Subsidized Housing and Neighborhood Impacts: A Theoretical Discussion and Review of the Evidence

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Subsidized Housing and Neighborhood Impacts: A Theoretical Discussion and Review of the Evidence

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This review evaluates the perception that subsidized housing results in negative neighborhood impacts by considering four commonly studied putative impacts of subsidized housing location: property values, racial transition, poverty concentration, and crime. The authors assess theoretical and methodological bases for discerning impacts and determine which study results inspire confidence. Research reveals a relationship between the presence of subsidized housing and both property values and crime in certain circumstances, with both positive and negative impacts, and suggests that the presence of subsidized housing does not lead to racial transition. Research on the impact of subsidized housing on poverty concentration is too flawed methodologically to permit conclusions. Future research must, among other steps, control for variability of impacts across types of neighborhoods, use data that distinguish between residents of subsidized and nonsubsidized housing, and take into account changing attitudes as well as the context in which housing is proposed.

Few proposed land uses raise the ire of neighbors as much as subsidized housing.[1] The pariah-like status of subsidized housing stems from American attitudes toward race, class, and poverty. These cultural perceptions manifest themselves in concern that subsidized housing will harm property values, encourage white flight, cause poverty concentration, and increase crime rates in surrounding neighborhoods.

These perceptions about the effects of subsidized housing on neighborhoods have provided raw material for some of the great planning stories of the second half of the twentieth century, including the classic Myerson and Banfield (1955) study of how public housing sites were chosen in Chicago; Mario Cuomo's (1974) gripping depiction of community resistance to public hous-

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ing in Forest Hills, New York; and the notorious case of Yonkers, New York, where the judicial branch had to force the local government to build subsidized housing outside of the ghetto. Chicago dramatically reduced its efforts to build public housing once a court ordered that the housing authority no longer could build in existing segregated neighborhoods. Perceptions of subsidized housing have had profound implications on where the housing could be built.

Although project-based subsidized housing has fallen out of favor among policymakers, the Low Income Housing Tax Credit (LIHTC) continues to fund development of numerous affordable housing units. Although project-based subsidized housing currently is not fashionable, future changes in the housing market, the economy, or the political climate may return project-based subsidized housing to the forefront of our nation's low-income housing policy. In addition, tenant-based subsidized housing in the form of Section 8 rental subsidies has also met the type of resistance described above (Husock 2000). Thus, affordable housing and its potential impacts on surrounding neighborhoods still are relevant to planners and policymakers.

Is the hysteria that often surrounds a proposal to develop subsidized housing in a neighborhood warranted? Most of the criticisms of subsidized housing are based on easily quantifiable concepts—developments depress property values or lead to white flight, for example. Unlike many of the "wicked" problems that vex planners, this might be a question for which social science can provide an answer. This review attempts to do that, by evaluating the existing social science evidence on the impacts of subsidized housing on surrounding neighborhoods.

Most often, subsidized housing has been described as affecting neighborhoods in four related but conceptually distinct ways. One is that it will have a negative impact on property values. A second is that its placement in a neighborhood will lead to racial transition from a population that is primarily white to one that is primarily minority. A third criticism is that it will lead to increased poverty concentration in surrounding neighborhoods. A final criticism is that subsidized housing serves as a base for criminal activity that spreads into the surrounding community.[2]

The review is organized around the four most common impacts suggested in the literature: property values, racial transition, poverty concentration, and crime. We begin by discussing why subsidized housing might have an impact on surrounding neighborhoods and then delineate how these impacts might manifest themselves through effects on property values, racial transition, poverty concentration, and crime. For each of the putative effects of subsidized housing on surrounding neighborhoods, we assess the theoretical basis for these impacts and consider the methodological issues faced in discerning these impacts. As with much nonexperimental social science research, the most vexing problem is designing methods that can satisfactorily answer the question at hand. Thus, after laying out the criteria necessary for establishing confidence in research results, this review considers which studies meet these criteria and then assesses the general pattern of results in these studies. We conclude with a discussion of the implications for planning and policy.

SUBSIDIZED HOUSING AND NEIGHBORHOOD IMPACTS

Why should subsidized housing be expected to have any type of impact on a given neighborhood? If we view a neighborhood as a complex bundle of interrelated attributes that together determine its overall character, the answer to this question becomes clear. A neighborhood's location, its socioeconomic characteristics, its housing stock, and other factors together determine its character. Housing, like other land uses, therefore must have some impact on the surrounding neighborhood. Moreover, different types of housing are expected to affect neighborhoods differently, as evidenced by the existence of different types of zoning for different residential uses. The question boils down to whether subsidized housing affects surrounding neighborhoods differently than other types of housing.

Subsidized housing might be expected to have a differential effect on surrounding neighborhoods to the extent that it is different from other types of housing. If it were the same as other types of housing, there would be no reason to suspect such a differential impact. The physical attributes of subsidized housing need not be distinctive, although they often are, fitting the stereotype of high-rise, monolithic towers. When subsidized housing is built, it is targeted for what might be considered the just-above-average quality niche, although subsidized housing is notorious for becoming substandard over time. What makes subsidized housing distinctive from other housing, however, is that it is occupied by a low-income clientele that normally would not be able to afford it. We contend that these two factors, that the housing serves those who otherwise could not afford it and that the occupants are poor, are the source of much of the negative impressions regarding subsidized housing's impact on surrounding neighborhoods.

To fully appreciate how these two factors might cause subsidized housing to impinge on the surrounding neighborhood, we must consider how individuals who are poor and in need of public assistance are viewed in the United States. The American ethos views suspiciously able-bodied nonelderly adults who are not

self-supporting and assumes them to have some character flaw (Katz 1993). Why else would they need a handout in this land of opportunity? The replacement of the Aid to Families with Dependent Children program with the Temporary Assistance for Needy Families program illustrates this ideology. Recipients face time limits and usually are forced to work in exchange for benefits. These policies assume that welfare recipients prefer to be on the dole and need to be prodded to get off. Subsidized housing, which provides assistance to similar low-income households, also is stigmatized in the public imagination (Williamson 1974). Consequently, nonelderly tenants of subsidized housing are seen as part of what Katz (1986) refers to as the nondeserving poor and often are perceived to be lazy, prone to crime, and generally undesirable as neighbors.

Racial prejudice also informs prevailing views of poverty and plays a role in stigmatizing subsidized housing. African Americans are viewed as having less of a work ethic and as more willing to rely on public assistance (Schuman 1985). Consequently, the black and to a lesser extent Latino poor stand as representatives of the undeserving poor. Scholars have shown that perceptions of who is deserving and not deserving often are seen through the prism of race, with the nonwhite poor, and especially the black poor, viewed with suspicion (Quadagno 1994). The concept of an "undeserving poor" provides a convenient explanation for the plight of many nonwhites: if only "they" conformed to societal norms, they would be able to escape their impoverished condition. Because nonwhites and especially African Americans are overrepresented in subsidized housing (Casey 1992), these racially based stereotypes often are attached to residents of subsidized housing.

The nondeserving poor's undesirability as neighbors is established further because one's home, including its neighborhood characteristics, is a key marker of social status in America. Exclusivity is a key determinant of a neighborhood's perceived status. Because where one lives influences where one goes to school, the types of people one interacts with, and the types of jobs available, neighborhoods represent a major component of the opportunity structure for children and to a lesser extent adults (Galster and Killen 1995). Living in a desirable and exclusive neighborhood signals that one has arrived and is at the top of the class hierarchy. Raising one's children there increases their chances of staying at the top as well. Thus, having low-income neighbors, and particularly ones perceived as beset with social problems, does little to enhance one's social status and leads to the presumption that subsidized housing has detrimental impacts on surrounding neighborhoods.

This circumstance suggests what is unique about subsidized housing that might cause it to have a differential impact than nonsubsidized housing. Subsidized housing typically is built at just-above-standard quality and is occupied by poor households that often are viewed with suspicion. Discrepancies between the physical quality of subsidized housing and the quality of the surrounding neighborhood, as well as discrepancies between the social status of the tenants of subsidized housing and their surrounding neighbors, might cause the presence of subsidized housing to have a negative impact on surrounding neighborhoods. The fact that subsidized housing is typically rental, is perceived to deteriorate in quality, and has an overrepresentation of blacks and very low-income residents among its tenants also may have implications for impacts on surrounding neighborhoods. These impacts stem from majority-biased assumptions about neighborhood racial composition and low-income people that, while distressing in a broader social policy context, nonetheless have potential for significant impacts on neighborhoods where subsidized housing is introduced. These tenant characteristics, of course, are not unique to subsidized housing but should be considered.

A final consideration is whether, to the extent that the presence of subsidized housing has an impact on neighborhoods, it is a linear relationship. Or, is there some threshold below which subsidized housing units have an innocuous effect, but above which not in my backyard (NIMBY) fears of neighborhood change are justified? Theory is somewhat unclear on this matter.

As the discussion above makes clear, it is the difference between subsidized housing and the surrounding housing that is the source of the putative negative impacts of subsidized housing on surrounding neighborhoods. These negative impacts typically are thought to be on property values, racial transition, poverty concentration, and crime.

Anticipated Impacts on Neighborhood Property Values

We start by discussing how subsidized housing might be expected to affect property values, the most commonly studied outcome. To illustrate how subsidized housing might be anticipated to affect property values, we use a simplified three-quality submarket approach akin to that used by Rothenberg and Galster (1991), but the general argument can be extended to any number of quality submarkets. The three types of submarkets are rich, middle-class, and poor. There are also three types of households: rich, middle-class, and poor. Higher status neighborhoods have higher quality housing. We assume that social problems are perceived to be negatively correlated with social class. We also

assume that subsidized housing typically is occupied by poor residents and is of middle-class quality, although this last assumption is purely for the purposes of illustration. The context-dependent nature of impacts due to subsidized housing applies regardless of the quality of the subsidized housing.

The scenario of subsidized housing located in rich neighborhoods is where we might expect the most significant impacts. In rich submarkets, one would expect the quality of subsidized housing to have a deleterious impact on property values, both because the subsidized housing will be of lower quality than surrounding housing and because the tenants of subsidized housing or recipients of tenant-based assistance will be of lower social status and probably of a different race. If the residents are not viewed as part of the undeserving poor, because, for example, they are elderly, the social status of the occupants may not have much impact on property values. Nevertheless, the discrepancy in physical qualities between subsidized housing and luxury housing suggests that there should be a negative impact.

In the medium-quality market, the expected impacts are more ambiguous. If we assume subsidized housing is built at the medium-quality level, the impact of the physical attributes should be neutral. The perceived impacts of the occupants themselves are likely to be negative, particularly if the occupants are of a different race, unless the occupants are deemed to be part of the deserving poor, such as the elders. In such a case, where, for example, an elderly development is built in a middle-niche market, there should be no effect on property values that could be attributed specifically to subsidized housing.

The case of subsidized housing built in the low-quality market also represents an ambiguous case, with the ambiguity again hinging on the putative character defects of tenants of subsidized housing. If we continue to assume that subsidized housing is built at medium quality, it would be expected that it would have a positive impact in low-quality neighborhoods, as it would be of higher quality than surrounding housing. The impacts of the tenants themselves, however, are less clear. The deserving and white poor, such as the elderly, would not be expected to have much of an impact. But even if the tenants are not part of the deserving poor, it still is not clear that their presence would be expected to adversely affect the surrounding property values, for their neighbors are likely to be of similar social status. The very act of receiving public housing assistance might be put forth by some as the demarcation line between the deserving and undeserving poor, however, suggesting that tenants of subsidized housing still would have a negative impact on surrounding properties. But the poor in the surrounding neighborhoods could be receiving other types of public assistance or could be on a waiting list to receive housing assistance, thus blurring even that distinction. Therefore, we can conclude only that the physical characteristics of subsidized housing in the low-quality market should have a positive impact on property values and the tenants themselves most likely a neutral effect.

The above discussion assumes that buyers and sellers in the housing market will have information regarding the presence of subsidized housing in a neighborhood. Sometimes, as in the stereotypical public housing style in the form of high-rise super blocks, this will certainly be true. In certain circumstances, if the subsidized housing has neither distinctive architecture nor residents who are visibly different from their neighbors, and especially if it is tenant based, this may not be the case. The distinctiveness of the design of subsidized housing thus could be of import in determining how subsidized housing affects surrounding property values and whether impacts of tenant-based subsidized housing might be different.

Anticipated Impacts on Neighborhood Poverty Concentration

Declines in property values, if severe enough, also could induce changes in a neighborhood's socioeconomic profile. If subsidized housing property values declined enough to become affordable, more poor households might move into the neighborhood, resulting in another putative effect that subsidized housing has on surrounding neighborhoods—poverty concentration.

The direct effects are self-evident: because it is targeted toward the poor and is geographically circumscribed, subsidized housing concentrates the poor. Because the direct impacts on poverty concentration are beyond dispute, this review will focus on the evidence concerning the indirect effects of subsidized housing on poverty concentration.

In addition to making it easier for low-income households to move into a neighborhood via its dampening effect on property values, by stigmatizing the surrounding neighborhood, subsidized housing could also affect poverty concentration in an indirect fashion. The indirect effects are based on the notion that the negative stereotypes associated with subsidized housing "spill over" into the surrounding neighborhoods, causing nonpoor residents to leave or avoid the neighborhood. This impact leaves behind only the more disadvantaged segments of society and results in increased poverty concentration in the neighborhood surrounding the subsidized housing development.

Adherents to political economy of place theory predict the stigmatization of a neighborhood due to the presence of subsidized housing. This theory views the

metropolis as a hierarchy of places ordered in their desirability and the quality of life they provide for their inhabitants (Logan 1978). Dominant groups, such as whites, occupy the desirable places and use their political power to relegate less powerful groups, such as blacks or Latinos, to less desirable areas. The presence of subsidized residents, because of the stigma attached to them, is perceived to make surrounding neighborhoods less desirable. Therefore, it would be expected that lower status minority groups would take up residence around subsidized housing. Goldstein and Yancey (1986) termed this process the "spillover effect." Because project-based subsidized housing is more visible than tenant-based subsidized housing, the former may create greater stigma and consequently larger impacts on neighborhood racial transition.

Besides altering the residential choices of individuals in the surrounding neighborhood, subsidized housing also may concentrate poverty through what are called neighborhood or contagion effects (Crane 1991). Popularized by Wilson (1987), the *neighborhood* effects thesis suggests that individual behaviors will be influenced by the actions and attitudes of individuals in the surrounding neighborhood. Although the social science evidence on neighborhood effects is hardly definitive, mounting evidence supports the notion that having poor neighbors can have a deleterious impact on one's life chances (Brewster et al. 1993; Brooks-Gunn et al. 1993; Ellen and Turner 1997). Life chances of individuals living in neighborhoods surrounding subsidized housing, accordingly, might be adversely affected by the presence of subsidized housing. If one rejects the notion that residents of subsidized housing behave dysfunctionally, it still is likely that they might not be able to provide access to resources or networks that would help their neighbors find employment or advance economically. Under either scenario, the first where residents of subsidized housing serve as bad role models or the second where residents of subsidized housing fail to provide access to employment and resource networks that more affluent neighbors would, the neighborhood effects would operate to increase the likelihood that individuals living in the surrounding neighborhood would slip into or remain in poverty. The neighborhood effects thesis does not suggest any differential impact between project-based and tenant-based assisted housing.

Anticipated Impacts on Neighborhood Racial Transition

Because of the strong correlation between race and income, with blacks and Latinos being poorer on average than whites, a scenario in which subsidized housing increases poverty concentration also might lead to increases in racial transition from white to nonwhite. The claim is that the presence of subsidized housing will cause whites to flee and avoid neighborhoods where subsidized housing is located. Such racial transition is perceived consistently as a negative result, because of both racist attitudes and concerns about property value impacts discussed above. Drawing on literature from urban sociology, two reasons can be posited for expecting the development of subsidized housing to spur neighborhood racial transition. The first, political economy of place, discussed above, explains how a neighborhood stigmatized by the presence of subsidized housing would be avoided by whites. The second explanation stems from the fact that residents of subsidized housing, especially families, tend to be disproportionately minority and, among minorities, overwhelmingly black (Casey 1992; Goering 1994). Consequently, the introduction of subsidized housing into a neighborhood often introduces a sizable minority presence.

The ecological model, which is the dominant paradigm regarding explanations of neighborhood racial transition, suggests that the "invasion" of a lower status group will cause the higher status group to leave and avoid moving into that neighborhood (Park 1936). According to the ecological school, one would expect the introduction of subsidized housing, when its residents are low-income blacks or Latinos, to cause whites to leave and avoid that neighborhood. Although the predictive power of this model as applied to black-white neighborhood racial transition was very accurate in earlier years (Duncan and Duncan 1957; Taeuber and Taeuber 1965), recent evidence suggests that the movement of a few blacks into a neighborhood no longer inevitably leads to that neighborhood becoming all black (Lee and Wood 1991; Ellen 1998). Nevertheless, to the extent the invasion-succession model has any veracity, the presence of subsidized housing with low-income blacks seems to be the type of catalyst to cause invasion-succession to occur.

The ecologically based invasion-succession model of neighborhood change also has been shown to apply to the case of Latinos moving into a neighborhood, but only when the invading Latinos are of low socioeconomic status (Massey and Mullan 1984; Massey and Bitterman 1985). Since Latinos living in subsidized housing are likely to be poor, this model would be applicable to subsidized housing occupied by Latinos as well as African Americans.

Under both the political-economy-of-place and ecological theses, the extent to which the racial composition of tenants of subsidized housing differs from that of the surrounding neighbors and is predominantly nonwhite should be an important moderating factor. If

the neighborhood is predominantly nonwhite, whites are likely to avoid it regardless of additional stigmatization due to subsidized housing. Likewise, if the residents of the subsidized housing are predominantly white, the neighborhood may be stigmatized less and there would be no "invaders" of a different race or ethnicity. If the neighborhood is predominantly white, subsidized housing, unless very large, would probably not be enough to "tip" the neighborhood to a nonwhite majority. Scenarios where neighborhoods are mixed and residents of subsidized housing are predominantly nonwhite are where we might expect the largest impacts on racial transition.

Thus far, the discussion of neighborhood transition has assumed it is always from white to black or another minority group. But what of the reverse? Does the presence of subsidized housing in a neighborhood dampen prospects for whites displacing blacks or other minorities, often in the form of gentrification? Gentrification is positively correlated with neighborhood amenities such as location or architecture, and assuming that subsidized housing is a disamenity, it would deter minority-to-white racial transition. In addition, subsidized housing protects low-income residents from displacement, thus further deterring gentrification.

Anticipated Impacts on Neighborhood Crime

Subsidized housing also has been linked to increases in crime in surrounding neighborhoods (Farley 1982; Roncek, Bell, and Francik 1981). The presence of subsidized housing might be expected to cause crime to the extent that it attracts criminals from other neighborhoods who then prey on the surrounding neighborhood, causes neighbors of subsidized housing to commit more crime, or that residents of subsidized housing commit crimes in the surrounding neighborhoods. The demographic characteristics of subsidized housing suggest crime could be more or less prevalent. Groups that are disproportionately involved in street crime, such as poor blacks, poor Latinos, and the poor generally, also are represented disproportionately in family subsidized housing (Messner and Golden 1992; Sampson and Wilson 1995). On the other hand, subsidized housing is dominated by women and the elders, and both groups are known to have a much lower propensity to be involved in crime, although subsidized housing also has a high proportion of youth. Although the women who are the leaseholders in subsidized housing units may be unlikely to engage in criminal activity, their husbands, boyfriends, sons, and brothers have a profile—poor minority men—that is associated with street crime. Consequently, there may be reason to suspect increased crime due to the unofficial residents of family subsidized housing and/or the types of people known by residents of family subsidized housing.

The physical design of some project-based subsidized developments, specifically the tower-in-the-park variety, has come under heavy criticism for being conducive to crime (Newman 1973). This argument centers on crime *within* the development, not the surrounding community. It seems plausible, however, that those high levels of crime within project-based subsidized housing could spill over into the surrounding neighborhood, although an alternative argument would be that physical design would serve to reduce crime in the surrounding neighborhood by drawing it into the subsidized housing project. Furthermore, to the extent that subsidized housing is set apart physically from the surrounding community, criminals might be tempted to see subsidized housing developments as safe havens from the police. Consequently, there are at least two plausible reasons why subsidized housing might contribute to crime in surrounding neighborhoods: the disadvantaged status of the clientele and, in the case of project-based subsidized housing, its physical design.

Tenant-Based Housing Assistance

The shift in federal policy away from project-based housing assistance during the past couple of decades has not been accompanied by any shift in how people view subsidized housing in terms of its impacts on property values. As evinced by the controversy surrounding the locating of Section 8 tenants in middle-class or predominantly white neighborhoods in Baltimore and Philadelphia, for example, subsidized housing, whether project based or tenant based, is unwanted in many neighborhoods, since both types of housing lead to the introduction of the same type of tenants (Carson 1995; Glover 1998). In the case of tenant-based subsidized housing, the discrepancy between the social status of the tenants of subsidized housing and that of their surrounding neighbors might be expected to affect property values. The units occupied by the recipients of housing assistance will already exist in the neighborhood, and therefore the effects of the buildings' physical characteristics on the surrounding neighborhood are independent of whether they are occupied by Section 8 residents. But because tenant-based assistance programs allow low-income recipients to occupy housing they could not otherwise afford, the beneficiaries of these programs sometimes wind up in higher status neighborhoods than they would without assistance. In that way, tenant-based housing assistance programs could have an impact on the surrounding neighborhood in terms of property values, poverty concentration, racial transition, and crime. For the reasons discussed previously, differences in social status between

recipients of tenant-based housing assistance and residents of the surrounding neighborhood would be the primary factor that could lead to changes in the surrounding neighborhood.

Even more so than was the case for subsidized housing units, tenant-based housing assistance probably would not be expected to affect surrounding neighborhoods in a linear fashion. To the extent that subsidized tenants do affect property values, one hardly would expect this effect to manifest itself with one or two tenants.

With regard to poverty concentration and racial transition, tenant-based housing assistance would only seem to be relevant if there were a large concentration of such recipients. As the ecological school points to the characteristics of the "invaders" as the precipitator of neighborhood change, for example, it should matter little whether the subsidized housing is project based or tenant based in terms of its impact on racial transition.

Under certain circumstances, tenant-based housing assistance could have an impact on property values by providing incentives for landlords to upgrade the physical characteristics of their buildings to meet the Department of Housing and Urban Development's (HUD) Housing Quality Standards. If landlords of low-quality buildings behaved this way, tenant-based housing assistance would be expected to have a positive impact on surrounding neighborhoods, particularly in low-quality niche neighborhoods. Alternatively, the guaranteed stream of income attached to tenant-based housing assistance might discourage some landlords from evicting less desirable tenants, especially in neighborhoods with a weak demand for housing. Tenant-based housing assistance thus might disproportionately draw problem tenants to an area and could negatively affect property values in the surrounding neighborhood.

While the lower social class of tenant-based housing assistance recipients might be expected to lower property values in high- and medium-quality markets, such an effect would not necessarily be expected in lower quality markets, as discussed above. Moreover, the effects on landlord behavior described in the preceding paragraph also suggest that the anticipated impacts in low-quality neighborhoods are ambiguous. Consequently, it is important to consider how impacts might vary across neighborhoods of differing socioeconomic status.

To summarize, it is the extent to which subsidized housing is different, and is perceived to be so, from other housing in the neighborhood that will cause its presence to affect the surrounding neighborhood. The theoretical discussion in this section makes clear that the expected impacts of subsidized housing are context dependent. This has important implications for both the methods for discerning these impacts and interpreting the findings across a range of studies and settings, as will be shown below.

METHODOLOGICAL CONCERNS

One common approach for detecting impacts of subsidized housing on surrounding neighborhoods is to compare outcomes such as crime or property values with such outcomes in a similar neighborhood that does not have subsidized housing. The problem is finding a neighborhood that is truly the same except for the presence of subsidized housing. Not only are subsidized housing units not randomly distributed, but there is a tendency for them to be targeted toward neighborhoods with the lowest property values and the highest concentrations of poverty and nonwhites (Rohe and Freeman 2001).

A more sophisticated approach for discerning the impacts of subsidized housing is to use regression models to control statistically for differences between neighborhoods. Using regression models, the dependent variable is the outcome of interest, such as property values or crime; the independent variable is the presence of subsidized housing in a neighborhood; and the control variables are housing and neighborhood characteristics that also might affect the outcome variable of interest. Using regression equations, this approach looks for a statistically significant and substantively large coefficient for the subsidized housing indicator to suggest the impacts of the presence of subsidized housing on the outcome variable of interest in a particular area. In the property values literature, these approaches are known as hedonic models. These models assume that the price of housing can be partitioned into the various physical and environmental characteristics of a unit, including the presence of subsidized housing.

In general, the regression model approach makes sense, given that experiments that randomly assign subsidized housing to different neighborhoods are nonexistent. But two potentially thorny problems need to be addressed in order for a study employing this method to produce compelling evidence. First, as noted above, subsidized housing frequently is targeted to poorer neighborhoods, which often have the least costly land and offer the least political resistance. We would expect property values in these neighborhoods to be lower or to appreciate more slowly, increases in poverty concentration and racial transition to occur more frequently, and crime to be higher. Consequently, researchers analyzing the impact of subsidized housing on property values must control for this situation, and most of the regression models in the literature include a number of neighborhood characteristics to do so. It is

questionable, however, that the regression models fully capture all of the characteristics of a neighborhood that are associated with a particular outcome such as property values or crime or that the models capture the direction of the outcome variable of interest over time in a particular neighborhood. That said, it is important not to focus unnecessarily on the notion of selective siting of subsidized housing as something that cannot be approximated in statistical models.

The second major concern was alluded to in the theoretical discussion. Because the key factor that determines how neighborhoods might be affected by subsidized housing is the extent to which it differs from the neighborhood, studies must take this into consideration if different types of neighborhoods are included in the analysis. Otherwise, the varying impacts across different types of neighborhoods may be masked by a cross-neighborhood average. This is especially true for studies on property values and racial-transition impacts. For both of these outcomes, theory explicitly predicts that neighborhoods will react to subsidized housing more quickly under certain circumstances: in the case of property values, reaction is expected if the subsidized housing is of substantially different quality, and in the case of racial transition, reaction is predicted for neighborhoods that are in the nebulous "tipping" zone.

Methodological concerns for detecting the impact of tenant-based subsidized housing mirror those described above for project-based subsidized housing. Although not as concentrated in poor minority neighborhoods as project-based subsidized housing, recipients of tenant-based housing assistance still are not evenly distributed throughout cities, and their location is related to factors that affect property values and other outcomes of interest. Therefore, attempts must be made to control for the possibility of tenant-based housing recipients locating in certain types of neighborhoods.

A final methodological concern is related to the nature of the census data that are typically used to study the impact of subsidized housing on poverty concentration and racial transition. Census data available at the neighborhood or tract level make no distinction between residents of subsidized housing and private-market residents. Therefore, it is impossible to distinguish between changes in characteristics of the residents of subsidized housing and changes occurring in the surrounding neighborhood when relying solely on census data. This limitation is especially problematic for studies on poverty concentration, as changes in poverty concentration may reflect not only poor residents replacing nonpoor residents in subsidized housing but also the residents themselves becoming poorer over time. When considering racial transition, the census data limitation presumably is less of a problem since tenants' racial characteristics are fixed. A study that convincingly attempts to document the impact of subsidized housing on poverty concentration therefore must account for the fact that subsidized housing is targeted toward neighborhoods susceptible to poverty concentration and also the possibility that levels of poverty within the developments may change.

THE EVIDENCE

In considering the evidence, this review focuses on whether the studies have the methodological rigor to inspire confidence in their results. If so, we consider the context under which effects do or do not manifest themselves. Because few of the studies explicitly consider either how design might matter or test for the possibility of threshold effects, the importance of these factors will be discussed only when considered in the studies. We discuss the evidence on the impacts of subsidized housing on property values, poverty concentration, racial transition, and crime separately.

Evidence of Impact on Property Values

As mentioned earlier, finding a suitable control neighborhood presents one of the major obstacles to discerning the impacts of subsidized housing siting on property values. Some studies have used the surrounding geographic area as a control neighborhood. DeSalvo (1974) used this approach comparing the impact of subsidized middle-income Mitchell Lama housing on property values to their respective New York City boroughs.[3] Rabiega et al. (1984) compared sales prices in neighborhoods where public housing developments were built with sales prices in the surrounding county. Chandler et al. (1993) used larger "strategic planning areas" as comparisons to the census tracts where subsidized housing developments were built.

Because Mitchell Lama housing is targeted to moderate to middle-income households, a negative impact would not be expected unless it was built in a high-quality niche. DeSalvo did analyze impacts separately by quality niche, allowing for the possibility of differential impacts across neighborhood types. Thus, the findings of DeSalvo's study are consistent with theory in that no negative impacts were found and that there were positive impacts in two middle-quality niche neighborhoods. Contrary to theory, Rabiega et al. also found a positive impact in several instances, which is unexpected since all of the neighborhoods in the study appeared to be middle-income. Chandler et al. did not find measurable differences in changes in property values between the census tracts and larger strategic plan-

ning areas, but because their analysis did not distinguish between different quality niches, it is unclear if this result masks varying impacts across different types of neighborhoods.

Whatever the anticipated impacts of the subsidized housing studied in DeSalvo (1974), Chandler et al. (1993), and Rabiega et al. (1984), however, their methods were fatally flawed. Comparing the study neighborhoods to their surrounding counties or other larger areas would likely bias the results in the direction of detecting no impacts. Consequently, the results of DeSalvo (1974), Rabiega et al. (1984), and Chandler et al. (1993) must be heavily discounted.

A number of early studies attempt to select control neighborhoods in a less than rigorous fashion, choosing nearby neighborhoods that simply appear to have similar characteristics. Schafer (1972), Babb et al. (1984), and MaRous (1996) all employed this approach. Neither the Schafer nor the MaRous studies provide any evidence on the quality of the match. Were these the closest matches based on the authors' judgments? Were the control neighborhoods virtually identical to the subsidized housing neighborhoods? Were they the closest matches to the subsidized housing neighborhoods yet still somewhat different? Babb et al. present data on the median sales prices of control and study neighborhoods, but it is not clear whether the two groups are on different trajectories or if they differ on other important characteristics that might affect property values.

Schafer (1972), Babb et al. (1984), and MaRous (1996) found no impacts associated with the location of subsidized housing. In the Schafer study, this result might not have been surprising because Schafer suggests that the subsidized residents are not very different from their surrounding neighbors in terms of race or class. The Babb et al. study leaves unclear whether impacts should have been expected in some neighborhoods but not others since the analysis combined neighborhoods from different socioeconomic strata. MaRous attributes the lack of impacts to the superior design of the subsidized housing. These studies also fail to shed any light on the possibility of impacts occurring beyond certain size thresholds. Although the unanswered questions regarding the comparability of the control neighborhoods to the study neighborhoods cast doubt on the veracity of Schafer's, Babb et al.'s, and MaRous's findings, the most likely bias resulting from these flaws would be in favor of detecting impacts, the opposite of the results here.

Nourse (1963) and Puryear (1989) employed a systematic selection of control neighborhoods. The authors chose control neighborhoods that were statistically similar on a number of important variables that might be expected to confound the relationship between property values and the location of subsidized housing. Both studies also considered the possibility that otherwise similar neighborhoods could be on different trajectories in terms of property values by including before and after comparisons.

Nourse (1963) examined property values in the two- to three-block areas around eight subsidized housing developments in St. Louis. Nourse computed price indexes for properties in a range of twenty-two years, through a regression model computed a series of yearly indexes representing weighted averages of all sales, and then divided the series by a building cost index to account for inflation. The results showed no difference in price trends between the areas around the subsidized housing and the control areas, save for one year in one area, when the index for the public housing area was less than that for its control area. To determine whether the price indexes may have masked improvements made to properties in particular neighborhoods, Nourse analyzed building permits for a sample of properties located in each study neighborhood. He found no statistically significant difference in the value of improvements made between sales in the public housing areas and the control areas.

Puryear (1989) looked at the effect of scattered site public housing (SSPH) on housing prices in Charlotte, North Carolina. The four neighborhoods analyzed were a working-class one with a substantial minority presence, two predominantly white middle-income neighborhoods, and a white affluent neighborhood. Therefore, a significant negative impact on sales prices might be expected in at least three of these neighborhoods.

Puryear (1989) regressed sales prices on distance to SSPH having controlled for house size, lot size, unit age, inflation, and the number of sales in the neighborhood. These controls, however, may be insufficient to capture differences in housing characteristics between the experimental and control neighborhoods. To control for the possibility that the neighborhoods and not the SSPH units themselves may have had a negative impact on sales prices, Puryear used separate regression models for three periods: four to five years before construction, the two years surrounding the opening of the development, and five to seven years after construction. Differences suggesting that the presence of SSPH units led to an impact on housing prices were not found in any of the four neighborhoods.

Both studies represent an improvement over ad hoc methods for selecting control neighborhoods. Moreover, by conducting separate analyses for each neighborhood in their analysis, Nourse and Puryear assure it is unlikely that different types of impacts would be swamped by impacts of an opposing nature in different neighborhoods. The major shortcoming of these studies

is the limited information regarding the characteristics of the properties that were sold, which precludes ruling out the possibility that the properties in the experimental neighborhoods were systematically different from the properties in the nonexperimental neighborhoods. Hedonic methods represent an improvement in addressing this shortcoming, as will be shown below.

The Chicago metropolitan area was the setting for Warren et al.'s (1983) analysis of the impact of public housing, Section 221-d3, Section 236, and Section 8 housing on property values. Warren et al. employed a three-pronged approach. In their first approach, they regressed the percentage of housing in a tract that was subsidized on census-based property values and found subsidized housing to have negative impacts on property values in twelve instances out of fifteen regression models estimated. However, the aggregate property values provided in the census do not distinguish between subsidized housing and private properties, so this analysis is based on an ecological fallacy. Moreover, their failure to control for the possibility of subsidized housing targeted to neighborhoods with low or declining property values inspires little confidence in this result.

In the second phase of their analysis, Warren and her colleagues (1983) analyzed the impacts of the presence of subsidized housing on gross rents, repeating the methodology they used for discerning impacts on property values, but without stratification for suburban or central city location. Besides suffering from the same methodological flaws as their property values analysis, this approach suffers from an additional and perhaps more fatal flaw. Because the gross rents reported in the census include the artificially low rents paid in subsidized housing, there is no way to determine how much of the impact on gross rents is due to the lower rents in subsidized housing or the impacts on rents in the surrounding neighborhood. Therefore, the negative impacts that were found by the authors are likely to be the result of bias caused by the inclusion of subsidized housing in the analysis.

In the final phase of their analysis, Warren et al. (1983) focused on four subsidized housing developments to determine if there were impacts on property values using sales data. Unlike their other approaches, Warren and her colleagues made some attempt here to select similar control neighborhoods for comparison. Only anecdotal information, however, is provided to ascertain the similarities of the study and control neighborhoods, precluding an assessment of whether or not Warren and her colleagues successfully controlled for the targeting problem. According to the data listed in the report, three of the study neighborhoods are solidly middle-income with similar property values, incomes, and poverty rates as the suburbs as a whole. The location of subsidized housing in these three neighborhoods most likely would be expected to have a negative impact because of the socioeconomic discrepancy between the tenants of the subsidized housing and their surrounding neighbors.

In one area no impact was found, and in a second area, there was a temporary decline in sales prices after the construction of the subsidized developments even though it was predominantly elderly and thus representative of the "deserving poor." In a third area, sales prices were higher and growing faster in the study area prior to the construction of the subsidized housing, but the same thereafter. Warren et al. (1983) interpret this result to mean that the presence of the subsidized housing had no impact on property values, but a more plausible explanation is that the subsidized housing *did* have a negative impact, as evidenced by formerly higher property values now being the same. The final study area was considered by local officials to be a blighted area that was slated for urban renewal and indeed appears to be relatively poorer than the city of Chicago as a whole. Consequently, the subsidized housing would be expected to have a positive impact on property values in this area, and this was the case.

In sum, of the nine studies using matched neighborhoods or an ad hoc approach to test for the impacts of subsidized housing on property values, seven were methodologically flawed, one had mixed results, and one found no impacts. Moreover, none considered the possibility that the presence of subsidized housing might have an impact on property values in a nonlinear fashion, and only one took design into consideration as an important determinant of property values. This is not enough evidence to draw definitive conclusions.

THE HEDONIC APPROACHES

Short of a randomized experiment, hedonic methods probably offer the best techniques for sorting out the impacts of subsidized housing on property values, because they attempt to account explicitly for all of the determinants of property values. In contrast with other multivariate methods, they seek to capture all locational and physical characteristics that researchers determine to affect price. If the study areas encompass neighborhoods of differing quality niches, however, stratification by quality niche is still warranted. Several of the hedonic-based approaches, including Goetz et al. (1996) and Lee et al. (1999), while specifying locational traits, failed to stratify their analyses by the different types of quality niches included in their analyses.

Goetz et al. (1996) looked at the impacts of public housing, affordable housing developed by community development corporations, and affordable housing

developed by the private sector in Minneapolis. Goetz et al. found public housing and privately developed subsidized housing to be associated with negative impacts on property values, whereas Community Development Corporation (CDC)–developed housing had a positive impact on property values. Goetz et al. speculate that the CDC's community-based roots lead to better management and maintenance, more responsiveness to community concerns, and hence a positive impact on property values. In contrast, private developers' profit motivation may or may not coincide with good management and maintenance. Public housing in Minneapolis often was undermaintained and stigmatized, and hence its presence could lead to property declines in surrounding neighborhoods. An alternative albeit less plausible explanation is that CDC developments occurred in poorer neighborhoods where positive impacts might be expected. Without information about the neighborhood characteristics of the developments, this explanation cannot be ruled out.

Lee et al. (1999) examined the impacts of Federal Housing Administration (FHA) housing, LIHTC housing, Section 8 New Construction, and public housing on sales prices in Philadelphia, employing a hedonic regression model with indicator variables for the presence and proximity to the types of subsidized housing as the independent variables. Lee et al.'s hedonic models appear to capture reasonably the relevant characteristics of the neighborhoods that might confound the relationship between property values and the presence of subsidized housing. The authors also test for the possibility of threshold effects and design by considering if the subsidized housing is high-rise or has a large number of units.

As might be expected, Lee et al. (1999) found homeownership subsidized housing units to have a positive impact on property values. In contrast, the existence of scattered-site and development-based public housing units had negative impacts on property values. Section 8 New Construction and rehab programs had positive impacts on property values. LIHTC units were found to have a negative impact on property values when the circumference of the study area was limited to one-eighth of a mile, but not when the study area was extended beyond that. Lee et al. (1999, 91) consider the impacts they found to be modest.

Lee et al.'s (1999) results suggest that different types of subsidized housing with different residents may have different impacts, which is consistent with the theoretical discussion. It also appears that the different programs may produce different results, but because of the lack of stratification by neighborhood type, it is unclear if the impacts were consistent or inconsistent with theory or if the aggregate results mask variations across different types of neighborhoods, as theory would predict.

Several analyses confined their hedonic models to single neighborhoods, eliminating the need to stratify their analyses by quality niches. Guy et al. (1985) in Fairfax, Virginia, and Cummings and Landis (1993) in San Francisco used this approach. Although Guy et al. used a hedonic approach, examining the impact of below-market interest rate developments on the sales prices of nearby middle-income town homes, the results would be more convincing if the authors provided statistical evidence on the homogeneity of the neighborhoods, rather than just claims of similarity. The lack of such evidence casts doubt on Guy et al.'s finding of a substantial negative impact on property values.

Cummings and Landis (1993) specified locational characteristics in their hedonic models. Therefore, to the extent that their model captures the variation in neighborhood characteristics that impinge on property values, and these studies do a plausible job of doing so, it is less likely that their results are biased. The study analyzed transactions for homes in the San Francisco Bay area. It is noteworthy that Cummings and Landis paid attention to the design and occupants of the subsidized housing studied. The subsidized housing developments were well designed and well maintained, and the subsidized housing occupants were far from typical. Five of the six subsidized housing developments were for elderly residents; two were condominiums. Given the high quality of the housing and the "deserving" characteristics of its residents, Cummings and Landis's findings are not particularly surprising.

Several hedonic-based approaches recognize the need to stratify analyses by quality niches. Lyons and Loveridge (1993) looked at the impact of the presence of federally subsidized housing, except LIHTC housing, on the assessed value of residential properties in Ramsey County, Minnesota, part of the Minneapolis-St. Paul metropolitan area. Lyons and Loveridge also considered whether impacts varied across types of neighborhoods by examining impacts in the central city and suburban areas separately. Although a more fine-grained distinction between types of neighborhoods is preferable, their finding that impacts were larger in the suburbs than in the city is consistent with the notion that the disparity between subsidized and market rate housing is one of the causal factors behind the putative impacts of subsidized housing. Lyons and Loveridge found "a small, statistically significant [negative] effect associated with the presence of subsidized housing units in a neighborhood" (p. 59). Generally, the presence and number of subsidized units were found to have an impact, whereas the type of subsidized housing and whether the occupants were elderly or family was

not important. Given that Lyons and Loveridge dealt partially with the major methodological threats in their analysis, their findings have some credence.

Briggs, Darden, and Aidala's study (1999) tested the impacts on property values using the previously mentioned court-ordered Yonkers, New York, scattered-site public housing plan. The judge in this case had to threaten the city with bankrupting fines before the city acquiesced and built subsidized housing in white neighborhoods. The facts suggest that negative impacts on property values should occur. The case received enormous notoriety, so it was likely that the market would have information about the development of the subsidized housing. Moreover, there was substantial social distance between the subsidized housing residents, who were poor and overwhelmingly black and Latino, and the residents of the receiving neighborhoods, who were white middle-income homeowners.

Despite the circumstances around the housing development, Briggs and his colleagues (1999) failed to find any impacts on sales prices due to proximity to scattered-site public housing. By examining the impact of each site separately, Briggs et al. diminished the possibility that effects in some neighborhoods would be masked by the lack of effects in others. Despite strong theoretical reasons to suspect that impacts should have occurred and the employment of innovative methods to detect them, none were found.

Briggs et al. (1999) suggest that counseling by the housing authority for prospective tenants, including participation by some homeowner groups, and reassurances by public officials that public services would not suffer in the subsidized housing areas assuaged fears of current and potential homeowners about impacts on property values. This carefully crafted study contributes mightily to driving a stake in the heart of the argument that the presence of subsidized housing automatically leads to price declines, even under extreme conditions. Unlike any other study of which the authors are aware, Briggs and his colleagues also examined the possible impacts of subsidized housing on residents' attachment and satisfaction with their communities. No systematic differences were found between those living close to the subsidized housing and those living further away. Although the analysis of residents' attachment and satisfaction had to rely on cross-sectional data, which undermines the validity of their finding, it is consistent with their finding of no impacts on prices.

Santiago et al. (2001) examined the impact of the acquisition of single-family and small multifamily scattered housing units by the Denver Housing Authority on property values in surrounding neighborhoods. They used a hedonic model to compare the level and trend of home prices in a neighborhood both before and after a unit was occupied by a public housing resident and stratified their analysis by the neighborhood's racial and ethnic composition. The trend analysis was used to account for the endogeneity in the location of scattered-site public housing, and the stratification controlled for the possibility that effects might vary across different types of neighborhoods. Therefore, this study addresses the major methodological concerns raised in this review.

Santiago et al.'s (2001) results showed a tendency for scattered-site public housing to be acquired in declining lower priced neighborhoods, underscoring the importance of controlling for the endogeneity of the location of subsidized housing. The public housing sites, however, were generally found to have a positive impact on surrounding neighborhoods. The only exception, interestingly, was in poor predominantly black neighborhoods, where negative impacts on property values were found. Santiago et al. (2001) interpret this anomaly to "the potential positive externalities associated with spot rehabilitation in poor, black-occupied neighborhoods [being] small compared with the accompanying negative externalities from adding more low-income households to the area" (p. 80). Otherwise, the rehabilitation investment, $21,432 on average, typically produced positive impacts. Since the units were previously vacant, this result is not surprising. This study highlights two important lessons: subsidized housing can have positive impactsm, and context is important when conducting this research.

IMPACTS OF TENANT-BASED SUBSIDIZED HOUSING

Despite a shift in policy away from project-based housing assistance dating back several decades, social scientists have only recently begun to examine how tenant-based subsidized housing affects property values. In the Philadelphia study described above, Lee et al. (1999) found Section 8 certificates or vouchers to have negative impacts on property values. As mentioned above, their methods were fairly sound, except that the failure to stratify by neighborhood type fails to address whether impacts differ across neighborhoods as theory suggests they might.

The same team of researchers that analyzed the impacts of scattered-site public housing in Denver also examined the impact of the use of Section 8 certificates on property values, using the same methodology on data from Baltimore County (Galster et al. 1999). Galster et al. found large *positive* impacts in higher status neighborhoods and small but negative impacts in lower status neighborhoods. Galster et al. speculate that the positive impacts in higher status neighborhoods can be explained by housing quality upgrading to meet Section 8 standards but provide no corroborat-

ing evidence. Galster et al.'s findings also highlight the importance of stratifying analyses by neighborhood type and consequently support the doubt cast on earlier studies that failed to do so.

The evidence from both analyses of tenant-based housing assistance suggests that the use of tenant-based housing assistance can affect property values both negatively and positively. Moreover, both studies are among the most sophisticated methodologically, inspiring some confidence in their results. The major drawback is that the results are limited to two older northeastern cities, Baltimore and Philadelphia, and hence that the results may not be generalizable to the entire country.

The hedonic-based approaches, therefore, lead to mixed results. Of the seven studies using the hedonic approach, six found evidence of a negative impact and five found evidence of a positive impact. In instances where impacts would be expected based on theory, studies provide examples where no impacts are found and examples where impacts are found. Moreover, all of the studies use similar hedonic approaches so the rigor of their methods cannot be used to distinguish their credibility. Since the hedonic-based studies are methodologically sounder than the other studies, more credence should be given to this body of findings. Nevertheless, the pattern of mixed findings echoes the pattern of the ad hoc approaches that also reached contradictory findings, although most of the studies did not find an impact.

In general, the overall evidence appears to be somewhat at odds with theory. Although negative impacts would not be expected in all situations, clearly a more consistent pattern of negative property value impacts would be expected, but this is not what the extant evidence shows. Perhaps the most plausible explanation is that the presence of subsidized housing does have an effect on property values, as theory would predict, but that the impact can be both positive and negative, again as theory would predict. It appears that the manner in which the presence of subsidized housing affects property values is context dependent, again as was suggested in the theoretical discussion. This raises the $64,000 question: under what circumstances will subsidized housing have an impact on property values in a particular manner? Unfortunately, the literature is somewhat unclear on this matter.

Most of the studies did not stratify their analysis by neighborhood type, making it impossible to ascertain how impacts differ across neighborhoods. As the theoretical discussion suggests and Galster et al. (1999) demonstrate, this type of stratification can be crucial for elucidating the existence of effects varying across neighborhoods. Furthermore, few of the studies have attempted to address the issue of design or of size. It seems plausible that design would play a role in how subsidized housing affects property values, but the paucity of studies that take design into consideration leaves much unanswered. Size also may matter, but since most studies do not test for threshold effects, there is no way to know for sure. Without it, one can only speculate as to why subsidized housing affects neighborhoods differently. Table 1 summarizes the literature discussing the impact of subsidized housing on property values.

Evidence of Impacts on Poverty Concentration

The second major neighborhood effect often attributed to subsidized housing is poverty concentration. Ever since Wilson (1987) popularized the notion that concentrated poverty was a serious social problem, scholars have searched for its causes. Subsidized housing has emerged as one of the culprits contributing to poverty concentration, adding another blot to its already tarnished image.

Several scholars have attempted to test empirically the hypothesis that subsidized housing indirectly increases concentrated poverty through spillover effects. Without exception, regression models were used with tract-level poverty rates as the dependent variable, the presence and/or amount of subsidized housing as the independent variable, and the neighborhood's ecological and demographic characteristics as the control variables. Holloway et al. (1998), however, were the only researchers to try to control explicitly for the fact that subsidized housing units are likely to be targeted to neighborhoods prone to poverty concentration.

Consistent with the spillover hypothesis, all of the studies found a positive relationship between the presence of subsidized housing and an increase in poverty concentration. Massey and Kanaiaupuni (1993) found that the development of public housing in a neighborhood was associated with an increased poverty rate in later years and that a neighborhood's proximity to a public housing development also was associated positively with a neighborhood's poverty rate. Schill and Wachter (1995) found that higher concentrations of public housing in a neighborhood were related positively to increased neighborhood poverty rates in Philadelphia and that as the distance of a census tract from a large public housing development increased, its poverty rate declined. In an extension of Schill and Wachter's earlier work, Carter, Schill, and Wachter (1998) examined the relationship between concentrated 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 statis-

TABLE 1. Summary of Literature on Impact of Subsidized Housing on Property Values

Study	Setting	Control for Site Selection	Stratification by Neighborhood Type	Impacts
Studies not meeting methodological criteria				
Nourse (1963)	St. Louis	Yes	No	No measurable impacts
Schafer (1972)	Los Angeles	Unclear if adequate	No	None found
DeSalvo (1974)	New York City	Inadequate	Yes	No negative; some positive
Warren et al. (1983)	Chicago	Weak	Some	Some negative; some positive
Babb et al. (1984)	Memphis	Unclear if adequate	No	No measurable impacts
Rabiega et al. (1984)	Portland	Inadequate	No	Some positive
Guy et al. (1985)	Fairfax, VA	Inadequate	Some	Negative impact
Puryear (1989)	Charlotte, NC	Yes	Weak	Negative impact
Chandler et al. (1993)	Cleveland	Inadequate	Inadequate	No measurable impacts
Cummings and Landis (1993)	Bay Area, CA	Unclear if adequate	Inadequate	No measurable impacts
Goetz et al. (1996)	Minneapolis	Yes	No	Some negative; some positive
Lee et al. (1999)	Philadelphia	Yes	No	Some negative; some positive
MaRous (1996)	DuPage County, IL	Unclear if adequate	No	No measurable impacts
Studies meeting methodological criteria				
Lyons and Lovebridge (1993)	Ramsey County, MN	Yes	Yes	Small negative impact
Briggs et al. (1999)	Yonkers, NY	Yes	Yes	No measurable impacts
Galster et al. (1999)	Baltimore	Yes	Yes	Large positive; small negative
Santiago et al. (2001)	Denver	Yes	Yes	Large positive; negative in black neighborhoods

tically significant, leading them to conclude that public housing has a positive impact on neighborhood poverty. Holloway et al. (1998) explored the effects of public housing on the concentration of poverty in Columbus, Ohio, and in some instances found a positive and significant link between a neighborhood's poverty rate and its proximity to public housing and the development of public housing in that neighborhood, although in several instances the relationship was not statistically significant. Moreover, when Holloway et al. controlled for a neighborhood's propensity to slip into poverty, they found that the impact of subsidized housing on poverty concentration was reduced in some instances.

These results, however, could be due to other factors besides a spillover effect. Moreover, the appearance of a spillover effect on poverty concentration might have other causes that have little to do with a spillover effect. Furthermore, because residents of subsidized housing are likely to be impoverished, the addition of these developments to a neighborhood adds poor persons and consequently might increase the neighborhood's poverty rate regardless of a spillover effect.

Another explanation originally raised by Galster (1995) is that the increasing concentration of poverty in neighborhoods receiving public housing is attributable to increasing poverty within the public housing population. Because of changes in public housing admission policies, public housing's clientele has become increasingly impoverished over time (Spain 1995). The poverty rate in a public housing development, therefore, could have increased during the course of a decade, while the poverty rate remained unchanged in the surrounding neighborhood. The neighborhood's overall poverty rate would have increased, however, because the poverty status of the public housing residents is included in the neighborhood's overall poverty rate.

Because all of the prior studies relied on aggregate-level data and because the census does not provide poverty rates for neighborhoods that exclude the public housing residents in those neighborhoods, these earlier efforts cannot distinguish between the direct and indirect impacts of subsidized-housing-based housing assistance on concentrated poverty. This omission suggests that the findings of these earlier studies must be interpreted very cautiously.

In an attempt to get around these methodological problems, Freeman (2001) analyzed the impact of subsidized housing developments on concentrated poverty using two national data sets: the Panel Study of Income Dynamics linked to HUD's Picture of Subsidized

Housing Data Set. Freeman's analytic strategy was to examine how the presence of subsidized housing developments in a neighborhood affected the likelihood of someone leaving or moving into that neighborhood and entering or exiting poverty. Freeman found that although the presence of subsidized housing in a neighborhood was associated with nonpoor individuals leaving or avoiding a neighborhood and slipping into or remaining in poverty, these relationships typically disappeared once the appropriate statistical controls were included. The one exception was the relationship between nonpoor individuals moving into a neighborhood and the presence of subsidized housing there. Under certain circumstances, this relationship was robust, even with the inclusion of statistical controls.

In general, though, Freeman found no relationship between the existence of subsidized housing in a neighborhood and individual dynamics associated with poverty concentration. This result suggests that the earlier studies that consistently found a relationship between subsidized and poverty concentration were either methodologically flawed for the reasons described above or are not generalizable beyond their study settings.

Evidence of Impacts on Neighborhood Racial Transition

Concerns about neighborhood racial transition and the resegregation of neighborhoods is the third major objection often offered by opponents of subsidized housing in particular neighborhoods. The claim is that the presence of subsidized housing will cause whites to flee and avoid neighborhoods where subsidized housing is located.

Literature on subsidized housing and neighborhood racial transition will be evaluated according to how well it meets the following criteria: (1) considers how subsidized housing affects different types of neighborhoods, (2) takes into consideration the fact that subsidized housing has often been targeted toward neighborhoods already experiencing racial transition, and (3) includes in the analysis the racial composition of the residents themselves.

To date, only a handful of studies have examined what role, if any, subsidized housing developments play in neighborhood racial transition. Most of the studies use neighborhood racial composition as a dependent variable and the presence of subsidized housing in the neighborhood as the independent variable, while controlling for the neighborhood's ecological and demographic characteristics. Goldstein and Yancey (1986) employed this approach to examine changes in the racial composition of Philadelphia census tracts from 1950 to 1980 to determine whether development of public housing in a census tract had an impact on racial transition once the ecological characteristics of the tracts were held constant. Their results indicate that public housing had no such effect.

By controlling for neighborhood characteristics, Goldstein and Yancey (1986) deal with selective targeting of subsidized housing to neighborhoods likely to experience racial transition. Goldstein and Yancey acknowledge that they do not take into consideration the racial composition of the residents of subsidized housing but claim that "except for senior citizen subsidized housing, almost all new tenants of public housing since 1950 have been black" (p. 285). Since Goldstein and Yancey did not conduct separate analyses for elderly versus family subsidized housing, it remains unclear if their lack of information on the racial composition of the subsidized housing developments is a major shortcoming. Moreover, their analysis failed to consider that subsidized housing developments are likely to affect neighborhood racial transition differently depending on the racial composition of the neighborhood. Simply including an additive term for the percentage black in a neighborhood, as Goldstein and Yancey did, is insufficient, as there may have been impacts at certain levels of black percentage in a neighborhood. The lack of controls for neighborhoods with varying levels of susceptibility to racial transition and the lack of information on characteristics of the occupants themselves does not inspire much confidence in the veracity of these results.

Galster and Keeney (1993) also examined the relationship between changes in the racial composition of census tracts on Yonkers, New York, and the development of public housing in those census tracts, using similar dependent and independent variables and similarly controlling for neighborhood ecological and demographic characteristics. They went a step further, however, by distinguishing between family-occupied subsidized housing developments and those that were occupied by elders. This refinement allowed them to discern whether family housing, dominated by minorities, had a greater impact on racial transition than elderly housing, dominated by whites in Yonkers. Galster and Keeney also addressed the possibility that certain neighborhoods might be more susceptible to racial transition by including a nonlinear term for the percentage black in their regression model. Consequently, Galster and Keeney's study appears to meet most of the major methodological concerns.

Galster and Keeney found some evidence that the development of public housing in Yonkers' neighborhoods during the 1970s increased the percentage of blacks in those neighborhoods, but the impact was rela-

tively small—an additional 100 units of family public housing was associated with a 1.6 percent increase in the proportion black in the surrounding neighborhood.

In another study of Yonkers, Briggs et al. (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" (p. 41). Although this finding is consistent with the developments having little impact on racial transition, Briggs et al. do not present any data on the racial composition of the surrounding neighborhoods after the developments were occupied. Moreover, even if whites living near subsidized housing were not more likely to leave, this says nothing about whites *entering* the neighborhoods. If the racial composition of those entering the neighborhoods changed, racial transition would occur even if the current residents' mobility decisions were unaffected by the siting of subsidized housing near them. Therefore, although the Briggs et al. study provides strong evidence that the subsidized housing did not harm property values, its evidence on racial transition is not convincing. One could draw conclusions, however, from their findings on property values. Since property values reflect the likelihood of resale, if the resale market were limited due to fears about impending racial transition, property values would drop.

Saltman (1990) employed a case study approach to examine the success of neighborhood integration maintenance programs in several cities. All of the neighborhoods with public housing were unsuccessful in maintaining racial integration, leading Saltman to label public housing a "killer" of integration. It is not clear, however, whether public housing caused the neighborhoods to "tip" and become all black or public housing was developed in neighborhoods that already were undergoing racial transition. Furthermore, communities that implement integration programs are not representative of all neighborhoods. 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.

In perhaps the largest study of the impacts of subsidized housing on racial transition, Freeman and Rohe (2000) examined how subsidized housing affected racial transition in all metropolitan areas between 1980 and 1990. Freeman and Rohe matched neighborhoods according to their likelihood of receiving subsidized housing and stratified their analyses by the likelihood that a neighborhood would receive subsidized housing, by family or elderly, by size of the development, and by type of subsidized housing program. Freeman and Rohe's approach therefore accomplishes several things: they control for the fact that subsidized housing may be targeted toward neighborhoods likely to undergo racial transition, they allow for the possibility that impacts might differ across types of neighborhoods, and they allow for differential impacts from different types of developments. In general, Freeman and Rohe found racial transition to be unrelated to development of subsidized housing.

Freeman and Rohe's study provides the most compelling evidence that the presence of subsidized housing generally does not cause racial transition. The major shortcoming was that they did not take into account the racial composition of the subsidized housing developments. Because Freeman and Rohe did not find racial transition to be linked to the development of subsidized housing, however, the only way the lack of data on the racial composition of the subsidized housing developments could affect their findings would be if subsidized housing developments were simultaneously becoming more white and their surrounding neighborhoods less white. This is an unlikely proposition, given the high correlation between the racial characteristics of subsidized housing developments and their surrounding neighborhoods (Goering et al. 1997).

On the matter of minority-to-white transition, there is even less empirical evidence. Although some students of gentrification claim that "rich people are simply not going to live next to public housing" (Lueck 1991, 1), this assertion appears to be based on anecdote rather than hard evidence.

In sum, the extant evidence, although sparse, suggests that the development of subsidized housing generally does not lead to neighborhood racial transition. The two most credible studies either found no consistent impacts (Freeman and Rohe 2000) or a very small one that typically would not be characterized as "white flight" (Galster and Keeney 1993). Although none of the studies considered how tenant-based subsidized housing might affect racial transition, the impacts expected from this type of subsidized housing are likely to be *smaller*. The absence of impacts found with project-based assisted housing suggests that little or no impacts would be found for tenant-based assisted housing. One would want to see a few more studies reaching similar conclusions as Freeman and Rohe, as well as studies that include tenant-based subsidized housing and that rigorously account for the racial composition of the subsidized housing developments themselves. Nevertheless, based on this review, a tentative proposition that subsidized housing does not cause racial transition does not appear to be imprudent.

Evidence of Impacts on Crime

Despite the oft-repeated association between crime and subsidized housing, only a handful of studies have attempted to ascertain empirically the relationship between subsidized housing and crime in surrounding neighborhoods. Most studies used regression models to discern a relationship between distance to subsidized housing and the location of crimes while controlling for neighborhood characteristics associated with crime. Roneck et al. (1981) examined the impact of subsidized housing on crime in surrounding city blocks in Cleveland. Although their regression models did control for the fact that the neighborhoods where subsidized housing is located are likely to have higher crime rates, they did not consider that the impacts are likely to be larger in nondisadvantaged neighborhoods. This omission tends to bias their findings toward no effect, yet Roneck et al. still detected a small but positive relationship between proximity to subsidized housing and violent crime.

McNulty and Holloway (2000) regressed distance from a public housing development onto crime rates controlling for socioeconomic and demographic characteristics associated with crime within the city of Atlanta. This study also used interaction terms to explore the possibility that the impacts on crime would vary across neighborhoods of varying racial composition. Their analysis shows a positive relationship between crime rates and proximity to public housing, which is consistent with the thesis that the presence of public housing does cause increased crime in surrounding neighborhoods.

Although both the Roneck et al. (1981) and McNulty and Holloway (2000) studies did find impacts on crime rates, more evidence gathered from other settings is necessary before any definitive conclusions can be drawn, primarily because these results represent only two cities. Moreover, neither study considered the impacts of tenant-based assisted housing. It would be a mistake to conclude that subsidized housing in general leads to increases in crime, but it does appear to be the case that in certain circumstances, subsidized housing can lead to increases in crime in surrounding neighborhoods.

IMPLICATIONS

The popular wisdom is that the development of subsidized housing in a neighborhood leads to neighborhood decline. The various neighborhood outcomes discussed in this article—lowered property values, racial transition, poverty concentration, and crime—are supposed manifestations of that decline. This review set out to develop a framework for considering why subsidized housing might affect neighborhoods and to examine the evidence on this matter. In this section, we discuss the implications of our findings and make recommendations for future research.

One overarching theme that emerges from the theoretical discussion and the empirical evidence is that *it depends*. The presence of subsidized housing would be expected to affect neighborhoods only under certain circumstances, and the body of conflicting findings suggests that is the case. The hysteria that often surrounds the placement of subsidized housing belies the notion that negative impacts are likely only in certain circumstances. The current assumption in public opinion appears to be that subsidized housing inevitably leads to neighborhood decline and change. But that is not the case, as the studies reviewed here demonstrate that subsidized housing was almost as often associated with positive impacts.

It is worth noting that this evaluation of the impacts of siting subsidized housing on neighborhoods does not consider fully the impacts on perhaps the most important constituency—residents of subsidized housing. Particularly in the last decade, policymakers have encouraged dispersion of subsidized housing, through portable rent subsidies and scattered-site developments. This policy thrust rests on the assumption that dispersion will provide residents with access to greater economic, social, and educational opportunities. One could interpret the results in this review as arguing that subsidized housing should be located in distressed communities, because of the positive impacts that it can bring to neighborhoods with limited resources. Such a policy direction, however, should be taken only in conjunction with dispersion and mobility policies and programs, giving both residents and neighborhoods the widest range of opportunities to build on their potential.

Future Research Needs

The plethora of studies conducted under different settings on the relationship between subsidized housing and property values makes clear that a relationship can manifest itself *under certain conditions* and that this impact can be either positive or negative. Future research will be most helpful to planners and policymakers by shedding light on the specific circumstances under which these impacts manifest themselves. At a minimum, future research should take into consideration and control for the possibility that effects may vary across different types of neighborhoods. Qualitative analyses of the design of the subsidized housing with particular attention to the extent to which they are incongruent with surrounding properties also should be a focus of future research. Researchers have

not considered sufficiently the importance of effective property management in addressing community concerns about both the physical condition of housing and the behavior of residents.

Attitudes of the neighbors of subsidized housing also should be considered. Although subsidized housing is characterized as a disamenity, it may not be a universal one like a toxic waste site, for example. The notion of a deserving and an undeserving poor is dominant in the United States; it is by no means universal among the entire population. Some individuals may value some racial and socioeconomic diversity in their neighborhoods. As such, submarkets for housing may be differentiated beyond factors typically thought of as determining the desirability of housing and also include tolerance for subsidized housing. There may be a segment of the population for whom subsidized housing is not considered a disamenity, and to the extent that subsidized housing is built in proximity to these individuals, impacts on property values would be small or nil. Consequently, it may be necessary to take into consideration people's attitudes toward the poor and subsidized housing specifically.

On the matter of neighborhood racial transition, the weight of the evidence suggests that the presence of subsidized housing typically does not lead to racial transition. Additional studies that control explicitly for the racial composition of residents of subsidized housing would add an additional degree of certainty to this conclusion.

Finally, additional research on crime and subsidized housing is needed before wholesale generalizations about the relationship between crime and subsidized housing can be made. Again, given the mixed impacts found on property values and the general lack of impacts on racial transition, it would be surprising if Roncek et al.'s (1981) and McNulty and Holloway's (2000) findings were replicated across all settings. In addition, future research must elucidate whether the physical characteristics of subsidized housing or the characteristics of the residents themselves lead to increases in crime.

The research community must focus on context. This review might provide support to housing advocates who often face uphill battles convincing citizens that subsidized housing will not be bad for their neighborhoods, but their case would even be stronger if they could point to the specific circumstances under which negative impacts can be avoided. Without that knowledge, planners may be perceived as asking potential neighbors of subsidized housing to gamble with the future of their communities.

On the other hand, even if the research does reveal positive correlations between the presence of subsidized housing and decreased property values and increased crime, racial transition, and poverty concentration, the solution may not be to stop developing subsidized housing. Such a solution would take a short-term view of the issue and would incorporate the discriminatory attitudes that fuel opposition to subsidized housing and contribute directly to the impacts that do result, by shaping neighborhood residents' perceptions of residents of subsidized housing. In the longer term, some of these perceived societal problems might be even more severe if subsidized housing is not developed and low-income people are forced to remain ill-housed. If we start from the premise that as part of a broader social policy goal subsidized housing must and will be built, even if it is opposed by its neighbors, research that informs intelligent public policy will evaluate what design changes, construction scale, and other elements can best accommodate the interests of hostile neighbors, without succumbing to the racism and prejudice that created the perceived negative impacts in the first place.

NOTES

1. By subsidized housing we refer to means-tested subsidy programs, which would exclude housing subsidized via the mortgage interest tax deduction.

2. It is important to note that the authors do not suggest that, whatever the impacts of subsidized housing, it is the subsidized housing itself that "causes" those impacts. In fact, the relationship is considerably more complex and, at least in terms of race and property values, is tied to racial and economic prejudices and stereotypes held by neighborhood residents.

3. New York City consists of five boroughs (Bronx, Brooklyn, Manhattan, Queens, and Staten Island), which are also counties.

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