

“... And a Suitable Living Environment”: The Failure of Housing Programs to Deliver on Neighborhood Quality

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Abstract

This article evaluates the relative performance of housing programs in terms of neighborhood quality. We profile neighborhood characteristics surrounding assisted housing units and assess the direction of assisted housing policy in light of this information. The analysis relies on a housing census database we developed that identifies the type and census tract location of assisted housing units—that is, public housing, developments assisted under the Department of Housing and Urban Development, the Section 515 Rural Rental Housing Direct Loan Program, the low-income housing tax credit, certificates and vouchers, and state rental assistance programs.

We conclude that project-based assistance programs do little to improve the quality of recipients' neighborhoods relative to those of welfare households and, in the case of public housing, appear to make things significantly worse. The certificate and voucher programs, however, appear to reduce the probability that families will live in the most economically and socially distressed areas.

Keywords: Neighborhood; Low-income housing; Mobility

Virtually every administration in the past 25 years has questioned the purpose of housing assistance programs. As a result, housing policy is a moving target, with shifting rationales for government intervention and wholesale changes in programs from one administration to the next. But the question has perhaps never been more pressing than it is now. Some members of Congress are calling for the elimination of the Department of Housing and Urban Development (HUD). Other policy makers, including the Clinton administration, recommend a dramatic “reinvention” of federal housing policy, essentially eliminating all supply subsidies, cutting funding levels, combining multiple low-income assistance programs into block grants, and devolving programmatic decisions to localities.

These bold proposals cry out for a systematic assessment of the effectiveness of housing assistance programs to date. If these programs are restructured or dismantled without the benefit of information on their strengths and weaknesses, policy makers run the risk of making the same mistakes again.

Although the goals of housing assistance for the poor have been the topic of some debate in recent years (e.g., DiPasquale and Keyes 1990; Husock 1997; Newman and Schnare 1988, 1992, 1993), the dual goals of decent housing and suitable neighborhoods set forth in the landmark 1949 Housing Act are still in effect.¹ It is, therefore, legitimate to measure the performance of housing programs by how well they achieve each of these goals.

This article is the first in a series of analyses designed to take a closer look at the relative performance of different types of housing programs. While we will ultimately use a number of criteria to assess performance, in this article we focus exclusively on neighborhood quality. Our goals are to profile the characteristics of the neighborhoods surrounding assisted housing units and assess the current direction of assisted housing policy in light of this information.

The analysis relies on a database that we have developed over the past three years and that we believe represents the closest approximation we have to a national census of assisted housing. The data identify the type and census tract location of assisted housing units—that is, public housing, developments assisted by HUD, the Rural Rental Housing Direct Loan Program (Section 515) of the Rural Housing Service (RHS),² the low-income housing tax credit (LIHTC) program, certificates and vouchers, and state rental assistance programs. (A detailed description of the database and how it was constructed is presented in the appendix.) This more comprehensive and accurate information than has heretofore been available allows us to examine for the first time the neighborhood characteristics of the full complement of assisted housing programs.³ In this first such analysis, we limit

¹ The act uses the phrase “suitable living environment” but does not explicitly define it. However, HUD regulations interpret the phrase to refer to neighborhood features.

² The Section 515 program was administered by the Farmers Home Administration (FmHA) prior to October 1994, when FmHA was abolished and its programs were transferred to other offices in the U.S. Department of Agriculture.

³ For example, the identification of housing programs is constructed from administrative records, not responses to a household survey. Of course, administrative data are not error free either. We describe the types of errors that are likely to

ourselves to description, which is an essential foundation for more complex analytic studies.

Neighborhood effects and housing policy

Our focus on neighborhood quality and how it varies by program type is designed to inform the broader debate on the future of housing assistance. In view of the passage of major welfare reform legislation in August 1996 and congressional proposals (HR 2, S 462) to radically alter housing programs, this issue is particularly timely. Key policy questions include: 1) Under what set of circumstances should public housing and the older stock of assisted housing developments be preserved? 2) Should there be a gradual switch to housing vouchers as existing project-based subsidies expire? 3) Do housing programs support or hinder the broader objectives of welfare reform?

If the characteristics of the neighborhood in which a poor family lives influence the behavior, attitudes, values, and opportunities of family members, then information about the neighborhoods surrounding assisted housing units is important in answering these policy questions. Moreover, neither welfare reform nor proposals to reform housing programs address the potential role of neighborhoods in achieving policy goals.

Much of the recent empirical work on neighborhood effects was stimulated by William Julius Wilson's (1987) theories of the effects of social isolation in neighborhoods with high concentrations of the very poor. At this writing, research on neighborhood effects is still developing, and a consensus on what features of a neighborhood matter, for whom, and under what conditions has not yet emerged. But it is fair to say that recent studies find evidence of the considerable advantages and disadvantages that neighborhoods impart to children growing up in them (Brooks-Gunn et al. 1993; Rosenbaum 1991). For example, several studies conclude that the presence of neighbors with incomes above \$30,000 is associated with greater educational attainment⁴

characterize these data in the appendix. While we cannot directly estimate the magnitude of these errors in the administrative records, we do know that errors in respondent answers to the assisted housing questions in the American Housing Survey have been large (Newman and Schnare 1993; Schroder and Martin 1996). We also know that some programs, particularly certificates and vouchers and LIHTC, are undercounted in the administrative databases.

⁴ Attainment is measured by the number of years of completed schooling.

by adolescents (Brooks-Gunn et al. 1993; Clark 1992; Duncan 1994).⁵ While the authors label these neighbors “affluent,” \$30,000 was about the median household income in 1990 and thus may be more appropriately characterized as middle income (U.S. Bureau of the Census 1992). Another recent paper, which appears to address many of the methodological weaknesses of past work, finds that both the neighborhood poverty rate and the school dropout rate affect the probability that a child will graduate from high school (Aaronson 1995). Taken together, these results suggest that neighborhood quality is an important criterion for judging housing programs, as the authors of the 1949 Housing Act appear to have recognized.⁶

The rest of this article is divided into five parts. The following section presents an overview of the assisted housing stock and provides detailed breakdowns by program type and region. Next, we examine the extent to which neighborhood characteristics vary across the three basic approaches to housing assistance: public housing, privately owned developments, and certificates and vouchers. We then look at regional differences in program outcomes. Finally, we examine differences across a more detailed set of program variants comprising the privately owned stock receiving subsidies from HUD, RHS, state programs, and tax credits from the Internal Revenue Service. In each of these analyses, the goal is limited to describing the neighborhood settings of assisted housing and does not extend to drawing inferences about whether assisted housing causes neighborhood characteristics. We summarize our conclusions in the fifth section and highlight several implications for future housing assistance policy.

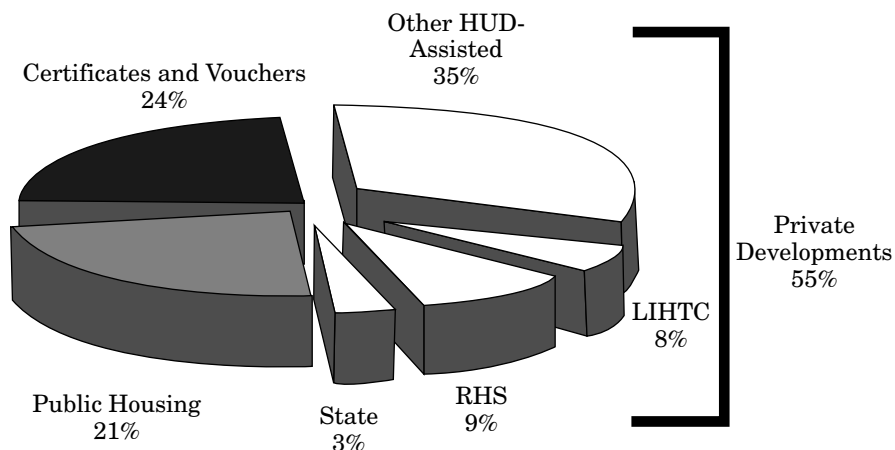
Assisted housing stock

Figure 1 shows the distribution of assisted housing units by program type as of the mid-1990s. In addition to distinguishing among the three basic types of housing assistance, we have divided the privately owned assisted stock into four mutually exclusive categories: HUD-assisted stock (e.g., Section 8, Section

⁵ In particular, more years of completed schooling were observed for white adolescent males and females and for black females. When the affluent neighbors were themselves black, the same relationship was observed for black males.

⁶ Shlay (1995) argues for a more comprehensive set of locational factors that should be taken into account in designing housing policy.

Figure 1. Distribution of Assisted Housing by Program Type



Note: Units with multiple subsidies were priority-coded as described in the text. Public housing = 1,250,000; certificates and vouchers = 1,425,000; state = 198,684; RHS = 512,797; LIHTC = 496,274; other HUD-assisted = 2,118,826; total units = 6,001,581.

^a The estimates of public housing units and certificates and vouchers are for December 1996 and are based on *A Picture of Subsidized Households, 1996* (HUD 1996b). An estimated 67,744 units of Indian housing are excluded from this total.

^b The estimate of state-assisted rental units is based on our 1993–96 survey of 51 housing finance agencies (HFAs) and state departments of housing (see appendix). The total count pertains to low-income units in the 31 percent of cases in which this information was available; in 49 percent of the cases, we count all units in the development; in the remaining 20 percent, the unit count is unknown.

^c The RHS units represent the cumulative total through fiscal year 1995 and are based on figures from the Housing Assistance Council (n.d.).

^d The estimate of LIHTC units is based on our 1993–96 survey of 51 HFAs (see appendix) and reconciliation of those data with data collected by Abt Associates for HUD (1996c). The total count pertains to low-income units in the 63 percent of cases in which this information was available; in 14 percent of the cases, we count all units in the development; in the remaining 22 percent, the unit count is unknown.

^e The estimate of other HUD-assisted units is based on the HUD Form 951 (early 1990s) and Control File Subsystem (1995) databases and our 1993–96 survey of 51 HFAs and state departments of housing (see appendix).

202, and Section 236, designated as “other HUD”); developments using the LIHTC programs; RHS Section 515 developments; and state-assisted rental developments. Because many assisted housing developments receive subsidies from several sources and it was impossible for us to determine the relative size of the different subsidy streams, we assigned priority codes. RHS was assigned top priority, followed by LIHTC, and then other HUD assistance. Thus, a unit with LIHTC and other HUD assistance was assigned to LIHTC, while a unit with state rental assistance and other HUD assistance was assigned to other HUD.

Roughly 6 percent of the nation’s housing stock and one-fifth of all rental units receive either project- or tenant-based assistance. Private developments receiving HUD subsidies constitute the largest single category of assisted housing and account for roughly one-third of the total assisted stock. Certificates and vouchers represent about one-quarter of all assisted units, while public housing is slightly more than one-fifth. The remaining programs are much smaller: The Section 515 program accounts for about 9 percent of assisted units, followed by LIHTC units (8 percent), and units subsidized under state rental assistance programs (3 percent). Although LIHTC units have been constructed at a relatively fast pace in recent years, the number of units remains smaller than for the older programs.

Table 1 shows the distribution of the three basic types of assisted housing units across the four census regions and across central-city, suburban, and nonmetropolitan areas. For comparison, we also present the distribution of all rental housing.

Table 1. Distribution of Assisted Housing and All Rental Housing by Region and Location Type (Percent)

	Assisted Housing			All Rental Units
	Public Housing	Private Developments	Certificates and Vouchers	
Region				
Northeast	31.0	24.8	21.5	22.2
Midwest	20.6	27.2	22.0	21.6
South	39.4	32.8	33.3	32.6
West	8.9	15.1	23.2	23.6
Location type				
Central city	61.4	46.9	45.3	45.4
Suburb	19.2	32.8	33.8	37.7
Nonmetro area	19.5	20.3	21.0	16.9

The regional distribution of certificates and vouchers is almost identical to the distribution of rental units at large. By contrast, public housing and privately owned assisted developments are underrepresented in the West, a pattern that may in part reflect the timing of that region's growth. Public housing is most heavily concentrated in the South and the Northeast, while privately owned developments are somewhat overrepresented in the Midwest.

Table 1 illustrates that units in private developments and certificate and voucher units have nearly identical distributions across central-city, suburban, and nonmetropolitan locations. These distributions are also very similar to those for all rental housing. The main difference is the somewhat smaller proportion of rental units located in nonmetropolitan areas, compared with about one-fifth of units in private developments and certificate and voucher units.

Roughly one-fifth of public housing units are also located in nonmetropolitan areas, but the similarities between public housing and the other categories end there. More than 60 percent of public housing units are located in the nation's central cities, a rate that is almost one-third higher than for other assisted housing units or the general stock of rental housing. The reverse is true for suburban areas. Less than one-fifth of public housing units are located in the suburbs. This fraction is much lower than for units under other housing programs and about half that for all rental housing. The relatively high proportion of public housing units in central cities is consistent with the poor performance of public housing on a number of neighborhood quality indicators, as described in the next section.

Variations in neighborhood quality by program type

To examine the characteristics of the neighborhoods in which assisted housing is located, we define the neighborhood as the census tract, which is a relatively small geographic area with between 4,000 and 6,000 persons. These tracts are defined with the advice of local communities to approximate real neighborhoods (Duncan 1994).⁷ We used data from the 1990 Census of Population and Housing (U.S. Bureau of the Census 1992) to

⁷ Because a substantial proportion of public housing and private developments is located in developments with hundreds of units in multiple buildings, census data at a lower level of geographic aggregation (e.g., block group) would not capture residents' possible exposure to the broader neighborhood.

examine neighborhood quality along a number of dimensions such as economic status, quality of the housing stock, concentration of assisted housing, and racial and ethnic mix. We also examined the extent to which assisted housing is located in highly impacted “underclass” neighborhoods, as defined by Ricketts and Sawhill (1988). Specifically, to be designated an underclass neighborhood, the census tract must be at least one standard deviation above the national average on *all* of the following four indicators: (1) high school dropouts (16- to 19-year-olds who are not enrolled in school and are not high school graduates); (2) prime-age males not regularly attached to the labor force (males 16 years old and over who are not “working regularly,” defined as having a full- or part-time job for more than 26 weeks in 1989); (3) welfare recipients (households receiving public assistance income); and (4) female heads (households headed by women with children) (Ricketts and Sawhill 1988, 321).⁸ In 1990, about 1 percent of the population lived in such underclass neighborhoods (Mincy and Weiner 1993).

Socioeconomic status

Table 2 shows the distribution of assisted housing units by the median household income of the census tract.⁹ For comparison, we also present these distributions for households on welfare and for all rental units.¹⁰

In general, public housing is much more likely to be located in low-income neighborhoods than other types of assisted housing are. For example, 26 percent of all public housing units are in census tracts where the median household income in 1989 was less than \$10,000, compared with only 7 percent of units in privately owned developments and only 2 percent of certificate and voucher units. In fact, the concentration of public housing in low-income tracts is more than four times as large as it is for welfare households, and more than eight times as large as it is

⁸ Ricketts and Sawhill’s definition is more restrictive than that used by other analysts. Ellwood (1988), for example, defined such neighborhoods as tracts with a poverty rate of 40 percent or higher. Kasarda’s (1993) definition is similar to Ricketts and Sawhill’s but adds a fifth indicator, the poverty rate.

⁹ Incomes of less than \$10,000 were roughly equivalent to the lowest quintile of the U.S. household income distribution in 1989, while incomes of more than \$30,000 were around the midpoint of the third quintile (U.S. Census Bureau 1992).

¹⁰ While not shown, the distribution for households in poverty closely resembles that for households receiving welfare.

for all rental units. This pattern is consistent with the results of our earlier analysis, which suggested that living in public housing may actually reduce neighborhood quality for program recipients (Newman and Schnare 1993).

Table 2. Distribution of Units by Median Income of Census Tract (Percent)

Tract median household income	Assisted Housing				All Rental Units
	Public Housing	Private Developments	Certificates and Vouchers	Welfare Households	
<\$10,000	25.6	6.9	2.3	6.0	2.9
\$10,000–\$19,999	43.1	29.9	30.1	32.9	20.5
\$20,000–\$29,999	22.8	36.1	41.5	36.1	37.0
≥\$30,000	8.6	27.2	26.1	25.1	39.6

At the other extreme, only about 9 percent of all public housing units are in census tracts with median income above \$30,000. This proportion is about one-third that for welfare households. As mentioned earlier, the recent literature on neighborhood effects suggests that the presence of neighbors with incomes above \$30,000 confers sizable benefits on low-income youth (Aaronson 1995; Brooks-Gunn et al. 1993; Duncan 1994).

In contrast to public housing, the distribution of units in privately owned assisted developments is very similar to the distribution for welfare households. Compared with all rental units, however, units in privately owned assisted developments are significantly more concentrated in lower-income neighborhoods and significantly less concentrated in upper-income areas. These patterns suggest that project-based assistance does little to change the neighborhoods in which recipients live, a finding that is again consistent with our earlier research.

The patterns for certificate and voucher units are somewhat more encouraging, although they suggest that the locational impact of the program is relatively small. On the one hand, compared with units subsidized under other housing programs and occupied by the welfare population, certificate and voucher units are far less likely to be located in census tracts where the median income is below \$10,000. On the other hand, certificate and voucher holders are only a little more likely to live in middle-income neighborhoods than the average welfare recipient and somewhat less likely to live in such areas than the average

resident of a privately owned assisted development. These data suggest that while the certificate and voucher programs appear to be successful in moving recipients out of very low income areas, they are not as successful in promoting moves to middle- and upper-income neighborhoods.

Table 3 presents data on two additional indicators of the economic status of the neighborhood: the household poverty rate and the proportion of males 16 years old or older who are not working regularly (as defined earlier). The patterns are similar to those observed for median household income. Compared not only with the other housing programs but with the welfare households as well, public housing in general is far more likely to be located in areas with high concentrations of households in poverty and high proportions of prime-age males who are not regularly employed. According to these data, more than two-thirds of the nation's public housing units are located in neighborhoods where 40 percent or more of working-age males have no regular employment. With respect to the neighborhood's poverty rate, the distribution of units in privately owned developments parallels that for the welfare population. But certificate and voucher units are much less likely to be located in areas with extremely high poverty rates, though they are not much more likely than the average welfare recipient to be in areas where poverty rates are relatively low. The locations of private developments and certificate and voucher units are more similar with regard to the unemployment rate in the neighborhood. About

Table 3. Distribution of Units by Poverty Rate and Proportion of Males Not Working Regularly (Percent)

	Assisted Housing				All Rental Units
	Public Housing	Private Developments	Certificates and Vouchers	Welfare Households	
Poverty rate ^a					
<10 percent	7.5	27.4	27.5	25.3	42.1
10–29 percent	38.9	50.7	57.8	51.0	45.4
30–39 percent	17.1	11.5	9.5	12.1	6.8
>40 percent	36.5	10.4	5.3	11.6	5.7
Males 16+ not working regularly ^b					
<20 percent	1.0	7.1	4.6	3.5	10.4
20–39 percent	31.2	57.0	64.1	54.1	64.5
>40 percent	67.8	35.9	31.4	42.4	25.1

^a Proportion of households in the tract with incomes at or below poverty.

^b Defined as having a full- or part-time job for more than 26 weeks in 1989.

one-third of private developments and of certificate and voucher units are located in areas where 40 percent or more of working-age males are not regularly employed. This rate is about 25 percent higher among welfare households and about 25 percent lower among all rental units.

Housing programs also differ with respect to their location in neighborhoods with multiple symptoms of social and economic distress. Here, again, public housing performs much worse than other housing assistance programs or even welfare programs. Although about 2.4 percent of renter-occupied units are located in underclass census tracts, as defined by Ricketts and Sawhill (1988), according to our data, 16.5 percent of all public housing units are found in such areas. This proportion contrasts starkly with the 4.2 percent of units in privately owned assisted developments, the 2.4 percent of certificate and voucher units, and the 5.7 percent of welfare households. Again, the certificate and voucher programs appear to avoid the most distressed areas. The proportion of certificate and voucher units located in underclass areas is the same as for all renter-occupied units, less than half that for welfare households, and about 60 percent that for private developments.

Racial and ethnic composition

Table 4 presents information on the distribution of assisted housing units by the percentage of minority households in the census tract. Differences between public housing and the other types of assisted housing are again dramatic. More than half of all public housing units are located in minority census tracts, defined as those where at least 50 percent of the households have a black or Hispanic head, and 38 percent are located in tracts that are 80 to 100 percent minority. By contrast, only 21 percent of all public housing units are in neighborhoods where the minority share is less than 10 percent. This profile bears little resemblance to that for other types of assisted housing or the distribution of the welfare population. These data indicate that public housing is associated with a much higher degree of racial segregation than other types of assisted housing or than the housing units of welfare households.

The distribution of the privately owned assisted stock is again virtually the same as that observed for the welfare population. Certificate and voucher units are much less likely to be located in the most segregated neighborhoods than either of these groups, but only marginally more likely to be located in areas

Table 4. Distribution of Units by Census Tract's Percentage of Minority Households

	Assisted Housing				All Rental Units
	Public Housing	Private Develop-ments	Certificates and Vouchers	Welfare House-holds	
Minority					
<10 percent	21.4	42.2	44.3	41.1	47.6
10–29 percent	16.5	22.1	23.0	19.9	25.9
30–49 percent	11.3	10.2	11.7	10.7	9.7
50–79 percent	13.3	10.4	11.1	10.6	7.5
>80 percent	37.6	15.1	9.9	17.8	9.4

where the minority concentration is relatively low (below 10 percent).

The implications of these results are similar to those for income. While certificates and vouchers appear to move families out of ghetto neighborhoods, they seem to be less successful in promoting moves to significantly more integrated living environments. Similarly, in the case of tract median incomes, certificate and voucher units are less likely to be located in the lowest-income tracts than other assisted units or welfare households, but they are no more likely to be located in middle- and upper-income tracts than these other groups.

Quality of the housing stock

Table 5 presents the distribution of assisted housing units by the median gross rent of the census tract, a crude measure of the overall quality of the neighborhood's housing stock.¹¹ Public housing tends to be located in neighborhoods where rents are extremely low, a pattern that most likely reflects the inferior quality of the surrounding stock.¹² The proportion of public housing in tracts with a median rent below \$200 per month is

¹¹ Similar patterns occur if one examines the median value of owner-occupied housing.

¹² To some degree, the median rent in the tract will be affected by the below-market rents in public housing. However, since public housing represents a very small share of all housing in a tract and since a similar pattern is not evident for the privately owned assisted stock, this effect is assumed to be minor. We estimate that only in about 3 percent of all census tracts in the universe for this study does public housing constitute 25 percent or more of all households. This estimate is similar to that reported by Goering, Kamely, and Richardson (1994).

roughly twice that for welfare households, while both privately owned developments and certificate and voucher units are much less likely to be located in these very low cost—and presumably low-quality—neighborhoods than public housing. This pattern is similar for the housing units of welfare households, although the difference in rates is less dramatic.

Table 5. Distribution of Units by Census Tract’s Median Gross Rent (Percent)

	Assisted Housing				All Rental Units
	Public Housing	Private Developments	Certificates and Vouchers	Welfare Households	
Median monthly rent					
<\$200	42.6	15.5	11.7	21.5	9.8
\$200–\$299	30.6	30.2	32.5	30.0	22.5
\$300–\$399	15.1	27.1	25.3	21.4	24.8
\$400–\$499	7.2	14.7	14.5	13.2	19.2
<\$500	4.5	12.4	16.1	14.0	23.7

Concentration of assisted housing

Table 6 shows the distribution of assisted housing by the percentage of housing units in the tract that receive some form of housing assistance. These data are intended to indicate the extent to which the different program variants are concentrated in areas where assisted housing predominates. Not surprisingly, units developed under project-based assistance programs are more likely to be in areas with high concentrations of assisted

Table 6. Distribution of Units by Percentage of Census Tract’s Units Receiving Housing Assistance

	Assisted Housing				All Rental Units
	Public Housing	Private Developments	Certificates and Vouchers	Welfare Households	
Assisted housing					
<10 percent	24.4	41.3	79.7	78.6	83.0
10–29 percent	31.7	36.6	16.9	14.8	12.8
30–49 percent	15.8	9.5	2.4	3.4	2.4
>50 percent	28.1	11.6	1.0	3.2	1.8

Note: The number of units is calculated by taking the ratio of all assisted housing units identified in our database in each tract to the total number of housing units in each tract.

housing, since larger developments will inevitably represent a significant share of the neighborhood's housing stock. However, the tendency toward concentration is more pronounced for public housing than it is for privately owned assisted developments: The prevalence of public housing in tracts where 30 percent or more of the housing units receive assistance is roughly twice the rate for private developments (44 percent to 21 percent, respectively). By contrast, certificate and voucher units are far more likely to be located in areas where relatively few neighboring units or households also receive housing assistance.

Variations within the public housing stock

Although the results presented thus far highlight the poorer performance of public housing on most indicators of neighborhood quality, all public housing is not the same. To ascertain the characteristics of public housing that performs better, or worse, than average, we conducted three additional analyses. In the first, we compared the locational attributes of units in "troubled" versus "nontroubled" public housing authorities (PHAs). In the second, we compared the neighborhoods of family developments with those of elderly/handicapped developments. Third, we compared the characteristics of public housing in "good" versus other neighborhoods.

Differences between troubled and nontroubled public housing.

The troubled designation was first used by HUD in 1992 as part of a new system for rating the performance of PHAs. The Public Housing Management Assessment Program consists of 12 indicators covering occupancy, maintenance, and financial characteristics of all the public housing developments within the jurisdiction of each authority. PHAs are given scores on each indicator and then rated as high performers, standard performers, or troubled authorities. At present, 65 PHAs responsible for about 199,000 housing units—about 16 percent of all public housing units—are designated as troubled (HUD 1996a; Greg Russ, personal communication, October 7, 1996; William Thorson, personal communication, October 2, 1996).

As shown in table 7, units in troubled authorities are much more likely to be located in distressed neighborhoods than units in nontroubled authorities (or units assisted under any other program). For example, roughly two-thirds of units in troubled authorities are located in tracts where more than 40 percent of households have incomes at or below the poverty level, a rate that is nearly twice that for units in nontroubled authorities.

Nonetheless, because the units in troubled authorities represent only about 16 percent of the universe of public housing, their dramatically poorer performance does not skew the overall results discussed thus far. (The effect is to increase the rate by 2 or 3 percentage points.) Thus, the relatively poor performance of public housing on the neighborhood indicators examined in this article is widespread and does not appear to be attributable to a small proportion of problem developments.

Table 7. Selected Neighborhood Characteristics of Troubled versus Nontroubled Public Housing (Percent)

Characteristic	Troubled	Nontroubled	Total
Tract median household income <\$10,000	57.8	22.1	25.6
>40 percent of tract households on welfare	51.0	15.2	18.7
>40 percent of tract households minority-headed	85.5	52.9	56.2
>40 percent of tract households in poverty	65.5	33.3	36.5
Percentage in underclass tracts	31.4	14.9	16.5

Differences between family and elderly/handicapped public housing. In a second comparison, we looked at family versus elderly/handicapped public housing developments. As shown in table 8, family developments are much more likely than elderly/handicapped developments to be located in distressed neighborhoods. For example, the proportion of family units in neighborhoods where 40 percent or more of the households receive welfare is five times that for elderly/handicapped units (23.6 percent versus 4.4 percent, respectively), while the fraction of family units located in underclass neighborhoods is more than three times that for elderly/handicapped units (20.3 percent versus 5.2 percent, respectively). Because family developments constitute 74 percent of all developments, their neighborhood characteristics have a very strong effect on the overall results. If all public housing performed like elderly/handicapped public housing on these neighborhood indicators, the proportion located in underclass areas would be only 6 percent. Instead, this proportion is nearly three times higher (about 17 percent), largely because nearly one-fifth of family units are located in such seriously distressed neighborhoods.

Differences between public housing in good versus other neighborhoods. Although much public housing is located in poor-quality neighborhoods, not all of it is. What distinguishes public housing developments that are located in good neighborhoods? Although there is no standard definition of a good neighborhood, three attributes that appear in much of the literature on neighborhood

effects are income, the proportion of residents 25 and older who are college graduates, and the proportion of workers in professional and managerial occupations (Brooks-Gunn et al. 1993; Duncan 1994; Jencks and Mayer 1990; Plotnick and Hoffman 1993). These indicators would appear to capture the “role model” effect of neighborhood residents on children we discussed at the outset. About 5 percent of public housing units are located in neighborhoods that are above the mean for all census tracts in the nation on all three criteria.^{13–15}

Table 8. Selected Neighborhood Characteristics of Family versus Elderly/Handicapped Public Housing (Percent)

Characteristic	Elderly/ Handicapped	Family	Total
Tract median household income <\$10,000	17.1	29.2	25.6
>40 percent of tract households on welfare	4.4	23.6	18.7
>40 percent of tract households minority-headed	27.7	65.3	56.2
>40 percent of tract households in poverty	17.2	43.4	36.5
Underclass tract	5.2	20.3	16.5

Note: Based on a match between HUD System for Management Information Retrieval—Public Housing (SMIRPH) and Multifamily Tenant Characteristics System (MTCS) data, and HUD Form 951 public housing records. Some 62 percent of developments in the Form 951 data could be matched to the SMIRPH, and an additional 10 percent could be matched to the MTCS. Of these 72 percent, those in which 75 percent or more of the heads of households are 62 or older or handicapped were considered “elderly/handicapped.” Approximately 21 percent of units in this analysis meet this definition. This number is about one-third smaller than HUD’s estimate of 33 percent (HUD 1996b). The underestimate undoubtedly occurs because the data represent only about 66 percent of all public housing (91 percent of all units × 72 percent with SMIRPH or MTCS matches). However, analyses not using the “elderly/handicapped” designation are based on the 91 percent sample and therefore contain a larger proportion of these units. No data are available on the proportion of elderly versus family units in the 9 percent of missing observations.

¹³ In the case of income, in order to be categorized as a good neighborhood, the median income of the census tract in which the public housing development is located had to be above the mean of the median incomes of all tracts.

¹⁴ We viewed the cutoff of one standard deviation above the mean, which comes closer to the reverse of the Ricketts and Sawhill definition of underclass neighborhoods, as too stringent, since it yields less than 1 percent of public housing units in good neighborhoods. This number compares with 16.6 percent in underclass neighborhoods.

¹⁵ Some observers may view the standard we adopted as too high, arguing that we should be aiming for “acceptable” neighborhoods. We therefore tested an alternative that applies a core concept HUD uses in establishing Fair Market Rents. We compared the distribution on the three good neighborhood indicators in each tract encompassing public housing units with the distribution in the metropolitan area encompassing that tract. We examined three thresholds for defining “acceptable” neighborhoods: tracts at or above the 50th, 45th, and 40th percentiles, respectively, on the three indicators for their respective metropolitan areas. In general, results did not differ substantially from those reported in the text or from neighborhoods above the mean for their metropolitan areas.

Table 9 compares the characteristics of public housing developments and their residents in good versus other neighborhoods. The first two columns of numbers pertain to all public housing units, while the last two pertain to family units in large cities, arguably the units that have generated the most concern.

Table 9. Characteristics of Public Housing Units in Good and Other Neighborhoods

Attribute	All Public Housing		Family Units in Cities 500,000*	
	Good Neighborhoods	Other Neighborhoods	Good Neighborhoods	Other Neighborhoods
<i>Developments</i>				
Size (units in development)				
Mean	98	210	193	589
Median	77	85	159	246
City size				
500,000+	18.1	28.4	100.0	100.0
499,999–250,000	4.4	12.2	0.0	0.0
249,999–100,000	9.1	10.5	0.0	0.0
<100,000	13.8	13.8	0.0	0.0
Suburb	47.0	16.1	NA	NA
Nonmetro	7.7	19.2	NA	NA
Percentage elderly/ handicapped	40.7	19.9	NA	NA
<i>Residents</i>				
Percentage of minority				
Mean	46.4	70.8	78.8	95.8
Median	41.0	94.0	91.0	99.0
Percentage with female head				
Mean	74.8	79.0	70.8	83.4
Median	76.0	81.0	69.0	85.0
Household income				
Mean	\$9,960	\$7,755	\$12,654	\$9,553
Median	\$9,500	\$7,100	\$13,900	\$10,600

* In cities of 500,000+ population, 64.6 percent of public housing units in good neighborhoods are family units, and 88 percent of public housing units in other neighborhoods are family units.

Looking first at all public housing, relative to public housing in other neighborhoods, the average unit in a good neighborhood is more likely to be in a smaller development, to be located in a suburb, and to be part of an elderly/handicapped development.

Residents in these public housing units are less likely to be minorities and somewhat less likely to be headed by women. They also have incomes roughly \$2,000 higher than their counterparts in other neighborhoods.

Family developments in good neighborhoods of big cities are much smaller than those in other neighborhoods. Although most of the residents of these good neighborhood developments are minorities, at least some nonminority households also reside there, whereas developments in other neighborhoods are essentially completely segregated. The percentage of families headed by women is about 15 points lower in good neighborhoods, while incomes are about \$3,000 higher. These results have at least two alternative interpretations: The first is that moving into public housing located in a good neighborhood has salutary effects on a person's income, perhaps because it increases the ability to get a job. A different view is that PHAs are channeling particular families into the best public housing sites. Although we do not have sufficient data to definitively prove either of these explanations, two pieces of evidence suggest that the second may be correct. First, race is an inherent, unchanging characteristic, so the racial disparity between the two types of neighborhoods must have preceded the sorting process into public housing. Second, our previous research demonstrated some major demographic differences between families living in public housing and those living in other types of assisted housing, a finding that leads us to speculate that the housing assistance system channels different types of households with children into different housing programs (Newman and Schnare 1993). The present results suggest that this channeling process may apply within the public housing program as well.

Table 10 provides a better sense of public housing units at opposite ends of the neighborhood quality continuum. There are obviously major differences in the scale of the public housing programs in these cities,¹⁶ and the large proportion of public housing units in underclass neighborhoods in many cities overwhelms the much smaller proportions in good neighborhoods. Nonetheless, several cities that have experienced substantial problems with their public housing programs—including some whose PHAs are troubled or in receivership—show up on the good side of the ledger, and it is intriguing that some cities appear in both columns. Thus, even in cities dominated by public

¹⁶ For example, San Francisco has the largest proportion of units in good neighborhoods, but New York has four times the absolute number of units, even though its proportion is only one-sixth as large.

housing in very distressed neighborhoods, some historical or political circumstances enabled at least some units to be developed in good neighborhoods. The numbers in the fourth column show that, in most cases, these units are not located in only one or two developments.

Table 10. Top Ranked Cities on Percentage of Family Public Housing Units in Good and Underclass Neighborhoods (Cities with Population of over 500,000)

Rank	Good Neighborhoods	Percent	Number of Developments	Underclass Neighborhoods	Percent
1	San Francisco, CA (898/5,112)	17.6	6	Phoenix, AZ (297/297)	100.0
2	Seattle, WA* (316/3,548)	8.9	48	Baltimore, MD (9,928/14,431)	68.8
3	San Diego, CA (68/928)	7.3	6	Dallas, TX (6,763/10,065)	67.2
4	El Paso, TX (269/5,429)	5.0	7	Los Angeles, CA (4,068/6,485)	62.7
5	Washington, DC (319/8,214)	3.9	4	Memphis, TN (3,385/5,805)	58.3
6	New York, NY (3,870/141,404)	2.7	48	Chicago, IL (14,567/28,640)	50.9
7	Houston, TX (82/3,228)	2.5	79	San Antonio, TX (3,609/7,473)	48.3
8	Dallas, TX (119/10,065)	1.2	2	Columbus, OH (739/2,474)	29.9
9	Chicago, IL (175/28,640)	<1		Washington, DC (2,264/8,214)	27.6
10	San Antonio, TX (32/7,473)	<1		Cleveland, OH (2,083/8,158)	25.5
11	Milwaukee, WI (10/2,458)	<1		New York, NY (30,553/141,404)	21.6
12	Jacksonville, FL (4/1,876)	<1		Jacksonville, FL (229/1,876)	12.2

Note: The first number in parentheses is the number of public housing units in good or underclass neighborhoods; the second is the total number of public housing units in the city.

* The Seattle units are identified as “scattered site.”

Regional differences in program performance

In an earlier section we examined differences in the distribution of the three program types across the four census regions. Some of the patterns reviewed thus far could conceivably reflect these regional differences. To examine this possibility, we analyzed the distributions for several important indicators of neighborhood quality for each of these regions. The results of this analysis are summarized in table 11.

In general, the program differences described in the previous section hold up at the regional level. However, the regions differ in the extent to which assisted housing is located in distressed neighborhoods. Both assisted and unassisted households tend to live in better neighborhoods in the West, at least when measured by the indicators used in this research. But the relative neighborhood performance of the different housing programs is the same in the West as it is in the other regions: Namely, there is a much higher incidence of public housing units in distressed neighborhoods compared with private developments or certificate and voucher units.

Differences within the privately owned assisted stock

To this point, we have treated the privately owned assisted stock as if it were a single program. In reality, however, because units in this category represent a heterogeneous mix of programs subject to markedly different rules and regulations, it is possible that neighborhood outcomes differ across programs, thus making generalizations about “private developments” quite misleading.

To examine the effects of specific project-based assistance programs, we grouped units into the four mutually exclusive categories shown earlier in figure 1: (1) LIHTC, (2) other HUD-assisted (i.e., not public housing or certificates and vouchers), (3) RHS Section 515, and (4) state-funded programs. Table 12 presents the performance of these program variants on a number of key neighborhood indicators. Results for public housing and certificate and voucher units are also provided as a frame of reference.

Of the four programs subsidizing private developments, RHS Section 515 produces units that are the least likely to be located in the most distressed neighborhoods. This distinction holds up even when RHS neighborhoods are compared with those of certificate and voucher users, which we have described earlier as the least likely of the assisted housing categories to be located in

Table 11. Selected Neighborhood Characteristics of Assisted Housing, Welfare Households, and All Rental Units by Region (Percent)

	Assisted Housing				Welfare Households	All Rental Units
	Public Housing	Private Developments	Certificates and Vouchers			
Tract median household income <\$10,000	Northeast	20.5	7.5	1.8	6.5	2.9
	Midwest	33.2	9.0	2.0	7.8	4.0
	South	29.1	5.8	3.9	6.7	3.6
	West	10.6	4.3	0.6	2.2	0.9
>40 percent of tract households on welfare	Northeast	23.4	5.9	1.3	7.8	2.9
	Midwest	24.1	3.8	0.9	7.7	2.7
	South	13.0	1.0	0.4	2.0	0.7
	West	15.0	3.4	1.4	3.1	0.9
>40 percent of tract households minority-headed	Northeast	62.9	35.7	20.5	37.2	24.0
	Midwest	43.5	19.4	13.4	27.8	14.7
	South	61.3	37.2	38.6	37.9	25.6
	West	39.2	24.4	26.6	28.4	17.7
>40 percent of tract households in poverty	Northeast	37.4	12.7	3.9	13.6	6.1
	Midwest	37.0	11.5	3.9	13.5	6.8
	South	39.9	10.5	9.6	14.1	7.4
	West	17.3	4.0	1.7	3.8	1.9
Underclass tract	Northeast	17.5	7.2	2.9	8.3	3.5
	Midwest	15.9	4.1	1.9	7.2	2.9
	South	17.2	3.1	2.5	4.3	2.0
	West	11.6	2.1	2.6	3.9	1.5

Table 12. Selected Neighborhood Characteristics by Program Type (Percent)

Characteristic	Private Developments					Public Housing	Certificates and Vouchers
	LIHTC	Other HUD-Assisted	RHS (Section 515)	State-Subsidized Units			
Tract median household income <\$10,000	7.5	8.4	0.6	2.9	25.4	2.3	
>40 percent of tract households on welfare	2.8	4.3	0.2	1.4	18.6	0.9	
>40 percent of tract households minority-headed	31.4	34.5	9.8	21.5	55.9	26.4	
>40 percent of tract households in poverty	10.3	12.6	2.0	4.5	36.3	5.3	
Underclass tract	4.0	5.2	0.2	2.0	16.4	2.4	

distressed neighborhoods. The characteristics of the neighborhood locations of state-subsidized units are quite similar to those of certificate and voucher units. For example, between 1 and 3 percent of the units in each program are located in census tracts where median household incomes are below \$10,000, where more than 40 percent of the households receive welfare, or that can be characterized as underclass areas. The proportions for LIHTC units and those subsidized under HUD project-based programs are generally similar and, in both cases, worse than those for the other private development subsidy programs or certificates and vouchers. About one-third of LIHTC units and of other HUD-subsidized units are located in neighborhoods where more than 40 percent of the households are minority. The comparable proportions are about one-quarter for certificates and vouchers, about one-fifth for state-subsidized units, and less than 10 percent for RHS units.¹⁷ At the other extreme, more than half of all public housing units are located in areas where more than 40 percent of the households are minority.

Multivariate analysis

One message that can be derived from this analysis is that the different housing programs operate in different types of markets. Most public housing, for example, is located in large central cities, which have a higher incidence of neighborhoods in distress than suburban or nonmetro areas. To explore whether the relationship between housing programs and neighborhood attributes remains after these market differences are taken into account, we estimated a series of simple, descriptive regression equations. The dependent variables in these models were the individual neighborhood indicators examined in the cross-tabulations (proportion of tract households in poverty, proportion receiving welfare, proportion with incomes under \$10,000). The independent variables were dummy variables for city size/location type, region, and housing program.¹⁸

The multivariate analysis confirms the patterns of the bivariate relationships. (Results from regressions on the percentage of

¹⁷ Minorities constitute 8 percent of the population of rural areas, which is where the large majority of RHS units are located (U.S. Bureau of the Census 1993).

¹⁸ Information on the number of units in particular developments was not available for certificates or vouchers. Results from regressions excluding certificates/vouchers and including the number of units produced results similar to those presented here.

households in poverty and the percentage of minority households are shown in table 13.) Even after geographic or market differences are taken into account, state programs and certificates and vouchers are the least likely to be located in the most distressed neighborhoods. LIHTC units also avoid the highest-poverty areas, though not areas with a relatively high proportion of minorities. At the other extreme, public housing stands alone in terms of its prevalence in high-poverty and high-minority neighborhoods. Its coefficient is both positive and much larger than coefficients on the other housing program dummies.

Table 13. Relationship of Subsidized Housing Program Type and Neighborhood Attributes

Independent Variables	Dependent Variables	
	Poverty Households (Percent)	Minority Households (Percent)
Central city	10.36 ***	36.16 ***
Suburb	-5.24 ***	7.74 ***
Public housing	12.20 ***	17.54 ***
Other HUD	-0.14	3.56 ***
State subsidized	-4.25 ***	-4.75 ***
LIHTC	-2.06 ***	1.53 ***
Certificates and vouchers	-2.28 ***	-0.96 **
Northeast	3.81 ***	8.23 ***
Midwest	5.83 ***	0.62 *
South	8.27 ***	16.44 **
Intercept	12.45 ***	0.99 **
Adjusted R^2	0.33	0.31
N	134,455	134,491

Note: Excluded categories are nonmetro, RHS, and North Central.

* $p < 0.02$. ** $p < 0.01$. *** $p < 0.001$.

Conclusions and implications

Although the patterns differ somewhat with the specific indicator examined, this analysis supports several broad conclusions. First, project-based assistance programs appear to do little to improve the quality of recipients' neighborhoods relative to those of welfare households and, in the case of public housing, appear to make things significantly worse. Public housing is disproportionately located in neighborhoods where incomes are low, unemployment and poverty rates are high, and the quality of the surrounding housing stock is poor. Rather than foster economic and racial integration, public housing appears to encourage segregation. Based on neighborhood attributes alone, public

housing residents appear to be significantly worse off than the welfare population at large, most of whom do not receive housing assistance of any kind. Public housing's poor performance appears to be widespread and cannot be attributed to only a small proportion of seriously distressed developments.

While it is theoretically possible that public housing is the *cause* of a neighborhood's decline, the empirical record suggests that this is unlikely in most cases. As already noted, public housing units constitute only a small share of all housing units in a census tract. Although it is possible that, say, fewer than 5 percent of the units in a tract could alone be responsible for bringing about the decline of the whole tract, this seems unlikely. It is much more likely that the decline had already taken place or was in progress. The historical record confirms this impression. The siting of public housing was often contentious, and developments were frequently relegated to the least desirable areas, which had a high risk of becoming distressed whether public housing was located there or not (Schill and Wachter 1995). For example, Schill and Wachter report that Illinois allowed city councils to reject sites proposed by PHAs. The result was that 80 percent of public housing built in Chicago between 1950 and 1965 was located in tracts where minorities constituted more than 75 percent of the population.¹⁹

Our results are largely consistent with those reported by Goering, Kamely, and Richardson (1994), who examined the neighborhood attributes and race of public housing residents: They found that blacks are more likely than whites to live in tracts with high rates of poverty and minority households. This tendency implies marked segregation of black public housing residents, a fact substantiated by other data. The authors note that the typical black household in public housing lives in a development that is 81 percent black. The correlation between race and neighborhood indicators of distress is also particularly prominent among large public housing developments (those with more than 2,500 units), where 35 percent of the developments are characterized as highly segregated.

The impact of other types of project-based assistance on the neighborhood quality experienced by residents of subsidized housing is more ambiguous. While it does not appear to hurt, it also does not appear to lead to any significant improvements. Of all housing programs examined, RHS Section 515 units are the least likely to be located in distressed neighborhoods, largely

¹⁹ Race is the only indicator for which historical figures are reported.

because these programs operate in rural areas only. LIHTC performs much better than other project-based assisted housing, but not as well as certificate and voucher or state-assisted units. With the rare exceptions of RHS and state-assisted units, then, the distribution of units in the privately owned assisted stock (including both HUD-assisted and LIHTC) closely resembles the distribution of welfare families, suggesting that the location of these developments does little to alter existing residential patterns. This conclusion is consistent with our earlier research, in which we found that the impact of such programs on the neighborhood quality experienced by recipients was neutral at best (Newman and Schnare 1992).

The one hopeful note in this analysis relates to the certificate and voucher programs, which appear to reduce the probability that families will live in the most economically and socially distressed areas. Even though demographic profiles of certificate and voucher households have some similar features to those of public housing residents, certificate and voucher units are rarely found in areas with extremely low incomes, high unemployment rates, or high concentrations of minority households (Newman and Schnare 1993). Nor are they found in neighborhoods with a high concentration of assisted housing. However, there is little evidence that the certificate and voucher programs encourage moves into middle- and upper-income areas to any significant degree. Roughly 26 percent of certificate and voucher units are located in middle-income tracts, as are 27 percent of privately owned assisted units and 25 percent of the residences of welfare recipients.

These data reinforce the concerns voiced in our earlier work (Newman and Schnare 1993) about large reinvestments in public housing and privately owned assisted stock. Unless these properties are located in decent neighborhoods, or at least in neighborhoods that show clear signs of improving, the long-term viability of investments in bricks and mortar alone is questionable. This view is consistent with the threshold theory (Quercia and Galster 1997) and the zones-of-emergence theory (Nathan 1992; Sviridoff 1994) of neighborhood redevelopment. Although the jury is still out on the long-term effectiveness of supportive services programs for residents, we are skeptical that such programs can compensate for, or balance out, the ill effects of neighborhood decay. We do not question the ability of housing professionals to turn deteriorated buildings around; their record of outstanding performance speaks for itself. But successfully rebuilding entire neighborhoods has a much more modest record. Even if the record were more notable, neither the modernization nor the preservation program contemplates any actions directed at the neighborhood.

This sobering evidence leads us to question HUD's major \$2.6 billion initiative, HOPE VI, which can be used to invest significant resources in deteriorated public housing developments in an effort to turn them around, and other attempts to salvage Federal Housing Administration (FHA)-insured multifamily developments that have fallen into serious disrepair. Unless neighborhood viability is taken into account as an explicit, highly rated criterion for judging the soundness of these investments, as it currently is not, we question their ability to succeed.²⁰ To quote David Rusk (1995): "Bad communities defeat good programs" (127).

We see two main challenges for the future. First, we need to devote much more attention to learning how to rebuild neighborhoods. This promises to be a stiffer challenge than the previous one of improving housing quality, which has largely been met. The 30 years of U.S. experience with neighborhood revitalization should provide a starting point. Also, we need to find the right approach for incorporating explicit neighborhood criteria into housing programs. Although site and neighborhood standards already exist both for siting developments and as part of the annual Housing Quality Standards recertification (*Code of Federal Regulations* 1992), the results presented here demonstrate that they are ineffective. Finding a better approach will not be easy. What neighborhood features should be taken into account? How should the annual inspection of neighborhood conditions be modified? And what action should be taken if the neighborhood evolves from good to bad over time?

Poverty deconcentration programs, such as Gautreaux in Chicago and HUD's Moving to Opportunity (MTO) demonstration, take a step in the direction of explicit neighborhood standards. Gautreaux requires that families move to census tracts that are less than 30 percent black; MTO requires that the destination tract have a household poverty rate of less than 10 percent. Another new development is HUD's plan to take neighborhood socioeconomic characteristics into account in underwriting FHA multifamily mortgage insurance ("Neighborhood Planning Guidelines" 1997). This goal is to be achieved by making FHA mortgage insurance available, especially in those communities and neighborhoods that already have a mechanism in place for areawide comprehensive planning and problem solving. Such

²⁰ The Notice of Funding Availability for HOPE VI states that "HUD will consider the extent to which the applicant proposes to place public housing in nonpoverty neighborhoods" (emphasis added). The combination of this element of the proposal, along with housing counseling to relocating families, is worth 20 points, or roughly 10 percent of the total points (HUD 1996d).

targeting is based on the belief that where these local processes occur, there is greater likelihood of neighborhood stability (Eleanor White, president, Housing Partners, Inc., personal communication, May 9, 1997).

Although neighborhood quality has not been a priority in housing programs, it has also not been ignored. MTO and FHA neighborhood underwriting standards are only the most recent attempts by HUD to acknowledge the importance of decent neighborhoods as well as decent housing (Newman and Schnare 1993). A review of the knowledge and experience gained over 50 years of trying different approaches may not yield the magic bullet, but it might at least eliminate clearly unfruitful approaches.

The performance of the certificate and voucher programs raises a different issue. Although these housing units are less likely than project-based subsidized units to be located in the lowest-income neighborhoods, they are no more likely to be located in middle- and upper-income neighborhoods either.²¹ Yet recent findings from some of the most rigorous studies on neighborhood effects emphasize that the presence of neighbors with incomes above \$30,000 has a significant effect on children's educational attainment (Brooks-Gunn et al. 1993; Duncan 1994). This presents a policy conundrum: While middle-income and affluent neighborhoods appear to be best from the perspective of educational outcomes for children, the supply of affordable rental housing in these neighborhoods is low.²² Further, certificate and voucher families may be reluctant to search for housing in these unfamiliar neighborhoods for a host of reasons: They may be far from family and friends, landlords may not be receptive to participating in the certificate or voucher programs (Kennedy and Finkel 1994), and neighbors may be unwelcoming or even hostile.

On the supply side, one way to improve access to more affluent areas is to create a more even distribution of affordable rental housing through such mechanisms as "fair-share" low- and moderate-income housing policies, inclusionary zoning, and density bonuses (Calavita, Grimes, and Mallach 1997; Rusk

²¹ This result is consistent with Finkel and Kennedy (1992), who suggest that success rates in using certificates and vouchers were significantly higher among participants who limited their search to Section 8 submarkets than among those searching outside these markets.

²² The median monthly rents for U.S. census tracts with household median incomes above \$30,000, \$40,000, and \$50,000 are \$509, \$610, and \$703, respectively (U.S. Bureau of the Census 1992).

1995). A few jurisdictions have adopted such policies, some voluntarily through their legislatures and others in response to rulings by the courts.

On the demand side, housing counseling, such as that conducted in conjunction with the Gautreaux and MTO mobility programs, could assist families with their search in these higher-income neighborhoods. Such programs have helped tenants, but this may be the easier part of the problem to solve. To date, no one has figured out how to change the attitudes of landlords and neighbors.

Appendix

Assisted housing: Definitions and sources. The assisted housing database we used consists of the street addresses of (1) housing units that are subsidized by either the federal or the state government and (2) housing units being rented by households participating in the federal Section 8 certificate and voucher programs.²³ The first category includes units subsidized by HUD project-based programs (e.g., Section 8 New Construction and Substantial Rehabilitation, Section 236, Section 221(d)(3), Rental Rehabilitation), units developed under the LIHTC program, units subsidized by the RHS Section 515 program,²⁴ and state-subsidized rental units (e.g., 80/20 program and the State Housing Assistance for Rental Production [SHARP] program in Massachusetts).

We used the following eight sources to identify these housing units:²⁵

²³ The numbers presented here are preliminary estimates that are subject to change as we continue to work with and clean the data files. More information on all the procedures outlined in this appendix is available from the authors on request.

²⁴ Section 515 provides direct loans for the purchase, construction, or rehabilitation of housing for very low income, low-income, and moderate-income families, senior citizens, and persons with disabilities (Housing Assistance Council 1994).

²⁵ HUD951 is based on a HUD survey sent to all properties receiving project-based subsidies. Most of the responses were received in 1989. CFS was compiled by HUD and reflects properties as of fall 1995. RR reflects early 1993. NHT supplemented HUD's 1992 list of Section 236 and 221(d)(3) properties that were eligible for prepayment with properties that had filed notices of intent (reported by HUD and Fannie Mae), as well as information from local housing groups. The data used here represent the period 1992 to 1994. Certificate and voucher data pertain to 1995. RHS and HFA data reflect properties as of 1993–1994.

1. HUD Form 951 address file (HUD951)
2. HUD CFS file
3. Federal Rental Rehabilitation program (RR)
4. National Housing Trust (NHT) database
5. HUD certificate and voucher (C&V) file
6. Farmers Home Administration (FmHA) (states, districts)
7. State housing finance agencies (HFAs) and departments of housing
8. LIHTC survey by Abt Associates for HUD (Abt/LIHTC)

The HUD951, CFS, RR, NHT, C&V, and Abt/LIHTC data were computerized, with individual records representing projects, buildings, or units. We converted these records so that one record represented a single street address. We also used unit count information to generate numbers of individual assisted housing units in each file.

To identify RHS Section 515 units, units receiving state rental assistance, and units receiving combinations of subsidies in which the state would likely be involved or most knowledgeable, we conducted mail and telephone surveys of FmHA²⁶ state and district offices, all state HFAs, and many state departments of housing. Most of the RHS and HFA data were provided in hard copy, often aggregated at the project level, and frequently recorded as the management company's address instead of the actual property address. (Similar problems were present in the RR and NHT data but to a much lesser extent.) Where we could obtain telephone numbers, we contacted all suspect addresses in an attempt to convert them to assisted housing property addresses. After more than 5,500 calls, we were able to assign property addresses to 98.5 percent of the records. One component of this process was to separate addresses listed as ranges into individual addresses. The data were then computerized at both the street address and unit address levels.

These procedures produced record counts for each file as presented in table A.1. (Duplicate cases were not eliminated at this stage.)

²⁶ See footnote 2.

Table A.1. Numbers of Street Addresses and Units for Various Sources

File	Street Addresses	Units
HUD951	808,506	2,712,053
CFS	129,815	722,775
RR	76,788	170,780
NHT	869	73,323
RHS	19,724	342,331
HFA	59,351	883,078
Abt/LIHTC	10,700	332,418
Total	1,105,753	5,236,758

Note: The certificate and voucher file contained 722,531 units. In this case, the number of units and the number of street addresses are identical. This file contains geocoding to census tracts and was not included in the validation procedures described in this appendix.

Address validation. While there is no independent source to determine whether these addresses are correct, it is possible to confirm that they are valid addresses from the perspective of the U.S. Postal Service. To do so, we used specially designed software that compares each address with addresses in a database developed by the U.S. Postal Service to represent its universe of valid U.S. addresses. In the case of a successful match, the program standardizes the address and geocodes it to the finest level possible (e.g., five-digit zip code, zip+4, delivery point, carrier route).

After a first pass through this validation/standardization routine, 23 percent of the assisted housing addresses in the RR, NHT, RHS, and HFA files failed. (Because the failure rate for the HUD951 and CFS was much lower—7.1 percent—we decided to concentrate our address correction efforts on the other four files.) To reduce this failure rate, we telephoned property owners, management agencies, on-site managers, housing agencies, post offices, and directory assistance to ascertain the correct address whenever possible. After corrections were entered, the entire file of 1,105,753 records, which included the newly corrected addresses, was then resubjected to the post office address-checking routine. This time, 1,018,776 addresses (or 92.1 percent) were fully standardized, and an additional 86,363 addresses could be coded to five-digit zip code or carrier route. Only 614 addresses had no valid zip code and were not recognizable by the standardization routines.

Eliminating duplicate records. One byproduct of working with multiple files from different sources was the potential for

duplicate records.²⁷ We searched for duplicate cases across all databases and eliminated them by using the following steps:

First, all CFS and NHT records were matched by their unique FHA numbers and Section 8 numbers to these same unique identifiers in the HUD951 file. In each case, the CFS or NHT record of the matching pair was eliminated. For the CFS, this first step reduced the 140,440 total buildings in the file to 53,697 building addresses, which were converted to 129,815 street addresses representing 722,775 unit addresses. For the NHT, this procedure reduced the 4,034 projects in the original file to 502, which were converted to 869 street addresses representing 73,323 unit addresses.

Second, we concentrated on only the 92.1 percent of records that had complete postal coding and began by comparing the codes. Of the 1,018,297 records in this comparison, we defined a pool of 384,619 records where two or more had the same postal code. These were the focus of our duplicate search.

To identify cases that were clearly not duplicates, we developed an automated program to distinguish addresses with the same postal code that contained finer levels of distinction, such as apartment numbers. Because a primary purpose of these data is to arrive at an unduplicated count of the number of assisted housing *units* in the federal and state inventories, at this stage we also eliminated any records with “zero” or “missing” unit count information. This processing reduced the duplicate pool by roughly 60 percent, to 158,711 records.

Next, we concentrated on eliminating duplicates resulting from the particular idiosyncracies of each database. Whenever possible, we discussed and confirmed our decisions with staff at HUD or our other data sources. In the HUD data, for example, there were numerous instances in which otherwise identical addresses, with identical unit counts, were assigned project identifiers that differed by one digit. This was apparently a common error where there were many addresses in a particular project. The choice of which of the identical records to retain was arbitrary, and we chose to retain the record that appeared first. This third phase of automated processing resulted in 88,402 records that required additional scrutiny.

Because the remaining examination could not be easily automated, we assigned clerical staff to study these records. One

²⁷ Curiously, we found duplicate cases *within* a single database as well.

example of the type of duplication we found in this phase was a listing of four separate unit addresses including apartment numbers in one part of the file and a single listing of the same address without an apartment number in another part of the file. The total number of units represented by the first four listings with apartment numbers was equal to the unit count for the single listing that appeared later. We made the assumption that these were the same addresses. In all cases so examined, we used whatever additional information was available to guide our decisions. A project name, for example, was useful to distinguish duplicates from nonduplicates.

At the conclusion of both the automated and clerical checks, we eliminated an estimated 786,592 duplicate units (15.0 percent of all unit records in the original database), resulting in a total estimated unduplicated count of 4,450,166 units of assisted housing receiving federal or state subsidies. (This number includes approximately 2,000 addresses without enough information to determine whether any were duplicates.)

Among the 92.1 percent of addresses that were fully postal-coded, we eliminated 50,940 street addresses, representing 4.6 percent of the address records in this set. This produced an unduplicated count of 1,054,813 distinct street addresses (fully postal-coded, regardless of unit counts). The lower rate of duplication among street addresses than among units is largely attributable to a high rate of duplication among projects with many units listed under the same address.

Validity and reliability of assisted housing data. As previously noted, there is no independent, accurate source of assisted housing addresses against which we can assess the validity of the data we have assembled. Therefore, the best yardstick readers can use to judge the quality of this information is our methodology in identifying, assembling, verifying, and processing it. Despite our best efforts to produce an accurate, comprehensive database, we know that we have fallen short of this goal for several reasons:²⁸

1. *Undercount of HUD-assisted housing:* The HUD951 data, our main source of addresses for HUD-assisted private housing and public housing, was compiled from a 1989 mail survey conducted by HUD's Office of Policy Development and Research of all project-based programs (addresses

²⁸ The problem of undercounts for state rental assistance programs is not discussed because we have no way of estimating its magnitude.

receiving either public housing subsidies or subsidies for private developments). HUD estimates that roughly 80 percent of the forms that it sent out were returned. Furthermore, in some cases, addresses were missing for all units in particular developments.

As noted above, we used the CFS, RR,²⁹ and NHT data to augment the HUD951 data. Unfortunately, because there appears to be no single, indisputable count of all assisted housing units in the United States, we cannot judge with certainty the completeness of our coverage of the HUD-assisted housing units based on these four data sources. However, our estimate (3,125,929) is between those of two independent sources: Casey (3,101,000)³⁰ and the HUD951 memorandum (3,649,141).³¹

2. *Undercount of C&V units:* According to the HUD Tenant Rental Assistance Certification System database, there were an estimated 1.2 million Section 8 certificates and vouchers in use in 1993.³² The HUD C&V file we used includes 722,531 units, or 50.7 percent of the total reported by HUD in the January 1996 Multifamily Tenant Characteristics System database. Nonrespondents included some of the largest PHAs (e.g., New York City, Chicago, Philadelphia, Cuyahoga, and Miami-Dade) and some large state agencies such as those in Massachusetts, Virginia, and Oklahoma.³³
3. *Undercount of RHS Section 515 units:* We initially contacted 46 of the 47 state FmHA offices.³⁴ In 28 cases, we received the information we requested. In 15 of the remaining 18 cases, the state office did not have the data we requested, and we therefore contacted the FmHA district offices. While

²⁹ Of the 76,788 RR addresses on this file, 3,751 (or 4.9 percent) could not be postal-coded.

³⁰ Taken from Casey (1992). The figure excludes certificate and voucher units.

³¹ Taken from HUD (1990). HUD staff acknowledge that this number is imprecise because it is based on an extrapolation of the average number of addresses and units reported per HUD951 form returned.

³² Estimate provided by Duane McGough, October 7, 1996.

³³ Robert Gray, personal communication, October 23, 1996.

³⁴ At the time of this work there were 47 state FmHA offices in the nation (not 50 because, in a few cases, a single office handles more than one state). Although both the Virgin Islands and Puerto Rico participated in FmHA, we excluded the Virgin Islands, bringing the number down to 46.

it is hard to tell whether the listings from the state or district offices are complete, our guess is that we are missing complete data for at least 3 of these 43 cases. In 2 of the 18 cases, the state provided management company names along with project or development names. We attempted to contact these companies and obtained addresses for about 15 percent of the projects listed. For many of the rest, we were unable to make contact because the company had no telephone listing. Although this raises questions about validity, we have no way to determine what fraction represents valid Section 515 properties. In the remaining case, the state office provided only management company names with no project names. We called all these companies as well and were successful in obtaining addresses from about one-third of them.

4. *Undercount of LIHTC units:* These addresses were obtained from two sources: our survey of state agencies and data collected by Abt Associates for HUD (HUD 1996c). In our state survey, 41 of the 51 jurisdictions provided listings of projects denoted as funded at least in part by LIHTC. Of the remaining 10 jurisdictions, 5 provided no program or subsidy type, and we initially coded these properties as “subsidy type unknown.” None of the remaining 5 cases were classified as LIHTC, although subsidy types were listed on the files sent by the states. The state survey thus yielded 376,899 LIHTC units.

In a second stage, we compared our LIHTC addresses with those collected by Abt. Of the 376,899 addresses we collected from the states, 148,462 also appeared in the Abt database and 228,437 did not; 163,067 addresses were unique to the Abt data. We retained all three sets of addresses, producing a total of 539,966 LIHTC units.³⁵

5. *Other sources of error:* Beyond the undercount problems, we encountered several other problems that could also introduce errors:
 - The likelihood that some of the addresses in the final database actually represent management offices rather than assisted properties or units, despite our best efforts to catch these cases and recode them

³⁵ Of these, 16,692 received subsidies from RHS in addition to LIHTC. Following our priority-coding scheme, these units were assigned to RHS in our analysis file.

- The inclusion of units “authorized” under the LIHTC but never actually “placed in service”
- Our inability to obtain complete address information for all suspect cases through our telephone contacts
- Typographical and editorial errors in the original address data sent to us or introduced during our transcription and computerization
- Errors due to ambiguity in interpreting street number ranges
- Errors in the nonautomated phase of duplicate case elimination where we relied on our best judgment

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