Nonetheless, large numbers of churning moves are costly to projects that aim to promote stability. Some efforts to reduce the number of moves are likely to prove cost effective.

- **Establish or broaden outreach.** Community groups are likely able to strengthen outreach related to residential instability at a fairly low cost. This activity entails only mounting effective methods to make neighborhood residents aware of the problem and the right people or organizations to contact for further assistance. The organization leading a community-improvement initiative would communicate with residents directly through its own channels (meetings, newsletters, and so on), but it would also engage other neighborhood organizations in the outreach process. Putting schools on the lookout for signs of impending or actual homelessness among their students and having them inform the community organization, so referrals can be handled appropriately, is especially important.
- **Establish or strengthen referral functions.** The most basic approach would be for the lead community organization (after the referral has been made) to proactively link families about to lose their homes to mediators in citywide homelessness prevention systems (services ranging from mediation in pending evictions to help in applying for assisted housing, as discussed previously).

Depending on the initiative, however, this work might be handled internally; that is, one or more internal community staff members might be trained in how to mediate these cases and, in addition to making referrals, handle some direct work themselves. This approach could work easily in an environment like LCW, where residents recognize the existence of trusted channels through which they can talk about problems and get help. Some other existing neighborhood programs already emphasize housing stability in this way. As noted, the Eastside Housing Opportunity Program in St. Paul is one example (Mohr and Mueller, 2008).

- **Establish or strengthen workforce development, financial management, and housing and mobility counseling.** LCW has recognized the potential power of colocating these functions in the recent work of its Family Asset Building department in establishing a Homeownership Center. Others are following similar paths. The Annie E. Casey Foundation has pioneered the development of Centers for Working Families in a number of cities. This approach involves “bundling access to a full range of essential economic supports in a convenient location” (Center for Working Families, 2010:3). The services these centers offer include workforce and career

development; income and work supports; and counseling on financial services, family financial management, and asset building. The services aim to be “seamlessly integrated” so as to more effectively support family economic success overall (Center for Working Families, 2010). The Local Initiatives Support Corporation (LISC) has adopted this approach (now calling them “Financial Opportunity Centers”) and operates 32 of them in Chicago and other cities that are a part of its Building Sustainable Communities initiative (LISC, 2010; <http://www.lisc.org/section/ourwork/sc>). Adding services specifically related to addressing residential instability seems a natural fit, particularly given the importance of housing expenses to families’ financial well-being.

- **Provide affordable housing in the community, with some earmarked for residentially unstable families.** Virtually all comprehensive community initiatives already have programs to expand the supply of affordable housing in their neighborhoods. LCW’s efforts in this regard have been extensive. This function involves expanding housing first options within the community. In this effort, staff might set aside, as vacancies permit, a prescribed number of units in the developments they build or rehabilitate for churning movers from the neighborhood. An example of a community-based program that focuses on providing housing units for the homeless, or near homeless, in an individual neighborhood in this manner is Project H.O.M.E. in Philadelphia (<http://www.projecthome.org/about>).
- **Maintain links and services to outmovers.** As noted, LCW encourages members who move out of the community to remain in the network by keeping them informed about network activities, inviting them to network convenings, and so on. Benefits exist in both directions. The outmovers can continue to contribute ideas, leadership, contacts, and other types of support to the network, and the network is still there for them if they have problems down the line. Other community organizations would do well to adopt this philosophy. Plans to assist more vulnerable residents who might be forced to move outside the community warrant special attention. Efforts might well be needed in these cases to craft handoffs from a set of service providers in the old neighborhood to a new set in the new one.
- **Collaborate with and become stronger advocates for the reform and strengthening of the relevant citywide programs.** Residents of low-income neighborhoods depend on a host of social, human development, and homelessness prevention services that citywide agencies and nonprofits operate. The leaders of individual neighborhood initiatives cannot be expected to deliver such services themselves, yet a significant number of the residents of their communities are likely to require them. For many, these services are key to the reduction of residential instability. Considering their own objectives, community initiatives will likely find it much in their interests to partner with these agencies, facilitate their work in the community, and advocate for actions that will strengthen them overall.

## **Assessing Directions in Community-Based Approaches To Promoting Residential Stability**

Neighborhood improvement initiatives are now under way in many U.S. cities, at probably the most extensive scale in our history (Kubisch et al., 2010). A substantial share of these efforts rely

on some form of community organizing, and the LCW network organizing approach, although still rare, has been initiated in several other locations.<sup>7</sup> Its attractive features lead us to expect its application will spread.

Regardless of the form of organizing, however, our review of the recent literature on community initiatives yielded almost no explicit recognition of the problem of residential instability, let alone plans to address it.<sup>8</sup> This article has presented data, however, suggesting that the problem is likely to be serious in all low-income neighborhoods and pointed out a number of ways grassroots groups could help deal with it, consistent with their missions and without major effects on workloads. Organizations (national and local) responsible for community initiatives should consider adding this issue to their agendas explicitly and to begin experimenting with actions such as we have outlined to diminish residential instability and its effects in their neighborhoods. Foundations should provide funding to national community development intermediaries (such as LISC or Enterprise Community Partners) to document these activities and their results.

Finally, it is important to recognize that the research community has made little progress in formally evaluating programs, like LCW's network organizing, that attempt to strengthen social networks in low-income communities. The reason is that such programs are enormously difficult to evaluate reliably, because they are hardly ever precisely enough defined or controlled in implementation, making it extraordinarily difficult to conduct a randomized trial (see the discussion in Connel et al., 1995). Despite the difficulty, we believe that more empiricism would pay off handsomely at this point.

For LCW, one might survey a random sample of Lawrence residents and compare the circumstances of those who are LCW members with those with similar characteristics who are not. A step down from that would be surveying a random sample of LCW members only, asking in some depth about their experiences with LCW.

## **Conclusion**

The research reviewed in this article presents a view of the dynamics of low-income neighborhoods that contrasts with the conventional wisdom. To be sure, overall mobility rates are ubiquitously high. The implications are mixed, however. One group, those who actually move a long distance, is fairly small. A second group moves for mostly natural reasons (for example, they need a bigger house), but its members often have positive ties to their original neighborhood and choose to move nearby.

A third group, however, represents a more urgent concern. The members of this group also move to locations in or near their original neighborhoods, but most are moving under pressure. They are

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<sup>7</sup> LCW has a Network Organizing Department (NOD) that is responsible for increasing the practice-based learning around network-centric approaches both internally and with community organizations elsewhere. The NOD has so far engaged in training, technical assistance, documentation assistance, and learning exchanges with organizations in two cities—Cleveland and Seattle—and two states—Maryland and Mississippi.

<sup>8</sup> One prominent exception is Project H.O.M.E. in Philadelphia, cited previously (<http://www.projecthome.org/about>). That more is being done along these lines than has been documented is, of course, quite possible.

the churning movers who lack the income or capacity to secure decent housing in a stable manner on their own. Stress and disruption related to their moves are likely to have negative effects on the education and health of their children.

Across social service programs, new approaches being implemented in the name of homelessness prevention, although they warrant more evaluation, seem promisingly effective in addressing this sort of residential instability. These efforts try to catch problems early and assign levels and types of interventions that match the nature and extent of the problems at hand, family by family.

A number of steps also appear to be available to those who operate community initiatives that could help restore residential stability for families in this group. Fortifying social networks within the community (as illustrated by the network-organizing model) seems especially valuable. Doing so would both directly build the capacities of the most vulnerable families and facilitate their connection to needed supports. Other steps more specifically involve supportive actions by the internal staff, actions that seem consistent with the themes of comprehensive community improvement. Others involve forming closer working ties to, and advocating for more support for, citywide programs in homelessness prevention and related services. Again, however, these steps warrant more testing and evaluation.

Some practitioners have viewed residential mobility in distressed neighborhoods as a serious overall threat to community building. This research suggests that it does not have to be. Local stakeholders (citywide and at the community level), however, do need to make explicit efforts to address harmful effects that can occur.

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# Mobility, Mixing, and Neighborhood Change: A British Perspective

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The articles in this symposium highlight three important areas of inquiry related to residential mobility—what constitutes mobility, the processes of mobility, and the effects of mobility on different groups and locations. In each of these areas, the challenge of understanding becomes more difficult as research reveals the complexity of the underlying processes. Further, our consideration of these challenges helps to identify the integral link between residential mobility studies and research on neighborhood effects (Hedman and van Ham, 2012).

The first area of inquiry is about what constitutes mobility. This area may seem straightforward but is complicated by two dimensions additional to that of the household move. First, the composition of the household may change before, during, or after a move, so saying who has moved and who has not is not simple. Allied with this factor is the reality that households may retain close connections to their previous neighborhood after a move, so that the key factors of neighborhood exposure or dosage (Galster, 2012) and place attachment, both functional and psychological (Bailey, Livingston, and Kearns, 2012), are difficult to describe or measure in investigations of neighborhood effects.

The second area of inquiry concerns the increasing research interest, in both the United States and Europe, in the processes of mobility: How do households arrive at decisions to move? How do households make choices about when and where to go, with or without the help of others? How do counseling and support services provided to poorer households, both before and after a move, influence the human, social, and economic outcomes. The psychological dimensions to these processes—particularly the interactions between variations in personality, underlying individual values, experiences during mobility, and cognitive processes related to an understanding of the move and its likely consequences—are currently underresearched. People are much more complex and dynamic than our usual means of describing them. We are only beginning to appreciate that residents' attitudes to the restructuring of their old neighborhoods affect their views about their own relocation; for example, "Was it worth it? Will regeneration be fully accomplished?"

The third area of inquiry examines the research agenda in relation to the effects and outcomes of residential mobility, which has broadened to include both disadvantaged and more advantaged groups; both movers and nonmovers; both origin and destination neighborhoods; and both

urban-level and neighborhood effects, such as those on patterns of spatial inequality across cities. Here, in both the United States and Europe, the evidence on issues such as negative spillover, or *waterbed*, effects arising from the reclustered of those relocated in other areas (for example, effects on property values, crime, school performance, and local community conflict) has yet to catch up with the theory (Kleinhans and Varady, 2011). To these areas of inquiry, we should add an interest in the potential societal-level effects of mobility—certainly if it results in more residential mixing—on political attitudes; for example, attitudes regarding the causes and desirability of social diversity and (in)equality, which may or may not be very evident to people, depending on where they live.

The advent of integrated neighborhoods, either produced through policy intervention or arising through organic, or market, processes of mobility, raises interesting questions about their effects. Whether looking at economically or racially integrated neighborhoods, much inquiry has been concerned with whether, and to a lesser extent how, more disadvantaged individuals might gain from “rubbing shoulders” with more advantaged neighbors; for example, in terms of their orientation toward education or awareness of employment opportunities—so-called social-interactive mechanisms (Galster, 2012). Less research has focused on the effects of residential mixing on the more advantaged group, in situations both where it is the majority and the minority. In the case of economically integrated, or *mixed income*, communities, effects have also been hypothesized on the economic and political vitality of the communities concerned, the former having been examined occasionally and found wanting, and the latter having been assessed rarely (see Sautkina, Bond, and Kearns, 2012, for a review of U.K. evidence).

As a result of occasional disturbances between ethnic groups in specific towns or cities (for example, in the United Kingdom), policymakers have proposed racially integrated neighborhoods and schools as means to overcome so-called “parallel lives” (Phillips, 2006) and thus reduce the potential for local conflict, presumably through greater tolerance as a result of contact (Allport, 1954), although the mechanisms involved are usually unstated. This approach, however, has tended to focus on the behavior (that is, potential mobility) of the minority group(s) rather than asking questions of the host majority group; the majority are not expected or asked to move and integrate, yet it is they who often effectively protect their own “enclaves”—although, being predominantly White areas, they are not called that. This example effectively illustrates how policy and research attention that is centered only on the identified mover group may result in a lack of attention to the influence of the nonmovers and potential receivers, whose effects on mobility and its consequences also require research.

Research is also welcome on the psychology of mobility and mixing, as in the role played by “cognitive constraints” on moving, reported in this symposium. In relation to mobility that produces more mixing, interesting connections remain to be explored between community- and societal-level effects. From a well-being perspective, one would wish to know whether the psychosocial pathway between inequality and health—due to stress caused by subordination, lack of control, and status anxiety (Kawachi and Kennedy, 1999)—operates at a neighborhood as well as at a societal level. In other words, is relative deprivation (Runciman, 1966) a potential outcome of any mobility that results in social mixing? More research on the mental health and well-being outcomes of mobility would help provide an answer to this question.

Beyond studying effects on individuals, an interest in mobility and its consequences extends to the issue of whether integrated or mixed neighborhoods also have societal-level effects on social and political attitudes (which is possibly more likely in societies with interventionist or welfare states). Previous research has argued that societal inequality reduces empathy between groups so that people have to fend for themselves more (Wilkinson and Pickett, 2009), which raises two interesting questions for neighborhood research. First: Can residential mixing serve to change social and political attitudes over time (for example, on questions of the causes of poverty and the desirability of social assistance) or, even more fundamentally, by lowering people's anxiety about difference (Sennett, 2012)? Can other groups become more accepted as a legitimate and welcome presence? Second: Could such effects arise from the co-presence of groups within neighborhoods, or do they also require social interaction, or "contact," and, if so, of what type (Pettigrew and Tropp, 2005)?

Studying residential mobility is complex and fascinating in itself, but extending that interest to its effects on not only individuals but also on neighborhoods, cities, and societies brings home the importance of *where* we live for *how* we live in the modern world.

## Acknowledgments

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# Reducing Worst Case Housing Needs With Assisted Housing

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## Abstract

*This research note seeks to answer this question: When units of assisted housing are added to a metropolitan market, is there a commensurate reduction in the number of households with worst case housing needs (WCN)? WCN are defined as unassisted renter households with very low incomes (VLIs) that pay more than 50 percent of income on housing or live in severely inadequate housing conditions or experience both.*

*Previous work estimated the relationship among extremely low-income renter families with children, finding a reduction in WCN of 76 households for each 100 additional assisted units in the market. This work was replicated with more recent data drawn from the larger population of VLI renter households. It found a reduction in WCN of 68 households per 100 units of assistance. There appears to be a threshold in the relationship. In markets in which less than 45 percent of the VLI renter households are assisted, the count of WCN households is reduced by an estimated 92 households per 100 assisted units added. If the percentage of assisted households is greater than 45 percent, no reduction in WCN is found with the introduction of additional assisted units.*

## Introduction

This research note addresses this question: If assisted housing units are added to a housing market, is there a commensurate reduction in the count of renter households with worst case housing needs (WCN)? WCN form a benchmark that is used to assess the need for housing assistance across the nation. The benchmark is estimated by the U.S. Department of Housing and Urban Development (HUD) as the count of poor renter households that suffer from severe housing affordability conditions. This count is limited to renters with incomes that are less than 50 percent of the Area Median Income (AMI). This income level is referred to as very low-income (VLI). These VLI renters are

deemed to have WCN if they do not receive federal housing assistance and (1) pay more than one-half of their monthly income for rent and utilities or (2) live in severely inadequate housing conditions or (3) experience both (Steffen et al., 2011).

To properly budget scarce resources and quantify the expected results of investments in assisted housing, HUD and Congress want and need to know the responsiveness of housing markets to interventions through the provision of assisted housing. The assisted housing can take the form of project-based assisted housing or tenant-based vouchers. Can the government expect a one-for-one reduction in WCN with the introduction of an assisted unit or a voucher, or does some lesser level of response indicate that not all assisted housing goes to households with WCN?

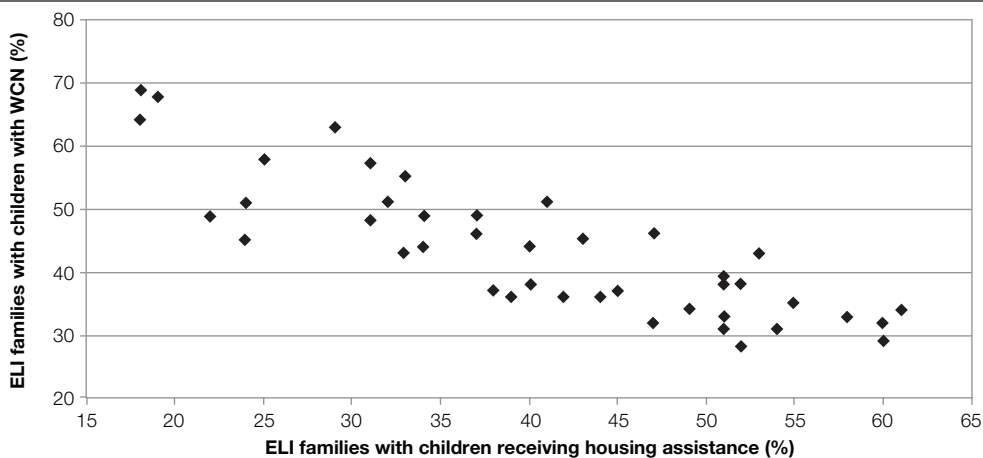
## Previous Work

Khadduri, Shroder, and Steffen (2003) examined this topic in the context of welfare reform. Because of their interest in welfare reform, the population they studied was composed of families with children. The families they studied had incomes placing them at less than 30 percent of the AMI for families. Income at this level is referred to as extremely low-income (ELI). The authors, who based their paper on data from 44 metropolitan areas (exhibit 1), illustrated the relationship graphically and found a strong negative relationship.

Khadduri, Shroder, and Steffen (2003) did not model the relationship between WCN and assisted housing. Using their data, however, an estimate can be generated (model 1 in exhibit 2). The model finds a regression coefficient of -0.76 between the percentage of ELI families with children and assisted housing as a percentage of the same group. The coefficient is, as expected, negative and significant. Their work suggests that adding 100 assisted housing units to a metropolitan market results in 76 fewer poor renter households with WCN.

### Exhibit 1

Percent of ELI Families With Children With WCN and Percent of ELI Families With Children Receiving Housing Assistance for Metropolitan Areas, 1989 Through 1996



ELI = extremely low-income. WCN = worst case housing needs.

Source: Khadduri, Shroder, and Steffen (2003)

**Exhibit 2**

**Models Explaining Percent of Households With WCN as a Function of Percent of Households Assisted**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
<b>Dependent variable</b>	<b>Percent of ELI families with children with WCN</b>	<b>Percent of VLI renter households with WCN</b>	<b>Percent of VLI renter households with WCN</b>	<b>Percent of VLI renter households with WCN</b>
<b>Number of cases</b>	<b>44</b>	<b>30</b>	<b>24</b>	<b>6</b>
<b>Cases</b>	<b>All</b>	<b>All</b>	<b>Percent with WCN &lt; 45</b>	<b>Percent with WCN &gt; 45</b>
Coefficient for percent assisted	- 0.756	- 0.678	- 0.918	- 0.346
t score	10.539	5.565	3.526	1.214
Significance	0.001	0.001	0.002	0.292
Adjusted R squared	0.719	0.508	0.332	0.087

*ELI = extremely low-income. VLI = very low-income. WCN = worst case needs.*

The model generated from the Khadduri, Shroder, and Steffen (2003) data suggests a less than one-for-one reduction in the number of WCN households with the addition of assisted housing units. Perhaps the less than one-for-one reduction in WCN households should be expected. Hardiman et al. (2010) found that about 85 percent of the households benefiting from HUD-funded housing assistance have VLIs. This 85-percent figure provides an expected value for the estimated coefficient between assisted housing and WCN. The admission requirements for the various HUD-funded housing assistance programs vary. Each program serves people with low incomes, but those served are not exclusively VLI or ELI renters. In addition, although most households that receive housing assistance will be from the VLI population, not all will come from housing with severely inadequate conditions or housing that costs more than 50 percent of their household income, conditions that define WCN households. Steffen et al. (2011) found that only 51 percent of all unassisted VLI renters have WCN.

Many VLI renters do not suffer from WCN, and the households that are admitted to housing assistance programs may or may not be drawn from those with WCN. Public housing authorities (PHAs) have some discretion as they administer the public housing program and the Housing Choice Voucher Program (HCVP), two of the largest forms of housing assistance for VLI renters. These scarce housing resources are allocated to eligible households that enter their names onto the PHA’s waiting lists for housing assistance. Households can move up the list as a function of both federal and local preferences. The highest priority tends to be given to households displaced by natural disaster or government action. Although some priority is given to households whose members are employed, it appears that most households receiving housing assistance have few, if any, resources (Leopold, 2012). Given this process, it seems likely that as housing assistance becomes available, the recipient households would probably be drawn from the population of unassisted VLI renters who are likely to have high housing cost burdens. This probability makes it reasonable to expect the reduction in WCN to be closer to 85 per 100 new units of housing assistance. This process also means, however, that not every incremental assisted unit will become occupied by a household drawn from the population of WCN.

## Recent Data From the American Housing Survey

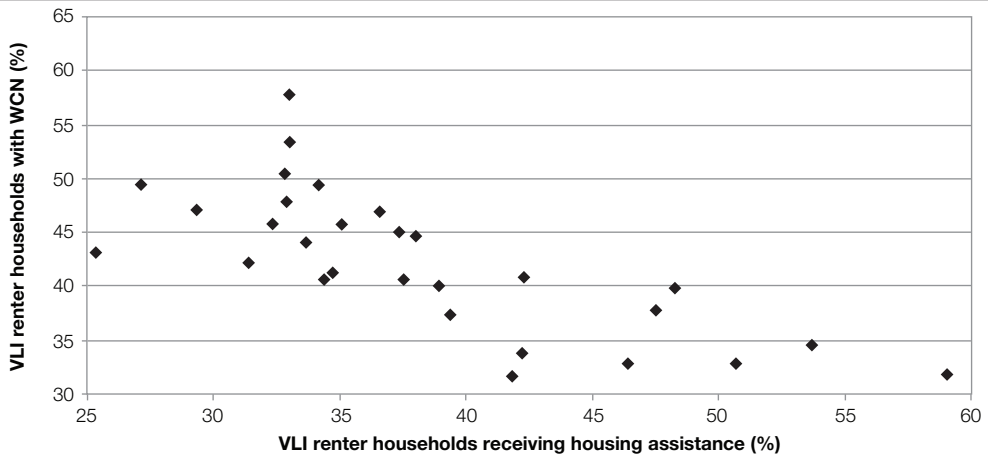
To establish an estimate of the relationship between WCN and assisted housing, data are taken from both HUD and from the American Housing Survey (AHS). Data on WCN are available from the AHS but not from the decennial census or the American Community Survey (ACS). The census and the ACS examine housing cost hardship, but they do not provide data on the incidence of severely deficient housing, a component of WCN. Thus, analysis in this research note is restricted to the 30 metropolitan areas for which recent AHS data are available.

The counts of assisted housing are derived from HUD data. The counts include public housing, Section 8 new construction/substantial rehabilitation units, Section 236 units, HCVP households, and a few older HUD multifamily programs with units that are still under contract. The data do not include the units that are subsidized under the Low-Income Housing Tax Credit Program, because the program tends to assist households that are less poor, such as households with 30 to 60 percent of AMI.

Using AHS and HUD data illustrated in exhibit 3, a simple bivariate model is estimated (model 2 in exhibit 2). The dependent variable is the percentage of VLI renter households with WCN, a larger population than was used in the previous study. This population reflects the universe from which WCN households are drawn. The independent variable is assisted housing as a percentage of VLI renter households.

### Exhibit 3

Percent of VLI Renter Households With WCN and Percent of VLI Renter Households Receiving Housing Assistance for Metropolitan Areas, 2002 Through 2007



VLI = very low-income. WCN = worst case housing needs.

Sources: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Assisted Housing Data, 2008; American Housing Survey Metropolitan Data, 2002, 2004, and 2007

The coefficient estimated from these more recent data is lower than found with the previous study. This model suggests that 100 units of additional assisted housing will result in a reduction of WCN of only 68 households. There appears to be a threshold in the relationship between WCN and assisted housing, however. If assisted housing is introduced into a market in which less than 45 percent of the VLI renter households are assisted, the percentage of VLI renters with WCN appears to be very responsive. The count of WCN households is reduced by an estimated 92 households per 100 assisted units added. If the percentage of VLI renters who are assisted is greater than 45 percent, however, no reduction can be found with the introduction of additional assisted units (models 3 and 4 in exhibit 2).

## **Conclusion**

The relationship between the incidence of WCN and the incidence of assisted housing is negative. We would expect this relationship to be close to 85 households per 100 additional assisted housing units. This expectation is reasonable because 85 percent of the households that benefit from HUD-funded housing assistance have VLIs and those households selected for entry into housing assistance programs tend to be those VLI households with a high housing cost burden. The small amount of available data does not permit construction of models with controls that could help improve our understanding of the relationship. Inspection of the relationship indicates that a threshold exists, however. In the metropolitan areas studied, those with lower levels of assisted housing seem to be very responsive to additional assisted housing. These markets experience higher levels of VLI households with WCN. Alternatively, markets with higher levels of assisted housing do not show any significant relationship, but these markets are few in number.

This finding suggests that markets are most responsive to the introduction of additional assisted housing if they suffer from lower levels of housing assistance for their renter populations. Where a reduction of WCN is sought, additional assisted housing will generate the greatest effect if it is introduced into markets with these low levels of assisted housing.

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## **Data Shop**

*Data Shop, a department of Cityscape, presents short articles or notes on the uses of data in housing and urban research. Through this department, the Office of Policy Development and Research introduces readers to new and overlooked data sources and to improved techniques in using well-known data. The emphasis is on sources and methods that analysts can use in their own work. Researchers often run into knotty data problems involving data interpretation or manipulation that must be solved before a project can proceed, but they seldom get to focus in detail on the solutions to such problems. If you have an idea for an applied, data-centric note of no more than 3,000 words, please send a one-paragraph abstract to [david.a.vandenbroucke@hud.gov](mailto:david.a.vandenbroucke@hud.gov) for consideration.*

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# **Using Administrative Data for Spatial and Longitudinal Analysis of the Housing Choice Voucher Program**

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## **Abstract**

*Place and time are important dimensions of the administration of and policy behind the Housing Choice Voucher Program (HCVP). Spatial and longitudinal analyses of the HCVP are rare, however. In part, this scarcity is because of the lack of widely available, microscale spatial and temporal HCVP data. This article introduces a process that researchers and public housing authorities (PHAs) can use to generate a spatially located, person-period data set of participant households in the HCVP, using off-the-shelf software and administrative data that HUD requires PHAs to collect via Form HUD-50058.*

*This spatially located, person-period data set enables researchers and PHAs to conduct a variety of longitudinal and microscale spatial analyses not possible using untransformed 50058 data or other widely available data sources.*

## Introduction

Where do Housing Choice Voucher Program (HCVP) households live? How has the spatial pattern of where they live changed over time? Using currently available HCVP data, these two seemingly simple questions are surprisingly difficult to answer, at least at the subcity scale. These two questions are directly relevant, however, to ongoing research and administration questions about the HCVP, such as whether HCVP participants live in “high-opportunity” neighborhoods.

Public housing authorities (PHAs) capture and store a wealth of data about client demographics and spatial location. In most cases, these data are collected in administrative databases designed to support program operations and that comply with various HUD reporting requirements. One such data source, Form HUD-50058, provides comprehensive secondary, household-level, program-participant data. The 50058 data include household-level information for all participants in the public housing program, HCVP, and Section 8 Moderate Rehabilitation program. In exhibit 1, we summarize the information available from the 50058 data.

This article outlines a process to transform the 50058 data into a spatially located, person-period data set using off-the-shelf software and free tools.<sup>1</sup> The resulting data set enables researchers to

### Exhibit 1

#### A Summary of the Data Captured by Form HUD-50058

Section (selected)	Contents (selected)
Agency	Agency name; PHA code; program
Action	Action type; effective date; action correction (y/n)
Household	Head of household; household size; demographic information about all household members: name, age, sex, relation, disability, race, ethnicity, and citizenship
Background at admission	Date entered waiting list; ZIP Code before admission; homeless before admission (y/n)
Unit to be occupied on effective date of action	Unit address; number of bedrooms; date of last HQS inspection; structure type; year structure built
Assets	Owner of asset; asset type; asset cash value; income from asset; total household assets
Income	Income by household member; income after exclusions; annual household income
Expected income per year	Amount of permissible deductions by type and household member; household unreimbursed medical expenses; dependent allowance; unreimbursed childcare costs; adjusted annual household income
Total tenant payment	Total tenant payment; most recent total tenant payment; qualify for minimum rent hardship (y/n)
Tenant-based vouchers	Number of bedrooms on voucher; qualify as hard-to-house family (y/n); utility allowance; housing assistance payment to owner

*HQS = Housing Quality Standards. PHA = public housing authority. y/n = Binary response of “yes” or “no.”*

*Source: Form HUD-50058*

<sup>1</sup> A person-period format has one record for each household for each temporal unit. This format is particularly well suited for a variety of longitudinal analyses (Singer and Willett, 2003).



conduct a variety of longitudinal, microscale spatial analyses that they can use to explore administration- and policy-relevant questions about how the HCVP functions across space and time.<sup>2</sup>

In this article, we first outline the process for transforming the 50058 data into a spatially located, person-period data set. Second, we propose a method to determine an HCVP household's program status from its certification event history and to identify several reliability issues associated with the 50058 data. Third, we briefly describe two analyses of the HCVP, an exploratory spatiotemporal data analysis project and a stock-and-flow mapping project<sup>3</sup> that the Cambridge Housing Authority (CHA), in Cambridge, Massachusetts, performed with these data.

## **Transforming the 50058 Data Into a Spatially Located, Person-Period Data Set**

The 50058 data can support a broad range of heretofore unexplored policy research questions that require temporal and spatial data. The 50058 data must be transformed into a spatially located, person-period data set to support such research, however. In this section, we outline how to spatially locate the 50058 data and how to reshape the 50058 data into a person-period data structure.

### **Spatially Locating the 50058 Data**

The 50058 data can be spatially located because it includes the addresses of program participants. The process of converting address data to geographic coordinates (typically latitude and longitude) is called geocoding (for example, Longley et al., 2010).<sup>4</sup>

Despite advances in geocoding methods, inaccurate or improperly formatted address data pose a substantial challenge in the case of the 50058 data. As with most address data captured for administrative purposes, the 50058 data's structure does not facilitate geocoding.<sup>5</sup> The likelihood that PHAs did not establish or enforce guidelines aimed at normalizing the address capture-and-storage processes magnifies this difficulty. The likelihood that the 50058 address data, like most administrative data, are rife with typographical errors is a further complication.<sup>6</sup>

Commercial geocoding engines deploy various methods to geocode addresses that (1) are in non-standardized and nonnormalized formats, (2) contain common typographical errors, or (3) both.

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<sup>2</sup> Use of the 50058 data for research often raises issues of PHA client confidentiality. These issues range from not inadvertently disclosing client addresses in map visualizations to the handling and use of PHA clients' personal data. If a PHA partners with university-affiliated researchers, the universities' institutional review boards can help the PHA and researchers design protocols to ensure that PHA clients' personal information is sufficiently protected.

<sup>3</sup> Johnson and Nelson (1998) provide a useful introduction to stock-and-flow mapping for those unfamiliar with this form of cartographic representation.

<sup>4</sup> Alternatively, this process is sometimes referred to as "address matching" (Demers, 2008).

<sup>5</sup> The 50058 data likely store addresses in a single attribute field. Address data stored in multiple fields are frequently easier to geocode. For instance, street address data might be stored in separate fields such as street number, street name, and street type.

<sup>6</sup> Such typographical errors could be minimized if agencies implemented data input interfaces that used "lookup" tables or autocomplete functionality. In the authors' experience, PHA data entry systems rarely implement such functionalities.

Although such geocoding engines offer ease of use, they have several drawbacks. First, they can be cost prohibitive. Second, the methods behind commercial geocoding engines are typically a “black box,” to protect proprietary algorithms. Thus, although commercial engines likely could geocode the 50058 data addresses as is, they are less than ideal. We sought an alternate engine to geocode the 50058 data addresses and settled on a minimal-cost geocoding service that the Geographic Information System (GIS) Research Laboratory at the University of Southern California (USC WebGIS) developed (Goldberg and Wilson, 2012).<sup>7</sup>

Using the USC WebGIS service necessitated conducting some preprocessing of the 50058 data addresses before geocoding. We determined that the minimal cost and overall transparency of the USC WebGIS service compared with those of commercial services outweighed this preprocessing burden. Before geocoding, we normalized the 50058 data addresses using a combination of lookup tables in Microsoft Access and the “find” and “replace” functions in Microsoft Excel.<sup>8,9</sup>

Although tedious, the address normalization process can be implemented relatively quickly. We devoted approximately 10 hours of staff time to normalize the addresses of HCVP households, spanning a 7-year period.<sup>10</sup> In the 50058 data, we observed a 15-percent increase in the geocoding success rate after implementing basic address normalization techniques. Using the addresses, our normalization process, the USC WebGIS geocoding engine, and minimal manual geocoding, we achieved good-quality geocodes for more than 98 percent of the 50058 data addresses. In exhibit 2, we summarize our geocoding success rates.

**Exhibit 2**

**Results of Geocoding HCVP Household Residence Addresses From the 50058 Data**

Year	HCVP Households	HCVP Household Addresses	Addresses Geocoded	Match Rate (Percent)	Matched Using USC WebGIS Geocoding Engine	Matched Using Manual Geocode
2004	2,876	3,111	3,074	98.8	3,000	74
2005	2,832	3,078	3,036	98.6	2,957	79
2006	2,809	3,038	2,985	98.2	2,885	100
2007	2,952	3,140	3,082	98.1	2,963	119
2008	2,894	3,079	3,033	98.5	2,886	147

*HCVP = Housing Choice Voucher Program. USC WebGIS = Geographic Information System Research Laboratory at the University of Southern California.*

<sup>7</sup> To geocode more than 2,500 addresses, a user must register as a partner with USC WebGIS. Additional information about USC WebGIS usage rules is available at <https://webgis.usc.edu/About/UsageCosts.aspx>.

<sup>8</sup> We used lookup tables to list the variable spellings of road names in the 50058 data to create a new data set, wherein we assigned a given address component (that is, street name, city, county, or state) a single spelling. Using this process, we were able to correct most typographical errors in the 50058 data addresses. In addition, we used Microsoft Excel’s “find” and “replace” functions to normalize the format of the 50058 data addresses by removing address data irrelevant to the geocoding process (such as apartment numbers).

<sup>9</sup> Detailed technical notes about our address normalization and reshaping process are available on request from the authors. The technical documentation includes a detailed listing of the Excel functions and Structured Query Language queries used.

<sup>10</sup> Because of reliability issues at the ends of the data set, we were able to use only 5 years of the data.

## Reshaping the 50058 Data Into a Person-Period Format

We reshaped the 50058 data into a person-period format.<sup>11</sup> In exhibit 3, we present, for one HCVP household, the 50058 data in the original event-level structure and also in a person-period structure. The person-period structure supports various longitudinal analyses, and we argue that it is, in general, a more useable format.

Many statistical software packages (for example, R and STATA) can reshape data from an event-level to a person-period structure. We used Microsoft Access to reshape the 50058 data, which had several advantages. First, our approach enabled collaboration between CHA database administrators fluent in Structured Query Language and policy staff fluent in Access' graphical user interface. Second, we designed the reshaping process iteratively and tested the logic of our design by viewing the results of intermediate queries.<sup>12</sup> Third, the iterative design and implementation afforded us the opportunity to identify, investigate, and correct issues in the 50058 data during the reshaping process.

### Exhibit 3

#### Sample HCVP Household Data in Event-Level (a) and Person-Period (b) Structures

##### (a) Event-Level Structure

Tenant ID	Certification Effective Date (2003)	Income
1	January 1	150
1	April 28	200
1	December 1	120

##### (b) Person-Period Structure

Tenant ID	Period (2003)	Last Certification Effective Date (2003)	Income
1	January 1	January 1	150
1	February 1	January 1	150
1	March 1	January 1	150
1	April 1	January 1	150
1	May 1	April 28	200
1	June 1	April 28	200
1	July 1	April 28	200
1	August 1	April 28	200
1	September 1	April 28	200
1	October 1	April 28	200
1	November 1	April 28	200
1	December 1	December 1	120

HCVP = Housing Choice Voucher Program.

## Issues Related to the Transformed 50058

Determining an HCVP household's program status for each period in the transformed 50058 data is one of the more difficult aspects of our process. In all likelihood, an HCVP household's program certification type (from which one can determine HCVP status) will be recorded inconsistently in the 50058 data. We assume that inconsistent recording of certification type is widespread across PHAs and thus describe, in some detail, our method of interpolating HCVP status.

<sup>11</sup> See footnote 1 for the definition of a person-period data structure.

<sup>12</sup> Inspecting intermediate steps of the reshaping process would be substantially more difficult if we used R or STATA.

When certification event type is missing or inconsistently recorded, determining an HCVP household's program status is difficult. For instance, looking at one certification event that lacks certification type information, one cannot tell if the certification event is a program start certification, an annual recertification, or a program termination certification. Most analyses using the 50058 data will require that an HCVP household be assigned a program status for every period in the transformed 50058 data. For instance, mapping HCVP households at a given point in time requires knowing whether a particular HCVP household was a program participant at that given time.

We interpolated an HCVP household's program status using a set of assumptions grounded in HCVP requirements and CHA staff expertise. In particular, we assumed that, absent contrary evidence in the 50058 data, an HCVP household would have a certification event every 12 months, in accordance with federal law.<sup>13</sup> In addition, we assumed that an HCVP household reported major changes to its composition or income via an interim recertification, as required by the same federal regulation. Applying these rules produced unreliable results in the first and last years of the 50058 data analyzed. Because of this unreliability, despite having the 50058 data covering the period from January 1, 2003, through December 31, 2009, we excluded data from 2003 and 2009 (that is, the data set's edges).

For every month in the period analyzed, we assigned HCVP households one of six program statuses: *Not Yet in Program*, *Start of Program Participation*, *Program Participant*, *Final Certification*, *Termination Ghost*, or *No Longer Program Participant*.<sup>14</sup> We used the following decision rules to interpolate an HCVP household's program status from its certification event history.

- *Not Yet in Program*: All periods before an HCVP household's first certification.
- *Start of Program Participation*: The first full period after an HCVP household's first certification became effective.
- *Program Participant*: All periods between an HCVP household's first and last certifications.
- *Final Certification*: The first full period after an HCVP household's last certification.
- *Termination Ghost*: The 12 months (periods) after an HCVP household's final certification. If PHAs consistently recorded program terminations, this status would be unnecessary. Given the quality of the 50058 data, however, we knew only that an HCVP household had its last certification on a particular date. We had no knowledge of when its program participation terminated. If an HCVP household had no subsequent certifications, based on the assumption that an HCVP household should have an annual recertification every 12 months, we assigned that HCVP household Termination Ghost status for 12 months after its last certification. This status indicates that we were unsure of the HCVP household's status in the HCVP, because the program termination date was not properly recorded.

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<sup>13</sup> "Family Income and Composition: Regular and Interim Examinations," 24 CFR Part 982.516. 59 FR 36682. July 18, 1994.

<sup>14</sup> Before we excluded records from 2003 and 2009, we included two additional household statuses to indicate instances in which we were unable to ascertain an HCVP household's program participation status because of edge effects. For instance, if an HCVP household's first certification in the 50058 data occurred in 2003, we were unable to determine whether that certification was the HCVP household's first or whether its first certification actually occurred at some previous time outside the 50058 data's temporal span.

- *No Longer Program Participant*: All periods after the Termination Ghost status ended. This status indicates our relative certainty that an HCVP household was no longer participating in the HCVP.

We provide the following example to clarify the application of these decision rules. Imagine an HCVP household that had three certifications. Its first certification occurred on January 1, 2006, its second on June 1, 2006, and its third and final on June 1, 2007.

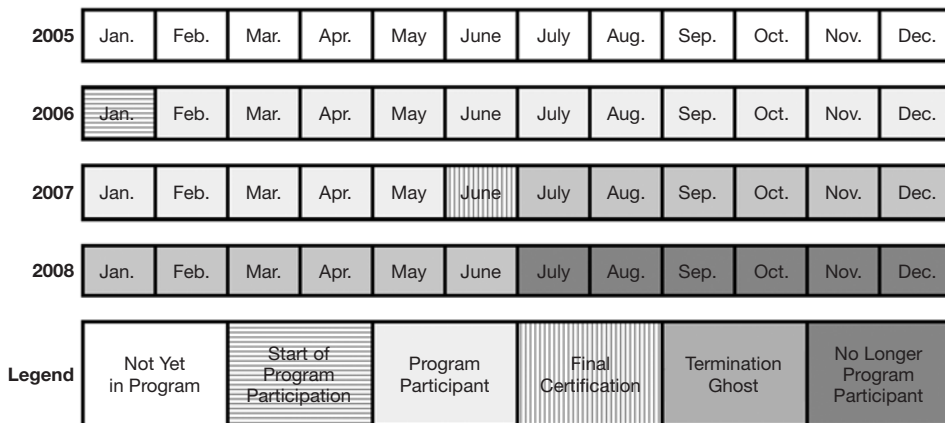
- For all periods before January 1, 2006, we assign the status *Not Yet in Program*.
- For the period of January 1, 2006, we assign the status *Start of Program Participation*.
- For all periods after January 1, 2006, but before June 1, 2007, we assign the status *Program Participant*.
- For the period of June 1, 2007, we assign the status *Final Certification*.
- For the 12 months (periods) after June 1, 2007, we assign the status *Termination Ghost*.
- Beginning on the period of July 1, 2008, and for all subsequent periods, we assign the status *No Longer Program Participant*.

In exhibit 4, we provide a visual representation of the assignment of program participation status to the example HCVP household.

Although our process results in a more useable data set, the resulting product is only as reliable as the underlying data. Researchers have explored the reliability of administrative data in other contexts, but the reliability of administrative housing data, such as the 50058 data, has been explored insufficiently (see, for example, Boehmer et al., 2002; Lee et al., 2005). As such, researchers and PHAs should be cautious about relying solely on administrative data to test hypotheses or evaluate agency policy.

#### Exhibit 4

##### Visual Representation of Status Assignment for an Example HCVP Household



HCVP = Housing Choice Voucher Program.

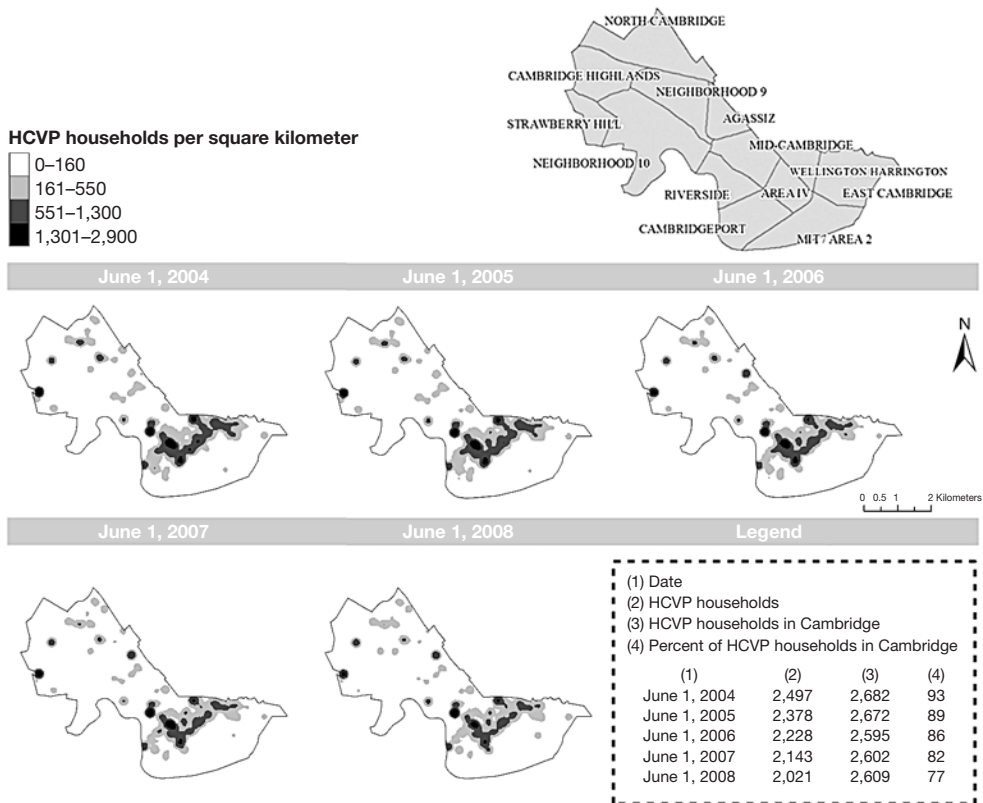
## Examples of Analyses Enabled by the Transformed 50058 Data

CHA used the transformed 50058 data to explore several issues related to changing spatial patterns of HCVP household residences. Exhibits 5 and 6 are maps excerpted from an exploratory spatial data analysis (ESDA) project that CHA conducted. Exhibit 5 is a kernel density map of where HCVP households reside in Cambridge, Massachusetts, at five different temporal cross sections. The overall spatial distribution of HCVP households in Cambridge does not change. We observe a progressive decrease in the count and density of HCVP households in Cambridge, however, as we move from earlier to later periods. This phenomenon is easier to read from the tabular element of exhibit 5, indicated on the map with a dashed callout line.

Exhibit 6 is an overlay map of rental-unit density in Cambridge and the residences of HCVP households on June 1, 2008. We observe that the spatial distribution of HCVP households roughly conforms to the density of Cambridge rental units. The exception to this observation is that few HCVP households reside in the more affluent northeastern portions of Cambridge.

### Exhibit 5

#### Kernel Density Map of HCVP Households That Reside in Cambridge



HCVP = Housing Choice Voucher Program.

Sources: City of Cambridge, Cambridge Housing Authority, July 14, 2011

## Exhibit 6

### Map of 2008 HCVP Household Residences and Cambridge Rental Unit Density



HCVP = Housing Choice Voucher Program.

Notes: Point symbols of HCVP household residences dispersed in circle pattern to prevent overlapping symbols. HCVP households residing in Cambridge (total HCVP households) = 2,021 (2,609). Number of Cambridge rental units (2000 census) = 29,616.

Sources: 2009 census, Summary File 1; City of Cambridge, Cambridge Housing Authority, July 21, 2011

One working hypothesis that emerged from the ESDA was that HCVP households were increasingly moving out of Cambridge because of relatively higher rental costs compared with those of neighboring cities. CHA tested the salience of this hypothesis by conducting stock-and-flow mapping of HCVP households between 2004 and 2008.<sup>15</sup> This stock-and-flow mapping highlighted the “regionalization” of CHA’s HCVP activities and the existence of a substantial number of HCVP household moves out of Cambridge.<sup>16</sup> CHA’s stock-and-flow mapping of the 50058 data provided the agency with empirically based and persuasive analysis that challenged the parochial stance of limiting PHA policy inquiry to intra-PHA matters and an agency’s formal jurisdictional bounds.

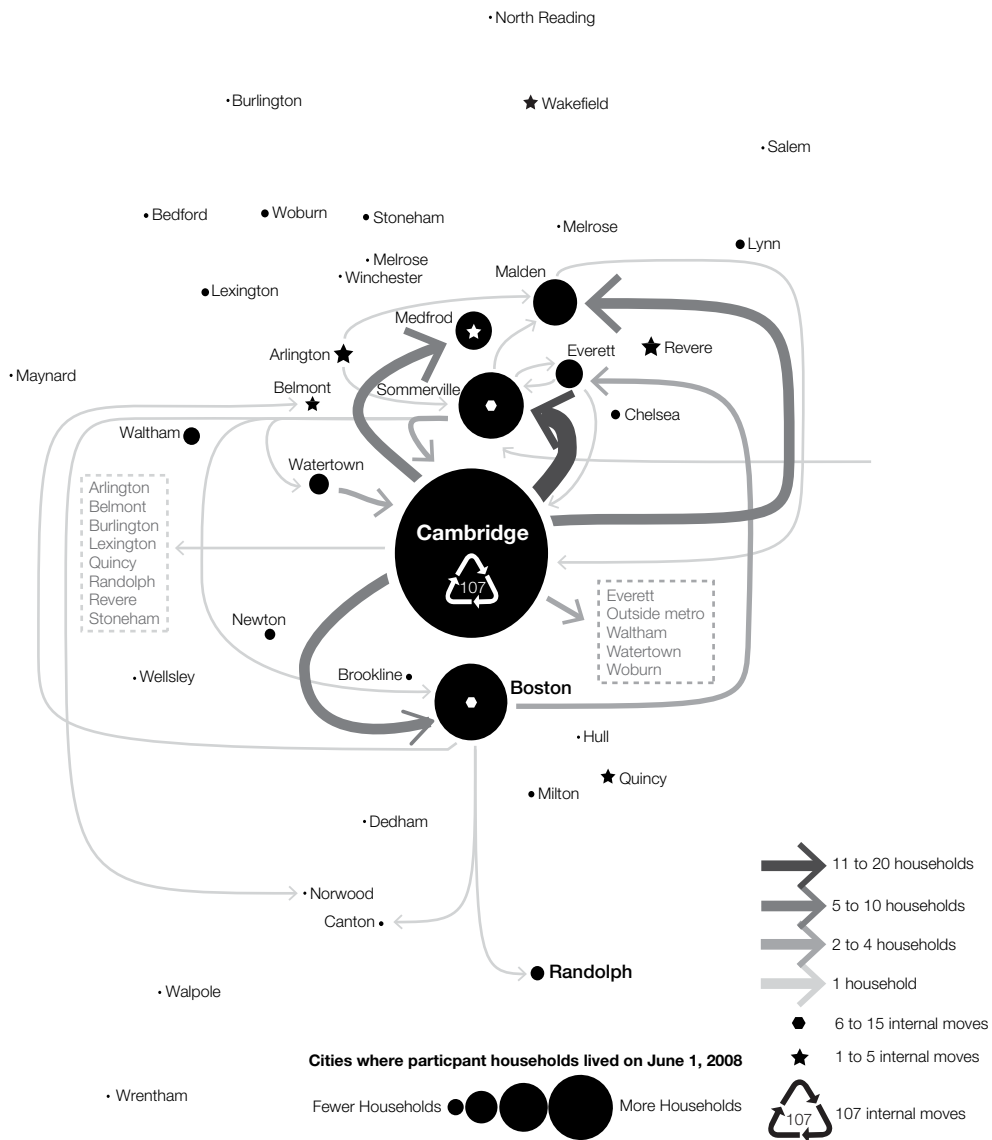
<sup>15</sup> The result of this analysis was a finding that most of the decline in the number of HCVP households residing in Cambridge resulted from the net effect of program starts and ends in neighboring cities. This finding focused CHA’s research on understanding why new HCVP households are increasingly leasing up outside Cambridge.

<sup>16</sup> Unlike some PHAs, CHA has the option to continue to administer vouchers outside of its jurisdictional bounds. This option stems from Massachusetts law and CHA’s participation in the Moving to Work demonstration project.

Exhibit 7 is a stock-and-flow map of HCVP households for the 2008 calendar year. In exhibit 7, a circle represents a city where at least one CHA HCVP household resides. We graduated each circle's size to reflect differences in the number of HCVP households that reside in the city. The various lines connecting city symbols represent the number of HCVP households that moved from one city to another during the period analyzed. We graduated each line's thickness to represent differences in the number of HCVP households that moved between two cities. The directional arrow points to the city to which HCVP households moved. The line's origin is at the city of departure.

### Exhibit 7

#### HCVP Household Flows, June 1, 2007 to June 1, 2008





## Conclusion

The transformed 50058 data enable researchers and PHAs to conduct a variety of microscale spatial analyses of the HCVP. In addition to supporting spatial analyses, the transformed 50058 data support a variety of household-level, longitudinal statistical analyses. Both of these types of analyses offer the potential to deepen our understanding of the HCVP and to better evaluate how it is administered.

## Acknowledgments

The authors thank the Doctoral Public Policy Fellowship Program of the Rappaport Institute for Greater Boston, whose support made possible the project on which we based this article. They also thank the staff at the Cambridge Housing Authority, in particular Tito Evora, for their ongoing support and willingness to collaborate on research endeavors.

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## Graphic Detail

Geographic Information Systems (GIS) organize and clarify the patterns of human activities on the earth's surface and their interaction with each other. GIS data, in the form of maps, can quickly and powerfully convey relationships to policymakers and the public. This department of Cityscape includes maps that convey important housing or community development policy issues or solutions. If you have made such a map and are willing to share it in a future issue of Cityscape, please contact [ronald.e.wilson@hud.gov](mailto:ronald.e.wilson@hud.gov).

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# Concentrated Out-Migration

**Ron Wilson**

U.S. Department of Housing and Urban Development

*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research or the U.S. Department of Housing and Urban Development.*

A primary question about the Housing Choice Voucher Program (HCVP) is, “Do participants move far from their previous addresses when they relocate?” Most participants stay within the HCVP for an average of 4 years, but a small percentage of participants stay much longer. Using CrimeStat 3.3, I analyzed 2,891 HCVP participants whose Social Security numbers matched between 2000 and 2010 in the Baltimore metropolitan region to identify the mobility patterns of long-term participants.<sup>1</sup>

Across the region, most long-term HCVP participants did not move far from their previous address. Of those who relocated, 19 percent (556) moved slightly more than 1 mile and 50 percent moved less than 3 miles. Most participants (2,720, or 94.1 percent) moved to another tract, however, 24 percent (688) relocated at distances of more than 6 miles.

I identified a subgroup of participants from four tracts with a large out-migration-to-in-migration difference.<sup>2</sup> One was in Baltimore city and the rest were exurban tracts near Essex, Randallstown, and Severn (see exhibit 1).<sup>3</sup> From these tracts, 132 HCVP participants (4.6 percent) relocated to other tracts.

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<sup>1</sup> I use two datasets in this analysis: the 2000 census geography and the 2010 Public and Indian Housing Information Center from the U.S. Department Housing and Urban Development.

<sup>2</sup> I selected these tracts by first subtracting destination counts from origin counts in a tract, and then identifying tracts with extremely negative net migration—the first percentile.

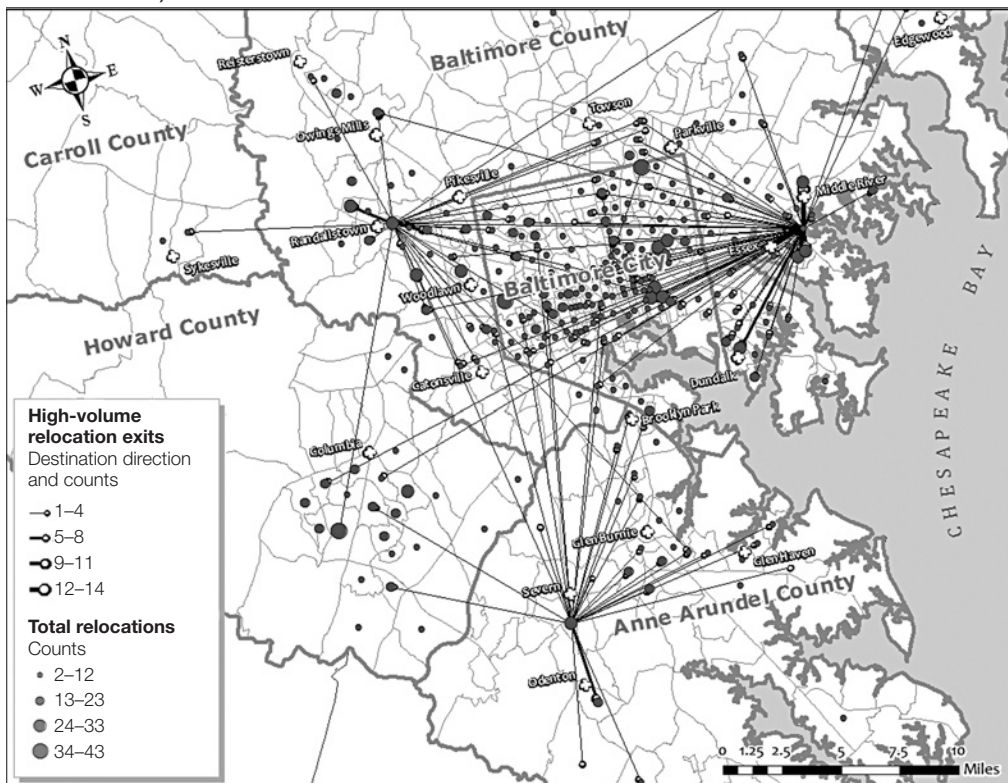
<sup>3</sup> The respective numbers of out-migrants were 65 (49.2 percent) for the tract near Essex, 32 (24.2 percent) for the tract near Randallstown, 29 (22.0 percent) for the tract near Severn, and 6 (4.5 percent) for the tract in Baltimore city.

Exhibit 1 reveals three mobility patterns from these four tracts that are different than mobility patterns for the rest of the long-term HCVP participant population in the region. First, although some participants from these four tracts relocated to the same tracts, many moved significantly longer distances—indicated by the black lines—than their counterparts from other tracts; 34 participants (25.7 percent) moved at least 3.9 miles, 66 (50.0 percent) moved more than 6.9 miles, and 33 (25.0 percent) relocated at distances of more than 10.3 miles. Second, most participants dispersed into Baltimore city or the immediate vicinity. Third, many participants relocated to areas with high voucher holder concentrations—indicated by the gray circles—except those who moved out of the tract near Severn.

These results suggest a systematic reason for these single-tract, high-volume exits and the subsequent similarities in the relocation patterns. Further analysis requires other data sources.

### Exhibit 1

Census Tracts That Showed Significant Out-Migration of HCVP Participants Between 2000 and 2010 in the Central Baltimore Metropolitan Region (equal-interval classification)



HCVP = Housing Choice Voucher Program.

## Author

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## **Impact**

*A regulatory impact analysis must accompany every economically significant federal rule or regulation. The Office of Policy Development and Research performs this analysis for all U.S. Department of Housing and Urban Development rules. An impact analysis is a forecast of the annual benefits and costs accruing to all parties, including the taxpayers, from a given regulation. Modeling these benefits and costs involves use of past research findings, application of economic principles, empirical investigation, and professional judgment.*

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# **The Impact of Limiting Sellers Concessions to Closing Costs**

**Alastair McFarlane**

U.S. Department of Housing and Urban Development

*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research or the U.S. Department of Housing and Urban Development.*

## **Summary of Impact Analysis**

The National Housing Act requires the U.S. Department of Housing and Urban Development (HUD) to adjust program standards and practices to operate the Mutual Mortgage Insurance Fund (MMIF) on a self-sustaining basis. In a recent revised notice, “Federal Housing Administration Risk Management Initiatives: Revised Seller Concessions” (HUD, Office of the Assistant Secretary for Housing, 2012), the Federal Housing Administration (FHA) placed a ceiling on the closing cost concessions that sellers can make to borrowers. The set of actions outlined in the revised notice will reduce the FHA’s net losses resulting from high rates of insurance claims. The total gain to FHA is expected to range from \$60 to \$70 million annually. The additional social benefits from preventing foreclosures, which are positively associated with seller concessions, are estimated at \$25 million. The combined compliance cost for homebuyers and sellers could range from \$21 to \$97 million and depends a great deal on the rate of capitalization of concessions into sales prices.

## Need for Policy Change

The immediate purpose of the policy change is to achieve the statutorily mandated 2-percent minimum capital reserve ratio. The broader purpose, however, is to preserve both the historical role of the FHA in providing a home financing vehicle during periods of economic volatility and HUD's social mission of helping underserved borrowers. FHA loans are in greater demand as a result of the failure or withdrawal of private investors from the mortgage market. FHA's share of new single-family mortgages was about 17.0 percent (33.0 percent for all home purchase mortgages) in fiscal year (FY) 2010, up from 3.4 percent in FY 2007. The dollar volume of insurance written jumped from \$77 billion in FY 2007 to \$319 billion in FY 2010. The growth in the MMIF portfolio over that 3-year period coincided with a set of difficult economic conditions, namely, continued housing price declines and increasing unemployment levels. Together, these external conditions increased the risk of additional losses to FHA.

An independent actuarial study (IFE, 2009) showed that the MMIF capital ratio had fallen to less than its statutorily mandated 2-percent threshold. The study reported that FHA would likely sustain significant losses from mortgage loans made before 2009 because of the high concentration of seller-funded downpayment assistance mortgage loans and declining real estate values nationwide. The capital ratio of the MMIF remains at 0.5 percent, less than the critical level (HUD, 2010).

## Description of the Revised Notice for Reducing Seller Concessions

The revised notice<sup>1</sup> revises the proposed cap on the amount of seller concessions that can be considered as offsets to actual closing costs rather than as inducements to purchase.<sup>2</sup> Seller concessions include any payment toward a borrower's closing costs and other fees by any other party with an interest in the transaction, including the seller, builder, developer, mortgage broker, lender, or settlement company. This notice makes the following changes to seller concessions on FHA mortgages:

- It limits the acceptable uses of seller concessions to (1) payments toward borrower closing costs, (2) prepaid items, (3) discount points, (4) the FHA upfront mortgage insurance premium, and (5) any interest rate buydown. Under this revised definition, seller payment supplements for homeowners or condominium association fees, mortgage interest payments, and mortgage payment protection plans are unacceptable to FHA.

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<sup>1</sup> FR-5404-F-04.

<sup>2</sup> The proposed notice of July 15, 2010 (HUD, Office of the Assistant Secretary for Housing, 2010), consisted of three risk-management initiatives directed at underwriting (McFarlane, 2010). The revised notice and this impact analysis address seller concessions specifically, whereas the regulatory impact analysis for the proposed notice focused primarily on guidelines for credit scores and loan-to-value ratios.



- It reduces the amount of seller concessions permitted as offsets to actual closing costs to 3 percent<sup>3</sup> or \$6,000,<sup>4</sup> whichever is greater, but not to exceed the borrower's actual costs. This reduction in concession allowances does not apply to HUD homes or the Neighborhood Stabilization Program, for which the allowance remains at 6 percent.<sup>5</sup>

## Default Risk and Seller Concessions

Sellers do not generally provide concessions without increasing the price of housing by a fraction of the seller concessions. The increase in the sales price to the homebuyer, however, does not mean that the property is worth more. The increase in the loan-to-value (LTV) ratio raises FHA's exposure to default risk. Consider the role of seller concessions on loan size in the following illustrative example.

Suppose that someone wishes to buy a \$350,000 home and that the required downpayment is at least 3.5 percent (the minimum downpayment FHA allows), or \$12,250. Suppose that closing costs are \$14,132, comprising a fixed cost of \$4,000 and a variable cost of 3.0 percent of the size of the loan.<sup>6,7</sup> If the potential buyer has only \$12,250 of cash on hand to close the deal, the seller could assist the buyer by paying the closing costs.

The concession is not a simple donation, however; for every 1 dollar of seller concession, the seller may elect to raise the price of the home by 1 dollar. In this particular example, the final sales price to the buyer would be \$364,132 for a home with a market value of \$350,000 and a 100-percent capitalization rate. The final LTV ratio would be 100.5 percent, rather than 96.5 percent. The LTV ratio increases because the market value does not change, but the price paid by the buyer increases.

A higher LTV ratio increases the risk of default and eventual foreclosure. To prevent excessive risk, conventional mortgage lenders have capped allowances for seller concessions at 3 percent of the sales price on loans with LTV ratios similar to those of FHA loans.

In general, default and foreclosure typically arise when (1) homeowners have negative equity (the value of the home is less than the outstanding principal balance on the mortgage) and (2) homeowners experience a reduction in income and wealth because of job loss or an event such as a medical emergency that renders making monthly mortgage payments difficult (HUD PD&R, 2010). This difficult situation is often known as a *double trigger*.

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<sup>3</sup> The percentage is based on the lesser of sales price and appraised value.

<sup>4</sup> To address potential future increases in closing costs, the \$6,000 cap this notice establishes will be indexed to a measure of inflation. The dollar limit may increase annually and at the same percentage rate as the FHA national loan limit floor.

<sup>5</sup> In mathematical terms, the limitation on concessions is—Minimum of [closing cost, maximum of (\$6,000, 3 percent of property value)], where property value = minimum of (sales price, appraised value).

<sup>6</sup> Total closing costs vary by a wide set of parameters such as the loan amount, sales price, and interest rate. In this article, I choose to characterize closing costs as varying with loan amount.

<sup>7</sup> The interaction among the variables is slightly more complex, especially if any of the variables depend on the sales price of a home. See HUD PD&R (2011a) for a more in-depth treatment.

Most observers argue that the level of negative equity must exceed some threshold before default and foreclosure become a possibility (Bhutta, Dokko, and Shan, 2010). Strategic default is uncommon for several reasons (HUD PD&R, 2010). Households always need shelter, and defaulting induces search costs and the disruption of established patterns of living. Families also often expect that housing values will rebound and thus interpret a relatively small negative equity situation as temporary. Nonetheless, raising the LTV ratio increases the exposure to risk. For example, Bhutta, Dokko, and Shan (2010) found that the median borrower does not strategically default but rather defaults only after equity falls to -62 percent of the home's value, yielding a 162-percent LTV ratio. On balance, prevailing evidence suggests that negative equity alone (except in extreme cases) is unlikely to trigger foreclosure.

The effect of seller concessions on the riskiness of a loan varies over the life of the loan. In the short run, seller concessions reduce the borrower's housing expense because of the large lump sum payment made to the borrower (Cotterman, 1992). Over time, however, the net effect of seller concessions will be to increase the probability of default and foreclosure. To confirm this finding, Cotterman (1992) found that FHA's default experience was worse on loans with seller contributions. Woodward (2008) found that foreclosures are more frequent when seller contributions are higher.

In the revised notice (HUD, Office of the Assistant Secretary for Housing, 2012), HUD provided statistical data illustrating a greater incidence of home loss for borrowers who received seller concessions in excess of 3 percent. The notice provided further evidence of the relationship between default risk and seller concessions, for loans originated in 2009. The defining metric is a failure rate, which includes all loans that resulted in an insurance claim (by March 31, 2011), are presently in foreclosure processing, or have gone through the foreclosure process but the insurance claim has not yet been filed or processed. Such failures are directly associated with losses to FHA insurance operations.<sup>8</sup>

Credit risk, within each loan amount category, is highest for loans with larger closing costs and with larger concessions.<sup>9</sup> Credit risk rises faster and higher for loan amounts greater than \$240,000 than for lower loan amounts, because closing costs and concessions each exceed 3 percent of property value. Exhibit 1 (Table F of the revised notice) shows that, although the lowest risk loans are those in the greatest loan amount category (greater than \$360,000) when no concessions are present, the highest risk is for the same category of loans when concessions are more than 4 percent of property value and especially when they are more than 5 percent of property value.

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<sup>8</sup> HUD recognizes that not all loans for which a foreclosure process begins will result in the loss of the borrower's home and a claim payment from FHA. The various rates at which foreclosure actions have been initiated, however, do provide a valid measure for differentiating credit risk across groups of loans.

<sup>9</sup> See tables E, F, and G of HUD, Office of the Assistant Secretary for Housing (2012).

## Exhibit 1

### To-Date Percentage Failure Rates by Loan Amount and Seller Concession Rates, 2009 Loan Originations

Loan Amount (\$ thousands)	Seller Concessions (% of Property Value <sup>a</sup> )								
	0 <sup>a</sup>	≤ 1	2	3	4	5	6	> 6	All
≤ 180	0.72	1.12	1.01	1.03	1.18	1.41	1.58	2.15	<b>1.04</b>
181–240	0.62	0.67	0.73	0.87	1.04	1.09	1.45	1.71	<b>0.79</b>
241–360	0.70	0.79	0.82	1.03	1.48	1.85	1.51	2.27	<b>0.88</b>
> 360	0.58	0.91	0.76	1.15	1.53	2.24	6.70	0.00 <sup>b</sup>	<b>0.93</b>
<b>All</b>	<b>0.66</b>	<b>0.77</b>	<b>0.80</b>	<b>0.94</b>	<b>1.14</b>	<b>1.32</b>	<b>1.66</b>	<b>2.02</b>	<b>0.89</b>

<sup>a</sup> Any amount up to \$500 is considered 0. Other categories represent amounts greater than the next lower limit, up to the percentage listed. Rows add to 100 percent.

<sup>b</sup> Only 19 loans are in this cell.

Notes: Foreclosure action is completed and a claim filing is pending. Data as of March 31, 2011.

Source: U.S. Department of Housing and Urban Development, Office of Evaluation

## Economic Impact of Regulatory Change

Reducing the number of claims to FHA by limiting risky loans will contribute to restoring FHA's fiscal integrity and meeting the required 2-percent capital ratio. Quantifying the benefit of doing so involves the problematic tasks of measuring the extent to which this notice increased FHA's probability of survival and multiplying this change in probability by an estimate of the public benefit of FHA endorsement activities. Other effects of the notice are easier to measure.

A government agency's net revenue increase is usually treated as a transfer, because governments traditionally raise revenue through taxes and fees. In the case of the seller concessions restriction, the increase in FHA revenue occurs as the result of more rigorous underwriting practices that reduce the number of claims. FHA cannot alter the price it charges, but it can control costs through risk management practices. The lower costs can be considered a benefit to FHA. The gain to FHA is an eventual transfer to other parties. Reducing the number of the riskiest loans will enable FHA to insure more loans at the same cost or return excess revenues to the U.S. Treasury. Additional social benefits of reducing foreclosures are not captured in the estimated gain to FHA.

Compliance costs associated with this regulation include a higher loan cost for affected borrowers and possibly a higher cost for affected homesellers. First, borrowers who experience a reduction in seller concessions also experience an increase in the cost of their loans. Second, sellers who offer concessions as an incentive to potential buyers will face a compliance cost.

### Expected Impact of the Notice on the Number and Value of Loans

The revised notice is not expected to reduce the number of mortgages originated. The regulatory impact analysis (RIA) of the July 15, 2010 proposed notice, however, assumed that risk management initiatives would exclude some households from the benefits of homeownership. In the proposed version of the notice (HUD, Office of the Assistant Secretary for Housing, 2010), the denial of access to homeownership was primarily because of the introduction of a minimum credit score and maximum LTV ratio for FHA single-family mortgage insurance. A ceiling on seller concessions, which

is the subject of the revised notice, likely will not have a significant effect on mortgage origination. Some commenters on the July 15, 2010 proposed notice disagreed with the proposition that limiting seller concessions would not diminish access to homeownership. These commenters wrote that many FHA borrowers require the seller’s contribution to proceed with the purchase of the home.

HUD recognizes that an across-the-board reduction in concession allowances could have a large negative impact on the ability of low- and moderate-income households to purchase moderately priced homes (lower loan amounts). As Tables A, B, C, and D from the revised notice show, however, the impact of any change to seller concessions would not be great. For example, 80 percent of all loans have seller concessions not greater than 3 percent of home value. Table A of the notice, however, highlights how fixed-cost factors (for example, appraisals, title services, inspections, and flood and lien certifications) tend to create percentage amounts that are greatest for small-balance loans. More than 70 percent of loans of up to \$180,000 have closing costs in excess of 3 percent of the property value.

The \$6,000 limitation is generous to borrowers with loan amounts of up to \$180,000. In that loan value range, \$6,000 is greater than the 90th percentile threshold of all borrower closing costs (see Table D of the final notice). Thus, less than 10 percent of borrowers with loan amounts of less than \$180,000 would have concession allowances that are less than their actual closing costs. For borrowers in the next loan amount category (\$180,000 to \$240,000), \$6,000 nearly reaches the 75th percentile of closing costs. The binding limit for borrowers with loan amounts of \$195,000 or greater is not \$6,000. In that higher range, 3 percent of the property value is greater than \$6,000 and becomes the amount to compare with actual closing costs to determine maximum allowable concessions.

Exhibit 2 shows the actual effects of the proposed limitation when applied to the 2009 and 2010 loan originations this analysis uses.<sup>10</sup> Overall, the limitation would have affected just 13.4 percent of home purchase loans. The dollar amount of the resulting excess contributions appears in exhibit 2. For the lowest loan amount group, the median effect is less than \$1,000; for the highest loan amount group, it is more than \$4,000.

**Exhibit 2**

**Proposed Concessions Limitation, Effects by Loan Size Category, 2009–10 FHA-Insured Loans**

Loan Amount (\$ thousands)	Loans Affected (N)	Loans Affected (%)	Median Reductions at Various Percentiles, Affected Loans Only (\$)				
			5th	25th	50th	75th	95th
≤ 180	43,592	9.7	86	480	988	1,670	3,018
181–240	114,726	15.3	116	664	1,434	2,562	4,900
241–360	30,499	15.0	150	1,001	2,247	4,106	8,160
> 360	8,819	12.7	327	1,850	4,138	7,541	14,635

FHA = Federal Housing Administration.

<sup>10</sup> See tables J and K of HUD, Office of the Assistant Secretary for Housing (2012).

Of borrowers receiving an FHA guarantee, 82 percent make the 3.5-percent minimum required downpayment. HUD must therefore ensure that the notice adjusts allowable mortgage amounts appropriately for what may actually be inducements to purchase. This notice may or may not affect borrowers who make more than the minimum 3.5-percent downpayment.

Although HUD does not expect a ceiling on concessions to reduce the number of mortgages originated, I do expect a decrease in the dollar amount of the affected mortgage loans. The median reduction in concessions ranges from \$86 for the bottom 5th percentile of the smallest category of loans to \$14,635 for the top 95th percentile of the largest category of loans. Exhibit 2 illustrates that the median reduction in concessions for the most common loan amount category (\$181,000 to \$240,000) is \$1,434. Median reductions for the higher categories of loan amounts are \$2,247 and \$4,138.

### **Gain to FHA From More Rigorous Underwriting**

The effects on FHA of the revised notice will be to shift borrowers into groups with lower failure rates on average and decrease the number of loans with a greater share of concessions. For example, most loans characterized by seller concessions equal to 6 percent of value will move to a lower seller concessions category, except for the lower value loans, which are allowed a ceiling of \$6,000. In general, the proportion of loans with seller concessions will increase 3 percent or less. Combining the projected change in the distribution of loans with the distribution of the failure rate of loans can predict how the notice will affect failure rates of loans. The overall failure rate would fall from 0.89 to 0.86 percent. From this average decline, it is possible to deduce the decline in the affected group, which represents 13.4 percent of the total. If the failure rate of the unaffected group did not change, then the failure rate of the affected group would have to fall by 0.22 percentage points  $((0.86-0.89)/0.134)$ . HUD measured the failure rate of the affected group at 1.10 percent before the implementation of the notice. The post-notice failure rate would be 0.88 percent, which represents a 25-percent decline of failure rates. This result is consistent with Cotterman (1992), who finds that seller concessions increase default rates by 25 to 60 percent.

The effect of the revised notice will be to reduce the default rate and thus decrease the claim rate, which results in significant transfers to FHA. HUD bases its budget accounting on forecasts of claim and prepayment rates calculated using the forecasting model from the independent actuarial study of the MMIF (IFE, 2010). The actuarial models rely on 30 years of actual FHA experience and are calibrated to produce loan-performance outcomes using forecasts of future economic conditions. The following equation represents the expected net claim expense associated with any given loan in any given year:

$$\text{Expected claim amount} = \text{claim rate} \times \text{loss rate} \times \text{unpaid loan balance.} \quad (1)$$

The notice will affect the claim rate and loan balance for the group of borrowers affected by the notice. The claim rate is the number of claims during a particular period divided by the total number of loans endorsed when an annual insurance cohort was underwritten. The most recent budget forecasts an 8.11-percent cumulative claim rate for all mortgages (IFE, 2010).

The loss rate is the net loss after property sale recoveries, as a percentage of the unpaid balance on the defaulting loan. Exhibit E-1 of the actuarial review (IFE, 2010) provides a time series of loss rates. Loss rates were as low as 32 percent at the beginning of the 2000s but reached 61 percent by 2009. Integrated Financial Engineering’s estimates of the loss rate for 30-year mortgages originated in 2011 range from 32 percent in the first year to 48 percent in the 30th year (IFE, 2010).

The revised notice has two expected consequences: (1) the balance of the affected loans will decline as allowable seller concessions decline, and (2) the claim rate on affected loans will fall as the LTV ratio declines. In the RIA of the notice (HUD PD&R, 2011a), PD&R calculated that the loan balance will decline from \$176,500 to \$175,000<sup>11</sup> and that the cumulative claim rate over 30 years of the affected loans will decline from 10.04 to 8.03 percent.<sup>12</sup> PD&R calculated that the present value of expected claims will fall to \$2,764, the present value of premium revenue will fall to \$5,785, and the net expected revenue to FHA will rise to \$3,022. The notice results in an approximately \$645 gain per loan to FHA when the discount rate is 3 percent.

An increase of net revenue from the subject loans provides a direct benefit to the financial status of the MMIF. Over time, this increase of FHA revenue might also lead to transfers to remaining FHA-insured borrowers through lower premium rates. The annual aggregate benefits would be approximately \$69 million when the size of the group affected is 107,200 (13.4 percent of 800,000 FHA loans endorsed annually). When the social discount rate<sup>13</sup> is 7 percent, the per-loan transfer is \$562 and the aggregate transfers are \$60 million.

### **Benefit of Regulatory Change: Preventing Foreclosures**

One indirect benefit of the notice would be to diminish the resource losses from foreclosures. Foreclosures cause sizeable losses, which borrowers, lenders, property markets, and local governments bear. An estimate of the loss from a foreclosure net of all transfers can contribute to a more comprehensive benefit-cost analysis. The estimate of the deadweight loss from a foreclosure could include transaction costs, some portion of the distress discount on the sale of foreclosed property, the negative effect of foreclosure on the value of surrounding properties, the loss to local government, and some loss in the welfare of borrowers.

The lender may incur significant losses from a foreclosure, which is given by

$$\text{Lender loss} = \text{loan balance} + \text{interest costs} - \text{sales price of foreclosed property} + \text{transaction costs.} \tag{2}$$

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<sup>11</sup> The average FHA purchase loan originated in 2010 was \$175,000 (HUD PD&R, 2011b). Assume a perfect capitalization and an impact on seller concessions of \$1,500. A change in seller concessions of \$1,500 is approximately equal to the median decline of \$1,434 for home values of \$181,000 to \$240,000, a category that corresponds to the loan size of \$175,000. Using \$175,000 as our original loan balance and adding \$1,500 in capitalized concessions yields \$176,500.

<sup>12</sup> The post-notice claim rate of the affected loan is expected to be 0.99 (0.88/0.89) of the current claim rate. Given that the cumulative claim rate over 30 years is 8.12 percent, this change will represent a decline from 10.04 to 8.03 percent.

<sup>13</sup> To compute the net present value of the impact of a notice, it is necessary to discount future economic impacts. The higher the discount rate, which is an estimate that provides the time value of money, the lower the present value of future impacts.

Loss severity typically ranges from 30 to 50 percent of the current loan amount, depending on the state of the market and the size of the loan. For example, an average loss severity ratio (40 percent) and a standard loan size (\$175,000) would yield a lender loss of \$70,000. A large part of the lender loss comprises pure transfers, however. The goal of this discussion is to separate the real costs of a foreclosure from transfers in which one party's loss is another's gain.

The Regulatory Impact Analysis of this notice (HUD PD&R, 2011a) finds that the total deadweight loss is \$40,730 (approximately three-fifths of the lender loss). For one cohort, the decline in foreclosures is only 10 in the first year, with a peak of 320 in the fourth year, to total 1,280 foreclosures avoided over a 30-year period. The discounted present value over 30 years of the avoided externalities is \$47 million at 3 percent and \$41 million at 7 percent. The per-loan public benefit averages \$437 at a 3-percent social discount rate or \$385 at a 7-percent social discount rate over the 107,200 loans affected.

### **Reduction in Borrowers' Welfare: Increasing the Cost of Homeownership**

Seller concessions enable the borrower to allocate more of his or her funds toward the downpayment instead of for closing costs. Seller concessions alleviate some burden of upfront costs and facilitate an intertemporal transfer for the borrower. Thus, seller concessions permit the borrower to leverage the purchase of housing. The multiplier effect of seller concessions on housing consumption will increase with the maximum required LTV ratio. Not all borrowers, however, will find seller concessions advantageous. The increase in the size of the loan, and possibly the mortgage interest rate (as the probability of default increases with the size of the loan), may outweigh the benefit of reducing upfront costs. Overall, the limitation on seller concessions is estimated to affect only 13.4 percent of the home purchase loans analyzed. Exhibit 2 shows the dollar amount of the resulting excess contributions.

The regulation will distort the consumption of borrowers affected by the ceiling. A borrower who otherwise would have accepted a higher level of seller concessions will lose from a ceiling that restricts the amount of seller concessions that he or she may accept. Although seller concessions come at the price of a larger loan and higher mortgage payments, the assistance provides an opportunity that the borrower would not have without the concessions. A restriction on the size of seller concessions will affect borrowers who both (1) have a strong preference for housing versus non-housing consumption and (2) discount the future heavily. The optimal level of housing expenditure may be greater than what the borrower can afford without significant debt because of a household's demand for public services, home size, or desired length of commute. Such households will be more likely to demand debt to finance their housing consumption. Households that the regulation does not affect either spend less on housing or save to finance a greater portion of the upfront costs of a home purchase.

One means of estimating the magnitude of the impact of a ceiling on concessions would be a cost-effectiveness approach: to estimate the present value of the cost (mortgage payments and upfront costs of the loan) of providing the same level of housing at different levels of seller concessions. A reduction in seller concessions will increase the upfront costs but reduce the loan balance and thus reduce future mortgage payments. Whether the borrower loses will depend to a large extent on the

size of a borrower's discount rate relative to the mortgage interest rate. Borrowers with low discount rates are not likely to take advantage of seller concessions unless they are severely liquidity constrained. For a borrower with a 7-percent subjective discount rate and a 30-year fixed-rate mortgage at 5 percent,<sup>14</sup> however, decreasing seller concessions by \$1,500 will raise the present value of the cost of the mortgage loan by approximately \$200.<sup>15</sup> The aggregate loss to buyers would thus be \$21 million (13.4 percent X 800,000<sup>16</sup> X \$200). The cost of reducing seller concessions would be lower when the mortgage interest rate is higher because the corresponding reduction in mortgage payments would be lower. The recent history of interest rates of less than 5 percentage points (see HUD PD&R, 2011b) would suggest that the previous estimate of 5 percent is a reasonable one (that is, closer to what a borrower would pay than the Office of Management and Budget's (OMB's) estimated 7-percent private cost of capital).

Buyers have at least three potential responses to minimize the harm from reducing seller concessions: (1) reduce or postpone housing purchase, (2) find a less expensive loan, and, similarly, (3) ensure that they receive the full benefit of the seller concessions they receive. Thus, the \$270 estimated loss per borrower loss is a maximum.

### **Cost of Regulatory Change: Effects of Restrictions on the Seller**

The simplest way of thinking of a seller concession is as a transfer from the seller (or lender) to the borrower. For the purposes of an economic impact analysis, however, that characterization may not be completely accurate. Although the seller concession is literally a transfer from the seller to the buyer, it is also a mutually beneficial transfer. Seller concessions, when sellers use them properly, will make the difference between closing a home sale and losing one. In other words, an experienced seller will set seller concessions so that the expected loss from losing the sale is equal to the concession itself. The financial loss to the seller would be because of the opportunity costs of additional days on the market. Cotterman (1992) found that from one-half to three-fourths of seller concessions are capitalized into the sales price of a home, suggesting that the uncapitalized portion represents the reduced holding cost from a more rapid sale. If the seller benefits from having the option to offer contributions to closing costs, then the seller loses from the reduction of this flexibility.<sup>17</sup>

Imperfect capitalization of seller concessions reflects situations in which sellers benefit from offering the concession. I summarize the effect as follows:

$$\text{Market impact of reduced concessions} = \text{cost to borrowers} + \text{cost to sellers}, \quad (3)$$

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<sup>14</sup> See Exhibit D-1 of IFE (2010) for a forecast of mortgage interest rates.

<sup>15</sup> Present value of loan cost = downpayment + closing costs - seller concessions + net present value of mortgage payments.

<sup>16</sup> FHA predicts FY 2010 purchase loan volume to be 1.1 million. The FHA has recently forecast purchase loan volume in subsequent years to be approximately 800,000. This revised number is less than the prediction of 1.3 million found in the *Actuarial Review* (IFE, 2010). The first-time homebuyer tax credit affected previous estimates.

<sup>17</sup> The seller can just as easily reduce the asking price to sell a house. For example, a study of a policy change in Massachusetts that prevented relisting found that, after the policy change, sales prices in Massachusetts went down by around \$11,000 relative to prices in Rhode Island but that the average number of days on the market shortened by 18 (Tucker, Zhang, and Zhu, 2009).



where the “cost to borrowers” is equal to the increased cost of a loan as a result of concessions (taking into account the capitalization rate), and the increased cost to sellers is equal to  $(1 - \text{capitalization rate}) \times \text{the reduction in seller concessions}$ .

The share of transfers and efficiency loss will depend on the state of the market. For example, in the preceding analysis, I assume a perfect capitalization of seller concessions. A slack real estate market would lead to imperfect capitalization at, suppose, a 75-percent rate. Exhibit 3 illustrates that the benefits to borrowers of seller concessions would be greater. Instead of a \$200 borrower loss per loan from a \$1,500 reduction in concessions, the loss in transfers would be \$530. Additional efficiency losses of \$375  $(\$1,500 \times (1 - 0.75))$  per loan would accrue to sellers.<sup>18</sup>

One advantage to a loan originator of offering the closing cost concession is that the seller concession is not as transparent as a price reduction. Seller contributions to closing costs appear to be another source of confusion and friction in the mortgage market; for each \$100 the seller contributes, borrowers benefit in terms of reduced loan costs of roughly \$70 from depositories and large mortgage banks but closer to \$40 when dealing with brokers (Woodward, 2008). Perfectly informed borrowers who are diligent comparison shoppers should experience a \$100 reduction in loan costs for every \$100 the seller contributes. Thus, when lenders contribute to seller closing costs, the loss to the borrower will not be not as great as the preceding net present value calculation of \$200 assumes; perhaps only one-half as much. Indeed, greater borrower attention to the tradeoff between seller concessions and other loan costs could ensure that the borrower realizes the full benefit of the seller concession.

### Exhibit 3

#### Regulatory Impact of the Reduction of Seller Concessions

Impact	Capitalization Rate of Seller Concessions Into Sales Price							
	100 Percent				75 Percent			
	Discount Rate				Discount Rate			
	3 Percent		7 Percent		3 Percent		7 Percent	
	Per Loan (\$)	All Loans (\$ millions)	Per Loan (\$)	All Loans (\$ millions)	Per Loan (\$)	All Loans (\$ millions)	Per Loan (\$)	All Loans (\$ millions)
Gain to FHA	645	69	562	60	650	70	567	61
Benefit of foreclosures prevented	230	25	203	22	230	25	203	22
Cost to borrowers	200	21	200	21	530	57	530	57
Cost to sellers	0	0	0	0	375	40	375	40

FHA = Federal Housing Administration.

Notes: Assumes a 5-percent mortgage interest rate, a \$1,500 reduction in seller concessions, and 107,200 loans. Assumes all homebuyers the notice affects to have 7-percent discount rates. Only the gain to FHA and benefit of foreclosures prevented vary with the discount rate.

<sup>18</sup> The estimated combined effect on sellers and borrowers will be different from the change in concessions when the social discount rate used to calculate present value (3 and 7 percent, as provided by OMB) is different from the real mortgage interest rate paid by the borrower.

## Summary of Economic Impact

The advantage of limiting seller concessions on FHA loans will be to decrease the LTV ratio on affected loans and thus reduce the default risk for FHA. FHA will reduce the expected losses stemming from high rates of insurance claims that are paid on loans with high levels of seller concessions. The lower costs can be considered a benefit to FHA or the taxpayers. My estimates of the net gain to FHA (and subsequent transfer to the U.S. Treasury) range from \$60 to \$70 million, depending on the discount rate (see exhibit 3).

Reducing foreclosures has additional social benefits. Some deadweight costs (for example, distress discount related to property damage and transaction fees) would already be included in FHA severity loss estimate. Other deadweight costs, however (such as neighborhood externalities and costs to local government) are social costs separate from the severity loss estimate. PD&R has estimated the per-loan external costs at \$230 (at a 3-percent discount rate) and \$203 (at a 7-percent discount rate).

Costs associated with this regulation include a higher loan cost for affected borrowers and possibly a higher cost for affected homesellers. First, borrowers who experience a reduction in seller concessions also experience an increase in the upfront and interest costs of their loans. The loss to borrowers can vary depending on assumptions concerning the capitalization of seller concessions into home prices. When only a fraction of the seller concessions are capitalized, borrowers derive greater benefit from seller concessions and thus lose more when concessions are limited. When the market is tight, the loss to borrowers using seller concessions is \$200 per loan. The cost to the borrower rises to \$530 per loan when the capitalization rate is 75 percent.

Sellers who offer concessions as an incentive to potential buyers will incur costs. The size of the cost will depend on whether it is a buyers' or sellers' market, which the capitalization rate of concessions will indicate. In a healthy market, the sellers' cost of compliance will be close to non-existent because incentives are not necessary to sell the home. In a tight market, the prospective homebuyer recognizes that good homes go quickly. If borrowers want to leverage home purchases through seller concessions, they will have to accept the sellers' terms. In a slower market, however, a seller would be willing to share some costs of seller contribution. The cost to a seller could be \$375 per loan. Combined, the two costs are \$905 per loan in a slack market.

None of the aggregate effects meets the OMB threshold of economic significance (more than \$100 million), although some come close. Moreover, these estimates are highly stylized: behavioral responses would reduce the impact. Currently, the market is very slack and so the bottom half of exhibit 3 would represent the impact of the notice. Over the next few years, the real estate market will possibly become more vigorous, in which case, the top half of exhibit 3 would be more representative of the impact of the notice.

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## SpAM

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# Using Dual Kernel Density Estimation To Examine Changes in Voucher Density Over Time

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*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research or the U.S. Department of Housing and Urban Development.*

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## Abstract

*The measurement of participants in the Housing Choice Voucher Program across time is an important analytical step toward understanding their settlement patterns, particularly whether they concentrate or deconcentrate. Many analyses of voucher-holder settlement patterns employ some areal unit in which counts are divided by unit area to calculate a density. This approach has methodological problems and produces less-than-accurate results because it does not directly measure the locations of voucher holders. In this article, I show how to apply a technique, known as Dual Kernel Density Estimation, to measure directly the concentration of voucher-holder locations to produce more accurate results about where voucher holders have concentrated and deconcentrated over time.*

## Introduction

Many housing and urban development problems are inextricably tied to place. Because of this link to place, certain questions often arise. Will foreclosures concentrate and spread to neighboring areas through falling house prices? Will tax increases in one county send residents to nearby counties to shop or relocate? Will crime displace to adjacent neighborhoods in the event of a concerted effort to break up a concentration of incidents? Answers to such questions require the measurement of spatial relationships between places that classical statistical techniques are not capable of measuring. In this premier article of SpAM, I demonstrate how to use a spatial smoothing technique to identify changing patterns of voucher-holder concentration between two points in time.

Housing researchers are often concerned about the concentration of voucher holders. A typical approach to measuring voucher-holder density change is by comparing areal densities (events per acre or per square mile) at two different times using already defined political or administrative units (for example, nations, states, counties, or census tracts). Chances are high that measuring change with these units will produce less-than-accurate results, because it does not directly measure the locations of voucher holders. In this article, I show how to apply a more accurate technique, Levine's Dual Kernel Density Estimation (DKDE), using the locations of housing choice voucher holders in the Charlotte-Mecklenburg, NC metropolitan region for purposes of illustration. For a more detailed exposition, see chapter 8 in Levine (2010).

The Housing Choice Voucher Program (HCVP) enables low-income families to relocate to neighborhoods of their choice. In 2010 alone, approximately 2.1 million families received assistance through the HCVP.<sup>1</sup> One common concern about the relocation freedom that HCVP offers is that participants will concentrate in certain neighborhoods. Research has shown that voucher holders often relocate to neighborhoods comparable with those in which they lived before receiving assistance (Freeman and Botien, 2002; Huartung and Henig, 1997; McClure, 2010; Pendall, 2000; Varady, Walker, and Wang, 2001; Wang, Varady, and Wang, 2008).

## Moving Beyond Measuring Density Calculations With Areal Units

Many voucher-holder location analyses use census tracts to measure density. In a typical calculation of densities from areal units, a count of observations within the unit is divided by the unit area. This approach has two main problems. First, the aggregation of observations to the areal units forces an incorrect assumption that voucher-holder locations are evenly spread across the unit; the larger the census tract, the more unrealistic the assumption becomes. Second, the variation in census tract shapes will arbitrarily influence the unit within which an observation falls; this method may split up groups of voucher-holder locations.<sup>2</sup>

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<sup>1</sup> Public and Indian Housing Tenant-Based Rental Assistance: 2012 Summary Statement and Initiatives. [http://portal.hud.gov/hudportal/documents/huddoc?id=Tenant\\_BR\\_Assis\\_2012.pdf](http://portal.hud.gov/hudportal/documents/huddoc?id=Tenant_BR_Assis_2012.pdf).

<sup>2</sup> These problems are symptoms of the Modifiable Areal Unit Problem, which has adverse consequences for data analysis because the unit of geography changes, but the observation data do not. See Openshaw (1994).

With DKDE, single kernel density surfaces are created by interpolating estimates from a geographically distributed set of observations. Estimates are calculated by overlaying a grid system across a geography in which the distance from each cell to every observation within a specified distance is measured and weighted. Measuring and weighting is achieved by using a mathematical function to create a symmetrical distance decay curve (kernel) that decreases from the cell origin. Exhibit 1 depicts the interpolation process.<sup>3</sup>

Each observation within the bandwidth is measured and weighted based on how close it is to the cell origin and where it corresponds on the distance decay curve. This process is completed for each cell in the grid to produce an overall density surface of the geographic distribution of locations.

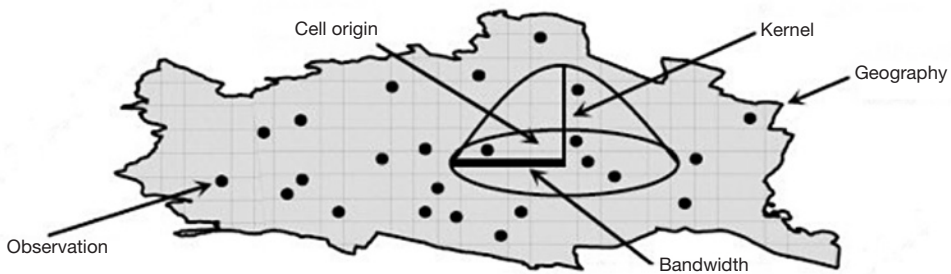
Using DKDE to measure density change has several advantages. First, voucher-holder locations are weighted based on proximity to each other. Second, measurement is standardized using the same mathematical function across the entire geography. Third, an overall geographic density surface with gradients of continuous estimates is produced that summarizes clusters of points for easier interpretation of patterns. Finally, our use of DKDE protects privacy by representing voucher density as an areal estimate rather than as a collection of points.

In CrimeStat 3.3, five mathematical kernel functions weight distance decay differently.<sup>4</sup> A function should be selected based on a theoretical, empirical, or other substantive reason for its use. I selected the negative exponential function for this analysis, because the close-proximity weighting it emphasizes characterizes two substantive aspects of voucher-holder locations. The research cited previously suggested that (1) voucher holders tend to live in places where other voucher holders are in close proximity and (2) voucher holders often do not move far from where they previously lived.<sup>5</sup>

## Exhibit 1

### The Kernel Density Estimation Process

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Source: Adapted from Fischer, Leitner, and Stauffer-Steinnocher (2001)

<sup>3</sup> Exhibit 1 depicts the normal quartic function, but the same principles apply to the negative exponential function and the other functions in CrimeStat 3.3.

<sup>4</sup> Those functions are (1) normal, (2) quartic, (3) negative exponential, (4) triangular, and (5) uniform. For a description of each operation, see pages 8.3 through 8.9 in Levine (2010).

<sup>5</sup> The author's unpublished work (Wilson, 2012) on vouchers in the Baltimore area shows that the median moving distance from previous locations is about 3 miles.

The negative exponential function creates a distance decay curve that forms a very narrow peak at the cell origin, which rapidly and monotonically decreases up to a specified distance. Locations closer to the cell are weighted more highly than those farther away; locations outside the specified distance are excluded.<sup>6</sup> The negative exponential function is formally defined as

$$g_i(x_j) = \left\{ \sum A \cdot e^{-K \cdot d_{ij}} \right\} \in h. \quad (1)$$

In this function,  $x_j$  is a set of voucher-holder locations affecting our estimate of the areal density in cell  $i$ ;  $g_i(x_j)$  is the density estimate;  $h$  is a search distance threshold (bandwidth) that encompasses the subset of voucher-holder locations within the bandwidth (that is, value = 0 if distance >  $h$ );  $A$  is a rescaling constant that ensures the density estimates sum to the number of locations;<sup>7</sup>  $K$  is an exponent constant set to 3, producing a steep decrease in the decay curve; and  $d$  is a distance between the center of cell  $i$  and a location  $j$  within  $h$ . The estimate  $g_i(x_j)$  will be larger when voucher-holder locations  $j$  are near cell  $i$  and smaller when voucher-holder locations  $j$  are farther away from cell  $i$ .

One important factor in calculating the density estimate is the bandwidth size of the search distance for identifying locations to measure. Two types of bandwidths—adaptive or fixed—can be employed. An adaptive bandwidth, which is a changing search distance used to identify a specified number of locations within its radius, is used when a need arises to account for changes in the distribution of locations due to variation in the underlying geography; for example, population density. A fixed bandwidth, which uses a constant search distance from each cell origin and identifies a varying number of observations within its radius, is used to detect concentrations of observations within a specified distance.

The type of bandwidth chosen affects the calculation of density estimates and is more important than the type of distance decay (kernel) function selected, because bandwidth size will determine how much smoothing will occur. With a larger bandwidth, estimates will generally be weighted and distributed more evenly. Large bandwidths produce generalized density surfaces that identify subregional clusters. Smaller bandwidths consolidate estimates and produce a more discretely weighted and abruptly changing density surface that creates multiple noncontiguous local clusters. As with the kernel function, the bandwidth size should be determined using a theoretical, empirical, or other substantive reason for its specification. In this analysis, I used a fixed bandwidth to identify condensed groupings of voucher holders in close proximity to one another. The specified distance was 2.5 miles, which was based on a distance analysis.<sup>8</sup>

The DKDE technique creates two separate density grids for each distribution to represent the individual geographic distribution of observations before the grids are combined. The first distribution is voucher-holder locations in 2010 and the second distribution is voucher-holder locations in

<sup>6</sup> This exclusion of observations is true for all the mathematical functions in CrimeStat 3.3, except for the normal function. The normal function includes all observations across the geography.

<sup>7</sup>  $A$  is initially set to 1 and is iteratively adjusted until the estimates sum to the number of locations. Exhibit 2 shows the totals in this illustration.

<sup>8</sup> This distance was derived using the Ripley's  $K$  technique, in which the level of significant clustering dissipates. (Analysis available from the author.)



2000. Estimates between corresponding cells of the two grids are combined with any one of six different mathematical operations.<sup>9</sup> I selected the relative difference operation for this analysis to identify density changes between 2000 and 2010. This operation subtracts the density estimates in 2000 (secondary file) from the estimates in 2010 (primary file), producing divergent values greater and less than 0 to depict areas of concentration and deconcentration of vouchers.

## Measuring Concentration Change in the Charlotte-Mecklenburg, NC Metropolitan Region

The number of voucher holders in the Charlotte-Mecklenburg, NC metropolitan region increased significantly over the past decade, with most jurisdictions showing double-digit percentage increases (see exhibit 2).<sup>10</sup>

Exhibit 3 shows the density change output of the DKDE to reveal patterns of group concentration and deconcentration. I used a standard deviation classification to thematically map the patterns to show divergence from cells with little or no change in densities. Values greater than 1 standard deviation from the mean (> 12.26) are depicted in dark gray, indicating increased density (concentration) and that fewer voucher holders appear per square mile in the second period than in the first. Values less than 1 standard deviation from the mean (< -10.99) are depicted in light gray, indicating decreased density (deconcentration) and that more voucher holders appear per square mile in the second period than in the first.

Exhibit 3 reveals a wide dispersal of local and subregional voucher-holder residential patterns over the past decade. Many areas of marked concentration and deconcentration occurred around the larger towns of Concord, Gastonia, Kannapolis, Monroe, Rock Hill, and Salisbury.

### Exhibit 2

#### HCVF Participant Changes by County in the Charlotte-Mecklenburg, NC Metropolitan Region, 2000 to 2010

Jurisdiction	Participants in 2000		Participants in 2010		Change	
	N	Percent	N	Percent	N	Percent
Cabarrus County, NC	416	7.7	497	5.6	81	19.5
Charlotte-Mecklenburg County, NC	2,380	43.8	4,983	56.1	2,603	109.4
Gaston County, NC	924	17.0	1,215	13.7	291	31.5
Lincoln County, NC	252	4.6	290	3.3	38	15.1
Rowan County, NC	579	10.7	755	8.5	176	30.4
Union County, NC	233	4.3	293	3.3	60	25.8
York County, SC	648	11.9	856	9.6	208	32.1
<b>Total</b>	<b>5,432</b>		<b>8,889</b>		<b>3,457</b>	<b>63.6</b>

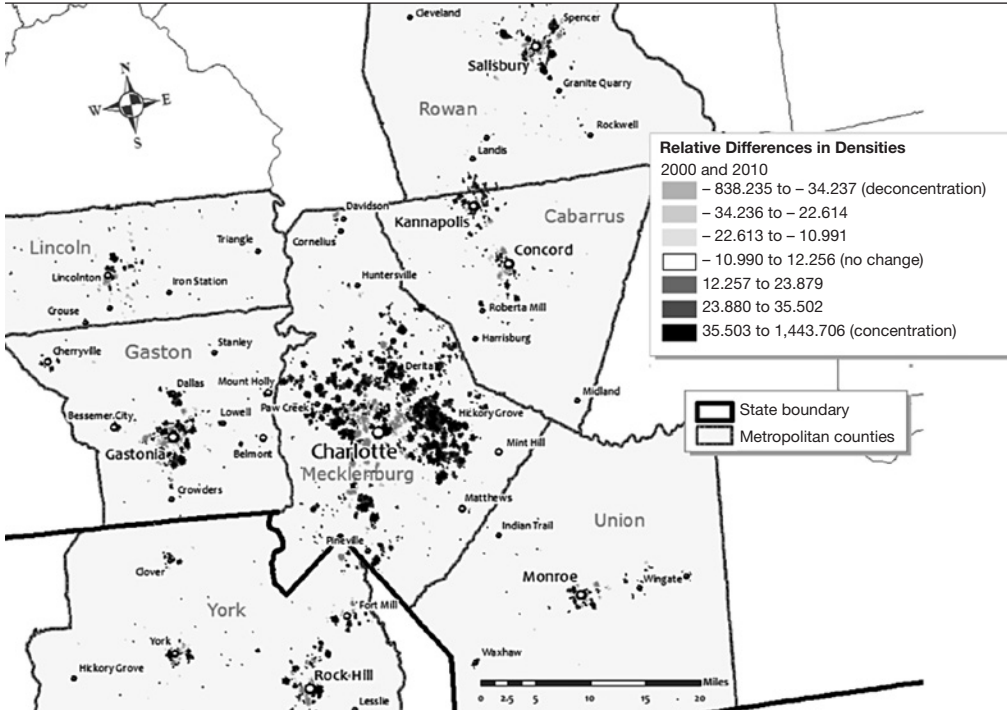
HCVF = Housing Choice Voucher Program.

<sup>9</sup> Those operations are (1) ratio, (2) log ratio, (3) absolute difference, (4) relative difference, (5) absolute sum, and (6) relative sum. For a description of each operation, see pages 8.27 through 8.29 in Levine (2010).

<sup>10</sup> The voucher-holder point location data come from the U.S. Department Housing and Urban Development's 2010 Public and Indian Housing Information Center for the years 2000 and 2010.

**Exhibit 3**

Differential Density Change in HCVP Participant Densities in the Charlotte-Mecklenburg, NC Metropolitan Region, 2000 to 2010 (standard deviation classification)



HCVP = Housing Choice Voucher Program.

Exhibit 3 also shows the concentration patterns are primarily situated around the town centers of these towns. The patterns around Charlotte show an arc of concentration around the downtown area, from the northwest to the southeast. Those concentrations happen to correspond with areas that had the largest increases in new housing over the past 10 years. Several clusters of deconcentration also emerge in the downtown area of Charlotte, which contains the city’s oldest neighborhoods. Similar patterns of deconcentration appear in the central areas of Concord, Gastonia, Salisbury, and Rock Hill, but not in Kannapolis or Monroe. The technique succinctly depicts density changes at the neighborhood level, in both shape and size that would have been lost by using census tracts or other predefined administrative units.

The research cited previously often found that voucher holders tend to concentrate in impoverished neighborhoods. To explore this finding, census tracts with greater than 20 percent poverty (shown in alternating black and white lines) were added to the map<sup>11</sup> and overlaid with the densities to show how geographically specific clusters are in comparison with the areal units. The map in

<sup>11</sup> Poverty data come from the 2005–2009 American Community Survey 5-year estimates.

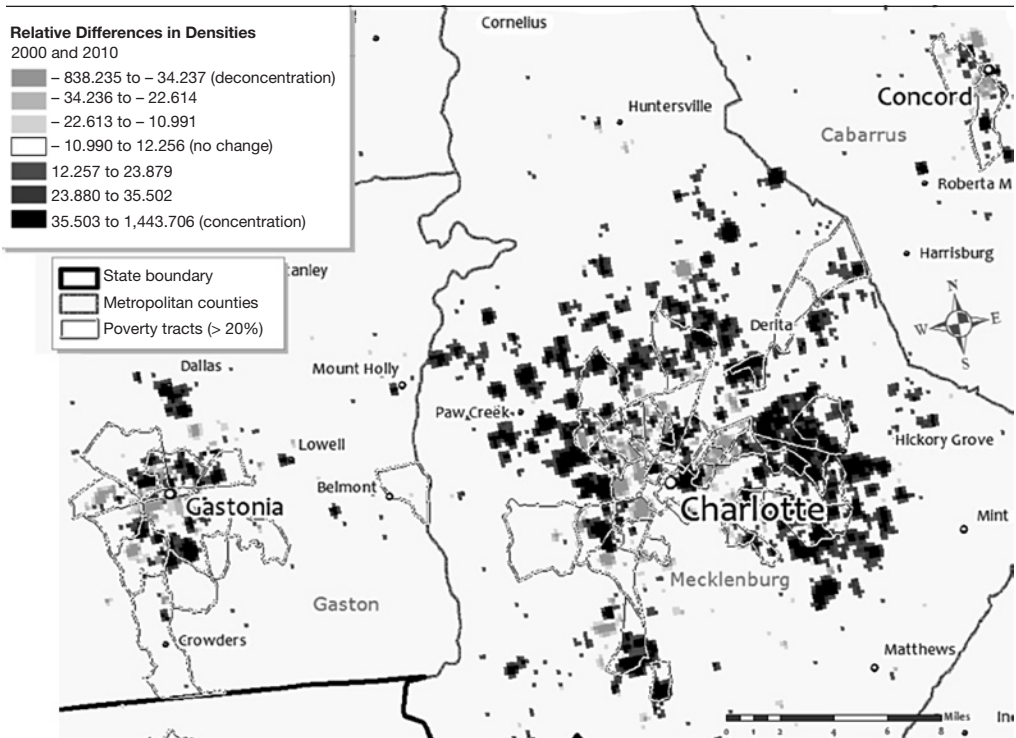
exhibit 4 shows several clusters of voucher-holder concentration and deconcentration that cut across the boundaries of high-poverty census tracts, illustrating the benefit of the DKDE output with respect to identifying specific areas of concentration within census tracts.

Had the densities been calculated using census tracts, the concentration and deconcentration patterns depicted would have been less precise. Using census tract boundaries can also segment groups of voucher-holder locations and reduce the chances of the group being identified as a coherent cluster. For example, several clusters of concentration and deconcentration are split across multiple census tract boundaries in Concord, Gastonia, and central Charlotte. In some instances in which only a small portion of a cluster is within a census tract, any micropatterns of voucher-holder locations would have been diluted.

These results extend the change rates reported in exhibit 2 by showing exactly where voucher holders have concentrated and deconcentrated beyond the change rates. Although significant growth in voucher holders occurred outside central Charlotte, growth also took place around many of the smaller town centers in the metropolitan region. Considerable levels of voucher-holder concentration remain, however, in areas with higher poverty rates.

### Exhibit 4

Differential Density Change in HCVP Participant Densities in Central Charlotte, North Carolina, 2000 to 2010 (standard deviation classification)



HCVP = Housing Choice Voucher Program.

## Extensions of the DKDE and Resulting Output

The DKDE output is not limited to visualizing clusters. At the very least, the grid cells could be coded and aggregated to areal units to create ratios between cells that have high estimates and cells that do not to produce a more accurate level of density. This approach provides a marked improvement in the precision of density as opposed to generalized densities with areal units.

More importantly, the density grids can be overlaid with other local-level geographic data to explore microrelationships. For example, clusters from DKDE could be matched with parcel data to examine relevant local factors, such as property type, housing amenities, assessment values, land use, and code violations. Voucher-holder locations could also be analyzed in conjunction with the distribution of businesses to determine how extensively participants concentrate in areas with accessible jobs or good-quality services. Local-level data may even be used with other mathematical functions from DKDE analysis of voucher-holder locations to reveal additional spatial relationships.

Estimates from the DKDE can also be converted into change rates. Visualizing change rates will enhance the understanding of the cluster patterns. To create a change rate for the cells in the surface, the density values for the earlier period can be created with a Single Kernel Density Estimate (SKDE) using the same settings as the DKDE. After the single-density surface is created, it can be joined with the DKDE surface in a Geographic Information System, and rate change can be calculated for each cell by taking the difference estimates from the DKDE analysis, dividing the estimates by the SKDE estimates, and multiplying the quotient by 100 to produce a rate.

Many geographic analyses are still limited in precision because of the continued use of areal units. Researchers with access to point-level data can use a technique like DKDE directly with point locations to more precisely depict the levels and changes of geographic microactivity of concentration and deconcentration.

## Acknowledgments

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## Author

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## Foreign Exchange

*Foreign Exchange*, a department of *Cityscape*, reports on what the U.S. Department of Housing and Urban Development's Office for International and Philanthropic Innovation has learned about new departures in housing and development policy in cities and suburbs throughout the world that might have value if applied in U.S. communities. If you have a recent research report or article of fewer than 2,000 words to share in a forthcoming issue of *Cityscape*, please send a one-paragraph abstract to [stewart.g.sarkozy-banoczy@hud.gov](mailto:stewart.g.sarkozy-banoczy@hud.gov).

# Comparative Analysis of Best Practices of Sustainable Communities: Adelaide, Australia Case Study

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*The views expressed in this article are those of the author and do not represent the official positions or policies of the Office of Policy Development and Research or the U.S. Department of Housing and Urban Development.*

## Abstract

*Asia Pacific Economic Cooperation member economies produce 55 percent of the world's gross domestic product and 64 percent of global greenhouse gas emissions. Many cities in this region are implementing sustainable development policies and practices to balance economic growth, quality of life, and environmental protection. As part of a research project examining best practices of sustainable communities in the Asia-Pacific region, we chose Adelaide, Australia, as one of six case study cities. This article introduces the larger project and summarizes the Adelaide case study. We also present key lessons learned during the research process and suggest next steps for further exploration of this topic.*

## Introduction

The Asia-Pacific region has experienced rapid urbanization in recent years, as well as the environmental impacts that accompany such growth. Asia Pacific Economic Cooperation (APEC) member economies produce 55 percent of the world's gross domestic product, and they also generate 64 percent of global greenhouse gas emissions. Major cities are implementing sustainable development policies and practices to balance economic growth, quality of life, and environmental health. We conducted a comparative policy study to identify best practices of sustainable APEC cities and review those strategies with the objectives of (1) identifying innovative policy tools or institutional structure to implement the sustainable community agenda, (2) reviewing the impact of these sustainable community projects on economic development and job creation, and (3) examining the applicability of the identified best practices in the United States and developing countries.

## Adelaide, Australia Case Study

Adelaide, Australia, was one of six case study cities—including Tokyo, Japan; Yokohama, Japan; Tianjin Yujiapu, China; and Seoul, South Korea—that we chose for the research project based on their strong policy agendas for sustainability and for their economic importance to the sustainable community effort worldwide. We examined each city's policies in the areas of energy, urban transit, land use planning, and green building. This article summarizes the Adelaide case study.

Adelaide is the capital city of the state of South Australia, with a population of 1,200,000 that is growing quickly (Australian Bureau of Statistics, 2011). South Australia has a parliamentary government based on the model of the United Kingdom, and the Adelaide City Council manages day-to-day governance in cooperation with state entities (McDougall and Vines, 2006). The case study research identifies the following four primary program and policy interventions as most noteworthy in the sustainability agenda in Adelaide.

### 1. National-Local Policy Framework for Climate Change Policy: Adelaide Green City Sector Agreement

Adelaide established an intergovernmental framework to develop and implement the city's sustainable policies. In April 2010, the Adelaide City Council and the Minister for Sustainability and Climate Change for South Australia entered into the *Adelaide Green City Sector Agreement*, forming a joint commitment to “respond to climate change by pursuing development of the City of Adelaide as an environmentally sustainable city” (ACC and Government of South Australia, 2010: 1). South Australia set a target to reduce greenhouse gas (GHG) emissions by at least 60 percent of 1990 levels by 2050; this agreement is a means of collaboration between the two governments to achieve that goal.

### 2. Energy Management Action Plan

The *Environmental Sustainability Strategy 2009–2012*, the Adelaide City Council's guiding document for achieving sustainability, envisions Adelaide as an “energy efficient City that maximises the use of renewable energy and local renewable energy generation” (ACC, 2009: 19). The



*Energy Management Action Plan 2011—2014* carries out these objectives with specific strategies (ACC, 2011b). For example, solar panels were installed on the iconic Rundle Lantern and Central Market buildings, and the Adelaide Sustainable City Incentives Program provides incentives to residents and community organizations to install solar panels and solar hot water systems. Adelaide also participates in the CitySwitch Green Office program, a national partnership between businesses and local governments to reduce GHG emissions that office tenants produce and to promote office energy efficiency (CitySwitch, 2011). In Adelaide, at least 43 offices have committed to participate in the program, representing about 18 percent of commercial office space in the city. In addition to establishing these priorities, the city participates in South Australia's GreenPower program, which sets a goal of buying renewable energy for 50 percent of the state government's electricity needs and at least 20 percent of the city government's needs by 2014 (Zeppel, 2011).

### 3. Sustainable Transport, Walking, and Cycling

In 2008, the South Australian state government began an unprecedented, decade-long investment in Adelaide's public transport with a \$2.6 billion investment to transform the city's transportation network into a vibrant, state-of-the-art system providing faster, greener, and more efficient services for train, tram, and bus commuters (Government of South Australia, 2007).

This investment is making Adelaide one of the country's most livable and sustainable cities, constituting the largest single state government investment in public transport in Australia.

Milestones of this project include 400 additional buses on the network linking local areas to dedicated rail corridors and high-frequency bus corridors; extended tram lines and additional trams; train line upgrades, including electric trains; and a "smart" ticketing system. These upgrades contribute to the *South Australia's Strategic Plan* target of increasing the use of public transport to 10 percent of metropolitan weekday passenger vehicle distance traveled by 2018 (SA, 2011).

As part of the overall investment, cycling and walking are important sustainable transportation options. *Moving Adelaide: Integrated Movement Strategy 2012–22: Draft for Consultation* (ACC, forthcoming) is the overarching strategic framework for achieving a pedestrian- and cyclist-friendly city (exhibit 1). In addition, the city's *Bicycle Action Plan 2011–13* (ACC, 2011a) aims to strengthen opportunities for people to cycle to, from, within, and around the city and its park lands.

#### Exhibit 1

##### Moving Adelaide: Integrated Movement Strategy 2012–22 (draft cover)



Source: City of Adelaide, Australia

#### 4. Compact Development

The *Adelaide Green City Sector Agreement* (ACC and Government of South Australia, 2010) also focuses on green buildings and urban design. One strategic direction is to support increased population density and activity in the city and reduce the need to travel. Ongoing priority projects to support this direction include (1) encouraging environmentally sustainable medium- to high-density residential and mixed-use developments, including through the Land Management Corporation and through zero-carbon neighborhoods, and (2) facilitating the *Development Plan Adelaide (City)* (Government of South Australia, 2012) amendments that support increased environmentally sustainable development. The Adelaide City Council developed a *Guide to Mixed Use Development* (ACC, 2008) to demonstrate how to successfully achieve mixed use in the city.

### Policy Comparison and Applicability

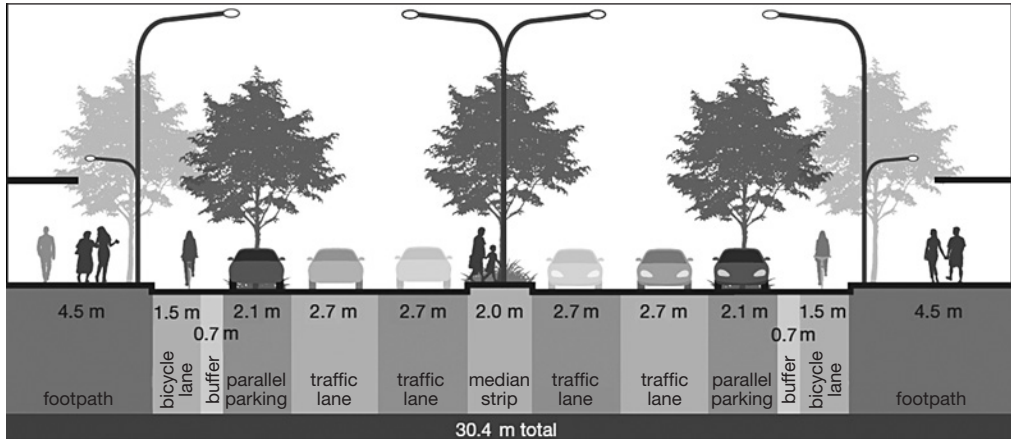
Although it is not possible to examine every measure in Adelaide at this time, and although this article does not permit deeper discussion, it is clear that many of the strategies employed in Adelaide to increase the city's sustainable growth already parallel current initiatives in the United States, although others could be further adapted. For example, Adelaide has taken many steps toward promoting renewable energy, such as installing solar panels on public buildings and providing incentives to the community for solar panels and hot water systems. Local governments across the United States offer incentives for solar installations, including property tax incentives, rebate programs, and loan programs, among others (NC State, 2012). Another parallel policy is the implementation of mixed-use development. Adelaide is actively promoting its *Guide to Mixed Use Development* for city developers and planners to use (ACC, 2008). Similar design manuals and the promotion of these principles are evident in U.S. cities such as Colorado Springs, Colorado (Colorado Springs, 2004); Fort Worth, Texas (Fort Worth, 2005); and Germantown, Tennessee (Briley, 2007), among many others.

Several initiatives employed in Adelaide are well suited for implementation in the United States. For example, Adelaide is taking countless steps to promote cycling and walking as sustainable transportation options. Strategies include safely accommodating pedestrian movement and mandatory safety specifications for on-street cycle lanes. (See exhibit 2.)

The U.S. Federal Highway Administration disseminates standards for bicycle traffic control devices, such as provisions for signs, pavement marking, and signals, but these standards are limited in their consideration of cyclists' safety (DOT/FHWA, 2009). Adopting strict regulations for bike lane design and safety would be beneficial and promote this sustainable, economical mode of transportation in U.S. cities.

## Exhibit 2

### Example of Street Space Reallocation



Source: *Moving Adelaide: Integrated Movement Strategy 2012—22* (ACC, forthcoming)

## Lessons Learned

The full paper for this research project, including case studies for all the cities, acts as a preliminary best practices reference for implementing sustainable community strategies. The larger products and present conclusions of this research include innovative individual strategies for promoting sustainability, as well as several broader or crosscutting policies. Key lessons learned include (1) establishing a governance framework with national and regional support for local policies is vital to the success of a city's mission to increase sustainability; (2) developing policy or financial incentive programs are an important tool, not only for promoting strategies for reducing emissions, but also for fostering a strong foundation for future initiatives through public-private collaboration; (3) implementing transit-oriented development is a strategic approach to achieving compact and mixed land use, transportation efficiency, and sustainability goals; (4) enhancing and improving public-private partnerships are key to leveraging resources and creating consensus within communities; (5) increasing implementation of energy strategies with promotion of renewable energy and carbon trading or green power purchasing can have long-term effects in cities of any size; and (6) monitoring and indicator systems are important for assessing the successes and challenges of each individual strategy and supporting knowledge sharing.

Among these larger sustainable policy measures are some specific creative actions that U.S. cities should consider: (1) integrating pedestrian planning and transit—walkability in city planning, (2) integrating green building and transportation in GHG-reduction strategies, (3) establishing a smartphone bike-sharing system, and (4) instituting measurable indicators for monitoring.

Policy measures that would be most effective for the cities in the emerging economies include (1) enhancing a policy implementation framework (national policy, local regulations, and action plans); (2) enhancing a planning framework to incorporate high-density, mixed-use development with transit, public-private sharing profits at station area—land value to finance infrastructure; and (3) establishing baseline and monitoring indicators.

## Next Steps

The full paper for this research, which the U.S. Department of Housing and Urban Development produced, describes case study findings, best practices analysis, and U.S. applicability in detail; it can be used as a preliminary best practices guide for localities (Lam and Mullen, 2012). A condensed version of the paper was presented at the World Bank Research and Knowledge Symposium in Barcelona, Spain, in October 2012, and will be presented at other research and professional seminars and conferences. Through this dissemination, academic collaboration and avenues for continued research will be identified.

Although this type of best practices identification and analysis is valuable for developing sustainability strategies in U.S. cities, it simply sets a vague foundation for the planning process. Potential gaps in the research occur due to limited availability of information via city or national government resources and a general lack of monitoring and comparative studies on international sustainable development strategies. This research should be expanded to include analyses of the long-term benefits, challenges, and other effects of individual strategies in the case study communities. Also, further research is necessary to determine the specific applicability of strategies in U.S. cities—this research entails examining each strategy closely to determine its environmental, economic, developmental, and other effects and for identifying specific cities for implementation and the conditions that best suit each individual strategy.

## Authors

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