

Neighborhood Change and the City of New York's Ten-Year Housing Plan

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Abstract

This article examines neighborhood changes associated with New York City's Ten-Year Plan—the largest municipal housing program in the United States. We examine indicators of change, in the context of two possible hypotheses about the program's impact: (1) neighborhood revitalization, including improved physical and housing market conditions, as well as gentrification, and (2) the concentration of poor and welfare-dependent households, as well as the possibility of residential segregation by race or ethnicity.

Our results present a mixed picture, with some evidence favoring both hypotheses, especially when parts of the city, particularly the South Bronx, are examined separately. Specifically, the program is associated with steep declines in the rate of boarded-up buildings and some indications of increased home values, as well as rent burdens. However, it is also correlated with increases in maintenance deficiencies and a greater proportion of poor, single-parent, and welfare-dependent households, but there is little evidence of accentuated residential segregation.

Keywords: Development/revitalization; Local; Low-income housing

This article examines neighborhood changes associated with the implementation of New York City's Ten-Year Plan for building and rehabilitating housing—said to be the largest municipal housing investment of its kind in the United States (Berenyi 1989; Goetz 1993). The program promised to revitalize neighborhoods that had been devastated by the widespread abandonment of residential buildings during the 1970s. Indeed, press accounts of the results of New York City's housing activities over the past decade, including national coverage of President Clinton's visit to the South Bronx in late 1997, tend to portray a picture of remarkable renewal in neighborhoods that for decades were national icons of urban devastation (Purdy 1994; Yardley 1997a).

However, the Ten-Year Plan has been criticized for threatening to cause gentrification and displace the poor, while questions have also been raised about the unevenness of any resulting revitalization (Brower 1989; Yardley 1997b). At the same time, analysts and observers of urban poverty more generally have grown increasingly

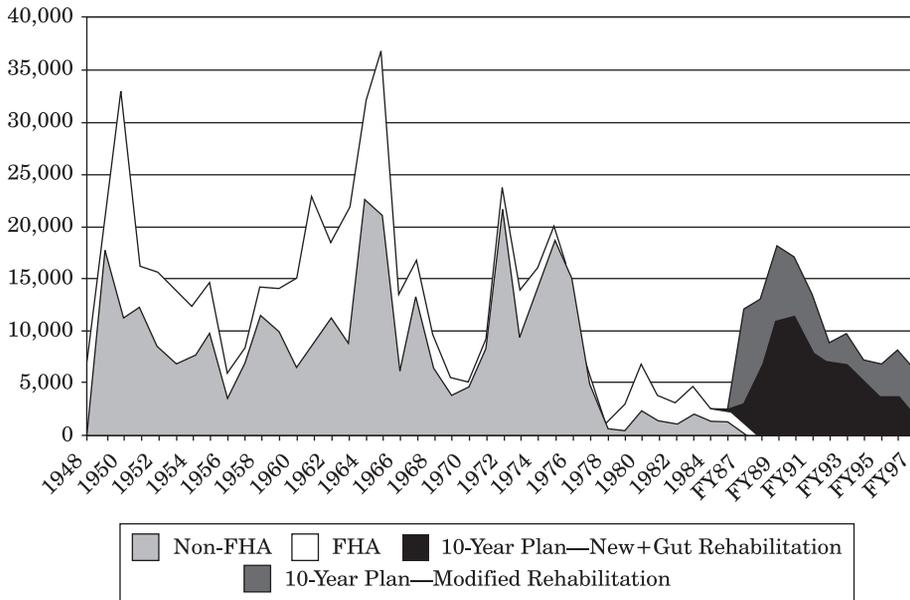
doubtful about large-scale government housing production programs narrowly targeted to the poor, which they view as contributing to the concentration and isolation of poor households in the most disadvantaged urban neighborhoods and to residential segregation by race (Downs 1977; Kasarda 1993; Massey and Denton 1993; Newman and Schnare 1992, 1993, 1997; Spence 1993; Wilson 1987; Yinger 1995).

By examining a range of outcomes that may be associated with the implementation of New York City's Ten-Year Plan, we provide an empirical perspective on the claims and controversies surrounding the program and on the debate over the intended and unintended effects of low-income housing strategies more generally. Using data from the New York City Housing and Vacancy Survey (HVS) and other sources, we specifically consider the program's association with various indicators of neighborhood change, including the physical condition of the housing stock, housing costs, homeownership, and demographic and socioeconomic characteristics. Our results present a mixed picture, with evidence of improvement in property conditions and home values on the one hand, and signs of increased concentrations of poor, single-parent, and welfare-dependent households on the other. However, much depends on which parts of the city are examined, with some areas, particularly the South Bronx and Central Harlem, displaying at times a pattern markedly different from that of other areas.

Background

In 1986, New York City embarked on what many observers believe to be the largest municipally sponsored housing program in the country. Known as the Ten-Year Plan (and sometimes referred to as Housing New York), this program has resulted in the construction or rehabilitation of over 140,000 housing units, representing a reported investment of \$4.2 billion in mostly city funds (Finder 1995). In fact, New York City has spent more on its housing programs in the past decade than all other major cities in the United States combined (Berenyi 1989; City of New York 1989; Finder 1995). Even judged in terms of New York City's long history of commitment to government-subsidized housing, the Ten-Year Plan represented a major upswing in subsidized housing activity. As figure 1 shows, the level of activity under the program almost equaled in magnitude the early postwar government-sponsored housing boom, the mid-1960s spike in housing production under urban renewal and New York's Mitchell-Lama program (a state-funded mortgage subsidy program for multifamily housing), and even the early 1970s, the high point of federally sponsored housing activity in New York and in the United States in general. The magnitude of the plan appears

Figure 1. Government Production of Housing Units in New York City, 1948 to 1996



Source: City of New York (1986) and City of New York Department of Housing Preservation and Development (data provided to the authors).

Note: Non-FHA (Federal Housing Administration) includes public housing units, Mitchell-Lama units, and Urban Development Corporation units. See City of New York (1986).

especially significant in relation to the low levels of federally assisted housing production in the city during much of the 1980s.

The Ten-Year Plan followed in the wake of a long wave of urban decay that began in the late 1960s and continued unabated for 15 years. During this period, entire neighborhoods, primarily in the South Bronx, Upper Manhattan, and central and eastern Brooklyn, were rife with housing abandonment and arson. The borough by far the heaviest hit was the Bronx. Between 1970 and 1980, the Bronx lost 11 percent of its housing stock (Stegman 1982) and 20 percent of its population (City of New York 1984). Two Bronx neighborhoods—Morrisania and Hunts Point—lost over 60 percent of their population over this period, and two others—Mott Haven and East Tremont—lost over 40 percent of theirs (City of New York 1984).

In addition to the numerical toll in buildings lost, the impact on the inhabitants was equally devastating. According to sociologist Nathan Glazer,

From the point of view of those living in the buildings that were destroyed, it was not a matter of deciding they preferred newer housing in different parts of the city or outside it. They felt they were being driven from their housing by crime, by arson, by the flooding of buildings as vandals ripped out plumbing, by the unwillingness or inability of landlords to maintain buildings, and the unwillingness or inability of the city to restrain the conditions that were destroying buildings while people lived in them. (1987, 270–71)

The Bronx's plight entered the national spotlight twice in 1977. The first time was when President Jimmy Carter took his famous walk down a vacant, rubble-strewn Charlotte Street and promised federal action to rebuild it. Later that year, a national television audience witnessed fires lighting up the night sky during the World Series game between the Yankees and the Los Angeles Dodgers and heard broadcaster Howard Cosell announce, in his famous nasal twang, "The Bronx is burning!" That statement and the fact that the burned-out buildings were visible from heavily traveled commuter corridors spawned movies like *Fort Apache: The Bronx* and made the Bronx a national symbol of urban decay. Given this attention, it is perhaps not surprising that the borough became the chief focus of the city's rebuilding efforts.

While a concerted government policy response was clearly in order by the late 1970s, little action ensued until a number of forces aligned and impelled the city to act. First, as a result of aggressive property tax enforcement in the wake of the fiscal crisis, in the late 1970s and early 1980s, New York City began to take possession of a growing number of privately owned apartment buildings for delinquent property taxes. Known as *in rem* properties, by 1981 these apartment buildings contained some 112,000 units (City of New York 1984), and the city was searching for a way to return these properties to the private sector and the tax rolls.

Second, as figure 1 reveals, the 1980s witnessed the shrinking of the federal government's housing production programs, the traditional source of new low-income housing. The budget authority of the U.S. Department of Housing and Urban Development fell from \$33 billion in 1980 to only \$14 billion by 1984, a clear signal to policy makers of the federal government's declining commitment to urban housing programs (U.S. Office of Management and Budget 1999, Historical Table 5.4).

Third, the problem of homelessness worsened in the early 1980s, and the city's emergency response, which was to place the homeless in rundown motels and armories, was challenged in the press and in the courts. The city found itself facing a mandate to house the

homeless in a city with a notoriously low vacancy rate and long waiting lists for its existing public housing (Office of Manhattan Borough President 1987).

Fourth, as Mollenkopf (1992) has argued, Mayor Edward I. Koch was seeking a way to blunt growing criticism of his development policy and its effects and to entice community-based organizations and civic groups into his political coalition.

Finally, the Ten-Year Plan probably would not have been possible without an improvement in the city's financial health, which occurred as tax revenues rose in response to the booming stock market of the mid-1980s. As the city's housing agency explained, "Resolving the fiscal crisis of the seventies allowed New York to re-enter the credit market and begin selling tax-free municipal bonds to finance capital projects" (City of New York 1989, 3). Thus, the resources in terms of new capital, political will, and a massive city-owned housing stock were there to match a heightened unmet demand for affordable housing in New York City.

Ten-year plan

In April 1986, Mayor Koch unveiled the Ten-Year Plan. With an initial pledge to spend \$4.2 billion (later expanded to \$5.1 billion), the city promised to "produce, preserve and upgrade 252,000 vacant and occupied units for low, moderate, and middle-income New Yorkers" (quoted in Brower 1989, 11). (There was some uncertainty at the time about how the city arrived at its 252,000 figure, and indeed our data indicate a total of only 141,112 units in the program as of May 1997. Still, this is a large number, representing roughly 5 percent of the city's total housing stock.) Housing construction and rehabilitation were to be delivered through a variety of programs and funding mechanisms, involving nonprofit community development corporations, for-profit developers, and private owners. Approximately 63 percent of the plan was reported to be financed through New York City's capital budget funds, 16 percent from Battery Park City (a Manhattan land development) funds, 14 percent from New York State funds, and only 8 percent from other sources, including federal Community Development Block Grant funds (City of New York 1989).

As table 1 indicates, the Ten-Year Plan was composed of a variety of programs in three broad areas: new construction of mostly small homes and a few multifamily structures, gut rehabilitation of city-owned vacant units, and moderate rehabilitation of occupied units, most of which were also owned by the city. Approximately 60 percent of the housing was targeted to low-income households, defined

Table 1. Housing Programs Financed under the Ten-Year Plan

Type of Program and Number of Units	Name of Program	Target Income Group
New construction 21,552	New York City Partnership	Moderate and middle
	Nehemiah	Low
Gut rehabilitation 43,113	Construction Management	30% homeless, 45% low, 25% Moderate
	Special Initiatives	1987–1989: 100% homeless 1989–1996: 60% homeless 40% low and moderate
	Capital Budget Homeless Housing	Homeless
	Vacant Building Program	Homeless, low and moderate
	Local Initiatives Support Corporation/Enterprise Foundation	Homeless and low
	Small Building Rehabilitation/Sale Program	Low, moderate, middle
	SRO Loan Program	Homeless
	Participation Loan Program	Mixed
Preservation/ Moderate rehabilitation 76,447	Capital Reconstruction Program	Low
	Article 8A Loan Program	Low
	Division of Alternative Management Programs:	
	• Tenant Interim Lease	Low
	• Urban Homesteading	Low
	• Private Ownership Management	Low
	• Community Management	Low
Total units 141,112		

Source: New York City Housing Partnership (1994) and City of New York (1989). Unit totals are from data provided to the authors by the Department of Housing Preservation and Development for the period from July 1986 through May 1997.

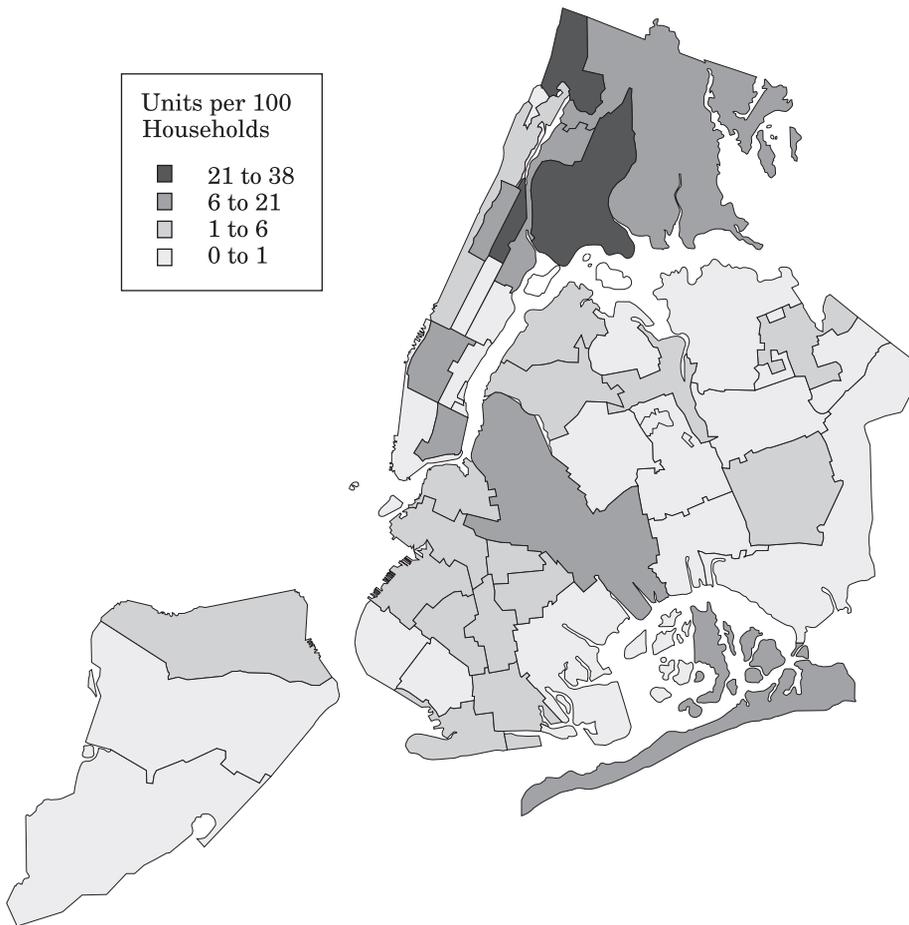
as those earning 50 percent of the metropolitan median household income or less; about 25 percent was earmarked for moderate-income households (those earning between 51 and 80 percent of the median household income); and the remaining 15 percent was set aside for middle-income households (those earning more than 80 percent of the median household income) (City of New York 1989). Figure 2 shows that activity under the Ten-Year Plan occurred across the city but was concentrated in the South Bronx, Upper Manhattan, and Central Brooklyn, areas that contain some of the city's poorest neighborhoods and that had high rates of vacant and *in rem* residential buildings in the early 1980s. In fact, there is a very strong correlation ($r = 0.90$) between the number of Ten-Year Plan units in a community district and the amount of *in rem*

housing in the district at about the time the program began (*in rem* figures are from the City of New York, Office of Management and Budget and Department of City Planning [1984]). The Bronx received by far the largest share of Ten-Year Plan units (42,579), followed by Manhattan (39,343) and Brooklyn (29,980). Both Queens and Staten Island received relatively few units (6,037 and 1,653, respectively).

Neighborhood revitalization

Given the deteriorated state of neighborhoods in which the *in rem* housing was concentrated, a primary goal of the plan was to revital-

Figure 2. Concentration of Ten-Year Plan Units in New York City



ize these areas physically, economically, and socially. According to a city government report, “The new Ten Year Plan pledged the transformation of all vacant, city-owned buildings into affordable housing, and the rehabilitation of all the occupied residential buildings owned by the city” (City of New York 1989, 5). “We’re creating more than just apartments,” the city explained in its report, “we’re re-creating neighborhoods” (3). “[E]ntire communities are being revitalized, neighborhoods are coming back to life, and low, moderate and middle income people are once again able to call New York ‘home’” (6).

Indeed, as the Ten-Year Plan was implemented, accounts in the popular press began crediting the program, as the *New York Times* put it, with “transform[ing] huge swaths of New York’s most blighted neighborhoods, including Harlem, the South Bronx, Crown Heights, East New York, Brownsville, and Bedford-Stuyvesant” (Finder 1995, A1). Recently, President Clinton returned to a redeveloped South Bronx neighborhood that had been targeted under the Ten-Year Plan and had earlier been the rubble-strewn backdrop used by Presidents Carter and Reagan to portray the devastation of America’s urban crisis. According to the *New York Times*, during his visit, President Clinton “hailed the South Bronx as a model for renewing inner-city areas” (Yardley 1997a). Subsequent articles and editorials have questioned the extent of improvement that actually occurred across the city (Yardley 1997b), but nevertheless, the widespread perception exists that the Ten-Year Plan contributed to the revitalization of New York’s poorest and hardest-hit neighborhoods.

The few available systematic or scholarly studies on selected aspects of New York’s housing programs during the 1980s and 1990s have found some evidence of revitalization as well. In fact, the report on the 1993 HVS (Blackburn 1995) called attention to improved building conditions and maintenance in the Bronx and Brooklyn and credited the city’s rehabilitation efforts for much of the gain. Most of the published research on aspects of the plan has been in the form of case studies or narrative accounts of community organizing and housing development, particularly in the South Bronx, with little systematic attention to neighborhood-level outcomes (Orlebeke 1997; Rooney 1995; Simmons 1997). Another line of prior research has focused on programs that encourage the formation of housing cooperatives and the management of buildings by community-based organizations, with findings that suggest some positive social effects at the household and building level (Leavitt and Saegert 1990; White and Saegert 1997). However, other than a study by Schwartz in this volume, there has been no systematic research on the broader community-level effects of the Ten-Year Plan as a whole.

In addition to specific claims about the rejuvenation of certain New York communities, there is the broader question of the effectiveness of housing production and rehabilitation programs as a community development strategy (Hays 1995). First, the notion that new and improved housing invigorates neighborhoods constitutes the basic rationale for most government housing efforts, particularly at the local level. Nicholas Lemann (1994), in an influential article in the *New York Times* in which he criticizes much about current community development policy and practice, nevertheless argues for housing rehabilitation and construction programs as a critical ingredient in neighborhood revival. In fact, a great deal of the work done by community development corporations focuses on housing development and rehabilitation (Goetz 1993; Sullivan 1993; Walker 1993). Moreover, the emergence of a community-based nonprofit housing sector has enhanced this view of housing as a community development strategy (Bratt 1989; Goetz 1993; Sullivan 1993), and nonprofits played a major role in the Ten-Year Plan (City of New York 1989; New York City Housing Partnership 1994). In fact, nearly all of the new units constructed under the program and most of the rehabilitated units were the result of partnerships between the city and nonprofit owners, developers, and managers. This new housing paradigm, as Goetz (1993) terms it in his study, has received a good deal of favorable attention from foundations, policy makers, and researchers (Bratt 1989; Sullivan 1993; Walker 1993). For example, a study by Briggs and Mueller (1997) concludes that community-based nonprofit housing in Boston, Minneapolis, and Newark produced gains in housing quality and satisfaction, neighborhood safety, and sense of community. Other case studies using less formal methods of observation have come to similarly favorable conclusions about the effects of community-based housing development (Bratt 1989; Medoff and Sklar 1994).

We refer to this broad idea, represented in both the popular press and urban research, as the *neighborhood revitalization hypothesis*—the idea that government housing programs, especially working in partnership with community-based nonprofit organizations, constitute a critical ingredient in the physical and economic rejuvenation of poor urban neighborhoods.

It should be noted that some low-income housing advocates criticized the plan for failing to do enough for those with the greatest need: the poor, the homeless, and the so-called hidden homeless (doubled-up households). “The City’s claim that low income families will be the primary beneficiaries of this housing is a cruel hoax,” said a joint report by the Association for Neighborhood and Housing Development and the Housing Justice Campaign (Brower 1989). In addition, these housing advocates argued that, given the scope of

the program, the infusion of moderate- and middle-income households, coupled with physical improvements to the housing stock, would lead to gentrification, rent increases, and eventually displacement of the low-income households living in the neighborhoods targeted under the program. In a sense, this is a restatement of what we are calling the neighborhood revitalization hypothesis, but one representing a different perspective and set of concerns, principally the issue of affordability.

Residential segregation and concentration of poverty

Over the years, housing policy makers and urban poverty researchers have become increasingly aware of the potentially detrimental effects of government housing policy, particularly project-based subsidy programs narrowly targeted at a low-income population. These programs have been widely criticized for reinforcing rather than redressing patterns of residential segregation by race (Downs 1977; Massey and Denton 1993; Yinger 1995) and for contributing to the spatial concentration of households with little or no labor force participation, low levels of education, only one parent, and other social and economic disadvantages (Newman and Schnare 1992, 1993, 1997; Wilson 1987, 1996). Recent initiatives of the Department of Housing and Urban Development, such as the Moving to Opportunity voucher-based relocation program, the demolition of high-rise public housing under the HOPE VI program, and a focus on income mixing in new federally assisted housing developments are all based on an explicit recognition of the problems that many observers believe were created when too much low-income housing was located in too few already disadvantaged neighborhoods. Because of the federal government's historically dominant role in low-income housing production, this policy debate and related research have focused on federal housing policy and programs.

Since the Ten-Year Plan rivals in scale the most active periods of federal housing activity in the city, the impact of the program on concentration of poverty and on racial and ethnic segregation at the neighborhood level is likely to be perceptible. Moreover, because the program relied almost exclusively on the city-owned *in rem* housing stock, which was highly concentrated in the most economically distressed neighborhoods (see figure 2), it is reasonable to ask whether, over time, the program might have exacerbated the concentration and segregation of the city's poor and minority households, particularly given the pressures to house the homeless under the program. In fact, the *New York Times* reported that initial efforts to rehouse homeless families in specially designated developments in the Bronx failed because of the resulting high concentration of troubled families. Local community groups eventually pressured the city to

introduce a mix of incomes in the plan's programs to house the homeless (Finder 1995).

We refer to this perspective as the *concentration hypothesis*, by which we mean an association between low-income housing programs and the spatial concentration and social isolation of poor and disadvantaged households. A separate but related issue is the link between housing programs and the residential segregation of the population by race and ethnicity. Also implied in this hypothesis are the social dislocations related to high concentrations of poverty and social disadvantage, particularly high rates of single-parenthood and welfare dependency (Wilson 1987).

Data and method

The data for our analysis came from two sources: administrative record data from the New York City Department of Housing Preservation and Development (HPD) and the HVS. In the following sections, we discuss the data we obtained from each of these sources, as well as their aggregation into a common geographic unit of analysis, the community district. There are 59 community districts in New York City (55 for statistical purposes), with an average 1996 population of about 123,000. Community districts were established to allow for community input into land use, zoning, and capital budget decisions and are widely used to make geographic comparisons of physical, economic, and social conditions within the city. However, New York's community districts are much more extensive than census tracts, the most widely used operational definition of neighborhood (Jargowsky 1997; Massey and Denton 1993). (In fact, there are between 20 and 80 census tracts in each community district.) To avoid possible misunderstanding, from here on we will use the term *community district*, or simply *district*, rather than neighborhood when referring to our geographic unit of analysis. We also recognize that the effects we examine may be attenuated because of the relatively large size of these geographic units, an issue to which we return in the conclusion.

Data sources

The data on housing production, the independent or treatment variable in our analysis, representing total housing units produced under various HPD programs for the period July 1986 through May 1997, were provided to us by the New York City HPD from its administrative record data. The totals include units produced under the new construction, gut rehabilitation, and moderate rehabilitation programs that constitute the Ten-Year Plan. HPD provided us

with program totals for each of the 59 community districts (8 of which were combined to create 55 districts for statistical purposes). However, because of HPD's record system, these community-level totals do not include 21,522 units in the Division of Alternative Management Programs rehabilitated before July 1994; these represent 15 percent of the overall total units under the Ten-Year Plan. Because community districts differ somewhat in population size, we converted the HPD figures to a rate of housing activity per 100 households in 1987. (Household population estimates were taken from the 1987 HVS.)

The outcomes or dependent variables for our analysis come from the New York City HVS, which gathers data on housing conditions and costs, neighborhood quality, and the socioeconomic characteristics of households in the city. The U.S. Bureau of the Census conducts the HVS every three years for New York City to meet requirements under various state and city rent regulation laws. Beginning with the 1987 HVS (Stegman 1988), the Census Bureau reports findings separately for 54 sub-borough areas (New York City has five boroughs: the Bronx, Brooklyn, Manhattan, Queens, and Staten Island), and these sub-borough areas are designed to be contiguous with the city's 59 community districts. (Because of the Census Bureau's confidentiality concerns, however, 5 of the 1987 HVS sub-borough areas are composed of two adjoining community districts.) We use these data, which represent conditions one year after the Ten-Year Plan was initially announced but before significant activity had begun at the community level, for our pretest or baseline measurement. The most recent available data are from the 1996 HVS, which we use as our post-test measurement (U.S. Bureau of the Census 1997). The 1996 HVS added 1 additional sub-borough area, making 55 in all (only 4 of the 1996 HVS sub-borough areas combine two adjoining community districts).¹ Thus, the 55 sub-borough areas defined by the Census Bureau for the HVS become the actual geographic unit of analysis in our study. However, we will continue to refer to these areas in the presentation and discussion of our results using the more familiar term of *community districts*.

The two broad hypotheses of neighborhood revitalization and concentration of poverty suggest a range of possible outcomes. On the basis of the availability of HVS data and conceptual considerations, we selected the following outcome variables for our analysis:

¹ The additional sub-borough area in the 1996 HVS represents the splitting of 1 of the 54 sub-borough areas in the 1987 HVS. To create 55 matched pairs for analysis, the one Queens sub-borough that was split in the 1996 HVS was treated as two sub-boroughs with the same score from the 1987 HVS.

Board-up rate	Percentage of units on a block with one or more boarded-up buildings.
Maintenance deficiency rate	Percentage of units with three or more maintenance deficiencies (rodents, water leaks, wall or ceiling cracks, heating breakdowns, inoperative toilets, and nonintact paint or plaster).
Rating of residential buildings	Percentage of respondents rating the condition of residential buildings in their neighborhood as good or excellent.
Homeownership rate	Percentage of households owning the housing unit in which they live.
Home values	Median value of owner-occupied units as estimated by survey respondents.
Rent burden	Median gross rent as a percentage of household income.
Population	Total population of the community district.
Percent black	Percentage of black householders.
Percent Puerto Rican	Percentage of Puerto Rican householders.
Percent single parents	Percentage of single-adult households with children under 18 years of age.
Household income	Median household income.
Poverty rate	Percentage of households with incomes below the federal poverty line.
Public assistance rate	Percentage of households receiving public assistance (including Aid to Families with Dependent Children and New York's Home Relief).

While there is no general consensus in the literature about operationalizing the neighborhood revitalization hypothesis, the concept certainly includes physical improvements (fewer board-ups and maintenance deficiencies and higher ratings of residential buildings) and housing market gains (more homeownership, rising home

values, and a growing population). The concern that neighborhood revitalization would lead to gentrification and displacement suggests an additional focus on incomes, rent burdens, and perhaps the racial and ethnic composition of the neighborhood. The concentration of poverty hypothesis clearly focuses on income and poverty levels, as well as on racial and ethnic segregation, with attention also to rates of single-parenthood and public assistance. More will be said about the operationalization of both of these hypotheses in the context of presenting the specific results of our analysis.

Analytical approach

We employ various analyses to examine the potential influence of the Ten-Year Plan on the housing and socioeconomic outcomes described earlier. In our basic model, we calculate a change or gain score (the post-test score minus the pretest score) for a given outcome, and then regress this gain score on the treatment variable, which again is the number of housing units produced or rehabilitated in the community district per 100 households. We use alternative measurements of the treatment variable in a few cases, particularly the rate of Ten-Year Plan homeownership units (in other words, excluding rental units) when examining the influence of the program on the homeownership rate, and the total number of units (rather than a rate) when examining population changes. Our preliminary analysis focuses on the graphical interpretation of the association in the form of a series of scatterplots using distinct symbols, which have the advantage of allowing a visual examination of separate patterns for each of the five boroughs, as well as the identification of particular community districts. To examine the pattern of findings for a more homogeneous sample, we also ran each analysis using only those community districts identified by DeGiovanni and Minnite (1991) as exhibiting persistent housing need, defined as a greater-than-average prevalence of dilapidation, maintenance deficiencies, overcrowding, and rent burdened households in 1981 and 1987.² This parallel set of findings is presented in summary form in table 2.

We also analyzed the data using a multivariate regression model of the post-test score, with the pretest score entered as a control variable. Some methodologists recommend this approach instead of the gain-score analysis because it allows for a more precise estimate of

² The high-need districts identified by DeGiovanni and Minnite (1991) correspond, with one or two exceptions, to the poorest districts and also to the districts with the highest number of *in rem* units. An examination of the differences between these various definitions of need led us to select the more comprehensive DeGiovanni-Minnite measure.

Table 2. Summary of the Ten-Year Plan's Association with Various Outcomes (Standardized Coefficients)

Outcomes	Gain-Score Approach (Appendix A)		Multivariate Approach (Appendix B)	
	54 Districts	27 High-Need Districts	54 Districts	27 High-Need Districts
Housing conditions				
Board-up rate	-.744***	-.661***	-.216	-.225
Maintenance deficiency rate	.332**	.106	.339***	.396**
Rating of residential buildings	.169	.046	-.142*	-.189
Housing market outcomes				
Homeownership rate	-.094	-.005	-.053	-.083
Home values	.349***	.193	.099	.156
Median rent burden	.041	.025	.443***	.523***
Demographic characteristics				
Population	-.096	.113	-.147*	-.068
Percent black	-.156	-.097	-.026	-.011
Percent Puerto Rican	-.102	.077	.091*	.082
Socioeconomic status				
Percent single parents	.355***	.426**	.285***	.349**
Median household income	-.472***	-.510***	-.134*	-.412***
Poverty rate	-.106	-.209	.255***	.339**
Public assistance rate	.500***	.370***	.218**	.350**

Note: The gain-score coefficients are simple bivariate correlation coefficients. The multiple regression coefficients are the standardized coefficients or *betas* for the treatment slope (see appendix).

* $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

the statistical relationship between the pre- and the post-test (Mohr 1995). In particular, this approach allows the expected change in the outcome score, absent the effect of the treatment (the housing program in this case) to depend on the pretest level at which each community district started out. (The gain-score analysis, by contrast, assumes that this change is constant for each district.) In addition to the pretest, our multivariate models include a measure of immigration as an additional control variable, given that immigration clearly constitutes a significant influence on the demographic and economic changes experienced by New York City neighborhoods and thus may be confounded with the effects of the plan. Using data from the 1996 HVS, our measure of immigration is the percentage of foreign-born householders who moved into their housing unit after 1987, the year of the pretest or baseline HVS data in our analysis.

Regression diagnostics on both the gain-score and multivariate models revealed that the Central Harlem district, which received by far the largest allocation of units under the Ten-Year Plan (a total of

over 13,000 units, or nearly 38 units for every 100 households in 1987), was a consistent outlier and influential observation. An examination of Cook's D s (distances) and standardized $DfFITS$ (differences between fitted values), both of which measure the extent to which an individual case influences the regression model (Fox 1991), suggests that Central Harlem has a significant influence on 4 of the 13 initial gain-score models and 9 of the 13 initial multiple-regression models (there is 1 model for each of the 13 outcomes listed earlier). Moreover, additional investigation into the pattern of housing starts in Central Harlem, including a review of a recent working paper on the Harlem community (Parker 1998), indicated that Central Harlem received the bulk of its housing starts close to the very end of the period covered by our data. Thus, on both statistical and substantive grounds, we decided to remove the Central Harlem district from the analyses. However, we will consider and discuss it in the conclusion.

Results and discussion

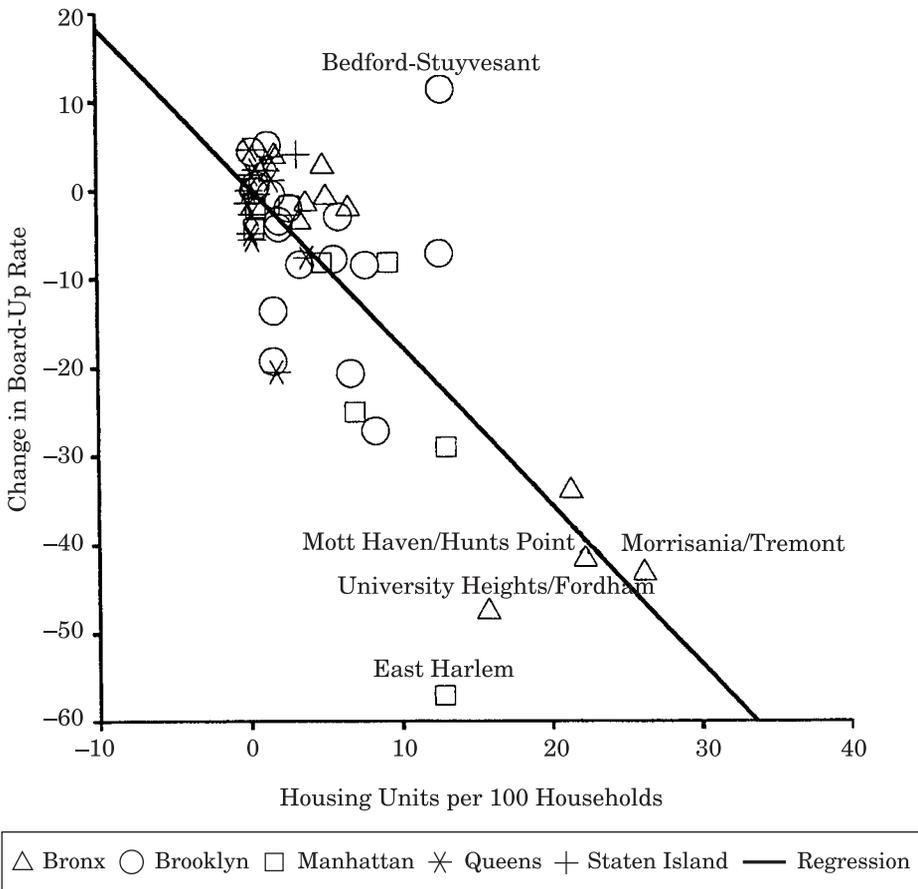
For purposes of presentation, the results are organized into four general sections: housing conditions, housing market outcomes, demographic characteristics, and socioeconomic status. In each section, we summarize the relevant expectations that follow from the broad hypotheses of neighborhood revitalization and concentration of poverty. We then present the gain-score results graphically, with the results for the neediest districts, as well as for the multivariate models described in the text. All of these results are summarized in table 2, and more complete statistical details for all the models appear in the appendix. Finally, we discuss the implications of each of our results for neighborhood revitalization and concentration of poverty.

Housing conditions

Perhaps the most direct expected outcome of a housing production and rehabilitation program is the physical improvement of the housing stock, an outcome clearly reflecting the neighborhood revitalization hypothesis. We thus begin with our three indicators of housing conditions: the board-up rate, which is the percentage of households living on a street with one or more boarded-up buildings; the maintenance deficiency rate, which is the percentage of occupied units with three or more maintenance deficiencies; and householders' ratings of the condition of residential buildings in their neighborhood. The expectation is that the program will be associated with a decline in the board-up and maintenance deficiency rates and an improvement in the rating of building conditions.

Figure 3 shows the association between the Ten-Year Plan and change in the board-up rate. As expected, the plan is strongly associated with a decline in this rate, and the pattern appears nearly as strong when only the 27 neediest districts are examined (table 2). While the multivariate approach (table 2) suggests less of an association between the program and the board-up rate, we view this as an artifact of the high correlation between the pretest measure of the board-up rate and the treatment variable ($r = 0.82$). In other words, we believe that the multivariate approach in this case attributes a significant share of the actual treatment effect to an overall proportionate decline in the board-up rate over time (about 50 percent from the base level), and it is difficult to identify an event in the city, apart from the program, that would produce such a large

Figure 3. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Households on a Block with One or More Boarded-Up Buildings (1987 to 1996)



reduction over this period. One possibility is the fact that the city, often at the request of community groups, tore down many vacant buildings, and this policy may have led to a decline in the board-up rate independent of the program. Nevertheless, we put more trust in the initial gain-score results, which suggest that the board-up rate declined about 1.7 percentage points for each unit of housing activity per 100 households under the program in 1987. For a typical district of about 50,000 households receiving the mean level of about 2,500 program units, this result implies a decline in the board-up rate of nearly 9 percentage points between 1987 and 1996, a substantively meaningful improvement. Moreover, several community districts in the South Bronx and Upper Manhattan experienced declines in their board-up rate of 40 percentage points or more (figure 3). Thus, the program appears to have had a significant effect on the percentage of households in a district living in proximity to vacant and boarded-up buildings and, in turn, the social and economic distress such conditions imply.

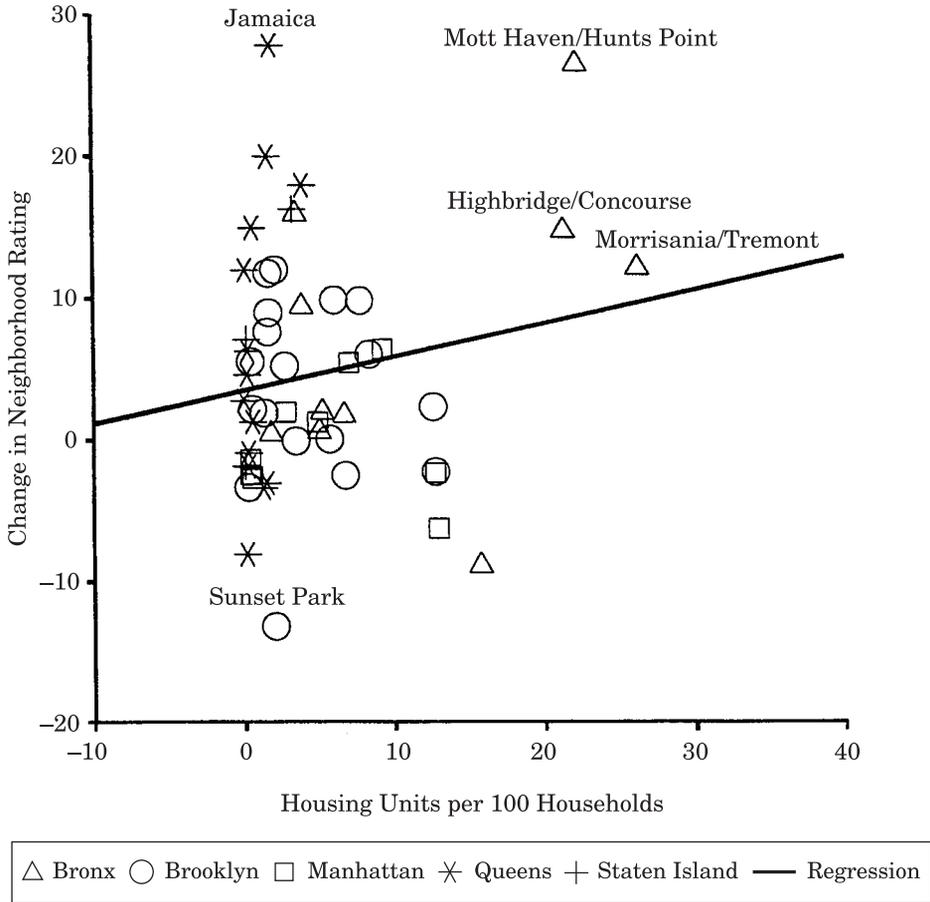
Figure 4 shows the association between the program and change in the maintenance deficiency rate, the percentage of occupied units with three or more maintenance deficiencies. Somewhat unexpectedly, the program is associated with an increase in maintenance deficiencies over time, although this association dissipates somewhat when only the 27 neediest districts are included in the analysis (table 2). But the multivariate approach again indicates a significant association with the maintenance deficiency rate for all 55 districts, as well as the 27 neediest. This association of the program with increased levels of maintenance deficiencies clearly goes against the neighborhood revitalization hypothesis and suggests that the housing maintenance problems of occupied units actually worsened somewhat in communities that received more new and rehabilitated units under the plan. One possible explanation for this contradictory result is that it may reflect problems with the initial construction work under the program, particularly given the complexity of rehabilitating older, dilapidated apartment buildings. It has also been reported that contractors in the new construction programs may have done shoddy or incomplete work on some projects (Grossman 1997; Seigle and Thrush 1998). But another possible interpretation relates to Salins' (1999) contention that the Ten-Year Plan and other subsidized housing programs compete with and destabilize the lower end of the private market, particularly in poor areas of the city, thus precipitating the deterioration of the unsubsidized housing stock (see also Salins and Mildner 1992). Certainly, this trend of increased maintenance deficiencies deserves careful monitoring, especially to the extent that it may foreshadow the return of the pattern of widespread abandonment that plagued many of these neighborhoods in the 1970s.

Figure 4. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Occupied Units with Three or More Maintenance Deficiencies (1987 to 1996)



Finally, figure 5 demonstrates a positive but insignificant association between the program and a change in the percentage of households rating the condition of residential buildings in their neighborhood as good or excellent, and the results are even weaker for the 27 neediest districts analyzed separately (table 2). The multivariate approach even produces a marginally significant negative relationship with the rating score. However, it should be noted that the South Bronx districts of Mott Haven/Hunts Point and to a lesser extent Highbridge/Concourse and Morrisania/Tremont display a marked improvement in their mean ratings over the period, and these districts appear outside the overall pattern in the multivariate regression as well (not shown). Thus, in terms of the perceived condition of the neighborhood, the Ten-Year Plan appears to have

Figure 5. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Households Rating the Condition of Residential Buildings in the Neighborhood as Good or Excellent (1987 to 1996)



led to visible improvement mostly in the South Bronx, the area of the city that has received the most media attention as well.

Housing market outcomes

The neighborhood revitalization hypothesis certainly implies a revived neighborhood housing market, with government investment in housing construction and rehabilitation enhancing the desirability of a neighborhood and in turn boosting rents and property values. An important element in this upswing is homeownership, which was featured in the program and is the focus of many local housing initiatives aimed at neighborhood revival. As noted earlier,

the concern among low-income housing advocates was that rent burdens would escalate, straining the limited resources of poor households in the neighborhood and eventually driving them out. Thus, we now consider the influence of the Ten-Year Plan on homeownership rates (figure 6), home values (figure 7), and median rent burdens (figure 8).

Figure 6 shows the relationship between new homeownership units under the program and change in the community's homeownership rate. It seems to have little overall association with this outcome, and in fact the slope is even slightly negative. A similar pattern holds when only the 27 neediest districts are examined, as well as when the multivariate approach is used (table 2). These results suggest that the program had no discernible influence on the rate of

Figure 6. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Homeowners (1987 to 1996)

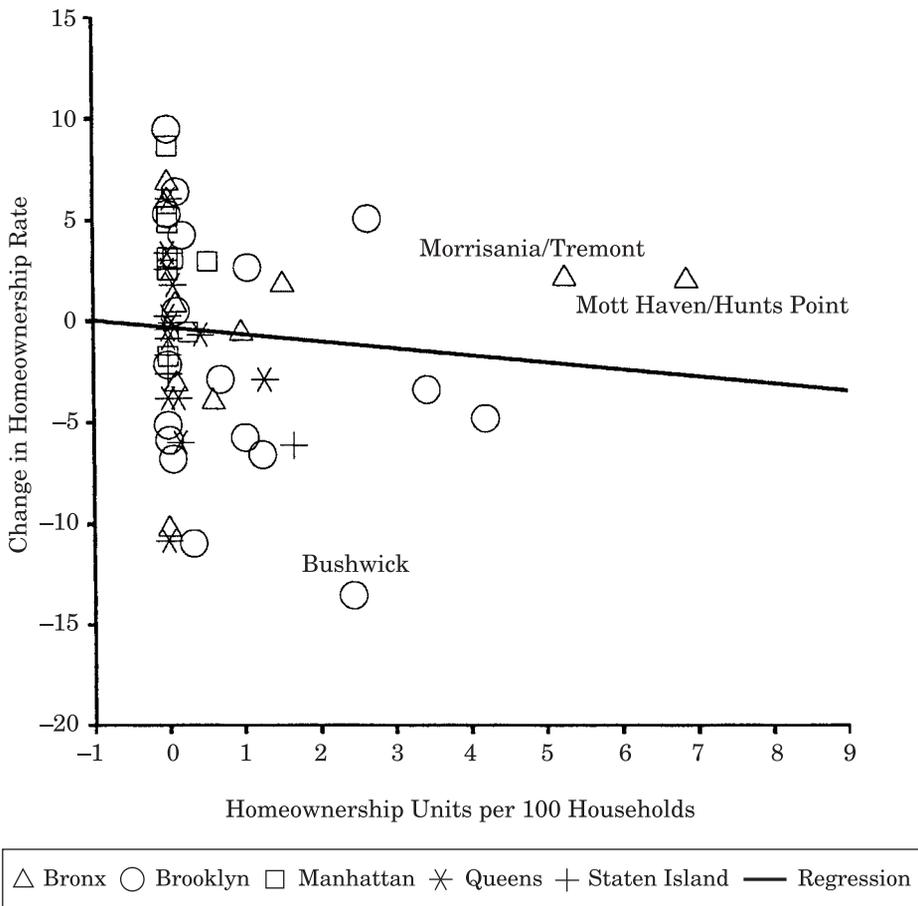
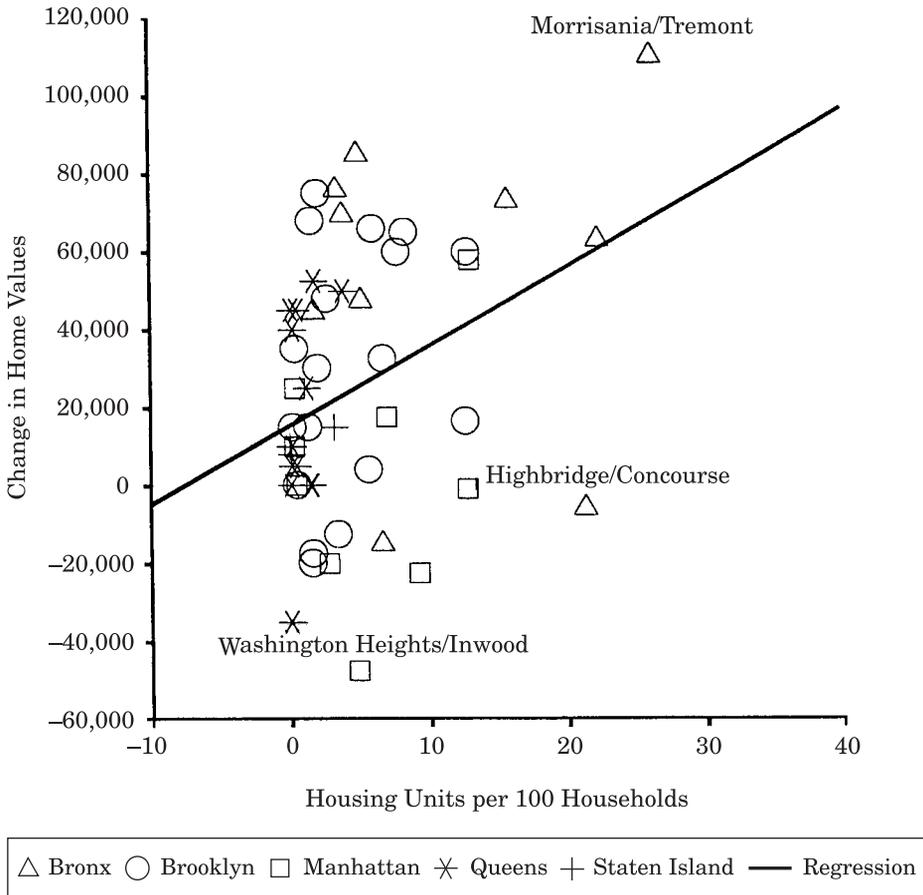


Figure 7. Relationship of Ten-Year Plan Housing Units to Change in the Median Estimated Value of Owner-Occupied Units (1987 to 1996)

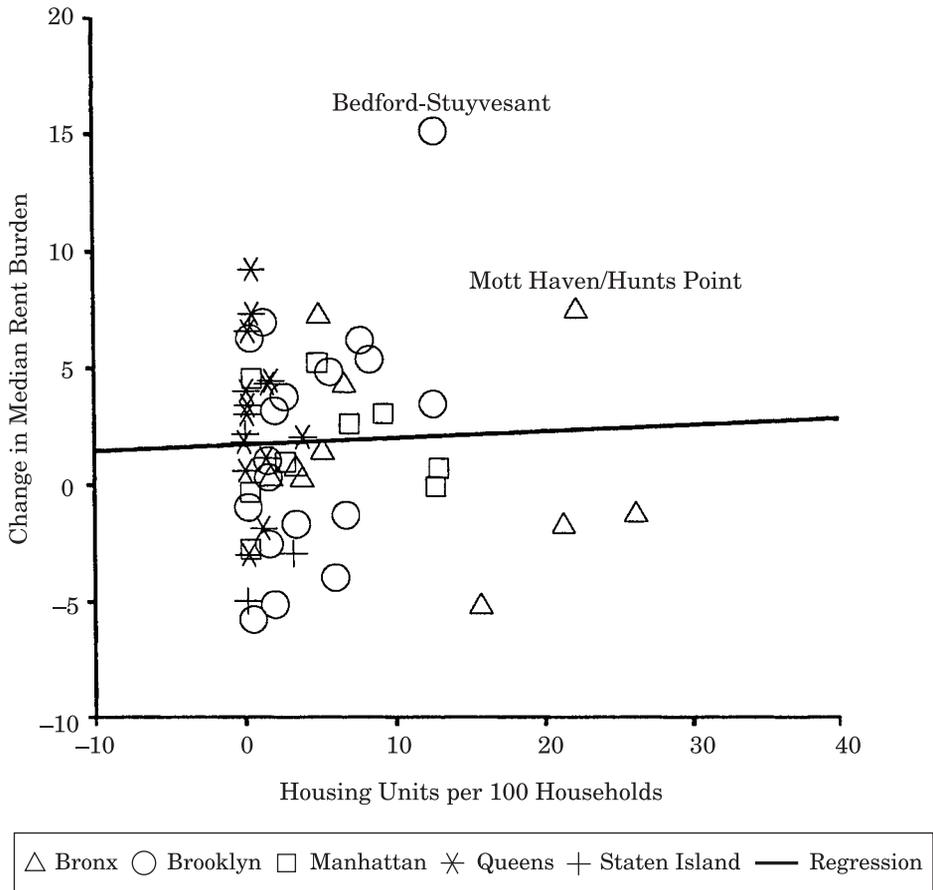


homeownership in the community districts, perhaps because of the relatively small number of homeownership units in the program (only about 13 percent of the total according to our data). However, it should be noted again that over 20,000 units in the Division of Alternative Management Programs, some of which promote limited-equity cooperatives (a form of home ownership), were not included in our data and thus perhaps influenced these results.

Figure 7 shows the pattern with respect to median estimated house values, which shows a significant positive slope ($\beta = 2,034, p = 0.01$). This slope implies that a typical district with an average infusion of about 2,500 Ten-Year Plan units experienced an increase in median estimated home values over the period of about \$10,000, or about \$7,000 in constant dollars, as a result of the program.³ The

³ This calculation is based on an approximate average community district size of

Figure 8. Relationship of Ten-Year Plan Housing Units to Change in the Median Rent Burden, Expressed as a Percentage of Household Income (1987 to 1996)



increase is especially evident in the Morrisania/Tremont district, an area that has been the focus of much media attention and that is often viewed as symbolic of revitalization in the Bronx. However, the separate analysis of the 27 neediest districts and the multivariate approach produce weaker results (table 2). Thus, there is suggestive but inconsistent evidence of a positive impact on home values, with the biggest change evident in the South Bronx. However, it should be noted that home values are subjective, self-reported estimates only, and in some districts they are also affected by a great

50,000 households and an approximate average rate of program activity of five units per 100 households in 1987. The constant dollar adjustment is based on a 41 percent increase in the Consumer Price Index between 1987 and 1996 for all urban consumers in the New York and northern New Jersey region.

deal of sampling variability because of the low rate of homeownership in New York City.

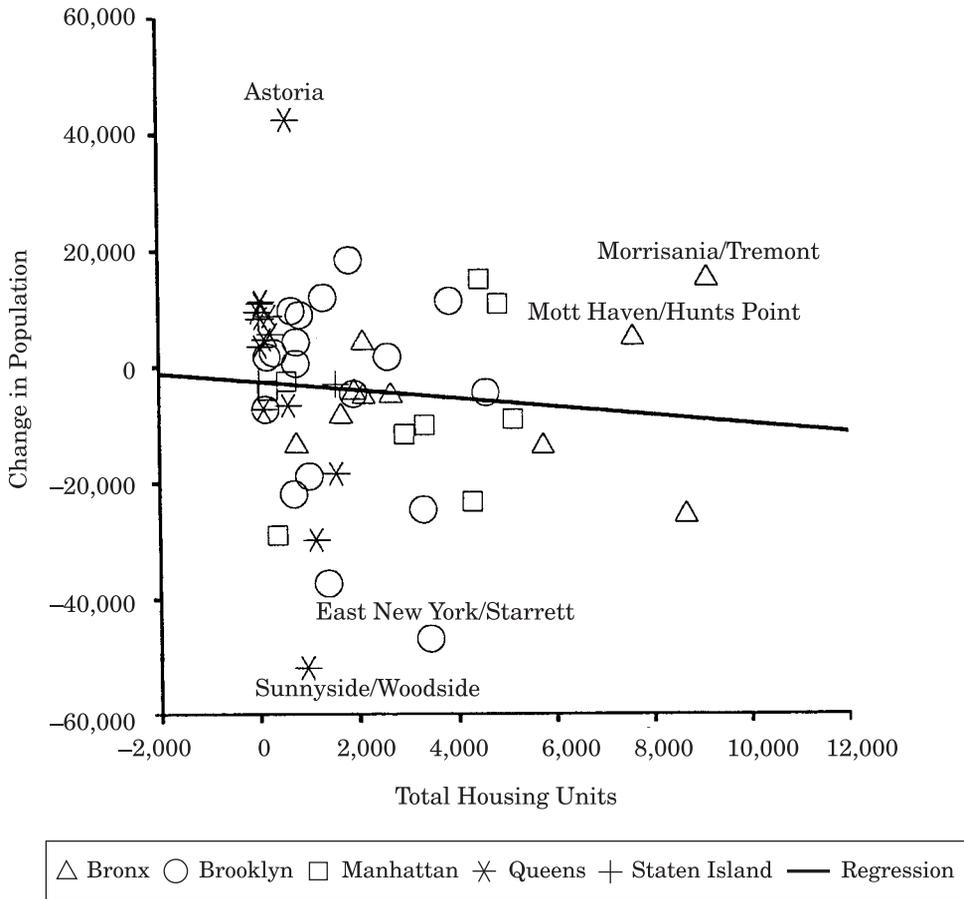
As figure 8 shows, there seems to be no association between the program and change in the median rent burden of the communities, and the regression line appears just as flat when only the 27 neediest districts are included (table 2). Nevertheless, the multivariate approach strongly indicates a positive association with rent burdens (table 2), perhaps suggesting initial support for the prediction that the program would lead to gentrification and rent pressures that might eventually displace the poor. It is possible that the median rent burden may have increased because of falling incomes, not rising rents, and indeed, as will be shown later, incomes clearly appear to have declined in relative terms in districts that got more housing under the program. Thus, these results are not generally consistent with the gentrification-displacement aspect of the neighborhood revitalization hypothesis, although they point to a potential affordability problem in areas targeted by the program.

Demographic characteristics

The three demographic changes we examine are population size and the racial (black) and ethnic (Puerto Rican) composition of the community. A gain in population can be seen as an important indicator of neighborhood revitalization, particularly in New York, where many neighborhoods in the South Bronx, Upper Manhattan, and Central Brooklyn lost over half of their population during the 1960s and 1970s (City of New York 1984). And residential segregation by race and ethnicity is certainly one of the concentration issues that critics of federal housing policy have identified (Massey and Denton 1993; Yinger 1995). Figure 9 presents the relationship between the Ten-Year Plan and change in population; figure 10 shows the association with the change in the percentage of black householders in the neighborhood; and figure 11 shows the association with the change in the percentage of Puerto Rican householders. Puerto Ricans are the largest ethnic group in New York City, and the HVS has traditionally reported their representation in the population separately from that of other Hispanics.

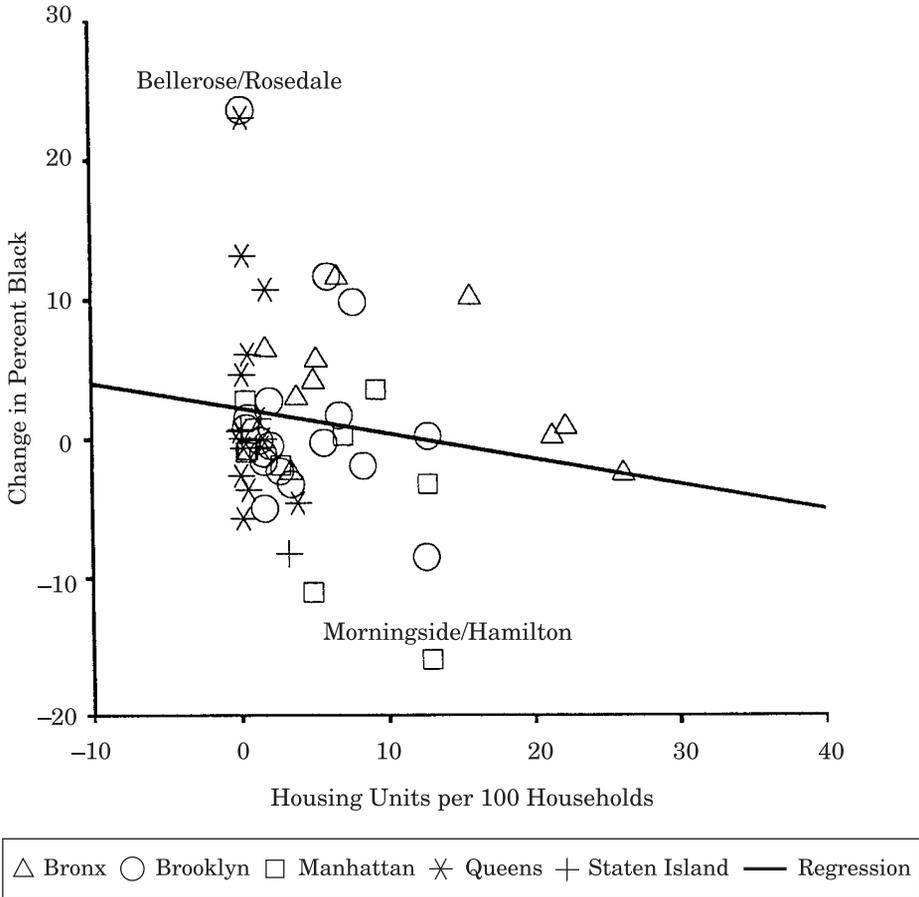
Figure 9 shows no overall relationship between the total number of program units and change in population, with the exception of some above-average population gains in a few districts in the South Bronx. However, the multivariate approach, which controls for the effects of immigration, suggests a marginally significant negative association between the program and district population growth (table 2). Figure 10 shows the relationship between the program and

Figure 9. Relationship of Ten-Year Plan Housing Units to Change in the Neighborhood Population (1987 to 1996)



change in the percentage of black householders, indicating a very slight decline in this number in districts targeted by the program. This negative relationship appears as well when the 27 neediest districts are examined separately and when the multivariate approach is used (table 2), although none is statistically significant. Similarly, figure 11 demonstrates an insignificant negative association with the change in the percentage of Puerto Rican households. But the multivariate approach indicates a marginally significant positive association with the percentage of Puerto Rican households in the district (table 2). In sum, the data suggest little change in the percentage of black households and perhaps a slight increase in the percentage of Puerto Rican households in targeted districts, although the evidence is weak at best. Thus, the findings do not provide much support for the hypothesis that the program may have

Figure 10. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Black Householders (1987 to 1996)

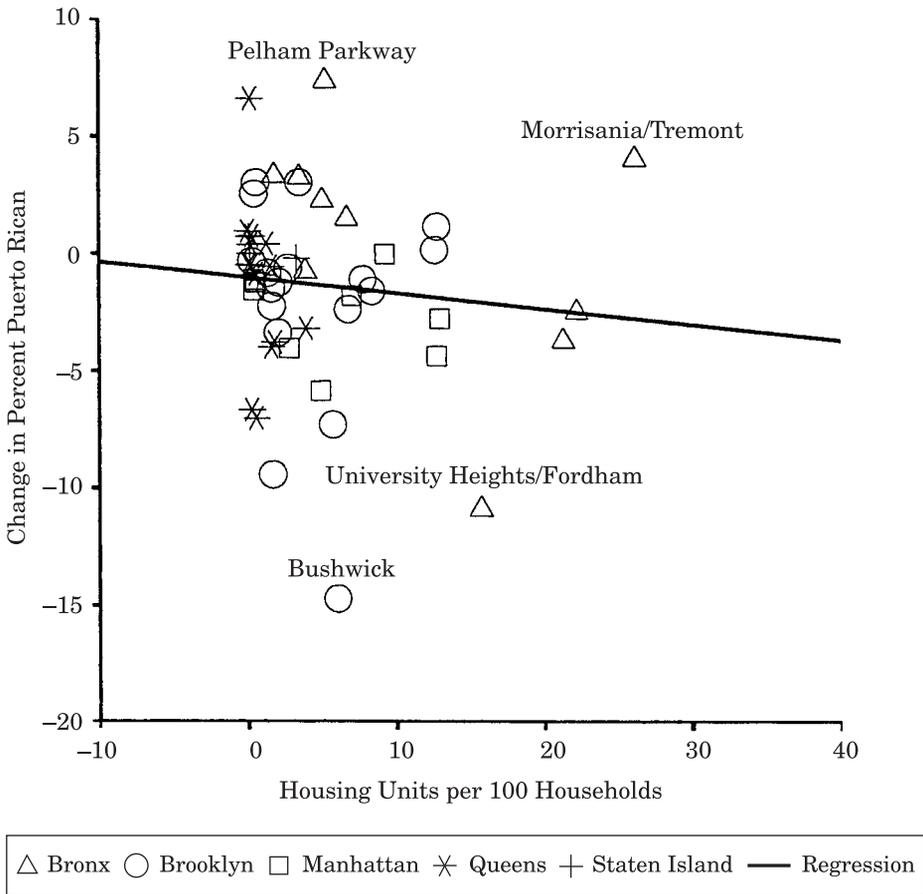


exacerbated residential segregation by ethnicity and especially by race, at least at the community-district level.

Socioeconomic status

Changes in the socioeconomic status of households in a neighborhood can be seen primarily as outcomes related to the concentration of poverty hypothesis, although they also relate to the neighborhood revitalization hypothesis. We focus our analysis on the percentage of single-parent households (figure 12), median household income (figure 13), the poverty rate (figure 14), and the public assistance rate (figure 15). The concentration of poverty hypothesis would predict an increase in the proportion of single-parent households,

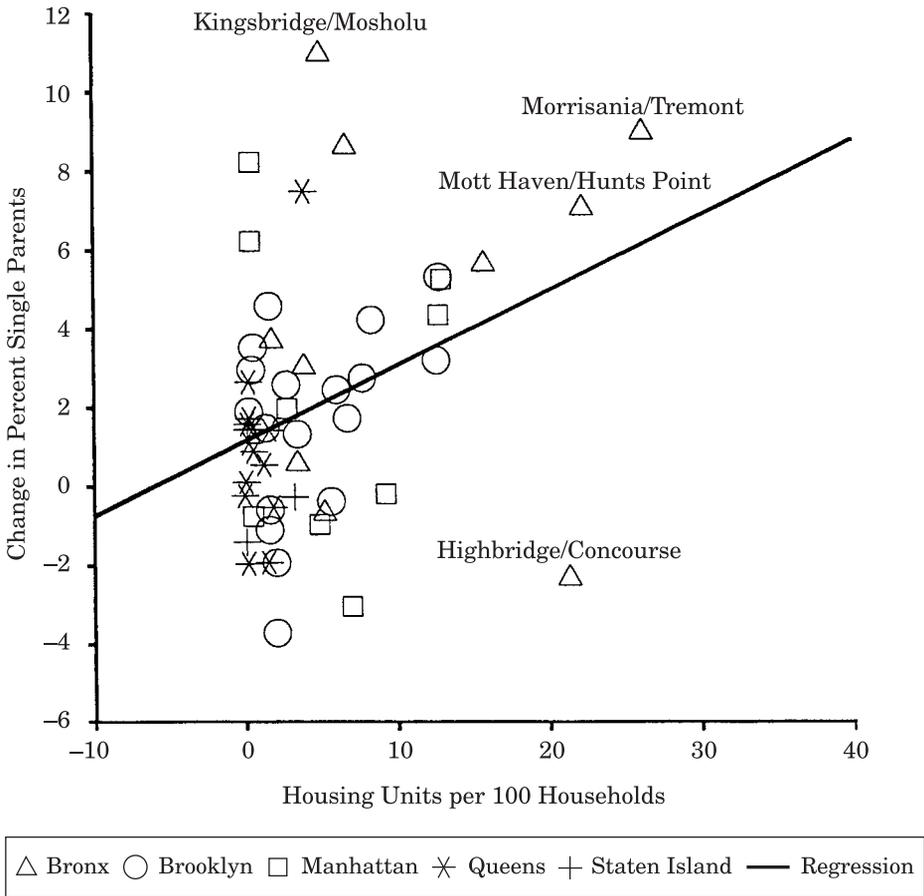
Figure 11. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Puerto Rican Householders (1987 to 1996)



lower incomes, increased concentrations of the poor, and more widespread dependence on public assistance.

The results in figure 12 demonstrate a strong positive association between the program and change in the proportion of single-parent households. The relationship remains just as strong when only the 27 neediest communities are included, as well as in the multivariate approach (table 2). Figure 13 shows that the program is also associated with a decline in the median household income of the community, and this pattern also holds for the 27 neediest districts, as well as in the multivariate models (table 2). While figure 14 suggests an insignificant negative association between the program and change in the poverty rate of the neighborhood, the multivariate approach indicates that the program does appear to be associated with a significant increase in the rate. Finally, figure 15 dem-

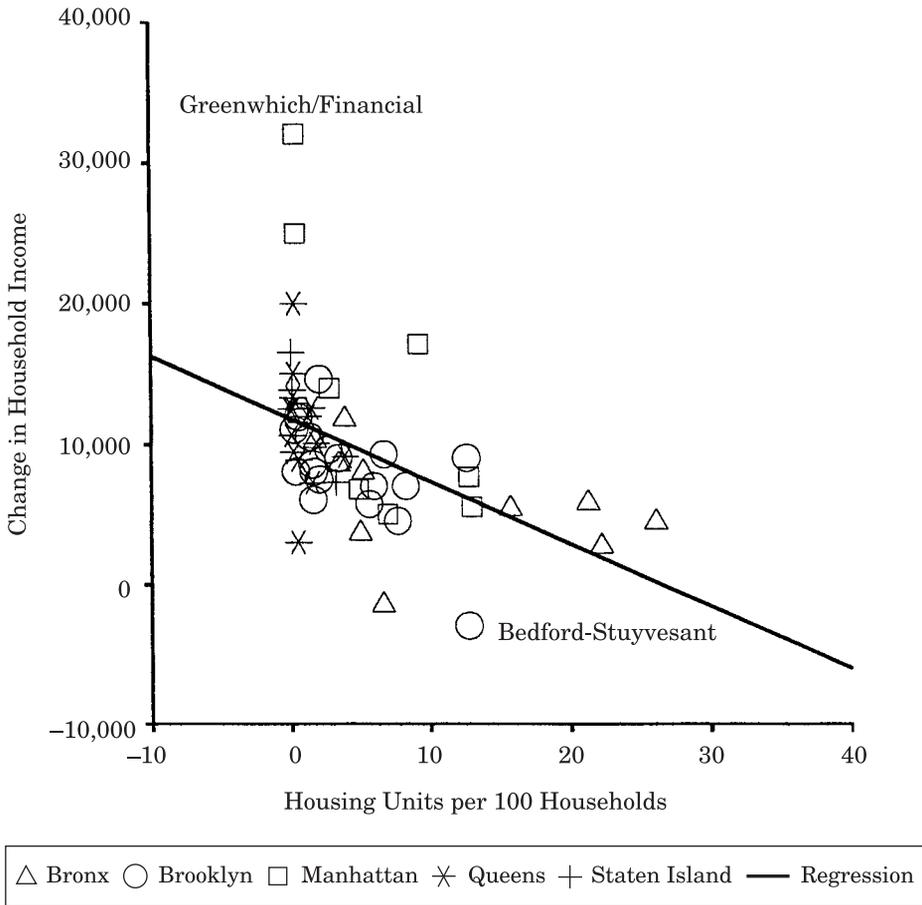
Figure 12. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Single-Parent Households (1987 to 1996)



onstrates a positive relationship between the program and change in the percentage of households receiving public assistance, and this positive association holds for the 27 neediest districts, as well as for the multivariate approach (table 2).

These data present clear evidence that the Ten-Year Plan is associated with an increase in the percentage of single-parent families, a decrease in median household income, a somewhat higher than expected poverty rate, and an increase in the percentage of households receiving public assistance. Taken together, these results support the concentration of poverty hypothesis and suggest that the program may have funneled disadvantaged and welfare-dependent families into those districts that received most of the program's housing units. Correspondingly, these data provide little indication

Figure 13. Relationship of Ten-Year Plan Housing Units to Change in the Median Household Income (1987 to 1996)

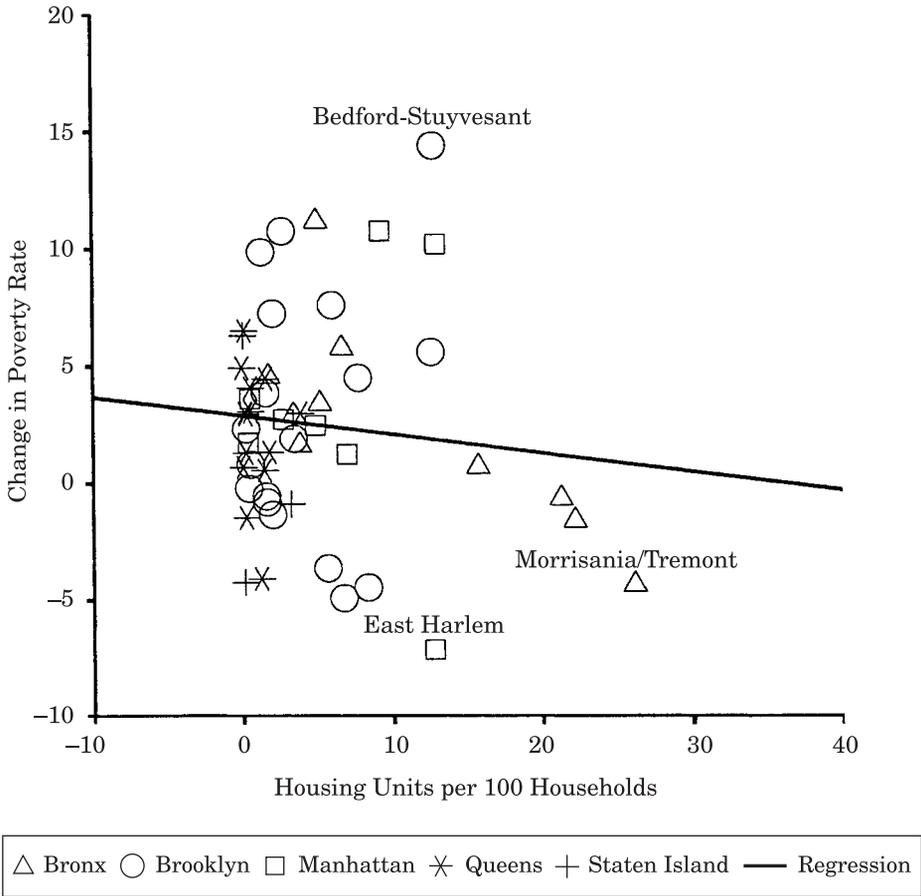


that the districts targeted under the program experienced gains in terms of the socioeconomic status of their residents.

Conclusion

The results of our analysis of the potential community-level outcomes of New York City's Ten-Year Plan provide some support for both the neighborhood revitalization hypothesis and the concentration of poverty hypothesis. Substantial improvement in the rate of boarded-up buildings in the communities, as well as perhaps an increase in property values, together indicate that some degree of neighborhood revitalization may be occurring. At the same time, an increase in the proportion of single-parent households, lower me-

Figure 14. Relationship of Ten-Year Plan Housing Units to Change in the Percentage of Households Living in Poverty (1987 to 1996)



dian incomes, and higher poverty and public assistance rates suggest that the program is associated with a concentration of disadvantaged households in these same areas. However, our results also provide some evidence against both hypotheses.

The rising rate of maintenance deficiencies is troubling, especially to the extent it may indicate the program's perverse effects on the unsubsidized housing stock and a return to the cycle of neglect and decline of residential buildings that plagued the city during the 1970s. And the generally lower socioeconomic status of households in targeted districts certainly casts doubt on the prediction that the program would cause gentrification and displace the poor. Finally, while a concentration of poor households seems to have occurred, there is no evidence of accentuated residential segregation by race or ethnicity. Thus, the picture is complex.

associating it with these changes could be spurious. For example, the concentration of single-parent households and households on public assistance could have occurred in the targeted districts without the program, given that they were socially and economically distressed to begin with. Perhaps even some of the decline in the board-up rate might have happened anyway because of the city's policy over the years of demolishing vacant buildings, although we doubt that this could explain the magnitude of the decline revealed by our analysis. However, we attempted to control for some of these sources of spuriousness by repeating each analysis for a more homogenous subset of the 27 neediest districts and by using a multivariate analysis that controlled for baseline conditions and immigration. Furthermore, instead of relying on a single outcome measure, we examined a wide range of operationalizations for each of our major substantive hypotheses. Thus, although the uncertainty of attributing causal influence to the program remains, our substantive conclusions reflect the convergence of various analytical techniques applied to a range of outcome data.

Other methodological limitations relate to the relatively large geographic unit of analysis, the community district, and the fact that the changes are relatively short term, particularly considering the range of social and economic outcomes we selected for analysis. Presumably, the concentration of housing program activity—and in turn the impact of the program—would be more pronounced at a smaller geographic level, such as a census tract. As a result, the association of the program with various outcomes in our analysis may be attenuated by the large geographic units we employ, although the variation would likely be greater among smaller geographic units. Also, the 1996 outcomes we consider follow relatively soon after the program was implemented. Construction starts under the Ten-Year Plan generally peaked about 1990 (see figure 1), with the subsequent construction work and leasing activity adding an additional year or two to the process. As a result, the effects of the new housing and households on aggregate community characteristics may only have just begun to be felt in some districts by 1996 and perhaps had not begun at all in others, such as Central Harlem. The completion of the 1999 New York City HVS and especially the 2000 census will provide an important opportunity to reexamine the program over a more extended period and in more detail.

Returning to our specific findings, some districts, most notably Central Harlem and the community districts that comprise the South Bronx, appear to stand out from the overall pattern. Indeed, Central Harlem was such an outlier and influential observation that it had to be removed from the statistical analyses. Central Harlem received the most units of any community district under the program,

and most of its housing starts occurred quite late. It also experienced much less improvement than comparable areas (such as the South Bronx) on several key outcome measures, including the board-up rate, residential property ratings, and particularly estimated home values. For example, the board-up rate declined by only 20 percent in Central Harlem (still a significant improvement), compared with about 40 percent in the South Bronx; ratings of residential buildings fell slightly in Central Harlem but rose significantly in the South Bronx; and median estimated property values fell by about \$60,000 in Central Harlem but rose by an equivalent amount or more in the South Bronx. However, given its late start, it could be predicted that Central Harlem will catch up with the other targeted districts in time, a prediction that can perhaps be verified with the next New York City HVS. Indeed, there is already substantial anecdotal evidence from real estate brokers and the press that Harlem is undergoing a resurgence (Garb 1998; Holusha 1998; Rozhon 1998). For example, several large retail development projects are opening or have broken ground (including the Harlem USA complex and a new Pathmark grocery store on 125th Street), partly as a result—according to developers—of the rehabilitation of the housing stock and the concomitant growth in the number of households and the community's aggregate disposable income (Rozhon 1998).

As for the South Bronx, the Morrisania/Tremont and Mott Haven/Hunts Point districts were among the most blighted by abandonment in the late 1970s and early 1980s. They are also among the earliest and most heavily targeted areas under the Ten-Year Plan. That significant improvement appears in these areas in many of our statistical analyses supports the idea that the program was in large part responsible for much of the turnaround that is now widely recognized in the South Bronx. The Morrisania/Tremont, Mott Haven/Hunts Point, Highbridge/Concourse, and University Heights/Fordham neighborhoods, which received the largest share of plan housing after Central Harlem, show improvement in a broad range of categories, including physical conditions, property ratings, home values, and population. There are a number of possible interpretations of these findings.

First, these neighborhoods are contiguous, so that it may be that any revitalization effects are intensified by the concentration of housing activity that went on in the South Bronx during this period. Also, a significant amount of the early housing redevelopment in the Bronx took place on large, virtually greenfield tracts. In neighborhoods where the program provided primarily in-fill housing within a more populated neighborhood, such as Bedford-Stuyvesant and East New York, there appears to have been less change.

Another possibility, which the limited available data seem to indicate, is that the Ten-Year Plan simply got started much sooner in the South Bronx than elsewhere (Brower 1989; data provided to the authors by the HPD), allowing more time for the neighborhoods to turn around. Related to this timing is the existence in the South Bronx of a network of successful and politically sophisticated community development corporations and nonprofit housing organizations (Rooney 1995), some of which have received international recognition not only for their housing accomplishments, but for a variety of other community development initiatives as well. Thus, these results could be interpreted as evidence of the effectiveness of the type of comprehensive, community-based approach to neighborhood revitalization for which the Bronx has now become famous.

Finally, despite these successes, the South Bronx districts also stand out in terms of the steep increase in the concentration of poor and welfare-dependent households, a development that has particular significance in this era of welfare reform.

In conclusion, our analysis suggests that New York City's Ten-Year Plan has resulted in various neighborhood changes that reflect signs of revitalization as well as the concentration of poor and disadvantaged households in certain areas. However, these neighborhoods are in flux, and only time and future research will tell what the longer-term impacts of the program on New York City will turn out to be.

Appendix

Table A.1. Gain-Score Regression Results

Dependent Variable	<i>R</i> ²	Constant	Treatment Slope ^a
Change in board-up rate (percentage of households on a block with one or more boarded-up buildings)			
54 CDs	.553	.417	-1.793***
27 high-need CDs	.436	-2.268	-1.664***
Change in maintenance deficiency rate (percentage of units with three or more maintenance deficiencies)			
54 CDs	.110	8.652***	.476**
27 high-need CDs	.011	12.501***	.158
Change in rating of residential buildings (percentage rating condition of residential buildings as good or excellent)			
54 CDs	.029	3.445**	.235
27 high-need CDs	.002	5.796*	.066
Change in homeownership rate (percent)			
54 CDs	.009	-.333	-.348
27 high-need CDs	.000	-1.082	-.015
Change in home values (median of estimated value in dollars)			
54 CDs	.122	15,227.5**	2,033.7***
27 high-need CDs	.037	33,532.4***	1,054.9
Change in rent burden (median rent to income ratio)			
54 CDs	.002	1.701**	.028
27 high-need CDs	.001	1.850	.016
Change in population (count)			
54 CDs	.009	-2,636.6	-.727
27 high-need CDs	.013	-10,819.7*	.785
Change in percent black			
54 CDs	.024	2.143*	-.181
27 high-need CDs	.009	.679	-.090
Change in percent Puerto Rican			
54 CDs	.010	-1.053	-.067
27 high-need CDs	.006	-2.904**	.051
Change in percent single parents			
54 CDs	.126	1.141**	.191***
27 high-need CDs	.181	.489	.236**
Change in household income			
54 CDs	.223	11,779.1***	-445.2***
27 high-need CDs	.261	8,909.8***	-241.6***
Change in poverty rate (percent)			
54 CDs	.011	2.869***	-.079
27 high-need CDs	.044	3.634**	-.165
Change in public assistance rate (percent)			
54 CDs	.250	7.100***	.510***
27 high-need CDs	.137	9.949***	.330*

Note: Central Harlem was removed from the sample of community districts (CDs) in all equations shown above.

^aThe treatment variable is the number of Ten-Year Plan (TYP) homeownership units per 100 households in the homeownership equation and the number of total TYP units in the population equation; in all other equations, it is the number of TYP units per 100 households.

p* < 0.10. *p* < 0.05. ****p* < 0.01.

Table A.2. Multiple Regression Results

Dependent Variable	R ²	Constant	Immigration Slope	Pretest Slope	Treatment ^a Slope
Board-up rate (percentage of households on a block with one or more boarded-up buildings)					
54 CDs	.537	3.416	-.025	.515**	-.414
27 high-need CDs	.407	11.555	-.258	.486***	-.451
Maintenance deficiency rate (percentage of occupied units with three or more maintenance deficiencies)					
54 CDs	.728	7.128***	.400***	.438***	.708***
27 high-need CDs	.502	7.627***	.539**	.282	.617**
Rating of residential buildings (percentage rating condition of residential buildings as good or excellent)					
54 CDs	.867	35.955***	-.287***	.630***	-.426*
27 high-need CDs	.722	41.797***	-.532**	.642***	-.397
Homeownership rate (percent)					
54 CDs	.929	5.331*	-.097	.886***	-.694
27 high-need CDs	.841	5.853	-.050	.769***	-.575
Home values (median of estimated value in dollars)					
54 CDs	.697	34,736.0*	194.7	.861***	962.3
27 high-need CDs	.679	64,960.1	-1,374.2	1.049***	1,404.1
Rent burden (median rent to income ratio)					
54 CDs	.608	20.746***	.092**	.231**	.346***
27 high-need CDs	.555	25.699***	-.094	.267*	.311***
Population (count)					
54 CDs	.782	26,675.2***	.005	.751***	-2.114*
27 high-need CDs	.832	22,274.5*	.017***	.602***	-.778
Percent black					
54 CDs	.930	2.865	-.017	.972***	-.113
27 high-need CDs	.951	6.541	-.154	.954***	-.044
Percent Puerto Rican					
54 CDs	.916	.582	-.037	.842***	.181*
27 high-need CDs	.909	.639	-.074	.886***	.167
Percent single parents					
54 CDs	.825	1.485*	.045	.756***	.329***
27 high-need CDs	.749	.886	.050	.780***	.339**
Median household income					
54 CDs	.833	9,899.2*	-82.1	1.129***	-259.9*
27 high-need CDs	.813	12,626.5**	32.5	.750***	-363.8***
Poverty rate (percent)					
54 CDs	.930	4.221***	.202***	.576***	.548***
27 high-need CDs	.865	9.499**	.092	.527***	.537**
Public assistance rate (percent)					
54 CDs	.893	3.614***	.257***	.842***	.521**
27 high-need CDs	.864	3.495	.319**	.709***	.664**

Note: Central Harlem was removed from the sample of community districts (CDs) in all equations shown above.

^aThe treatment variable is the number of Ten-Year Plan (TYP) homeownership units per 100 households in the homeownership equation and the number of total TYP units in the population equation; in all other equations, it is the number of TYP units per 100 households. * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

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