

Subsidized Housing and Neighborhood Racial Transition: An Empirical Investigation

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Abstract

Popular wisdom has it that the development of project-based assisted housing will cause whites to flee or avoid the surrounding neighborhood, leading to rapid racial transition. This article examines the question of whether the development of several types of project-based, federally assisted housing had an impact on neighborhood racial transition during the 1980s. In general, the development of assisted housing in a neighborhood did not lead to racial transition, nor did it approach levels suggesting “white flight” in the few instances where racial transition did occur.

The results of our analysis suggest that one of the major criticisms of project-based assisted housing—that it contributes to racial segregation by causing white flight—is not supported by empirical evidence.

Keywords: Low-income housing; Minorities; Neighborhood

Introduction

Among the many criticisms hurled at public housing is that its introduction into an all-white or integrated neighborhood will spur racial transition and lead to the eventual resegregation of that neighborhood. Juliet Saltman (1990) goes so far as to label public housing a “killer” variable that will destroy any effort to maintain racial integration in a neighborhood. Residents of neighborhoods targeted for public housing have also perceived it as a beachhead that would lead to an ensuing invasion of African Americans. Consequently, residents have often offered violent resistance when faced with the prospect of such developments in their neighborhood (Feld 1989; Hirsch 1983; Stern 1991). In other circumstances, as in the *Shannon v. HUD* and *King v. Harris* cases, residents have turned to the courts to halt development of public housing out of the same fear that it would upset the racial balance in the neighborhood and lead to racial transition (Vernarelli 1986). Thus, the popular and sometimes scholarly wisdom is that introducing public housing into a neighborhood will lead to racial transition and subsequent decline.

This article empirically examines the effect of federal, project-based housing assistance on racial transition during the 1980s. Included in this analysis are public housing developments; other types of U.S. Department of Housing and Urban Development (HUD)-assisted housing, including Section 236, Federal Housing Administration (FHA), and Section 8 New Construction; and Low-Income Housing Tax Credit (LIHTC) developments. Although much of the literature on this topic focuses on public housing, the impact of these other types of developments on racial transition is of interest as well. Because LIHTC is now the primary program offering project-based housing assistance, its effect on racial transition is especially pertinent.

In brief, our results indicate that there is no consistent relationship between assisted housing and racial transition in surrounding neighborhoods. Even assisted housing developments occupied primarily by families, which would be expected to spur racial transition more than those occupied by elderly people, did not trigger such an effect.

The remainder of this article describes the theoretical framework and the methodology for discerning the impact of assisted housing on neighborhood racial transition. The findings, as well as the policy implications that flow from those findings, are then discussed.

Background and theoretical framework

Ever since the inception of the public housing program in 1937, citizens, planners, policy makers, and social scientists have all been concerned about the potential impact of public and other subsidized housing on surrounding neighborhoods. Ironically, the original view was that public housing would have a *positive* impact on surrounding neighborhoods by replacing slums and introducing the hard-working, “deserving” poor into a neighborhood. The following quote from Congressman A. S. Mike Monroney illustrates this view:

I cannot quite agree with you that the cities or the municipalities are without benefits in this matter. One of the principal arguments, with which I go along, is that the establishment of a modern housing project in a city raises the assessed valuation for blocks around it and puts back onto the municipal tax rolls a great deal more money than is taken off. (quoted in Nourse 1963, 433)

During the 1950s, however, public housing came to be viewed as the housing of last resort for low-income African Americans, and as a result it became stigmatized (Bauman 1994). Perceptions of public housing’s impact on surrounding neighborhoods shifted markedly. The popular perception became that because the “undeserving poor” occupied public housing the surrounding neighborhood would be stigmatized, too.

Property values would then decline, whites would avoid the neighborhood, and African Americans and other minorities would move in. Although it was public housing that was originally stigmatized, other housing-assistance programs have not escaped stigmatization, as evidenced by neighborhoods' strong resistance to any type of low-income housing.

More formal explanations of why assisted housing might spur racial transition in a neighborhood can be gleaned from urban sociology literature. One explanation stems from the fact that residents of assisted housing, especially families, tend to be disproportionately minority and, among minorities, overwhelmingly African American (Casey 1992; Goering 1994). Consequently, the introduction of assisted housing into a neighborhood is often tantamount to the introduction of a sizable minority presence into that neighborhood.

The ecological model of invasion and succession first developed by sociologists of the Chicago school posits that when a lower-status group "invades" the neighborhood of a higher-status group, the latter will view this as a threat to their social status and flee, allowing the lower-class group to "succeed" it (Park 1936). This model has been a dominant paradigm in explaining neighborhood racial transition (Denton and Massey 1991; Duncan and Duncan 1957; Taeuber and Taeuber 1965; Temkin and Rohe 1996), although recent evidence suggests that the movement of a few African Americans into a neighborhood no longer inevitably leads to that neighborhood's becoming completely African American (Ellen 1998; Lee and Wood 1991). The invasion-succession model of neighborhood change is also applicable to Latinos moving into a neighborhood, but only when they are of low socioeconomic status (Massey and Bitterman 1985; Massey and Mullan 1984). Latinos living in assisted housing, however, are likely to be of low socioeconomic status. Therefore, the development of assisted housing, which is likely to be dominated by low-income African Americans or Latinos (Casey 1992; Sherwood 1995), could be expected to spur neighborhood racial transition.

A second reason that introducing assisted housing into a neighborhood might spur neighborhood racial transition is what Goldstein and Yancey (1986) term the "spillover effect," which is based on the notion that the social pathologies associated with assisted housing developments will not be contained by the boundaries of the developments themselves. Undergirding this view is the assumption that residents of assisted housing, especially those residing in public housing, are likely to be lazy, welfare-dependent, criminal, and otherwise less-than-desirable neighbors. Behind this stereotype is the commonly held view that any able-bodied nonelderly adult who is not self-supporting is somehow deficient. Able-bodied nonelderly adult recipients of public assistance, including housing assistance, are thus viewed by many

people as having some character flaw that brings about their poverty. Whether the social pathologies of the poor are symptoms of their poverty, the ultimate cause of it, or some combination of the two has been the subject of intense debate for centuries (Katz 1993). The causal mechanism of the poor's social pathologies, however, is likely to be of little concern to their potential neighbors.

Consequently, any neighborhood receiving assisted housing will become stigmatized and perceived as less desirable because of the problems spilling out from the developments. Place-stratification theory posits that minorities disproportionately occupy the least desirable locations in urban areas. Empirical evidence has also been consistent with this theory (Alba and Logan 1993; Freeman 2000; Logan 1978; Logan and Alba 1993). It is expected, then, that to the extent the stigma associated with assisted housing spills over and stigmatizes the surrounding neighborhood, racial transition would be likely to occur as whites flee or avoid these neighborhoods and minorities move in.

It should be noted that the increasing association between assisted housing and neighborhood racial transition in earlier years occurred against a backdrop of tremendous racial change in American cities in the post-World War II era, as millions of African Americans flocked from the South to the cities. This movement undoubtedly made observers more sensitive to any factors, real or imagined, that might contribute to neighborhood racial change. Whether those concerns are still valid today will be elucidated by the research presented here.

Prior evidence on the impact of assisted housing

Given popular conceptions about the impact of assisted housing on surrounding neighborhoods, it is not surprising that this issue has caught the attention of scholars. Previous research on assisted housing has addressed its impact on property values, on concentration of poverty, and on neighborhood racial transition.

A sizable body of research on the impact of assisted housing on property values has developed. The hypothesis tested in this research is that the negative externalities associated with assisted housing depress property values. However, the bulk of the evidence does not support the proposition that assisted housing lowers property values. In a review of 15 studies, Martinez (1988) found only one asserting that assisted housing "had an adverse effect on the values of adjacent non-subsidized housing" (i). Two other recent studies also failed to find a negative relationship between proximity to assisted housing and the value of surrounding property (Briggs, Darden, and Aidala 1999; Marous 1996). However, several recent studies found evidence

of a negative impact (Cummings and Landis 1993; Galster and Williams 1994; Goetz, Lam, and Heitlinger 1996; Lee, Culhane, and Wachter 1999), suggesting that under certain circumstances (which apparently are not very prevalent), assisted housing can have a negative impact on the surrounding neighborhood via real or perceived spillover effects.

Several authors have also looked at the effects of public housing on concentration of poverty (Carter, Schill, and Wachter 1998; Holloway et al. 1998; Massey and Kanaiaupuni 1993; Schill and Wachter 1995). The theory being tested in these studies is a variant of the spillover hypothesis described earlier, where not only do whites avoid neighborhoods with public housing, but nonpoor minority residents do as well. Massey and Kanaiaupuni (1993) analyzed the impact of public housing on the concentration of poverty in Chicago and found that the development of public housing in a neighborhood was associated with a higher poverty rate in subsequent years. They also report that a neighborhood's proximity to a public housing development was positively associated with its poverty rate. The causal direction of this association, however, is not clear.

Schill and Wachter (1995) examined the effect of public housing on neighborhood poverty in Philadelphia and found that higher concentrations of public housing in a neighborhood were positively related to poverty rates. Moreover, poverty rates decreased with distance from a large public housing development. In an extension of their earlier work, Carter, Schill, and Wachter (1998) examined the relationship between concentration of poverty and the presence of public housing in a neighborhood in four cities—Boston, Cleveland, Detroit, and Philadelphia. In each city, at least one of their measures of public housing had the expected sign and was statistically significant; they therefore concluded that public housing leads to more neighborhood poverty. Finally, Holloway et al. (1998) explored the effects of public housing on concentration of poverty in Columbus, OH. Although most of the models they used showed a positive and significant link between a neighborhood's poverty rate and both its proximity to public housing and the development of public housing there, the relationship was not statistically significant in several instances.

Particularly relevant to the research presented here are the studies that systematically examined the relationship between neighborhood racial transition and the siting of assisted housing. Goldstein and Yancey (1986) examined changes in the racial composition of Philadelphia census tracts from 1950 to 1980 to determine whether the development of public housing in a census tract had an impact on racial transition once the ecological characteristics of the tracts were held constant. The results of this study indicate that public housing had no such effect, leading Goldstein and Yancey to conclude that "except for the very small effect of scattered site location on concen-

trations of blacks in 1980, we find virtually no evidence...that the location of public housing in a neighborhood stigmatized the neighborhood so as to produce white flight or black-invasion succession" (283).

Galster and Keeney (1993) examined the relationship between changes in the racial composition of census tracts on Yonkers, NY, and the development of public housing in those census tracts. They found some evidence that the development of public housing in Yonkers neighborhoods during the 1970s increased the percentage of African Americans in those neighborhoods, but the impact was relatively small—an additional 100 units of family public housing were associated with a 1.6 percent increase in the percentage of African Americans in the surrounding neighborhood.

In another study of Yonkers, Briggs, Darden, and Aidala (1999) analyzed the impact of public housing developments on whites' fear of racial tipping and plans to move out of the surrounding neighborhood. They reported that "white homeowners living near [public housing] were not particularly concerned about racial tipping of their neighborhoods, nor were they more likely than their counterparts citywide to have plans to move" (41).

Saltman (1990) employed a case study approach to examine the success of neighborhood integration maintenance programs in several cities. All of the neighborhoods that had public housing were unsuccessful in maintaining racial integration, leading her to label public housing a "killer" of integration. But it is not clear that public housing caused the neighborhoods to "tip" and become completely African American, or whether in these cases public housing was being developed in neighborhoods that were undergoing racial transition anyway. Furthermore, communities that implement neighborhood integration programs are rare and probably not representative. The anomalous nature of the neighborhoods in Saltman's study, in addition to the small number of cases, limits the extent to which her findings can be generalized to other neighborhoods.

The evidence on the effect of assisted housing on neighborhood racial transition is therefore inconclusive. Saltman's (1990) declaration that public housing kills neighborhood integration is based on only a few examples of neighborhoods with public housing, making her findings less than compelling. The Goldstein and Yancey (1986) and Galster and Keeney (1993) studies are contradictory in the sense that the former found no impact on neighborhood racial transition, whereas the latter found a small effect. But again, these findings are limited to only two cities. Moreover, all of these studies focused solely on public housing to the exclusion of other types of assisted housing. Although these other types do not have the same notoriety as public housing, they also serve a poor and disproportionately minority clientele and thus might also be expected to spur neighborhood racial transition.

Data and methods

We designed the present study to address some of the limitations in previous research and to broaden the types of assisted housing being considered. To increase the external validity of the results, we developed a data set that contains pertinent information on all census tracts in metropolitan statistical areas throughout the country. To broaden the types of assisted housing considered, we also obtained information on the construction of five separate types of assisted housing built during the 1980s: public housing; other HUD housing, including FHA, Section 236, and Section 8 New Construction; and LIHTC developments. Moreover, for both public and other HUD housing, we can identify developments that are occupied by elderly people. This is important, as neighborhood residents may react differently to this kind of assisted housing. Finally, we adopted a pretest/posttest quasi-control group research design that allows us to specify the causal direction of any relationships.

The methodology we employed to discern the impact of assisted housing on neighborhood racial transition was to compare racial transition in neighborhoods that did not receive assisted housing during the 1980s with racial transition in neighborhoods that did.¹ Neighborhood racial transition is measured as the change in the proportion of non-Hispanic whites between 1980 and 1990.² Census tracts are used as proxies for neighborhoods, although the amorphous nature of neighborhood definitions are unlikely to be coterminous with census tract boundaries. Census tracts are the only geographic entities, however, that approach the scale of a neighborhood and for which data are available. A tract is defined as receiving assisted housing if public housing, Section 8 New Construction, Section 236, or LIHTC developments were completed there between January 1, 1980, and December 31, 1990.³

¹ Reasoning that size of the assisted housing development might be important, we also used propensity methods to compare racial transition between neighborhoods that did not receive any assisted housing, neighborhoods that received 1 to 50 units of assisted housing, and neighborhoods that received more than 50 units of assisted housing. The results of a three-way analysis of variance suggested that little racial transition arose from the development of assisted housing, regardless of size. This is similar to the results that will be presented later in this article. Hence, we do not present the results of the three-way analysis of variance.

² Several different measures of “white flight” were used, including whether there was a percent change in the total white population, whether a neighborhood lost any whites, and whether a neighborhood lost 5 percent or more of its white population. The general pattern of results was robust across all three specifications of racial transition.

³ One of the reviewers suggested that racial transition might occur only after developments have been in place for a while. To test this hypothesis, we separately examined the impact of those developments finished between 1980 and 1985. The overall patterns were similar to the analysis that included developments finished throughout the decade. This is not surprising, since the bulk of the assisted housing development activity (excluding LIHTC activity) occurred in the first half of the 1980s, before cutbacks by the Reagan administration had a chance to affect the pipeline.

Simply comparing racial transition in neighborhoods that received assisted housing with those that did not would not be valid because of the nonrandom way assisted housing is developed in metropolitan areas. As Freeman and Rohe (1998) have shown, neighborhoods with certain social and demographic characteristics are more likely to receive assisted housing than others. Because neighborhoods that receive assisted housing may be more or less likely to experience neighborhood racial transition even without the presence of this housing, the likelihood of a neighborhood's receiving assisted housing needs to be controlled for when analyzing the impact of such housing on racial transition.

In this study, we used propensity methods to create statistically equivalent "treatment" and "control" groups (neighborhoods that did and did not receive assisted housing, respectively). We used multiple regression models to predict the probability of a neighborhood's receiving a specific type of assisted housing between 1980 and 1990. A list of the variables included in these models, along with their anticipated effects on the likelihood of a neighborhood's receiving assisted housing, are presented in table 1.

The choice of variables used in the propensity models was guided by political economy of race and urban ecological theory. The political economy of race thesis posits that neighborhoods that wield little political power will be the recipients of unwanted land uses such as assisted housing. In urban America, this has typically been synonymous with poor, minority neighborhoods (Goldstein and Yancey 1986). Urban ecology theory suggests that assisted housing developments will be sited in older inner-city neighborhoods where land is cheaper and more likely to be vacant and public services and infrastructure are more accessible (Goldstein and Yancey 1986; Taeuber and Taeuber 1965). Thus, our propensity models attempted to operationalize these theories.⁴

Models were estimated first for all assisted housing developments and then separately for public housing, LIHTC developments, and all other HUD-assisted housing.⁵ The neighborhoods in the sample were then divided into quintiles ranging from those with a very high probability of receiving assisted housing to those with a very low probability of receiving assisted housing. Dividing the sample into five subclasses based on this probability controls for the covariates that went

⁴ The operationalization of these concepts and the results of the models that were estimated to obtain probabilities of each neighborhood's receiving each type of assisted housing are available from the first author on request.

⁵ All other HUD-assisted housing was aggregated into one category because the numbers of FHA and Section 236 developments were small and because including them with public housing would ignore the unique notoriety surrounding public housing.

Table 1. Variables Used in Propensity Models

Variable	Anticipated Effect on Likelihood of Receiving Assisted Housing
Distance to cbd* 2.5–5 miles	Negative
Distance to cbd 5–10 miles	Negative
Distance to cbd 10–25 miles	Negative
Distance to cbd 25–50 miles	Negative
Percent African American	Positive
Percent African American squared	Ambiguous
African-American poverty rate	Positive
Distance to African-American tract 2.5–5 miles	Negative
Distance to African-American tract 5–10 miles	Negative
Distance to African-American tract 10–25 miles	Negative
Distance to African-American tract greater than 50 miles	Negative
Percent Latino	Positive
Percent Latino squared	Ambiguous
Latino poverty rate	Positive
Distance to Latino tract 2.5–5 miles	Negative
Distance to Latino tract 5–10 miles	Negative
Distance to Latino tract 10–25 miles	Negative
Distance to Latino tract greater than 50 miles	Negative
Percent Asian	Ambiguous
Percentage of housing built before 1950	Positive
Percentage of housing built before 1970	Positive
Percentage in poverty	Positive
Ratio of tract median house price to metropolitan area median house price	Negative
Percentage of vacant units	Positive
Percentage of single-family owner-occupied units	Positive
Median household income	Negative
Number of public housing units in 1980	Positive
Other HUD housing units in 1980	Positive
Northeast region	Ambiguous
Midwest region	Ambiguous
West region	Ambiguous

Note: Distances of 0–2.5 miles serve as a reference category.

* Central business district.

into estimating the probability scores (Rubin 1997; Smith 1997). Within each subclass, we can then compare racial transition in the neighborhoods that received assisted housing with those that did not, having controlled for all the observable differences between them.

Within each of the five subclasses, the neighborhoods that received assisted housing are the same as those that did not in the sense that they were equally likely to receive assisted housing on the basis of the characteristics contained in the models. This mimics the effect that would have been achieved if neighborhoods in 1980 could somehow have been randomly assigned to groups that received assisted housing over the ensuing decade and those that did not. This allows us to rule out any observed differences between the two types of

neighborhoods as the cause of differences in racial transition and to attribute any differences to the development of assisted housing.⁶

Data

Data for this study are drawn from HUD's 1997 Picture of Subsidized Households (PSH), which contains information on public housing, Section 236, Section 8 New Construction, FHA, and LIHTC developments. The 1990 census tract of each development is contained in the PSH, along with demographic information on the occupants as of 1996. HUD provided a separate data set of all relevant developments completed during the study period. The census tract information in the PSH allows these data to be linked with census information from 1980 and 1990. The 1980 census tracts in all metropolitan areas were linked to 1990 census tracts to allow the calculation of racial transition in the 1980s. Eliminated from the analysis were tracts that had boundary changes affecting more than 2.5 percent of the population between 1980 and 1990 and those that had institutionalized populations in excess of 15 percent of the total population. The resulting data set had 30,345 tracts, of which 1,963 received LIHTC developments, 968 received public housing, and 2,709 received Section 236, Section 8 New Construction, or FHA housing developments between 1980 and 1990.⁷

Table 2 shows the average number of units developed in each neighborhood, by type of development. The last column illustrates the per-

⁶ To ensure comparability between neighborhoods that received assisted housing and those that did not, a difference of means test was conducted on the propensity scores. Within each of the five subclasses for each type of assisted housing, there were no statistically significant differences, meaning that there is evidence that the neighborhoods receiving assisted housing are different from those not receiving it in terms of the covariates included in the models that predicted where assisted housing was built.

Propensity methods are preferred to regression models because they make explicit the comparability between the assisted housing neighborhoods and the non-assisted housing neighborhoods. If the characteristics of both types of neighborhoods do not overlap on the confounding factors, there are no statistical methods that would allow one to estimate the impact of assisted housing on neighborhood racial transition. In the case of propensity methods, this would be obvious because the two groups would have nonoverlapping propensity scores. By contrast, there is nothing in the traditional regression approach that would alert one to this problem. This is especially true considering the fact that the overlap must occur in a multidimensional sense, rather than in just one dimension associated with one variable.

⁷ A total of 18 percent of public housing, 2 percent of Section 8, 11 percent of Section 236, 1 percent of FHA, and 6 percent of LIHTC developments in the PSH database did not have census tract identification information. To the extent that this missing tract information is not randomly distributed throughout the PSH data, the estimates of the impact of assisted housing on neighborhood racial transition may be biased.

centage of the new assisted housing units in the neighborhood. The figures suggest that, on average, assisted housing units added relatively little to the existing housing stock. Typically, assisted housing units developed between 1980 and 1990 represented only 5 percent of the total housing stock in each neighborhood.

Table 2. Average Number of Units Built per Tract in Tracts That Received Developments, 1980 to 1990

Type of Housing	Average	Standard Deviation	Percentage of the Total Units in the Tract
All assisted housing	80	118	5
Public housing	16	91	1
LIHTC	19	54	1.2
Other HUD	46	69	2.8
Family public housing	12	90	0.8
Family other HUD	22	52	1.3

Table 3 illustrates the differences between the quintiles of neighborhoods on several key variables for assisted housing in general and for each of the different types of assisted housing separately. As can be seen from the table, as the probability of receiving the different types of assisted housing increases, the percent minority and percent below the poverty level increase, while the value of owner-occupied housing and median neighborhood income decrease. This table echoes the findings of Freeman and Rohe (1998), who showed that assisted housing built in the 1980s was more likely to be built in poorer, minority neighborhoods.

Findings

The first panel of table 4 illustrates the impact of all types of assisted housing built between 1980 and 1990 on the change in the proportion of white residents during that same time period. In general, neighborhoods receiving assisted housing did not show a consistent pattern of experiencing greater racial transition than neighborhoods that did not. In all five quintiles, the differences in racial transition are negligible and do not approach conventional levels of statistical significance. Overall, the findings suggest that assisted housing does not usually precipitate racial transition.

We now turn our attention to examining the impact of specific types of assisted housing on neighborhood racial transition. Among the housing assistance programs, public housing and family public housing, in particular, have received the most notoriety.

Table 3. Characteristics of Tracts by Probability of Receiving Assisted Housing

Probability of Receiving a Type of Assisted Housing	Number of Developments	Percent African American	Percent Latino	Mean Price of Owner-Occupied Housing (\$)	Poverty Rate (Percent)	Median Income (\$)
All assisted housing						
Very low	355	2	4	227,995	4	31,347
Low	616	3	6	135,162	7	27,652
Medium	916	6	7	102,674	10	28,230
High	1,249	18	10	69,831	16	25,107
Very high	1,874	47	12	35,219	29	14,705
Public housing						
Very low	44	3	4	216,890	5	33,803
Low	129	6	4	128,968	7	29,180
Medium	173	10	6	96,407	11	26,752
High	231	24	9	75,526	16	21,137
Very high	391	32	15	53,105	25	16,189
LIHTC housing						
Very low	62	2	4	227,676	4	31,502
Low	129	3	6	135,535	7	26,903
Medium	280	6	9	98,670	11	25,805
High	536	16	11	68,150	16	23,820
Very high	956	47	9	40,877	27	19,012
Other HUD housing						
Very low	228	3	5	214,730	5	30,222
Low	346	5	6	142,544	8	30,367
Medium	491	10	7	105,069	10	28,572
High	629	19	10	71,741	15	22,386
Very high	1,015	37	12	36,830	26	15,494

The second panel of table 4 shows the impact of public housing built between 1980 and 1990 on the rate of racial transition in neighborhoods during the 1980s. Little evidence suggests that public housing is responsible for neighborhood racial transition. Indeed, in the medium probability subclass, neighborhoods that received public housing actually had a significantly *smaller* loss in the percent white in their population than neighborhoods that did not. Thus, the public housing developments built during the 1980s do not appear to have had an impact on neighborhood racial transition.

The third panel of table 4 illustrates the impact of LIHTC developments completed during the 1980s on neighborhood racial transition during that period. Significant differences in neighborhood racial transition were observed in both very high and high probability of receiving LIHTC neighborhood subclasses. In the high subclass, neighborhoods that received LIHTC developments saw their proportion of whites decline by 1 percentage point more than their respective counterparts

Table 4. Impact of Assisted Housing on White Population Change

Probability of Receiving a Type of Assisted Housing	Average Change in Percent White in Assisted Housing Neighborhoods*	Average Change in Percent White in Non-Assisted Housing Neighborhoods*	P Value for Difference of Means T-Test
All assisted housing units			
Very low	-4.7% (355)	-4.8% (5,714)	0.77
Low	-5.9% (616)	-5.7% (5,453)	0.58
Medium	-6.1% (916)	-6.2% (5,153)	0.70
High	-6.8% (1,249)	-6.5% (4,832)	0.33
Very high	-4.9% (1,874)	-4.8% (4,195)	0.84
Public housing			
Very low	-6.5% (44)	-4.9% (6,026)	0.17
Low	-4.7% (129)	-4.9% (5,938)	0.85
Medium	-4.3% (173)	-5.8% (5,895)	0.04
High	-6.4% (231)	-6.7% (5,837)	0.58
Very high	-5.8% (391)	-5.9% (5,678)	0.77
LIHTC housing			
Very low	-4.3% (62)	-4.9% (6,007)	0.43
Low	-6.8% (129)	-6.4% (5,940)	0.69
Medium	-7.4% (280)	-6.6% (5,788)	0.22
High	-6.9% (536)	-5.9% (5,533)	0.04
Very high	-5.2% (956)	-4.4% (5,113)	0.01
Other HUD housing			
Very low	-4.5% (228)	-4.9% (5,841)	0.48
Low	-4.5% (346)	-4.6% (5,723)	0.78
Medium	-5.7% (491)	-6.0% (5,578)	0.36
High	-7.0% (629)	-7.1% (5,440)	0.79
Very high	-5.1% (1,015)	-5.8% (5,054)	0.08

* Numbers in parentheses indicate the number of tracts.

that did not receive such developments. This difference was significant at the 99 percent level of confidence. In the very high subclass, neighborhoods where LIHTC developments were built lost 0.8 percentage points more of their white population than similar neighborhoods that did not receive these developments. This suggests that neighborhoods in the high and very high subclasses are susceptible to LIHTC-induced racial transition, although the size of the impact is quite small.

The last panel of table 4 shows the racial transition in neighborhoods that received other HUD-assisted housing compared with those that did not. In this case, there was only one instance where a statistically significant difference in racial transition was found. But in this instance, the very high probability quintile, neighborhoods where other HUD-assisted housing was built experienced a *smaller* decline in their white population than corresponding neighborhoods in the same subclass. Thus, there is virtually no evidence that other HUD housing built during the 1980s encouraged racial transition.

So far we have not observed any pattern of precipitous declines in white population that could be attributed to the development of assisted housing. In most instances, there were no significant impacts, and in the few cases where impacts were observed, the differences were very small. But we have yet to examine the impact of the subset of assisted housing most associated with precipitating neighborhood racial transition—family assisted housing. As noted earlier, the spillover hypothesis is based on the premise that assisted housing residents are part of the undeserving poor, whose pathological behavior is responsible for their plight and who are viewed as a threat to neighborhood stability. Elderly residents of assisted housing do not share this stigma, since they are often seen as part of the deserving poor. Likewise, invasion-succession is less likely to occur in the case of elderly assisted housing, because it is more likely to be occupied by whites. Consequently, assisted housing developments occupied primarily by elderly people should be less likely to cause neighborhood racial transition, whereas assisted housing occupied primarily by families may be more likely to do so.

To examine whether neighborhood racial transition is more likely to be triggered by the development of family-occupied assisted housing, we again employed propensity methods to estimate the probability of each neighborhood's receiving each of the following: elderly public housing, family public housing, elderly other HUD housing, and family other HUD housing.⁸ For each of the respective types of assisted housing, the neighborhoods are divided into quintiles based on their probability of receiving a specific type of assisted housing. However, for the sake of brevity and because both theory and policy concerns point to the putative impacts of family assisted housing as the major concern, we present only the results of family public housing and family other HUD housing on neighborhood racial transition.⁹

⁸ The PSH contains age profiles of all public housing and other HUD housing developments. However, demographic information is not available for LIHTC developments, precluding their inclusion in this part of the analysis. The age information on the PSH, however, is for 1997. We make the assumption that the age profile of assisted housing residents in 1997 reflects whether the development was targeted toward families or the elderly when it was first completed in the 1980s. The PSH also contains information on the racial and ethnic makeup of tenants in 1997 that we could have used to divide assisted housing into minority and nonminority developments as we did for elderly housing. But changes in the racial composition of a neighborhood by 1997 may have affected the racial composition of the assisted housing developments in that neighborhood. Thus, it would be impossible to disentangle whether the racial composition of assisted housing was influencing the surrounding neighborhood or the other way around. Elderly assisted housing developments typically have admission criteria limiting them to elderly people and consequently are unlikely to undergo dramatic changes in their age composition regardless of what is happening in the surrounding neighborhood.

⁹ It should be noted that neither elderly public housing nor elderly other HUD housing was found to spur neighborhood racial transition. These results are available from the authors upon request.

The top panel of table 5 illustrates several key characteristics of the neighborhoods by their likelihood of receiving family public housing. Poorer minority neighborhoods are much more likely to receive family public housing. If race and economic status did not play an important role in determining whether a neighborhood received family public housing, then these characteristics would be similar among the different subclasses. The fact that they are so different echoes Freeman and Rohe's (1998) findings, which showed that neighborhood racial composition and socioeconomic status were important predictors of where family public housing was built during the 1980s.

Table 5. Characteristics of Tracts by Probability of Receiving Family Assisted Housing

Probability of Receiving a Type of Assisted Housing	Number of Developments	Percent African American	Percent Latino	Mean Price of Owner-Occupied Housing (\$)	Poverty Rate (Percent)	Median Income (\$)
Family public housing						
Very low	30	3	4	210,164	5	32,190
Low	93	4	4	123,886	7	28,620
Medium	117	9	6	96,023	11	27,369
High	178	25	9	82,403	17	21,876
Very high	351	33	16	58,439	25	16,991
Family other HUD housing						
Very low	89	2	4	209,853	5	29,225
Low	176	4	5	141,513	7	29,159
Medium	272	8	7	104,047	10	28,076
High	371	19	9	75,993	15	24,032
Very high	709	41	13	39,478	26	16,549

A similar pattern emerges when examining the poverty and racial characteristics of various subclasses for family other HUD housing, as shown in the bottom panel of table 5. The proportions that are minority and impoverished are substantially higher in neighborhoods most likely to receive other HUD housing. Again, this reflects the degree to which family other HUD housing is targeted toward poor minority neighborhoods.

The impact of family public housing on neighborhood racial transition, shown in the top panel of table 6, differs little from the overall pattern for all types of public housing. In none of the subclasses did neighborhoods that received family public housing lose a significantly greater proportion of their white population than neighborhoods that did not. Thus, even the most notorious type of assisted housing, family public housing, does not appear to spur neighborhood racial transition.

In sum, when all public housing developments were analyzed, there was no evidence that public housing induced neighborhood racial

Table 6. Impact of Family Assisted Housing on White Population Change

Probability of Receiving a Type of Assisted Housing	Average Change in Percent White in Assisted Housing Neighborhoods*	Average Change in Percent White in Non-Assisted Housing Neighborhoods*	P Value for Difference of Means T-Test
Family public housing			
Very low	-6.4% (30)	-4.9% (6,039)	0.29
Low	-4.7% (93)	-5.0% (5,974)	0.77
Medium	-5.0% (117)	-5.7% (5,950)	0.53
High	-6.7% (178)	-6.9% (5,891)	0.78
Very high	-5.9% (351)	-8.8% (5,718)	0.88
Family other HUD housing			
Very low	-4.1% (89)	-4.6% (5,981)	0.59
Low	-4.9% (176)	-5.0% (5,891)	0.85
Medium	-6.7% (272)	-6.1% (5,797)	0.21
High	-6.3% (371)	-6.9% (5,698)	0.28
Very high	-5.4% (709)	-5.6% (5,360)	0.57

* Numbers in parentheses indicate the number of tracts.

transition, and this pattern persists when the focus is exclusively on family public housing. These findings are inconsistent with the invasion-succession and spillover hypotheses, which predict that family public housing causes greater neighborhood racial transition because of the greater stigma attached to poor families.

Turning to other HUD family housing, the results reported in the bottom panel of table 6 show that its placement in a neighborhood does not affect neighborhood racial transition. In none of the subclasses was there a significant difference in racial transition between neighborhoods that received other HUD family housing and those that did not. Again, this finding runs counter to both the spillover and invasion-succession theories, which suggest that more pronounced impacts should be found when the focus is on family other HUD housing as opposed to other HUD housing in general.

The results presented here lead us to conclude that the assisted housing developed during the 1980s generally does not appear to have precipitated important neighborhood racial transition. There were a few instances where evidence suggests that assisted housing caused the proportion of whites in a neighborhood to decrease, but the size of the impact was small. It is true that if mostly whites inhabited assisted housing, they could offset racial transition in a neighborhood. Although the demographic makeup of LIHTC developments is unknown, the makeup of other types of assisted housing examined in this article is disproportionately minority. Thus, it seems unlikely that white occupants of assisted housing developments are completely offsetting the loss of the white population in the surrounding neighborhood.

The loss of whites in most neighborhoods in the sample during the 1980s reflects the general movement of this population toward the outer fringes of metropolitan areas.¹⁰ Whites are leaving the core areas for a number of reasons, but the development of assisted housing in their neighborhoods does not usually seem to be one of them.

Discussion

The spillover hypothesis posits that because assisted housing residents are often perceived to be part of the undeserving poor, their entry into a neighborhood will spur neighborhood racial transition. Likewise, the invasion-succession model suggests that because assisted housing residents are likely to be African American or Latino, this too will serve to spur neighborhood racial transition. The evidence presented in this article, however, is generally inconsistent with these predictions. Neighborhoods receiving assisted housing did not evince a consistent pattern of more racial transition than those that did not. Moreover, when the impacts of elderly and family-assisted housing on neighborhood racial transition are analyzed separately, family-assisted housing did not have a more pronounced impact.

The only clear instances of racial transition caused by assisted housing were in neighborhoods with a high or very high likelihood of receiving LIHTC developments. But even here, impacts were relatively small. The high and very high probability LIHTC neighborhoods had decreases in the proportion of white residents in their neighborhoods that were 1 and 1.2 percentage points higher, respectively, than corresponding neighborhoods in their respective subclasses. (See table 4.) These modest impacts would hardly seem indicative of massive racial transition where neighborhoods turn over rapidly.

Thus, it appears that assisted housing, as it was developed during the 1980s, does not usually cause neighborhood racial transition. Aside from Saltman's study, there is little evidence to support the spillover thesis or the invasion-succession model, which appear to rest on a very thin foundation of empirical evidence where assisted housing is concerned.

Our data do not address the pre-1980 relationships between the placement of assisted housing and neighborhood racial transition. But even if public and other types of assisted housing deserved a reputation for spurring racial transition in the past, assisted housing programs and American culture have changed in ways that may have

¹⁰ The sample of census tracts is restricted to those present in both 1980 and 1990. Consequently, newly tracted metropolitan areas in 1990, which are among those most likely to have gained whites, are excluded from the analysis.

reduced the likelihood of its occurring in the 1980s. For one thing, the tower-in-the-park design, which many public housing developments built in the 1950s and 1960s reflected, had fallen out of favor by the 1980s (Plunz 1990). This style of public housing has long been criticized for isolating residents from surrounding neighborhoods, stigmatizing the residents, and rendering the developments less manageable (Bauman 1994). All of these characteristics could amplify any spillover effect that might have occurred.

Public and other assisted housing developments developed in the 1980s were more likely to blend into the surrounding neighborhood. They were built on a smaller scale and in many instances were more esthetically pleasing. This style of housing could be taken as a harbinger of neighborhood reinvestment, which could encourage some whites to stay in these neighborhoods or to move into them. Indeed, some researchers have speculated that good design, in part, can dampen the impact of assisted housing on property values and, presumably, neighborhood racial transition as well (Briggs, Darden, and Aidala 1999; Cummings and Landis 1993; Marous 1996). Moreover, as shown in table 2, assisted housing units developed during the 1980s typically were only a small portion of the total housing stock, lending credence to the notion that they blended more easily into their surroundings.

The lack of a relationship between assisted housing and neighborhood racial transition may also reflect increasing tolerance among whites for interracial living. Stable, racially integrated neighborhoods are more common now than in the past (Ellen 1998; Nyden, Maly, and Lukehart 1997; Wood and Lee 1991). Moreover, surveys of whites' attitudes toward integrated housing generally show increasing tolerance for integrated neighborhoods (Farley et al. 1978, 1993; Mayer 1992). Perhaps whites are now more tolerant of having a small number of minorities move into their neighborhood.

One might argue that assisted housing takes longer to affect racial transition. The observation period in this study covered 10 years, but in many instances the time frame was considerably shorter. Whites wanting to avoid or flee neighborhoods receiving assisted housing, however, would have had information on the pending development of assisted housing well before its completion date. Thus, the window of observation is longer than it appears. In addition, as we described in an earlier footnote, when the analysis was restricted to developments completed between 1980 and 1985, the effects were not more pronounced. Moreover, prior studies of racial transition suggest that it is a fairly rapid process and can usually be captured with the analysis of interdecadal censuses (Denton and Massey 1991; Duncan and Duncan 1957; Galster 1990; Lee and Wood 1991; Taeuber and Taeuber 1965; White 1984; Wurdock 1981).

The lack of evidence supporting the spillover or invasion-succession theories may also be related to some unobserved characteristics of neighborhoods that were not captured in the propensity models. Although an attempt is made to predict the likelihood of certain neighborhoods' receiving assisted housing, this effort is limited by the variables available in census data. It is possible that some omitted factor, such as residents' perception of assisted housing, is not captured in the propensity models but still plays an important role in determining whether a neighborhood receives assisted housing. In this case, the neighborhoods in the subclasses would be similar on the characteristics included in the models but different in their perceptions of assisted housing. If the residents of neighborhoods that did not receive assisted housing have a relatively negative view of it and were able to keep it out of their neighborhood while those that did receive it held a more benign view, then it would not be surprising that assisted housing appeared to have little impact on neighborhood racial transition. Although possible, it seems unlikely that such an attitudinal factor would be uncorrelated with any of the variables included in the propensity models.

Policy implications

Although project-based assisted housing has fallen out of favor among policy makers, the LIHTC program continues to fund the development of numerous affordable housing units. Stegman (1997) suggests that the "Low-Income Housing Tax Credit is the most important resource for creating affordable housing in the United States today." Moreover, although project-based assisted housing is not fashionable, future changes in the housing market, the economy, or the political climate may one day return this kind of assisted housing to the forefront of our nation's low-income-housing policy.

On the basis of our results, the notion that public and other forms of assisted housing are killer variables that automatically lead to neighborhood racial transition should be laid to rest. Those who struggle to increase the housing options of the poor may be relieved to learn that the development of assisted housing does not generally lead to neighborhood racial transition. The evidence compiled here may serve as a tool to combat the forces of NIMBYism ("Not in My Backyard"-ism) that preclude the development of assisted housing in many neighborhoods. This evidence, in conjunction with other studies that more often than not found little evidence that assisted housing had a negative impact on property values, should help calm the fears of those who resist the development of assisted housing in their neighborhood. The lesson to be learned from this and other studies appears to be that assisted housing can be developed without leading to detrimental impacts on the surrounding community or racial transition.

If the more palatable designs of assisted housing built during the 1980s are indeed partially responsible for the lack of correlation between assisted housing and neighborhood racial transition, then it appears that these design changes were wise. This also implies that future developments should be designed with the surrounding communities in mind. Anything that serves to integrate assisted housing into the surrounding neighborhoods may reduce many of the negative externalities associated with it. The findings presented here are certainly not definitive, but they do suggest that more research should be undertaken to determine whether the design of assisted housing influences its impact on surrounding neighborhoods.

Our findings also suggest that assisted housing developments have the potential to promote racial and economic integration. Although assisted housing is still targeted toward low-income minority communities, a substantial number of nonpoor, majority-white communities received assisted housing during the 1980s. More important, these neighborhoods usually did not experience significantly greater neighborhood racial transition as a result. At least in these neighborhoods, assisted housing may be fostering racial integration that might not have occurred otherwise. The same may be true for economic integration, although the evidence is less certain since our analysis did not measure the impact on neighborhood income levels. But if the impact of assisted housing on economic integration mirrors its effect on neighborhood racial transition, then we can expect little in the way of impact on neighborhood income levels. This would mean that the residents of assisted housing, in some instances, have the opportunity to live in middle-income communities. Although the desirability of fostering racial and income integration is subject to debate, to the extent that policy makers wish to pursue either goal, the evidence presented here suggests that project-based assisted housing can be one tool to achieve that end. Of course, there may be some instances or specific developments where assisted housing developments did indeed cause neighborhood racial transition. But the findings presented here shift the burden of proof to those who claim that assisted housing automatically leads to neighborhood racial transition.

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