



## Settling in or moving out? Exploring the effect of mobility intentions on public housing exits

Prentiss A. Dantzler & Jason D. Rivera

To cite this article: Prentiss A. Dantzler & Jason D. Rivera (2019) Settling in or moving out? Exploring the effect of mobility intentions on public housing exits, *Housing Studies*, 34:4, 715-733, DOI: [10.1080/02673037.2018.1470229](https://doi.org/10.1080/02673037.2018.1470229)

To link to this article: <https://doi.org/10.1080/02673037.2018.1470229>



Published online: 24 May 2018.



Submit your article to this journal [↗](#)



Article views: 205



View related articles [↗](#)



View Crossmark data [↗](#)



# Settling in or moving out? Exploring the effect of mobility intentions on public housing exits

Prentiss A. Dantzler<sup>a</sup> and Jason D. Rivera<sup>b</sup>

<sup>a</sup>Department of Sociology, Colorado College, Colorado Springs, CO, USA; <sup>b</sup>Department of Political Science (Public Administration Division), SUNY Buffalo State, Buffalo, NY, USA

## ABSTRACT

This paper seeks to understand how public housing residents' mobility intentions affect their actual exits. The results suggest that mobility intentions do have a significant effect on public housing exits. However, the rate of exit among those who intend to move out of public housing was similar to those who did not intend to leave. In addition, tenure had a significant effect on the odds of exiting alluding to issues of duration dependence. However, neighbourhood conditions did not fully explain public housing exits. Our proxy for policy reform had a large effect on the odds of exiting public housing. This result suggests that changes in housing assistance programmes and urban housing policy could largely account for public housing exits. Overall, the results imply that while public housing residents may have positive and negative mobility intentions, their exits may primarily be due to shifts in housing policy and social welfare programmes versus individual characteristics and neighbourhood conditions.

## ARTICLE HISTORY

Received 20 June 2017  
Accepted 9 April 2018

## KEYWORDS

Public housing; welfare;  
mobility; neighbourhoods;  
poverty

## Introduction

Residential mobility among diverse populations is a critical component of housing policy and demography. While many researchers are continuously re-conceptualizing international migration, less attention has been devoted to short-distance residential mobility (Coulter *et al.*, 2016). Within cities, urban policy has constantly restructured the social and economic fabric of neighbourhoods causing the uprooting of residents and the dismantling of communities (Shamsuddin & Vale, 2016). With growing issues of housing affordability, it is increasingly important to understand the mobility intentions of individuals. This dynamic becomes particularly salient regarding individuals receiving housing assistance.

From its inception in 1937, public housing has served as a housing option for many low-income families living in urban areas such as Chicago, New York, Philadelphia, Baltimore and Boston; however, public housing also exists in a variety of suburban and rural communities. Despite their local context, these housing structures have undergone many changes. Some have been demolished and redeveloped as a byproduct of various policies centred on poverty deconcentration (Oakley *et al.*, 2011). Examples of this can be

observed in the Moving to Opportunity (MTO) programme and the HOPE VI programme. The MTO programme was an intentional housing intervention programme offering some public housing households vouchers to move to the private rental market (Comey *et al.*, 2012). Moreover, the HOPE VI programme highlights a dramatic shift in public housing policy and one of the most ambitious urban redevelopment efforts in the history of the United States (Popkin *et al.*, 2004). Yet such housing efforts have had mixed benefits for the families displaced from their original public housing developments (Fauth *et al.*, 2004; Jacob, 2004; Oakley & Burchfield, 2009; Goetz, 2013). To this end, the majority of recent research on the study of public housing and mobility tends to focus on understanding residential outcomes and attitudes surrounding relocation, either forced or voluntary, after residents have already exited public housing (Tester *et al.*, 2011; Ruel *et al.*, 2013; Posthumus & Kleinhans, 2014). Moreover, while these studies provide insight into why public housing residents move out of public housing and, geographically, how far from their initial public housing site, few explore residents' mobility intentions while living in public housing. Alternatively, several studies by Rossi (1955), Kan (1999), De Groot *et al.* (2011), Oakley *et al.* (2013); Clark & Lisowski (2017) have all sought to explore households' mobility expectations and the actual behaviour of moving; however, there is still a lack of understanding on how these dynamics influence the intentions of public housing residents.

As a result of this gap in the literature, this research shifts the focus of urban scholarship largely centred on understanding the effects of living in public housing within distressed communities and relocation choices, to reframing how residents' attitudes towards relocation influence their "choice" to move out. In this regard, we seek to understand how mobility intentions among public housing residents might influence their relocations. We test whether individuals who intend to relocate out of public housing have higher odds of exiting public housing than those who are unsure when they will leave or those that are not interested in leaving, while controlling for other variables at the individual and neighbourhood levels. Using a sample from the Panel Survey of Income Dynamics between 1987 and 2013, this study provides an alternative perspective of studying residential mobility prior to relocation as it pertains to individuals utilizing housing assistance. We suspect that mobility intentions have a positive effect on the odds of individuals exiting public housing, while controlling for individual level and neighbourhood conditions. Findings are discussed in terms of their implications for housing assistance programs and urban housing policy.

## Literature review

### *Mobility intentions*

As previously indicated, there is currently a lack of research on how individuals' mobility intentions influence their relocation out of public housing. Where research is available on individuals' perceived choice to exit government assistance, it has rarely addressed the context of public housing (Freeman, 1998), but welfare more generally. For example, Blank (1989) and Fitzgerald (1991) used rational choice models to explain individuals' choice between staying on welfare or getting off. However, these studies are limited by their failure to include dynamics that may also limit individuals' capacity to make economically rational decisions. As Freeman (1998) argues, understanding housing spells requires a more nuanced approach that includes exploring structural conditions as well as individual

economic factors. These dynamics include information about the external housing market (Hungerford, 1996) in addition to questions about rationality surrounding an individual's ability to weigh all the possible costs and benefits to leaving public housing (Simon, 1956, 2000).

Subsequently, understanding public housing residents' mobility intentions derives from literature focused on general residential preferences. Along these lines, the majority of research on how residential preferences influence an individual's residential mobility can be categorized into two types: stated preferences and revealed preferences (Timmermans *et al.*, 1994; Floor & van Kempen, 1997; Collen & Hoekstra, 2001; Andersen, 2011). According to Andersen (2011), stated preferences are observed by directly asking people about how they would prefer to live and why. Whereas revealed preferences are observed by examining how an individual actually lives. Most studies on residential choices have been based on revealed preferences, where relationships between different demographic variables and actual tenure are determined (Dieleman *et al.*, 1994). However, reliance on revealed preferences may produce inaccurate estimates of the underlying preferences of individuals that have moved into a particular residence. As Earnhart (2002) argues, an accurate estimation critically depends on the inclusion of all important explanatory factors.

Typically, when studies rely on revealed preferences and individuals' financial resources, available opportunities in the housing market are neglected in the analysis. In attempting to account for individually adjusted economic preferences, researchers have neglected the influence of housing market regulations and imbalances that hinder the ability of individuals to obtain their optimal housing preference (Andersen, 2011; Timmermans *et al.*, 1994). Additionally, life changes can occur (i.e. job changes or unemployment, family changes such as a divorce, separation or the birth of a child, etc.), which ultimately affect individuals' ability to move (Kan 1999; Warner & Sharp 2016; Clark & Lisowski 2017). In the case of public housing, reliance on revealed preferences for understanding why individuals continue to live in public housing may falsely suggest that individuals prefer to remain in public housing. As a result of this methodological flaw, researchers have argued that individuals remain in public housing because they want to. Moreover, assuming long-term tenure is a result of preference perpetuates explanations of poverty that assume a social pathology present among the poor, differentiating them from mainstream society. According to this assumption, the sociopathological conditions of poverty make individuals more inclined to remain in public housing (Ward, 1989; Henderson, 1995; Gans, 1997; Venkatesh, 2009). This assumption has been used as a justification for federal policies aimed at deconcentrating the poor through the demolition of public housing (Galster & Zobel, 1998; Crump, 2002).

Similarly, relying on individuals' stated intentions on whether or when they choose to move out of public housing can be an equally unreliable. According to Andersen (2011), relying on individuals' statements about their choice to relocate does not necessarily consider the variation between statements made by households with the same expected responses based on background characteristics. Specifically, some individuals may have a more realistic notion of their ability to move and/or find alternative housing in the market, while others may not. This phenomenon has been observed within the context of individuals operating in the increasing unaffordable housing market that have preferences for homeownership, for example, but do not have the actual means of obtaining a home (Dieleman *et al.*, 1989). As a result, relying on individuals' intention or desire to move out of public housing may not accurately reflect the ultimate choice to relocate. Thus, Vale's (1997) argument that

those living in public housing predominately desire to leave may be accurate; however, the influence of this desire on the actual outcome—an individual moving out—continues to be unknown.

### **Determinants of tenure**

As indicated above, research that has focused on people's inclination to leave public housing, in addition to arguments that link the concentration of public housing to broader social problems, has resulted in federal policies that encourage, if not force, individuals out of public housing (Crump, 2002; Manzo, 2014). Federal policies focused on the demolition of public housing stocks and the use of housing vouchers, for example, are intended to deliberately displace public housing residents; thereby, taking the actual choice to move out of public housing away from individuals (Galster & Zobel, 1998; Crump, 2002). For example, although the Moving to Opportunity (MTO) programme has given households housing vouchers to encourage individuals to move out of concentrated poverty neighbourhoods, according to Clark (2005), these opportunities do not offset the barriers to relocation based on individuals' income, assets, or access to work. As a result, there is a solid foundation of research that has observed the effects of forced relocation (see DeLuca & Rosenbaum 2003), especially in relation to other housing programmes such as the HOPE VI Programme (Goetz, 2010; Kleinhans & Varady, 2011; Basolo, 2013; Skobba & Goetz, 2013; Manzo, 2013; Oakley *et al.*, 2013). However, none of this research attempts to observe how an individual's intentions to leave public housing are associated with actual exit rates. As such, this current research will build off previous work that illustrates the importance of federal housing policy on resident exit rates, using federal housing policy as an independent variable in explaining the exit rates of individuals from public housing. Due to stark changes in federal housing policy around 1997<sup>1</sup>, we suspect that the odds of exiting public housing are higher after 1997 than the previous period of analysis.

In addition to housing policies, there are other structural/environmental factors that have been shown to influence public housing tenure. First, studies have shown that there is a link between the local housing market in which an individual is situated and whether an individual leaves public housing (Rothenberg, 1991; Freeman, 1998). Specifically, the presence of an affordable local housing stock allows public housing residents to relocate, while maintaining communal ties and their relationships to place. Additionally, Dantzler (2016) maintains that the vacancy rate is characteristic of a neighbourhood in which public housing is located; as such vacancy rates serve as a proxy for housing availability, because areas with low vacancy rates provide fewer options for individuals within public housing to move to.

Second, in neighbourhoods with public housing units, the unemployment rate has been suggested to influence the rate at which individuals exit public housing. Studies have yielded mixed results in reference to the direction of this influence (Hungerford, 1996; Harris, 1993; O'Neill *et al.*, 1987), or if there is even a significant relationship between the unemployment rate and an individual's exit from public housing (Dantzler 2016). As a result, this study includes local unemployment rates as an independent variable to determine its impact on public housing exit rates in relation to individuals' intentions.

Third, Dantzler (2016) and Treskon & Pelletiere (2004) suggest that the local median gross rent is also a potentially important indicator of public housing exits. Public housing

residents looking for rentals within their neighbourhood may be priced out of their market if the rent is too high. On the other hand, lower median gross rent may indicate a poor economic state in that locality or a lack of suitable housing options. Furthermore, because of the 30 percent requirement of rental payment based on income level for each public housing resident, the rental market may play a larger role in the rate at which individuals exit public housing. Because of this requirement, it is useful to measure the median gross rent as a percentage of household income when predicting public housing exits. This also allows us to draw conclusions based on housing affordability versus changes in dollar amounts.

Fourth, by the 1980s and 1990s, public housing, in some cities, was located in areas of concentrated poverty. As Crump (2002) and other scholars have illustrated, there was a broad consensus among policy-makers, politicians, and advocates that minority residents in public housing, located in inner city ghettos, created a fundamental problem for U.S. cities. The isolation of minorities within public housing led to debates around the social pathology of the poor at the hands of the spatial concentration of poverty (Jencks, 1992; Massey & Kanaiaupuni, 1993; Wilson, 1987). As a result, we include the neighbourhood's poverty rate in order to examine the relationship between poverty and the odds of exit.

Finally, median household income serves as an indicator of the economic viability of a particular area. Neighbourhoods with rising or stable income are presumed beneficial to local residents because of the positive association between opportunities and income. Declining household income indicates a decline in the local economic health of a neighbourhood, and thus may negatively affect residential mobility for the local population, especially for those living in public housing (Freeman, 1998). Therefore, it is necessary to consider household income as an explanatory variable.

In addition to these structural and environmental factors, research has observed several individual-level characteristics that influence the probability of an individual exiting public housing. Individual characteristics such as age (Toussaint-Comeau & Rhine, 2004; Andersen, 2011; Dychtwald *et al.*, 2006), gender (Freeman, 2005), race (Turner *et al.*, 1991; Freeman, 1998), educational attainment level (Freeman, 1998; Ioannides & Rosenthal, 1994), marital status (Haurin *et al.*, 1996; Andersen, 2011), number of dependents (Rosen, 1979), household income (Haurin *et al.*, 1996; Freeman, 1998), disability status (Morgan and Smith, 1969), and whether an individual receives additional governmental assistance in addition to public housing (Dantzler, 2016) have all been identified as factors that may influence someone's probability of exiting public housing. As a result, these variables are controlled for in our analysis.

## Data and methods

To answer this study's research question, we use a sample from the Panel Study of Income Dynamics (PSID). The PSID is a nationally representative sample of U.S. households beginning in 1968. Under the direction of the University of Michigan's Institute for Social Research, individual heads of households were surveyed annually from 1968 to 1997, then biennially thereafter. Information was collected from the heads of households and their family members through survey questions pertaining to income, employment, educational attainment, health, marriage and numerous other topics. In this particular study, we are interested in public housing residents and questions related to their intentions of mobility during their tenure in public housing. The PSID is uniquely suited for this analysis given that



heads of households were asked about their mobility intentions<sup>2</sup> (PSID, 2016). By merging the public version of the PSID with the restricted Assisted Housing Data, we restrict the sample to only residents who lived in public housing after 1986. The PSID asked individuals if they were living in public housing in its inception year of 1968 to 1973, then again in 1986 to 2013. We limit the observations to individuals who entered into public housing after 1986 to control for left censoring of the data. The final subsample of the PSID yields a sample size of 3,066.

In order to ascertain the effects of changes in residents' local neighbourhoods, U.S. Census data was used in the multivariate analysis to enhance the data from the PSID. We include data from the 1990, 2000, and 2010 Decennial Census, as well as from the American Community Survey 5-Year Estimates from 2007 to 2013. In this paper, we are particularly interested in the local housing and economic factors which may shape public housing residents' exits. Other scholars, such as Freeman (1998), have considered local economic conditions to study this dynamic within public housing. Measures within this analysis include local housing vacancy rates, unemployment rates, poverty rates, as well as median household income and rents. The median gross rent as a percentage of household income used on rental payments was used as a measure of housing affordability. We use this proxy following the ratio approach of housing affordability as an overall expense versus the dollar amount of the rent paid. Moreover, in this study, we are concerned about the proportion of income spent on housing costs. Since this study is longitudinal, interpolations of these variables were performed to account for rates of change across the years observed. Dollar amounts were also adjusted to reflect 2010 levels of inflation. Table 1 illustrates a summary of the variables used in this analysis:

This sample provides some unique parameters for analysing public housing residents. The main variable of interest is the move variable which indicates whether or not a person intends to relocate (1 = Yes, 0 = No). In this sample, 54.7% indicated that they were planning to leave at some point during the duration of the analysis, while the other 45.3% indicating that they did not plan to move. This split between who wants to stay or move provides variance within our independent variable. Within this sample, the mean of tenure for public housing residents is 5.13 years. While many individuals exit after one year of living in public housing, there are some individuals who live in public housing throughout the entire 24-year period of observation. Moreover, some individuals have multiple observed spells (complete entry and exits). The heads of households vary in age from 19 to 90. Furthermore, approximately 53.4% of the samples were between the ages of 25 and 45, with the second largest group being between the ages of 46 and 64, suggesting that residents in the sample are mostly older adults. Female heads of households make up 60.3% of the sample. Approximately, 81.6% of the heads of household are African American/Black and many have at least one child in the household (69.7%). The majority of the sample contains heads of household who are single (approximately 44.1%), while 25.6% of the sample reported that they were married. We include sampling weights to address that issue. We also are only looking at the subsamples as an entire group instead of individuals within the group. Our findings are more to do with averages than individual results.

We use a Kaplan–Meier analysis to understand exit rates among public housing residents based on their mobility intentions. The Kaplan Meier analysis is uniquely suited for this study since it handles issues of right censoring. We assume that the event of exiting public housing occurred (or will occur) at some point over residents' time in public housing. The

**Table 1.** Summary statistics for PSID data (1987–2013).

Variables	Observations	Mean	Standard deviation	Min	Max
Move	3,066	0.547	0.500	0	1
Tenure	3,270	5.128	5.034	1	24
Reform	3,270	0.602	0.490	0	1
Individual Characteristics					
Age	3,269	40.545	21.849	19	90
Female	3,270	0.603	0.489	0	1
Black	3,270	0.816	0.388	0	1
Other Race	3,270	0.016	0.126	0	1
Children/Dependents	3,270	1.596	1.503	0	8
Married	3,270	0.256	0.437	0	1
Other Marital Status	3,270	0.303	0.460	0	1
Family Income	3,270	11,973.36	15,429.91	0	134,000.00
AFDC	3,265	308.19	1,169.16	0	11,280.00
HS Diploma	3,215	0.378	0.485	0	1
GED	3,215	0.052	0.222	0	1
Some College	3,215	0.226	0.418	0	1
Disability Status	3,245	0.195	0.396	0	1
Neighbourhood Dynamics <sup>a</sup> (Tract Level)					
Vacancy Rates (%)	993	0.12	0.09	0.52	55.73
Median Gross Rent (%)	1,012	31.21	7.95	0.00	50.00
Median Household Income (\$)	1,015	52,764.02	25,154.30	9,398.00	215,102.00
Poverty (%)	1,003	21.30	23.39	0.18	100.00
(County Level)					
Unemployment Rate (%)	1,015	8.84	2.93	2.06	28.78

Source: Panel Survey of Income Dynamics, Institute for Social Research.

<sup>a</sup>Summary statistics for neighborhood factors were tabulated before interpolations.

Kaplan-Meier provides a survival curve which defines the probability of surviving in a given length of time while considering time in unique intervals (Goel *et al.*, 2010). In this case, the survival curve illustrates the probability of a person exiting across the 24-year period. There are a few assumptions with using this analysis. First, we assume that at any point in time, residents who are censored have the same exit chances as those who continued to be observed in the analysis. Second, we assume that the probabilities of survival are the same for subjects recruited early and late in the study. And third, we assume that the event occurs at the time specified (at or up to the point in time the resident was surveyed) (Goel *et al.*, 2010). The Kaplan-Meier estimate, or the survival curve, can be modelled as:

$$\hat{S}(t) = \prod_{i:t_{(i)} < t} \left(1 - \frac{d_i}{n_i}\right)$$

While the Kaplan-Meier estimate is useful, it is descriptive in nature. Therefore, a multi-variate analysis is needed to ascertain different determinants of exit.

Following the Kaplan-Meier analysis, we employ an event history analysis to ascertain the effects of individual-level characteristics as well as neighbourhood conditions on the odds of exit. We are particularly interested in understanding the effects of residential intentions about moving on the odds of exiting. An event history analysis is uniquely suited for studying the causes of events, especially with data that is censored and has time-varying



explanatory variables (Allison, 1982). Given its applicability, other studies have employed event-history analysis to understand the dynamics of public housing exits within the United States (Ambrose, 2005; Bahchieva & Hosier, 2001; Freeman, 1998, 2005; Hungerford, 1996). However, such studies do not examine public housing exits over longer terms of duration. In addition, such studies also fail to capture variables that indicate mobility intentions among public housing residents. The discrete-time method can be modelled as a logistic regression:

$$\log \left( \frac{P(t)}{1 - P(t)} \right) = a(t) + b_1 X_1 + b_2 X_2(t)$$

In this model, the dependent variable is denoted as the logit of the probability that a resident will exit. The hazard rate,  $P(t)$ , illustrates the probability that an individual has an event at time  $t$ , given that the individual is still at risk of an event at time  $t$ . The probability of this event occurring is based on a set of explanatory variables ( $X_1, X_2$ ) and their parameters ( $b_1, b_2$ ) with  $a(t)$  denoting the constants of the models for each of the years observed (Allison, 1984). In our case, we are interested in understanding the probability of exit based on our explanatory variables, specifically our dummy variable about mobility intentions. Through the maximum likelihood estimation of the logistic regression, we then produce odds ratios for interpretation. The estimates for a logit model do not have a useful form of interpretation, so we use the odds ratios and indicators of statistical significance instead.<sup>3</sup> We cluster our standard errors of the estimated parameters in order to account for possible correlation between events. Other statistical tests are reported including chi-squared, the pseudo  $R^2$ ,  $p$ -values, and the means of the variance inflation factor in order to examine the presence of multicollinearity.

The unit of analysis is the individual head of household. Table 2 depicts the results of three models. Model 1 includes the main variable of interest about mobility intentions along with proxies for tenure and policy reforms. Model 2 incorporates measures at the individual level, including the age, race, sex, education level, income, marriage status and disability status of the heads of households. Finally, Model 3 includes previously mentioned covariates as well as local neighbourhood conditions. These covariates included the poverty rate, the housing vacancy rate, the unemployment rate, the median gross rent as a percentage of household expenses, and the median household income. We use the census tract as our geographic measure of neighbourhoods. These measures were calculated at the neighbourhood level in order to ascertain the effects of an individual's local environment. Other scholars have suggested that many individuals stay within their same neighbourhoods once they leave public housing in order to maintain social ties and connections (Skobba & Goetz, 2013). The unemployment rate was also included at the county level. Using Kain's (1992) spatial mismatch thesis, or the idea that housing discrimination keeps Blacks in inner cities with fewer job opportunities, along with Wilson's (2011) thesis of the disappearance of work in central cities, we assume low-income individuals tend to work beyond their neighbourhoods due to the availability of employment.

## Analyses and results

### *Descriptive analysis*

The survivor curves suggest that the rate of exit for public housing residents is consistent with similar research that found most residents leave within the first 5 years (Freeman,

**Table 2.** Odds Ratios of Public Housing Exits (1987–2013)

VARIABLES	(1) Odds Ratio	(2) Odds Ratio	(3) Odds Ratio
<b>DV: Exit (Yes = 1, No = 0)</b>			
Move (1 = Yes, No = 0)	1.476*** (0.198)	1.359** (0.191)	1.410** (0.198)
Tenure: 2–5 Years	0.266*** (0.050)	0.274*** (0.057)	0.271*** (0.058)
Tenure: 6–10 Years	0.113*** (0.031)	0.130*** (0.036)	0.122*** (0.035)
Tenure: 11+ Years	0.009*** (0.004)	0.007*** (0.004)	0.006*** (0.003)
Reform	2.565*** (0.455)	2.608*** (0.561)	2.444*** (0.542)
<b>INDIVIDUAL CHARACTERISTICS</b>			
<b>(Reference Group: Young: Ages 19–24)</b>			
Middle Age		0.770 (0.160)	0.814 (0.177)
Upper Middle Age		0.575** (0.155)	0.584** (0.160)
Senior		0.446** (0.169)	0.442** (0.165)
<b>(Reference Group: Males)</b>			
Female		1.205 (0.297)	1.147 (0.279)
<b>(Reference Group: White)</b>			
Black		0.945 (0.163)	0.942 (0.156)
Other Race		2.444 (1.687)	2.509 (1.691)
<b>(Reference Group: No Children/Dependents)</b>			
Children/Dependents: 1–3		0.779 (0.154)	0.763 (0.148)
Children/Dependents: 4–6		0.443*** (0.129)	0.428*** (0.125)
Children/Dependents: 7+		0.255 (0.319)	0.225 (0.287)
<b>(Reference Group: Single)</b>			
Married		1.860** (0.527)	1.815** (0.499)
Other Marital Status		1.137 (0.226)	1.135 (0.219)
Income (\$1000s)		1.007 (0.007)	1.006 (0.007)
AFDC (\$1000s)		0.930 (0.060)	0.931 (0.061)
HS Diploma		1.172 (0.218)	1.194 (0.216)
GED		1.403 (0.606)	1.366 (0.573)
Some College		1.593** (0.323)	1.586** (0.321)
Disability Status		1.503** (0.288)	1.467** (0.278)
<b>NEIGHBOURHOOD DYNAMICS</b>			
Vacancy Rate			1.007 (0.005)
Median Gross Rent			0.998 (0.005)
Median Household Income (\$1000s)			1.003 (0.002)
Poverty Rate			1.000 (0.003)
Unemployment Rate			1.047** (0.022)

(Continued)

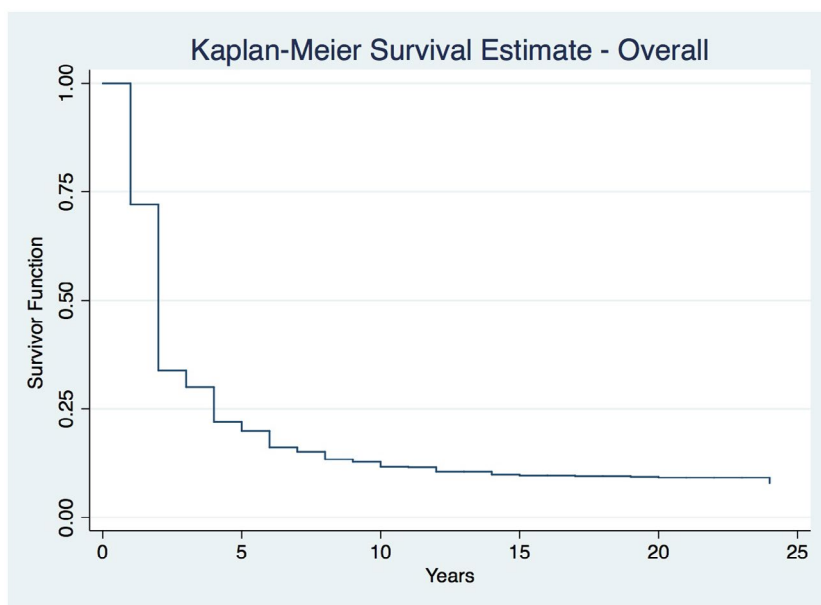
**Table 2.** (Continued).

	(1)	(2)	(3)
VARIABLES	Odds Ratio	Odds Ratio	Odds Ratio
Constant	1.443*** (0.198)	1.358 (0.487)	0.894 (0.413)
Observations	3,066	3,003	2,998
X <sup>2</sup>	164.27	212.56	234.22
Pseudo R <sup>2</sup>	0.185	0.211	0.216
P-Value	0.000	0.000	0.000
Mean VIF	2.16	1.89	1.82

Source: Panel Survey of Income Dynamics, Institute for Social Research, University of Michigan.

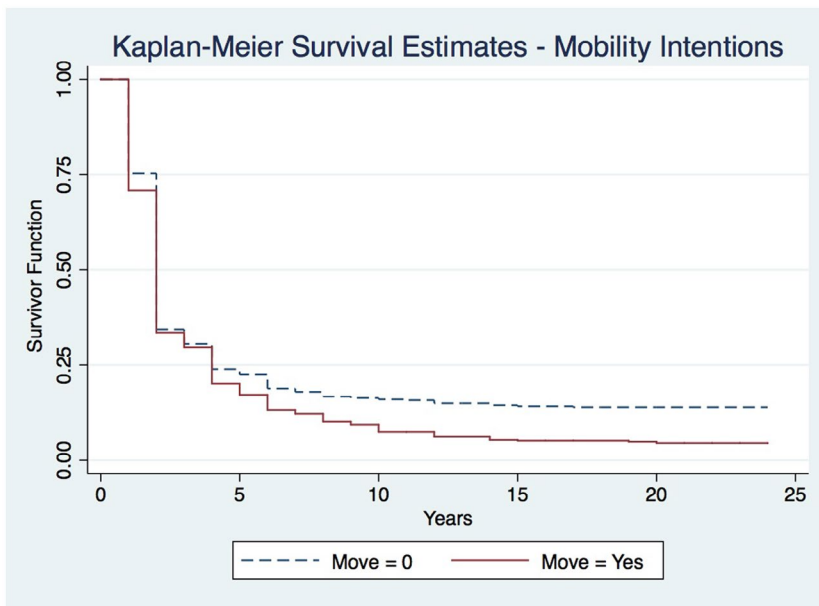
Note: Robust standard errors in parentheses.

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$ .

**Figure 1.** Kaplan-Meier Estimate—Overall.

1998, 2005; Hungerford, 1996; Susin, 1999). Figure 1 illustrates the survivor curve for the overall sample of public housing residents from 1987 to 2013.

The graph clearly illustrates a sharp decline in the survivor function within the first five years. After the first five years, the curve begins to slowly level out. The analysis also suggests that much of the sample of public housing residents may not be included in later years of the analysis. According to the survivor function, the probability of exiting public housing after 5 years is approximately 19.9%. The survivor curve continues to decline after 5 years, with the probability of exit declining to 11.7% after 10 years and 9.7% after 15 years. The lower rate of decline in later years of residency may suggest issues associated with duration dependence (Freeman 1998; Dantzler 2016). Similar to Freeman's (1998) analysis, these findings suggest that those remaining past the first five years may be most at risk of experiencing duration dependence.



**Figure 2.** Kaplan-Meier Estimate—Mobility Intentions.

As Freeman (1998) discusses, the experience of living in public housing may produce a notion of dependency on the housing assistance programme. Duration dependence suggests that the longer someone receives a public good or benefit, the more likely it is for that individual to become dependent on that benefit. To fully understand this dynamic, we include the length of time living in public housing, or tenure, as an explanatory variable. While Figure 1 depicted the overall sample of public housing residents, Figure 2 illustrates the survivor curves of individuals based on their mobility intentions.

Individuals who indicated that they intend to move have a marginal difference in their exit rate compared to individuals who indicated that they did not want to leave. Interestingly, the curves almost mirror each other. Although this could be partially attributed to the relatively small sample size during this period, the groups that indicated affirmative intentions about their mobility tend to have a marginal difference in their survivor curves. As Figure 2 illustrates, individuals who indicated they planned to move out have approximately the same rate of exit as those who indicated they planned to stay. This similarity suggests that mobility among low-income individuals is beyond their control. Various explanations for residential mobility can provide insight into this dynamic given the condition of one's neighbourhood versus their changing family needs (e.g. Rosenblatt & DeLuca, 2012). The graph also suggests that this difference in the survivor curves persists in later years; however, residents with different mobility intentions tend to exit public housing at relatively the same rate.

### **Multivariate analysis**

While the descriptive analysis underscores the relatively short period of time most residents remain in public housing, it does not explain the dynamics of long-term tenure. In

order to ascertain the determinants of exit, we include individual and neighbourhood level characteristics to explain the odds of exiting:

In Model 1, the results suggest that mobility intentions do have an effect on the odds of exiting public housing. Those individuals who indicated that they were intending to move have an odds of exiting that is 47.6% higher than those that indicated they did not intend to leave. However, tenure plays a much more significant role. Across all three categories, tenure was significant at the 99% confidence level. The odds of leaving public housing in years 2 to 5 is approximately 73.4% lower than leaving in year 1. The odds of exiting public housing in later years is much lower with the odds ratios dropping to 88.7% lower for individuals living in public housing for 6 to 10 years and 99.1% lower for those living in public housing for more than 10 years. The low odds ratios in later years suggest that the longer individuals live in public housing, the less likely they will exit. In addition, we add a reform variable in this model to account for individuals who lived in public housing after 1997. This variable was instrumented for two reasons. First, in the later part of the 1990s, public housing underwent massive demolition and redevelopment through the HOPE IV programme. These actions were a result of recommendations made by the National Commission on Severely Distressed Public Housing in 1992, which called for demolition and redevelopment of debilitated public housing developments through the allocation of federal funds (Clampet-Lundquist, 2004). Second, the Quality Housing and Work Responsibility Act (QHWRA) passed by President Bill Clinton in 1998 had drastic effects on public housing residents. The QHWRA developed new programs to help families transition out of public housing including an expansion of the Section 8 programme along with additional funding for HOPE VI redevelopment because of the growing concern of poverty concentration in the 1990s (Goetz, 2012). We interpret this variable as indicative of time-dependent policy changes related to public housing developments.

Our proxy for understanding how federal policy reforms impacted the odds of exiting public housing was statistically significant. Individuals living in public housing after 1996 were 2.57 times more likely to leave public housing versus those who left before 1997. This result suggests that policies aimed at public housing may have largely contributed to the rate at which people exited. This result was expected given the historical development of urban housing policy transitioning from demolition to housing vouchers as the preferred method of federal housing assistance. While most of our statistical tests suggest that this model was appropriate, we have a variance inflation factor of 2.16, which suggests that Model 1 may have issues of multicollinearity. This variance may be explained by a number of variables that were not included in the model. However, this restricted model only includes measures of mobility intentions and tenure, serving as a basis for further model specification.

In Model 2, our mobility variable is still statistically significant with tenure illustrating similar statistical meaning as in Model 1. However, tenure's level of significance falls from 99% to 95%. The odds of exiting public housing in this model do seem to be affected by age, children, marital status and educational attainment. Individuals who were upper middle-aged and senior seem to have much lower odds of exiting public housing versus their younger counterparts. Furthermore, individuals who have between four and six children/dependents have much lower odds of exiting than individuals who have no children or dependents. This result is not surprising given that an individual with a relatively large household may have harder time finding another suitable place to live. Other categories of children and dependents were not statistically significant. In terms of marital status,

individuals who were married had much higher odds (86.0%) of exiting public housing versus those who identified as being single. This result is also not surprising given a change in family structure may affect other aspects of the household, primarily in terms of income and number of dependents. Educational attainment at the college level also was statistically significant, yielding a positive effect on the odds of exiting public housing. Since this variable measures college-level education as well as post-secondary training, it suggests that individuals who have the opportunity to pursue these types of training programs have higher odds of exiting public housing than those who did not graduate high school. Lastly, an individual's disability status has an effect on their odds of exiting public housing. Surprisingly, individuals who indicated that they had a physical or nervous condition had higher odds of exiting public housing versus those who did not have a disabling condition. It is possible that individuals with disabilities need accommodations that make public housing inadequate. However, the severity of one's disability status, their need for alternative housing accommodations, nor their inability to be more mobile were not assessed due to data limitations. While Model 2 provides some interesting dynamics in terms of the odds of exiting public housing, it does not account for local neighbourhood measures.

Model 3 includes local housing and economic covariates in order to ascertain the determinants of public housing exits. In Model 3, our mobility variable is still statistically significant. As other models have also illustrated, tenure plays a significant role in terms of the odds of exiting. All three models illustrate a similar relationship in regard to tenure—the odds of exiting public housing decreases with time. However, the effects are slightly more pronounced among individuals in Model 3. The odds of exiting public housing among heads of households with tenure between 2 to 5 years is 72.9% lower than residents with a tenure of 1 year. That is to say, the odds of exiting public housing decreases sharply as time increases. This result also suggests the presence of duration dependence. It seems that regardless of the individual characteristics or the neighbourhood conditions, tenure may have a stronger effect on public housing exits. The reform variable is also statistically significant at the 99% confidence level. This result suggests that the odds of exiting for individuals living in public housing after 1996 is 2.44 times larger than the odds of exiting before 1997, controlling for other variables. This is expected given our understanding of significant changes in the housing policy and welfare reform in the late 1990s.

The results in Model 3 are very similar to Model 2 regarding the effects of individual characteristics on the odds ratio. Individuals in the upper middle-aged group and the senior group had lower odds of exiting public housing versus their younger counterparts. In addition to age, individuals with 4 to 6 children retain their negative relationship on the odds ratio. Similarly, to Model 2, Model 3 indicates that individuals who identified as being married have an odds of exiting public housing 1.82 times higher than those who were single. Those who identified as having experienced another change of marital status (e.g. divorce, separation or widower) had no statistical significance. Post-secondary training as well as disability status retain their statistical significance. While post-secondary training yields a similar odds ratio in Model 3 as in Model 2, the effect of disability status was lower in Model 3 (46.7%). This result was at the 90% confidence level in Model 3.

In terms of the neighbourhood conditions, the unemployment rate was the only significant variable in Model 3. That is to say, the unemployment rate at the county level had a positive association with public housing exits. This finding is similar to other studies, specifically in terms of public housing exits (Hungerford, 1996) and welfare more broadly



(O'Neil *et al.*, 1987). Given the breadth of time in this study, it is possible that cities with higher levels of unemployment are also undergoing different policy programs such as the MTW to enforce strict work requirements upon residents (Abravanel *et al.*, 2004). However, the results suggest that while some differences in individual characteristics may account for the odds of an individual exiting public housing, neighbourhood conditions may play a smaller role. In addition, our mobility intention variable had a significant effect on the odds of exiting public housing. This result suggests that public housing residents' mobility intentions may reflect actual mobility patterns. This finding goes against the notion that public housing is a trap and shows that public housing functions similarly to other neighbourhoods, where some people stay and settle in and others move on to other places. Neither individual characteristics nor neighbourhood housing and economic indicators could fully explain the duration dependence observed with the tenure variable. The proxy for policy reforms helps with the interpretation of this analysis; however, caution should be used. The odds of exiting public housing may be due less to individual and neighbourhood conditions and more so on federal, state and local changes in housing assistance programs and urban housing policy. The extent to which individuals remain in public housing may also reflect family situations and place-dependent considerations of families that are not reflected in this analysis (Kleit and Manzo, 2006). From a theoretical perspective, family status does exert some influence on the probability of exiting public housing, yet it did not fully explain the duration dependence observed in this analysis. As Freeman (1998) notes, the impact of the housing market conditions suggests the relative importance of structural factors in determining who exits public housing altogether.

## Conclusions

Our findings suggest that mobility intentions among public housing residents have some effect on their actual mobility. It is quite possible that individuals themselves, especially those living in public housing, have more control over their mobility choices than previously argued. Moreover, there is variance amongst who stays and who leaves. However, our proxy for years before and after major housing policy reforms suggests that policy has a strong effect on the odds of exiting. This is not surprising given the targeted demolition of public housing in the late 1990s and early 2000s. In addition, HUD strongly promoted mixed-income housing and relocating families through housing vouchers to prevent the concentration of troubled, low-income households (Popkin *et al.*, 2005). This analysis calls into question how mobility intentions actually reflect relocations. It is plausible that the choice to move is less a choice of the individual and more a byproduct of changes in housing policy within both public and private domains.

Within the public sector, public housing residents lie at the whim of changes in local and federal housing authority policy choices. Programs such as HOPE VI have displaced thousands of low-income households in order to disperse pockets of poverty and transform 'severely distressed' public housing sites into mixed-income developments (Manzo, Kleit, & Couch 2008). Other programmes, such as the Moving-to-Work (MTW) programme, have allowed local housing authorities to adopt their own set of regulations including rent rules and subsidy formulas, occupancy requirements and time limits (Abravanel *et al.*, 2004). As a result, the influence of individuals' mobility intention is less of a motivating factor for exiting housing, and more of a convenient coincidence if they are truly interested in exiting.

Within the private sector, public housing residents who are looking to relocate may still be at the mercy of their local rental markets. Diverse forms of rental discrimination continue in terms of overcharging housing choice voucher recipients (Desmond & Perkins, 2016), large variance of rental discrimination across different regions (Carlsson & Eriksson, 2014), as well as the overall increase of new incidents of racial discrimination that are being documented by the US Census Bureau and the US Equal Employment Opportunity Commission (Chan, 2014). As a result, HUD should make a more concerted effort to identify practices of rental discrimination among racial and ethnic minorities and develop new methods of deterring these types of practices in the future. These types of changes in housing policy would serve as exogenous shocks that may affect public housing exits in a more direct manner.

As other scholars have found (Hungerford, 1996; Freeman, 1998), the results here do not support the notion that public housing is a trap that it is increasingly difficult to exit from as time progresses. Future research should test the mobility intentions of individuals on housing vouchers. If voucher programs have largely replaced public housing as the main housing assistance initiative, then it is necessary to test whether people intend to use the voucher temporarily or indefinitely. The same critique of public housing for the last 50 years may yield a more nuanced, but similar discussion around the role of the government in supplying housing assistance altogether. This would have detrimental effects to the growing number of families using vouchers to secure affordable housing. Future research should also examine the drivers of mobility intentions, specifically among housing assistance recipients. If mobility intentions are useful indicators of mobility patterns, then researchers should consider the factors that determine mobility decisions. The degree to which mobility intentions and decisions reflect voluntary and involuntary residential mobility helps researchers and policy-makers better understand housing stability.

## Notes

1. Programs such as the HOPE VI programme (formally recognized in 1998) and the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 have led to drastic changes in terms of welfare reform. As noted, these type of changes have undoubtedly affected the ability of public housing residents to reside in their units.
2. The PSID asked heads of households, 'Do you think you might move in the next couple of years?' This variable was transformed into a categorical variable to denote individuals who positively or negatively responded to the question.
3. Additional statistical checks were performed in order to analyse other factors such as state fixed effects as well as dropping certain cases such as those in New York City for their longer forms of tenure duration; however, such tests did not significantly impact our results. Annual fixed effects were also used; however, their inclusion did not yield any significant results.

## Acknowledgments

The authors would like to thank Wade Roberts for his comments on an earlier version of this paper and the anonymous reviewers for their helpful comments. The authors would also like to thank Mark Joseph on his comments regarding perceptions versus intentions. Lastly, the authors would like to thank Michael Sorensen and Sierra Polston for their excellent research assistance.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Notes on contributors

**Prentiss A. Dantzler** is an assistant professor of sociology and Mellon faculty fellow at Colorado College. He received his doctorate in public affairs from Rutgers University – Camden. His research focuses on poverty, housing policy, race relations and community development. Prentiss' research has appeared in a number of outlets including *The Urban Lawyer*, *Urban Affairs Review* and *Research in Social Movements, Conflicts and Change*.

**Jason D. Rivera** is an assistant professor at SUNY Buffalo State within the Public Administration and Nonprofit Management Program. He earned his PhD at Rutgers University – Camden in public affairs with a concentration in community development. His research interests include disaster response and recovery processes, representative bureaucracy, governance and social justice.

## References

- Abravanel, M. D., Smith, R. E., Turner, M. A., Cove, E., Harris, L. & Martinez, C. (2004) *Testing Public Housing Deregulation: A Summary Assessment of HUD's 'Moving to Work' Demonstration*. (Washington, DC: Urban Institute).
- Allison, P. D. (1982) Discrete-time methods for the analysis of event histories, *Sociological Methodology*, 13, pp. 61–98.
- Allison, P. D. (1984). *Event History Analysis: Regression for Longitudinal Event Data* (No. 46). Sage.
- Ambrose, B. W. (2005) A hazard rate analysis of leavers and stayers in assisted housing programs, *Cityscape*, pp. 69–93.
- Andersen, H. S. (2011) Motives for tenure choice during the life cycle: The importance of non-economic factors and other housing preferences, *Housing, Theory and Society*, 28(2), pp. 183–207.
- Bahchieva, R. & Hosier, A. (2001) Determinants of tenure duration in public housing: The case of New York City, *Journal of Housing Research*, 12(2), p. 307.
- Basolo, V. (2013) Examining mobility outcomes in the housing choice voucher program: Neighborhood poverty, employment, and public school quality, *Cityscape*, pp. 135–153.
- Blank, R. M. (1989) Analyzing the length of welfare spells, *Journal of Public Economics*, 39(3), pp. 245–273.
- Carlsson, M. & Eriksson, S. (2014) Discrimination in the rental market for apartments, *Journal of Housing Economics*, 23, pp. 41–54.
- Chan, C. (2014). Not for Rent: Factors Behind Racial Discrimination in the US Rental Market. *Chicago Policy Review* (Online).
- Clampet-Lundquist, S. (2004) HOPE VI relocation: Moving to new neighborhoods and building new ties, *Housing Policy Debate*, 15(2), pp. 415–447.
- Clark, W. A. V. (2005) Intervening in the residential mobility process: Neighborhood outcomes for low-income populations, *Proceedings of the National Academy of Sciences*, 102(43), pp. 15307–15312.
- Clark, W. A. V. & Lisowski, W. (2017) Decisions to move and decisions to stay: life course events and mobility outcomes, *Housing Studies*, 32(5), pp. 547–565.
- Collen, H. & Hoekstra, J. (2001) Values as determinants of preferences for housing attributes, *Journal of Housing and the Built Environment*, 16(3/4), pp. 285–306.
- Comey, J., Popkin, S. J. & Franks, K. (2012) MTO: A successful housing intervention, *Cityscape*, pp. 87–107.
- Coulter, R., Ham, M. V. & Findlay, A. M. (2016) Re-thinking residential mobility: Linking lives through time and space, *Progress in Human Geography*, 40(3), pp. 352–374.

- Crump, J. (2002) Deconcentration by demolition: Public housing, poverty, and urban policy, *Environment and Planning D: Society and Space*, 20(5), pp. 581–596.
- Dantzler, P. A. (2016). Temporary housing or permanent communities? The determinants of tenure among public housing residents. Doctoral dissertation. Rutgers University-Camden Graduate School.
- DeLuca, S. & Rosenbaum, J. E. (2003) If low-income blacks are given a chance to live in white neighborhoods, will they stay? Examining mobility patterns in a quasi-experimental program with administrative data, *Housing Policy Debate*, 14(3), pp. 305–345.
- Desmond, M. & Perkins, K. L. (2016) Are landlords overcharging housing voucher holders?, *City & Community*, 15(2), pp. 137–162.
- Dieleman, F. M., Clark, W. A. & Deurloo, M. C. (1989) A comparative view of housing choices in controlled and uncontrolled housing markets, *Urban Studies*, 26(5), pp. 457–468.
- Dieleman, F. M., Clark, W. A. & Deurloo, M. C. (1994) Tenure choice: Cross-sectional and longitudinal analyses, *Netherlands Journal of Housing and the Built Environment*, 9(3), pp. 229–246.
- Dychtwald, K., Erickson, T. J., & Morison, R. (2006). *Workforce crisis: How to beat the coming shortage of skills and talent*. Harvard Business Press.
- Earnhart, D. (2002) Combining revealed and stated data to examine housing decisions using discrete choice analysis, *Journal of Urban Economics*, 51(1), pp. 143–169.
- Fauth, R. C., Leventhal, T. & Brooks-Gunn, J. (2004) Short-term effects of moving from public housing in poor to middle-class neighborhoods on low-income, minority adults' outcomes, *Social Science & Medicine*, 59(11), pp. 2271–2284.
- Fitzgerald, J. (1991) Welfare durations and the marriage market: Evidence from the survey of income and program participation, *The Journal of Human Resources*, 26(3), pp. 545–561.
- Floor, H. & Van Kempen, R. (1997) Analysing housing preferences with decision plan nets, *Scandinavian Housing and Planning Research*, 14(1), pp. 27–42.
- Freeman, L. (1998) Interpreting the dynamics of public housing: Cultural and rational choice explanations, *Housing Policy Debate*, 9(2), pp. 323–353.
- Freeman, L. (2005) Does housing assistance lead to dependency? Evidence from HUD Administrative Data, *Cityscape*, pp. 115–133.
- Galster, G. & Zobel, A. (1998) Will dispersed housing programmes reduce social problems in the US?, *Housing Studies*, 13(5), pp. 605–622.
- Gans, H. J. (1997) Uses and misuses of concepts in American social science research: Variations on Loïc Wacquant's theme of 'Three Pernicious Premises in the Study of the American Ghetto', *International Journal of Urban and Regional Research*, 21(3), pp. 504–507.
- Goel, M., Khanna, P. & Kishore, J. (2010) Understanding survival analysis: Kaplan–Meier estimate, *International Journal of Ayurveda Research*, 1(4), p. 274.
- Goetz, E. G. (2010) Better neighborhoods, better outcomes? Explaining relocation outcomes in HOPE VI, *Cityscape*, pp. 5–31.
- Goetz, E. G. (2012) The transformation of public housing policy, 1985–2011, *Journal of the American Planning Association*, 78(4), pp. 452–463.
- Goetz, E. G. (2013) Too good to be true? The variable and contingent benefits of displacement and relocation among low-income public housing residents, *Housing Studies*, 28(2), pp. 235–252.
- de Groot, C., Mulder, C. H. & Manting, D. (2011) Intentions to move and actual moving behavior in The Netherlands, *Housing Studies*, 26(3), pp. 307–328.
- Harris, K. M. (1993) Work and welfare among single mothers in poverty, *American Journal of Sociology*, 99(2), pp. 317–352.
- Haurin, D. R., Hendershott, P. H., & Wachter, S. M. (1996). *Borrowing Constraints and the Tenure Choice of Young Households* (No. w5630). National Bureau of Economic Research.
- Henderson, A. S. (1995) "Tarred with The Exceptional Image": Public housing and popular discourse, 1950–1990, *American Studies*, 36(1), pp. 31–52.
- Hungerford, T. L. (1996) The dynamics of housing assistance spells, *Journal of Urban Economics*, 39(2), pp. 193–208.

- Ioannides, Y. M. & Rosenthal, S. S. (1994) Estimating the consumption and investment demands for housing and their effect on housing tenure status, *The Review of Economics and Statistics*, 76 pp. 127–141.
- Jacob, B. A. (2004) Public housing, housing vouchers, and student achievement: Evidence from public housing demolitions in Chicago, *The American Economic Review*, 94(1), pp. 233–258.
- Jencks, C. (1992) *Rethinking Social Policy: Race, Poverty, and the Underclass*, pp. 127–128. (Cambridge, MA: Harvard University Press).
- Kain, J. F. (1992) The spatial mismatch hypothesis: Three decades later, *Housing Policy Debate*, 3(2), pp. 371–460.
- Kan, K. (1999) Expected and unexpected residential mobility, *Journal of Urban Economics*, 45(1), pp. 72–96.
- Kleinhans, R. & Varady, D. (2011) Moving out and going down? A review of recent evidence on negative spillover effects of housing restructuring programmes in the United States and the Netherlands, *International Journal of Housing Policy*, 11(2), pp. 155–174.
- Kleit, R. G. & Manzo, L. C. (2006) To move or not to move: Relationships to place and relocation choices in HOPE VI, *Housing Policy Debate*, 17(2), pp. 271–308.
- Manzo, L. C. (2013) “We are the fruit bowl”: Place, cultural identity, and social ties among immigrant residents in public housing, in: Hou, J. (ed.) *Transcultural Cities: Border crossing and placemaking*, pp. 135–148. (London: Routledge).
- Manzo, L. C. (2014) On uncertain ground: being at home in the context of public housing redevelopment, *International Journal of Housing Policy*, 14(4), pp. 389–410.
- Manzo, L. C., Kleit, R. G. & Couch, D. (2008) “Moving three times is like having your house on fire once”: The experience of place and impending displacement among public housing residents, *Urban Studies*, 45(9), pp. 1855–1878.
- Massey, D. S. & Kanaiaupuni, S. M. (1993) Public housing and the concentration of poverty, *Social Science Quarterly*, 74(1), pp. 109–122.
- Morgan, J. N. & Smith, J. D. (1969). A Panel Study of Income Dynamics. Study Design, Procedures, and Forms (1968) Interviewing Year (Wave). (University of Michigan: Institute for Social Research).
- O’Neill, J. A., Bassi, L. J. & Wolf, D. A. (1987) The duration of welfare spells, *The Review of Economics and Statistics*, pp. 241–248.
- Oakley, D. & Burchfield, K. (2009) Out of the projects, still in the hood: The spatial constraints on public-housing residents’ relocation in Chicago, *Journal of Urban Affairs*, 31(5), pp. 589–614.
- Oakley, D., Ward, C., Reid, L. & Ruel, E. (2011) The Poverty Deconcentration Imperative and Public Housing Transformation, *Sociology Compass*, 5(9), pp. 824–833.
- Oakley, D., Ruel, E. & Reid, L. (2013) “It was really hard. It was alright. It was easy”. Public Housing Relocation Experiences and Destination Satisfaction in Atlanta, *Cityscape*, pp. 173–192.
- O’Neil, J. A., Bassi, L. J. & Wolf, D. A. (1987) The duration of welfare spells, *The Review of Economics and Statistics*, pp. 241–248.
- Popkin, S. J., Katz, B., Cunningham, M. K., Brown, K. D., Gustafson, J., & Turner, M. A. (2004). *A Decade of HOPE VI: Research Findings and Policy Challenges*. The Urban Institute.
- Popkin, S. J., Cunningham, M. K. & Burt, M. (2005) Public housing transformation and the hard-to-house, *Housing Policy Debate*, 16(1), pp. 1–24.
- Posthumus, H. & Kleinhans, R. (2014) Choice within limits: how the institutional context of forced relocation affects tenants’ housing searches and choice strategies, *Journal of Housing and the Built Environment*, 29(1), pp. 105–122.
- Rosen, H. S. (1979) Housing Decisions and the US Income Tax: An Econometric Analysis, *Journal of Public Economics*, 11(1), pp. 1–23.
- Rosenblatt, P. & DeLuca, S. (2012) “We Don’t Live Outside, We Live in Here”: Neighborhood and Residential Mobility Decisions Among Low-Income Families, *City & Community*, 11(3), pp. 254–284.
- Rossi, P. (1955) *Why Families Move: A Study in the Social Psychology of Urban Residential Mobility*. (New York, NY: Free Press).
- Rothenberg, J. (1991) *The maze of urban housing markets: Theory, evidence, and policy*. (Chicago, IL: University of Chicago Press).



- Ruel, E., Oakley, D. A., Ward, C., Alston, R. & Reid, L. W. (2013) Public housing relocations in Atlanta: Documenting residents' attitudes, concerns and experiences, *Cities*, 35, pp. 349–358.
- Shamsuddin, S. & Vale, L. J. (2017) Hoping for more: redeveloping US public housing without marginalizing low-income residents?, *Housing Studies*, 32(2), pp. 225–244.
- Simon, H. A. (1956) Rational choice and the structure of the environment, *Psychological Review*, 63(2), p. 129.
- Simon, H. A. (2000) Bounded rationality in social science: Today and tomorrow, *Mind & Society*, 1(1), pp. 25–39.
- Skobba, K. & Goetz, E. G. (2013) Mobility decisions of very low-income households, *Cityscape*, pp. 155–171.
- Susin, S. (1999). *Durations in Subsidized Housing*, working paper 99-5. New York University Center for Real Estate and Urban Policy.
- Tester, G., Ruel, E., Anderson, A., Reitzes, D. C. & Oakley, D. (2011) Sense of place among atlanta public housing residents, *Journal of Urban Health*, 88(3), pp. 436–453.
- Timmermans, H., Molin, E. & Van Noortwijk, L. (1994) Housing choice processes: Stated versus revealed modelling approaches, *Journal of Housing and the Built Environment*, 9(3), pp. 215–227.
- Toussaint-Comeau, M. & Rhine, S. L. (2004) Tenure Choice with Location Selection: The Case of Hispanic Neighborhoods in Chicago, *Contemporary Economic Policy*, 22(1), pp. 95–110.
- Treskon, M., & Pelletiere, D. (2004). *Up Against a Wall: Housing Affordability for Renters*. (National Low Income Housing Coalition).
- Turner, M. A., Struyk, R. J. & Yinger, J. (1991) *Housing discrimination study: Synthesis*. (Office of Policy Development and Research: US Dept. of Housing and Urban Development).
- Vale, L. J. (1997) Empathological places: Residents' ambivalence toward remaining in public housing, *Journal of Planning Education and Research*, 16(3), pp. 159–175.
- Venkatesh, S. A. (2009). *American project: The rise and fall of a modern ghetto*. (Cambridge, MA: Harvard University Press).
- Ward, D. (1989). *Poverty, Ethnicity and the American City, 1840-1925: Changing Conceptions of the Slum and Ghetto* (Vol. 13). (Cambridge: CUP Archive).
- Warner, C. & Sharp, G. (2016) The short- and long-term effects of life events on residential mobility, *Advances in Life Course Research*, 27, pp. 1–15.
- Wilson, W. J. (1987) *The truly disadvantaged: The inner city, the underclass, and public policy*. (Chicago, IL: University of Chicago Press).
- Wilson, W. J. (2011). *When work disappears: The world of the new urban poor*. (New York, NY: Vintage).