# The Spatial Mismatch Between Jobs and Residential Locations Within Urban Areas

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The last half of the 1980s witnessed a revival of interest in the old idea that the suburbanization of jobs and involuntary housing market segregation have acted together to create a surplus of workers relative to the number of available jobs in inner-city neighborhoods where blacks are concentrated. Not only was this hypothesis elevated to a higher level of prominence after 1985, it also claimed a catchy new name—the spatial mismatch hypothesis (SMH). The comeback of the SMH is documented by six review articles on the hypothesis since 1990 (Wheeler, 1990; Jencks and Mayer, 1990; Moss and Tilly, 1991; Holzer, 1991; Kain, 1992; Ihlanfeldt, 1992).

The purpose of this article is to provide a comprehensive overview of the spatial mismatch issue by addressing five specific questions:

- Why has there been a revival of interest in the spatial mismatch hypothesis?
- What does the hypothesis really say?
- What has the evidence shown?
- Did spatial mismatch worsen during the 1980s?
- What should be done about the spatial mismatch problem?

Throughout the article, issues in particular need of future research are identified.

## The Revival of the Spatial Mismatch Hypothesis

There was a plethora of empirical studies on the SMH in the early 1970s, soon after the hypothesis was first advanced by John Kain in 1968. The loss of interest in the hypothesis over the next decade reflected a general deemphasis of urban problems as policymakers became preoccupied with the growing problems of the national economy. A confluence of factors accounts for the recent widespread revival of interest in the SMH. First, the problems of the city—poverty, crime, joblessness—worsened measurably during the 1980s, and the conditions necessary for a permanent jobs/housing mismatch—job decentralization and housing segregation—seemed to be well entrenched.

Second, the recent interest in the SMH by noneconomists, particularly the sociologists William Julius Wilson and John Kasarda, has popularized the subject. Wilson (1987), in his provocative book *The Truly Disadvantaged*, argued that an urban underclass population had grown rapidly within the inner city and that the movement of jobs from city to suburbs is one of the causal factors.[1] In support of his position, Wilson cited the work of Kasarda, who has shown (1983, 1989, 1985, 1986, 1988) that job decentralization has not been uniform among occupational categories. Entry-level jobs and those with low educational requirements have been declining within inner cities, while information-processing jobs generally requiring postsecondary schooling have been expanding. The problem is that most inner-city black workers do not have the necessary educational qualifications to perform the latter type of work. Kasarda's evidence, however, is only suggestive, since it is also necessary to account for population changes within inner cities in determining the likelihood of spatial mismatch. In fact, job access among inner-city minorities may actually improve if the suburbanization of white workers who compete for low-skill jobs exceeds the suburbanization of those jobs.

Another piece of research that stimulated interest in the SMH was David Ellwood's (1986) study of black youth joblessness in Chicago, which had reached crisis proportions by 1970, not only in Chicago but at the national level (Cogan, 1982; Freeman and Holzer, 1985). Ellwood went beyond the work of Kasarda by actually estimating the probability of youth having jobs as a function of a variety of job/accessibility measures. His measures accounted for both employment and population dispersal and showed that blacks had worse access to jobs than whites and that the disparity between inner-city, low-skilled jobs and workers grew worse between 1960 and 1970. Nevertheless, Ellwood's regression results indicated ". . . the problem isn't space. It's race," to use his pithy and often-quoted aphorism. He explained the statistical insignificance of his accessibility variables by arguing that young workers are sufficiently fluid in their commuting patterns to overcome any problems arising from an absence of nearby jobs.

Ellwood's conclusion that space (that is, distance to jobs) plays no role in explaining the high level of joblessness among Chicago's black youth is controversial, and his empirical methodology has been roundly criticized (Leonard, 1986; Ihlanfeldt, 1992). Ellwood's paper therefore generated an interest on the part of others in refining his techniques.

A final factor that may contribute to enhanced interest in the SMH is that journalists have reported a growing amount of anecdotal evidence that suburban employers in many large metropolitan areas are experiencing shortages of low-skilled workers (Peirce, 1988; Brownstein, 1989; Greene and Carton, 1986; Foderaro, 1990; Roberts, 1990; McCosh, 1990; Davidson, 1989; Beasley, 1990; Biddle, 1987; Walston, 1981; Ibata; 1991; Wartzman, 1993; Congbolay, 1989). According to the SMH, the surplus of low-skilled workers in inner cities is accompanied by a shortage of such workers in high-growth suburban areas.

## What Does the Spatial Mismatch Hypothesis Really Say?

John Kain is credited as being the "father" of the SMH. However, Kain never called his hypothesis by that name. In fact he advanced not one, but three, distinct hypotheses in his 1968 article. The failure to distinguish between Kain's three hypotheses has been a source of confusion in the empirical literature. They can be simply stated: (1) residential segregation affects the geographical distribution of black employment; (2) residential segregation increases black unemployment; and (3) the negative effect of housing segregation on black employment is magnified by the decentralization of jobs.

Underlying these hypotheses are a number of premises. The first maintains that black residential segregation within metropolitan areas is not voluntary but is largely the result of racial discrimination in the housing market. Additional premises maintain that commuting is costly to blacks and that information on job opportunities declines with distance. As a result, blacks are more likely to work within, or close to, their residential neighborhoods, which is Kain's first hypothesis. Another factor identified by Kain that may reinforce this tendency is the possibility that blacks encounter less consumer discrimination in those areas where they represent a larger percentage of the resident population. White customers may have an aversion to dealing with black employees, causing employers to hire fewer blacks in predominantly white areas. This hypothesis is sometimes labelled the "sheltered workplace hypothesis."

The notion behind Kain's second hypothesis is that because discrimination constrains the residential locations of blacks, their job opportunity set is smaller than it would be if their locational choices were dependent on the forces affecting whites: preferences, prices, and incomes. A smaller job opportunity set results in higher black unemployment because there is less chance that a successful match will occur between worker and job.

Kain's third hypothesis—that the negative effect on housing segregation of black employment is magnified by the decentralization of jobs—is what most people have in mind when they make reference to the SMH. There is a spatial mismatch in the sense that there is a surplus of workers relative to the number of available jobs in those areas where the black population is concentrated and a shortage of resident labor relative to the number of jobs outside these areas.

The surplus of resident labor within black areas will result in the higher unemployment that Kain hypothesized if wage rates are inflexible in a downward direction. If wages are flexible, however, the labor surplus will be eliminated as wage rates fall to their equilibrium level. It is also possible that some workers who cannot find employment in or near the ghetto are able to commute to more distant jobs but suffer a welfare loss by earning a lower net wage. Thus job decentralization combined with involuntary housing segregation may reduce the economic welfare of blacks by making it more difficult to find work, by reducing wage rates in black areas relative to white areas, or by increasing commuting costs. A more general statement of Kain's third hypothesis is, therefore, that the spatial mismatch between the areas where blacks reside and where they work reduces the net annual earnings of central city blacks.

It is important to understand the distinction between Kain's second and third hypotheses. Even in the absence of a spatial mismatch, involuntary housing segregation is expected to harm black workers. As Kain has noted, ". . . adding a constraint to any maximization problem must yield the result that a constrained population can do no better, and typically will do worse, than an unconstrained population" (1974, p. 10). However, the welfare loss from housing segregation experienced by blacks will obviously be greater if a spatial mismatch exists.

An important issue is why spatial mismatch would persist in the long run. In addressing this question, it is important to understand that the SMH implies that the metropolitan labor market is segmented into central city and suburban submarkets and that the expected wage (that is, the wage times the probability of employment) is higher in the suburbs. While racial discrimination in the housing market is emphasized as the primary reason why blacks do not follow jobs to the suburbs by residentially relocating, there are other possibilities. The use of zoning and other types of land use controls to inflate the cost of suburban housing may be a contributing factor. In addition, Kasarda (1983) has advanced

the hypothesis that blacks are anchored to the central city by the relative munificence of its income redistribution programs, particularly public housing and indigent health care.

However, even if blacks do not move in response to spatial mismatch, there are two other mechanisms that may work to equalize expected wages between the city and the suburbs in the long run. First, the demand for labor in the central city could increase as firms respond to the surplus of labor by choosing a city location. Possible barriers that might prevent this from happening include high production costs or an absence of useable land in the central city. The relative magnitudes of taxes, insurance premiums, land costs, skilled workers' wages, and congestion diseconomies may work against a central city location, even if low-skilled labor costs are lower there than elsewhere. In addition, Noll (1970) argues that expansion within the city is difficult because the acquisition of space is complicated by the need to buy land from several owners, each of whom potentially occupies a monopolistic position.

A second mechanism that may work to equalize expected wages between city and suburban labor markets is that blacks could shift their labor supply to the suburbs by making a reverse commute. There are a number of reasons why this mechanism may also fail to work. Kain identified commuting costs, the possibility that inner-city workers do not have knowledge of suburban job openings, and consumer discrimination as factors that may stifle the commuting mechanism. Additional factors include employer and employee discrimination, the physical inaccessibility of many suburban job sites, and blacks' fears of being mistreated.

Employer discrimination against blacks may be greater in the suburbs than within the central city, because suburban employers are more likely to be white than black and prejudiced employers may deliberately choose suburban locations to escape black job applicants. In addition, black applicants may be turned down for jobs in the suburbs if employers believe that a long commute will result in a less dependable and/or responsive worker, thereby exacerbating scheduling problems. Employee discrimination may also be worse in the suburbs because, like prejudiced employers, prejudiced white workers may self-select a suburban work location in order to minimize on-the-job interaction with blacks. Many suburban job sites are not accessible to inner-city black workers, because they are known to be heavily dependent on public transportation for the journey to work.[2]

In support of his position, Wilson cited the work of Kasarda, who has shown (1993, 1989, 1985, 1986, 1988) that job decentralization has not been uniform among occupational categories. Entry-level jobs and those with low educational requirements have been declining within the inner cities, while information-processing jobs generally requiring postsecondary schooling have been expanding. The problem is that most inner-city black workers do not have the necessary educational qualifications to perform the latter type of work. Kasarda's evidence, however, is only suggestive, since it is also necessary to account for population changes within the inner cities in determining the likelihood of spatial mismatch. In fact, job access among inner-city minorities may actually improve if the suburbanization of white workers who compete for low-skill jobs exceeds the suburbanization of those jobs. If a suburban job is not within walking distance of a public transit stop, for all practical purposes the job cannot be considered by blacks without private transportation. Finally, regardless of what the true situation may be, blacks may fail to search for a job in the suburbs if they expect to be treated unfavorably by white consumers, employees, or employers.

A final feature of the SMH that deserves mention is that it focusses only on the loss that blacks experience in the labor market. Job decentralization may have other effects on

the inner-city residents. On the plus side, fewer jobs may mean less congestion and pollution within inner-city neighborhoods and, most importantly, lower housing costs. Housing costs may be lower since land rents are expected to decline as jobs (and the residential locations of white workers) move outward from the center of the city. On the negative side, job decentralization may contribute to greater concentration of poverty within inner-city neighborhoods.[3] Wilson (1987) has argued that such concentration results in fewer and weaker institutional supports, such as churches and schools, and fewer middle- or working-class role models for the central-city poor. The change in net social welfare to the black population resulting from spatial mismatch requires an assessment of each of the above effects.

## What Has the Evidence on the Spatial Mismatch Hypothesis Shown?

Six recent reviews of the empirical studies of the SMH have each covered between 25 and 50 studies, which serves to illustrate the extent of the SMH literature. Four of the six reviews conclude with an overall assessment of what the evidence has shown. As noted above, spatial mismatch between the residential locations of black workers and the jobs they are qualified to hold may have one or more of the following effects: longer commutes, lower wages, and greater joblessness. Regarding the first two of these three effects, Holzer's (1991) reading of the literature leads him to conclude the following:

> Blacks in central-city areas have less access to employment than have blacks or whites in the suburbs, where access is measured by the ratio of jobs to people within neighborhoods and by average travel times. Employed blacks generally have higher commute times than have employed whites.
>
> Unlike most other groups of workers, less-educated blacks face higher wages in the suburbs than in the central city. The magnitudes of these effects are unclear, especially after adjusting for the commuting costs of central-city residents. But the decline in earnings seems to rise with the degree of job decentralization in the metropolitan area (Holzer, 1991, p. 118).

As Holzer emphasizes, the most important issue is the extent to which spatial mismatch explains the lower employment (as opposed to wages or earnings) of black males relative to white males. His assessment of the literature on this point:

> It seems fair to say, therefore, that the preponderance of evidence from data of the last decade shows that spatial mismatch has a significant effect on black employment. Casual evidence in the last year or two of tight labor markets for young people in various suburban areas, at the same time that central-city employment remains high, also strengthens the impression that spatial mismatch is growing more relevant over time. But considerable uncertainty remains about the magnitudes of these effects, if not about their existence (Holzer, 1991, p. 118).

Regarding the effect of spatial mismatch on employment, Kain (1992) states that his assessment of the evidence is not appreciably different from Holzer's. He also concludes that the evidence shows that blacks have worse commutes than do whites. However, on the wage effect, Kain's assessment of the literature is more guarded than that of Holzer:

> The impact of housing market discrimination and spatial mismatch on the average gross wages (standardized for human capital characteristics) received by employed Afro-American individuals is less clear-cut on both theoretical and empirical grounds (Kain, 1992, p. 436).

However, he does conclude that the few studies that have examined this issue tend to support the existence of a wage effect.

My own reading of the literature (Ihlanfeldt, 1992) is consistent with the conclusions reached by Holzer and Kain. It is my belief that if you put aside those studies that have obvious flaws (such as simultaneous-equations and errors-in-variables biases), what is left is a body of evidence that consistently supports all three possible effects predicted by the SMH. However, I also agree that there remains considerable uncertainty regarding the magnitude of the effects, and therefore much more work needs to be done.

Jencks and Mayer (1990) have a different view.[4] In their opinion:

> [T]aken together, these findings tell a very mixed story. They provide no direct support for the hypothesis that residential segregation affects the aggregate level of demand for black workers. They provide some support for the idea that job proximity increases the supply of black workers, but the support is so mixed that no prudent policy analyst should rely on it. Those who argue that moving blacks to the suburbs would improve their job prospects, or that improving public transportation to the suburbs would reduce unemployment in the central-city ghetto, must recognize that there is as much evidence against such claims as for them (Jencks and Mayer 1990, pp. 218–19).[5]

## Some New Evidence on Spatial Mismatch

One of the limitations of the empirical literature on the SMH is that even the more recent studies have relied upon data from the year 1980 and earlier. An important issue is whether the spatial mismatch problem worsened during the 1980s. It is possible to provide some evidence on this issue for Atlanta, since the Atlanta Regional Commission (ARC) publishes annual employment estimates for major industry groups, going back to 1980, for small planning areas called superdistricts. There are 45 superdistricts in the 9-county ARC region; the ARC region includes the city of Atlanta and the inner suburbs of the 20-county Atlanta metropolitan statistical area (MSA). In 1990 the ARC region accounted for 83 percent and 92 percent of the MSA's people and jobs, respectively.

Figure 1 aggregates the superdistricts into five areas: northern suburbs, northern section of the central city, southern section of the central city, black southern suburbs, and white southern suburbs. The northern section of the central city consists of two superdistricts that are majority white. The southern section of the central city includes the five remaining superdistricts in the city, all of which are majority black; one of these superdistricts is the Central Business District (CBD). The black southern suburbs represent the six suburban superdistricts that have a majority black population. This area borders the central city and contains Hartsfield International Airport. The white southern suburbs lie beyond the black southern suburbs and include 13 superdistricts that are majority white. The northern suburbs consist of 19 superdistricts, all of which are predominantly white.[6]

Employment totals for each of the five areas, broken down into single-digit industry groups, are given in Table 1 for 1980 and 1990. Table 2 reports for each of these 2 years (1) the total number of blacks and whites living in each area, (2) the number of black and

white people 25 years of age and older who have no more than a high school education living in each area, and (3) the number of black and white people 25 years of age and older who have more than a high school education living in each area. These population counts come from the 1980 and 1990 Censuses of Population and Housing.

It should be noted that in 1980 and 1990 jobs of all types were concentrated in the northern suburbs, while the black population was concentrated in the southern section of the central city and the black southern suburbs. In 1990, for example, 51 percent of all jobs, but only 18 percent of the black population, was located in the northern suburbs. The southern section of the central city and the black southern suburbs together held 26 percent of the region's jobs but 66 percent of the region's blacks. However, it is important to emphasize that the disparity between the spatial distribution of jobs and that of the black population is not necessarily indicative of spatial mismatch, since the white population, which competes against blacks for jobs, is also heavily concentrated in the northern suburbs. In 1990, 65 percent of the region's whites lived in that area.

Regarding the issue of changes over time, job suburbanization increased in the Atlanta region during the 1980s, with the percentage of jobs located in the city declining from 40.0 percent in 1980 to 28.4 percent in 1990. The suburbanization of jobs did not occur uniformly in the northern and southern suburbs. In fact, the southern suburbs' share of jobs stayed exactly the same at 20.7 percent, while the northern suburbs' share increased from 39.4 percent in 1980 to 50.8 percent in 1990. This northside bias in the suburbanization of jobs characterizes not only total employment but all eight industry groups.

The black population became suburbanized as well during the decade. In 1980, 60 percent of the region's blacks lived in the central city. By 1990 this percentage had declined to 39 percent. Black suburbanization occurred in both the northern and southern suburbs, in roughly equal proportions. The northward shift in the spatial distribution of jobs, in tandem with directionally uniform black suburbanization, increased the disparity between the spatial distributions of jobs and black residences over the decade. This conclusion applies *a fortiori* to less-educated blacks, since this group's suburbanization was smaller than for the total black population and favored the southern suburbs. However, in assessing spatial mismatch it is once again important to consider the locations of whites. The share of the region's white population located in the city and the southern suburbs declined by 3 and 5 percentage points, respectively. Similar changes occurred for that portion of the white population with no more than a high school education. Hence white suburbanization, like job suburbanization, had a strong northside bias. Since both jobs and white competitors shifted away from the residential location of blacks during the 1980s, suburbanization trends fail to provide much insight as to whether spatial mismatch improved or worsened over the decade.[7] More revealing evidence is obtained by considering changes in both jobs and people within specific areas.

To analyze the change in job accessibility for less-educated workers living within each area, estimates of the number of jobs suitable for these workers were needed. To obtain these estimates, the 1980 Public Use Sample for the Atlanta MSA was used to determine the percentage of jobs in each of the eight industry groups that was held by workers with no more than a high school education. The share of less-educated workers in each industry was estimated separately for jobs located in the CBD, the rest of the central city, and the suburbs. Typically, within each industry group the percentage of jobs held by less-educated workers was lowest in the CBD, higher in the rest of the city, and highest in the suburbs. For example, only 30 percent of the jobs in the services industry are held by less-educated workers if these jobs are within the CBD, while in the rest of the city and the suburbs the percentages are 43 and 45 percent, respectively.

The estimated shares of jobs held by less-educated workers were then applied to the industry employment totals for 1980 and 1990 to estimate the number of jobs suitable for less-educated workers located in each of the five areas. This number was divided by the number of people 25 years of age or older with no more than a high school education living in each area, in order to construct a measure of job accessibility. The adult less-educated population was employed as the denominator of the jobs-to-population ratio because it was the best available measure of the relevant population provided by both the 1980 and 1990 Censuses of Population and Housing.

Ideally, the denominator of the job access measure will equal the number of less-educated people living in the area who wish to work. This will be equal to some unknown fraction (X) of the adult less-educated population plus those people ages 16 to 24 (Y) who compete for jobs requiring no more than a high school education. Since X and Y will vary according to an area's income level, cross-area comparisons of the job access measure are not meaningful. However, if it is reasonable to assume that X is relatively stable over time and Y grows at roughly the same rate as the adult less-educated population, then intertemporal comparisons of the job access measure will indicate how access is changing over time within a particular area.

The estimates of the job access measure are reported in Table 3. The area containing the greatest concentration of blacks, especially less-educated blacks, is the southern section of the central city. Thirty-six percent of the total black population of the ARC region and 45 percent of the less-educated black population lived in this area in 1990. Of the five areas, only the southern section of the city lost jobs for less-educated workers during the 1980s.[8] The measure of job access for this area remained virtually the same between 1980 and 1990. In the other four areas, including the black southern suburbs, job access improved, especially on the north side of the region. These numbers suggest that, while there was no absolute decline in job access within the southern section of the central city during the 1980s, there was a negative change relative to the other areas. Outside of the southern central city, the labor market became relatively tighter. Hence if city blacks were at a locational disadvantage in 1980, this disadvantage grew worse over the decade.

## What To Do About the Spatial Mismatch Problem

Policy options to the spatial mismatch problem can be classified into two categories: (1) policies to reduce distances between the residential locations of minorities and the locations of available jobs, and (2) policies to improve the job accessibility of minorities, without changing either job or residential locations. The arguments—both pro and con—and the evidence (or lack thereof) that relate to each policy option are reviewed below.

The longstanding debate on spatial mismatch policy has been confined to category (1). Within this category there are two obvious subcategories of specific actions: those that help minorities live closer to the jobs and those that encourage the location of jobs closer to the minorities' homes. In the early years of the spatial mismatch debate, these subcategories were labelled suburban dispersal and ghetto development policies. The debate over the two options began with the exchange in the late 1960s and early 1970s between Bennett Harrison (1974), who rejected the SMH and argued for ghetto development, and John Kain and Joseph Persky (1969), who criticized ghetto development as "gilding the ghetto" and argued in favor of suburban dispersal.

## Suburban Dispersal

The objective of suburban dispersal is to reduce housing segregation along racial lines by increasing the number of blacks living in white suburban areas. The most efficacious route to accomplishing this objective hinges upon identifying the causes underlying segregated housing patterns. There are three possible causes. First, housing segregation may result from income segregation, since blacks have a lower mean income than whites. Second, housing segregation may result from housing and/or mortgage market discrimination against blacks. Third, housing segregation may reflect the preferences that blacks and whites have for neighborhood racial composition. Unfortunately, little is learned about the relative importance of these causes from reading the empirical literature. The only conclusion that can be drawn with some confidence is that differences in income between blacks and whites play, at best, only a small role in explaining housing segregation. Studies by Taeuber and Taeuber (1965), Pascal (1970), Farley (1983), Hwang et al. (1985), Kain (1985), and Gabriel and Rosenthal (1989) have all reached this conclusion. Moreover, I know of no evidence that is contrary to this conclusion.

If racial income differences do not account for housing segregation, then only racial discrimination and housing preferences remain as causal factors. Recent studies have provided the most convincing evidence to date that blacks are discriminated against in both the housing and mortgage markets. The *Housing Discrimination Study*, a national fair housing audit study sponsored by the U.S. Department of Housing and Urban Development (HUD), found that the overall incidence of discrimination was 53 percent for black renters and 59 percent for prospective black homebuyers.[9] The problem of lender discrimination has been documented by researchers at the Federal Reserve Bank of Boston, who found that black applicants were 60 percent more likely than white applicants to be denied a loan once financial, employment, and neighborhood characteristics were taken into account (Munnell et al., 1992). Neither the HUD nor the Boston Federal Reserve Bank study attempted to relate the continued concentration of blacks within the inner cities to discrimination.

The most recent evidence on black and white neighborhood preferences comes from the 1992 Detroit area study (Farley et al., 1993). This study is unique in that it replicates an earlier study done in 1976 (Farley et al., 1978). The preferences of blacks changed very little between the two surveys: in each year they stated a strong preference for racially mixed neighborhoods in which blacks made up one-half to two-thirds of the residents. There was, however, one interesting change over time. The percentage of black respondents who said they would be willing to be the pioneers who will integrate an all-white neighborhood declined from 38 percent in 1976 to 31 percent in 1992, and the change was statistically significant. Among whites, the preference in both years was for a mostly white neighborhood. However, the attitudes of whites with regard to residential integration became somewhat more liberal between the two surveys. For example, the proportion of white respondents who indicated they would try to move out of a neighborhood that was one-third black was 41 percent in 1976 but only 29 percent in 1992. While the Detroit area study concludes that the neighborhood preferences of blacks and whites are important causes of housing segregation, there was no attempt to make a direct connection.

In light of the above evidence on the causes of housing segregation, what policies can be recommended for integrating suburban areas? The conclusion that housing segregation is not the result of racial differences in income has the important policy implication that a greater supply of low-income housing in the suburbs is not a crucial element of a suburban dispersal strategy. The evidence confirming housing and lender discrimination implies that stronger antidiscriminatory efforts are needed, regardless of whether they would contribute to increased housing integration. Regarding increased integration, it is by no

means clear—without knowing the relative contribution that discrimination and preferences make to housing segregation—what would happen if suburban neighborhoods were opened up to blacks by stronger enforcement of fair housing laws. As Muth (1985) has emphasized and the Detroit area study results suggest, a significant percentage of whites may move out of their neighborhoods if blacks move in. This, of course, poses an empirical question that merits further research; namely, will whites respond as Muth has suggested and, if so, at what level of black in-migration will the white exodus occur? Within central cities, white flight from neighborhoods undergoing racial transition has been an important historical phenomenon. These results may not carry over into a suburban setting, however, since the cost of moving—in terms of additional travel time—from the city to the suburbs may be quite different from the cost of moving from one suburban location to a more distant suburban location. At some point, the desire for access to the central city may work to impede the mobility of white households.

Some evidence on suburban black infiltration/white flight in Atlanta during the 1980s is provided in Table 4. DeKalb, Clayton, and South Fulton Counties are inner-suburban areas that experienced considerable black in-migration during the 1980s. Each county has been divided into the superdistricts defined by ARC for planning purposes. The black population increased in all but one of the 14 superdistricts, and in 11 of these 13 cases the decline in the white population was substantial. These numbers indicate that even in suburbia black infiltration generally results in white flight, lending credence to Muth's criticism of the dispersal strategy.

However, white flight does not necessarily argue against suburban dispersal. First, by adapting appropriate policies it may be possible to curb white flight and thereby achieve greater housing integration. For example, Leven et al. (1976) provide evidence that whites flee as blacks enter their neighborhoods primarily because black infiltration is a harbinger of income change, which whites fear will lower the value of their properties. If this is true, then the establishment of government-guaranteed price floors in target neighborhoods, which would assuage white fears of capital losses, might work to stem white flight. In addition, given growing concerns over the environment and urban sprawl, it may be time to consider development zoning that would prohibit development beyond a certain distance from the core of the metropolitan area.

A second reason dispersal may be recommended despite white flight is that even if it fails to achieve integration, it may improve blacks' access to jobs if suburban employers remain in place as whites move farther out. While retailing and personal services will likely follow whites to more distant suburbs, the immobility of capital may mean that manufacturing jobs will remain in those areas that undergo racial transition.

## Ghetto Development

The alternative approach to reducing the distance between black workers and jobs is ghetto development. In recent years, the development proposal that has received the most attention has been the urban enterprise zone (UEZ). As originally conceived, the zone would encompass an economically distressed area within the central city where taxes and government regulations would be reduced or eliminated in order to stimulate the origination of small, new enterprises. In practice, UEZs established by State governments have offered businesses tax and other financial incentives along with technical assistance.

The critics of UEZs have made three arguments:

- The benefits accruing to individual firms from locating within an urban enterprise zone are insufficient to overcome the many other obstacles associated with a central

city location, namely crime, inadequate space, and higher wages for skilled employees.

- Growth in jobs may occur as the result of zone inducements, but it will not result from the origination of new firms. Instead, growth will occur if existing firms or new firms that would have started up even without the zone choose to locate in the enterprise area. Hence the zone's employment gain is offset by a loss in jobs elsewhere.
- Regardless of the source of the job growth that occurs within enterprise zones, the expansion in jobs will not help indigent zone residents, because they do not possess the skills necessary for employers to hire them.

While the empirical evidence is not conclusive, it tends to contradict the notion that job growth will not occur within enterprise zones but supports the argument that jobs will come at the expense of other areas and will not go to zone residents. The evidence comes from studies of British enterprise zones and zones established by State governments in the United States.[10] The fact that most of the local gain in employment comes from the diversion of activity that would otherwise have occurred elsewhere is not necessarily bad. As noted above, the evidence suggests that minorities and whites do not enjoy equal access to jobs. Reshuffling jobs from suburban to central-city areas may be justified on a fairness criterion. In addition, the effects of the job loss experienced outside the enterprise area must be measured against the decline in crime and other antisocial behaviors committed by zone residents as the result of their improved employment opportunities. Finally, as Bartik (1991) has pointed out, individuals living in high unemployment areas probably place a higher value on getting a job than individuals in low unemployment areas. Thus the relocation of jobs in favor of zones may enhance the net social welfare.

The finding that most of the new jobs in urban enterprise zones do not go to zone residents is problematic. The policy implication is that zonal benefits should be made conditional on hiring the targeted population, but that would reduce the incentive of firms to locate in the zone, since such workers would require more training. While the significance of this problem has not been measured, some people believe (see, for example, Heilbrun, 1987) that the attractiveness of enterprise zones will be seriously diminished under a commitment to hire the hardcore unemployed and pay them a competitive wage.

A realistic assessment of the UEZ as a job access improvement policy is that in light of the substantial job growth that most "edge cities" have enjoyed in recent years, it is highly unlikely that even federally sponsored UEZs would attract sufficient investment to come anywhere close to equalizing job access between black and white workers.

## Commuting Costs, Job Information, and Hiring Discrimination

The second category of job access improvement policies includes those policies that would improve black workers' access to suburban jobs without changing either residential or job locations.[11] The development of appropriate policies that would fall into this category depends on the answer to the following fundamental question: Why hasn't the surplus of labor within inner-city neighborhoods been eliminated by blacks, engaging in more extensive job searches and commuting throughout the local labor market? As discussed above, there are three possible barriers that may prevent inner-city blacks from commuting to suburban jobs. First, the distances to jobs in the suburbs may make it too costly to commute to these jobs or may mean that blacks have poor information on suburban job opportunities. Second, consumer and/or employer prejudice may cause suburban employers to discriminate against blacks in the hiring process. Third, in comparison to

central-city jobs, fewer suburban jobs are within walking distance of a public transit stop, and many inner-city blacks do not own automobiles.

A suburban job will generally involve more commuting time for an inner-city resident than will a central city job. However, it is highly unlikely that this extra time explains the underrepresentation of black workers in suburban jobs. Consider the following scenario: a firm employing 100 inner-city workers moves from the city to the suburbs and there are no alternative jobs for these workers within the central city. As a result the workers must commute an additional 45 minutes each way to continue to work for the firm. Since the workers would be traveling against traffic, the assumption of 45 minutes of extra travel time may be too high to be realistic. Nevertheless, if workers value their travel time at half the wage rate, as transportation-mode choice studies suggest, the reduction in the individual worker's net daily wage is less than 10 percent. Empirical evidence on the decision to work indicates that the elasticity of labor force participation rates with respect to wages for the majority of workers (that is, males and female household heads) is probably no greater than 0.1. Hence only 1 out of the 100 workers would not continue to work for the firm in response to its relocation. Including a liberal amount for out-of-pocket travel costs in the scenario might cause enough of a change in the net wage that two workers would decide not to make the suburban commute.

Thus, if distances to jobs in the suburbs are important in explaining the failure of blacks to shift their labor supply to the suburbs, it must be that information on available jobs declines with distance. This is an attractive hypothesis, since we know that less-educated workers tend to rely on informal methods of job search, such as consulting with friends and relatives, rather than formal methods, such as contacting a public or private employment agency (Holzer, 1987). Informal methods are unlikely to inform inner-city blacks of suburban job openings. Unfortunately, I am aware of no evidence that relates to this hypothesis.

Nevertheless, even without any hard evidence on the role of job information as a cause of black underrepresentation in suburban jobs, policies that would enhance inner-city minorities' knowledge of suburban job openings can be recommended simply because they may yield a handsome payback at relatively low cost.

A second possible reason why inner-city blacks have not adjusted to the decentralization of jobs by commuting to the suburbs is that they may encounter greater labor market discrimination in the suburbs than within the central city, either because of greater consumer discrimination or because prejudiced employers deliberately choose suburban locations to escape black workers. If blacks do encounter greater discrimination outside the central city, then stronger enforcement of antidiscrimination laws in the suburbs becomes an appropriate job access improvement policy.

There is little evidence as to whether blacks encounter greater labor market discrimination in the suburbs than within the central city, except for the hiring audit study recently completed, for HUD by the Urban Institute (Turner, Fix, and Struyk, 1991). This study conducted audits in Washington, D.C., and Chicago during the summer of 1990. The findings indicated that in one of five audits, the white applicant progressed further through the hiring process than his equally qualified black counterpart. However, no difference was found in the degree of hiring discrimination between central-city and suburban employers. These results suggest that suburban employers should not be targeted in antidiscrimination enforcement, but that other strategies should be implemented to improve access to suburban workplaces while pursuing metropolitanwide enforcement of employment

discrimination protection. As the authors of the hiring audit study emphasize, a nationwide employment audit is required before reaching any firm policy conclusions.

The third possible reason for black underrepresentation in suburban jobs is that inner-city blacks are dependent on public transportation, and existing fixed-rate public transportation systems poorly serve the reverse-commuter. While jobs within walking distance of suburban transit stops are accessible to the inner-city worker, the vast majority of suburban jobs do not fall into this category. But what can be done to provide reverse-commuters with suitable transportation? William Julius Wilson suggests federally funded car pools to take the urban poor to suburban jobs (Noah and Wessel, 1992). Because of the expense involved, this idea may not be practical, and would certainly not be popular in those metropolitan areas that are struggling to satisfy clean air standards and maintain ridership on trains and buses.

Another idea is that local transit authorities give up their current status as monopoly suppliers of services. In recent years, this idea has been promoted as a solution to the chronic deficits experienced by mass transit authorities and as an approach to decreasing the reliance on the private car for the journey to work (Lave, 1985). In addition, in a deregulated environment, creative entrepreneurships providing reverse-commuting services would have an opportunity to develop. While their completely free entry onto the transportation scene may not be in the offing, reverse-commuting services that would complement rather than compete against existing public transit is a real possibility. For example, an attractive option for getting inner-city workers to suburban jobs would be jitneys that would pick them up at transit stops along major cross-suburban routes and drop them off near their places of employment.[12]

A final idea would be to encourage suburban employers to provide transportation for inner-city workers. Newspaper accounts (Peirce, 1988; Brownstein, 1989; Greene and Carton, 1986; Foderaro, 1990; Roberts, 1990; McCosh, 1990; Davidson, 1989; Beasley, 1990) and at least one survey (Hughes, 1989c) suggest that in many places, employers are already providing this service or contracting to have it provided.[13] Nevertheless, only a small percentage of suburban employers currently engage in this practice. Unlike jitneys and other types of common carriers, employer-provided transportation is not prohibited by local government regulations; therefore, it would seem to represent a simple solution to the mismatch problem. The issue is, therefore, why employer-provided transportation has not occurred on a wider scale. One possible answer is that spatial mismatch is not a widespread problem or, more likely, is not so severe that firms feel justified in incurring the considerable costs associated with transporting employees from the inner city.[14] To minimize costs, most existing programs involve a consortium of firms or a group of firms contracting with a transportation company. But even in these cases, costs tend to be a deterrent and as a result, public subsidy is usually required. However, to the extent that such programs mitigate poverty within the inner city, public/private partnerships are justified. Regional planning councils (with Federal Government sponsorship) would seem to be the ideal entity for bringing the partners together at the local level.

## Conclusions

In summary, the SMH has become an attractive hypothesis. A fair assessment of the empirical evidence indicates that poor job accessibility, in the physical or geographical sense, contributes to the labor market problems of inner-city minority workers. More importantly, the fact that jobs for less-educated workers continue to decentralize and less-educated minority workers remain concentrated within inner cities suggests that spatial mismatch may play an important role in explaining the growth in inner-city poverty

during the 1980s. Although this possibility has not been documented, the recent release of the 1990 Public Use Microdata Sample will enable researchers to investigate the issue.

The question of how to address the spatial mismatch problem is complex. There are numerous policy options and little evidence as to their probable success. I have attempted to identify those research questions that need to be addressed in order to design and implement the most efficacious strategies.

There is little debate over the long-term goal of racially integrating metropolitan housing markets. But that may not be a practical method of achieving an immediate improvement in the job accessibility of inner-city workers. The most attractive policy option, from both a political and economic perspective, is to connect central-city workers with suburban jobs by providing the necessary information and transportation.[15] The mismatch problem within urban labor markets illustrates the interdependency of central-city and suburban economics. Suburban employers need city workers, while the workers need suburban jobs. Moreover, suburban residents will benefit from lower prices if city residents are better able to shift their labor supply to suburban firms. Finally, consumer-oriented businesses within inner-city neighborhoods will benefit from the enhanced spending power of city residents who obtain suburban jobs. Hence everyone may benefit from efforts to improve the accessibility of city workers to suburban employment opportunities.

## Author

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## Notes

1. Wilson (1987, p. 8) defines the underclass as "that heterogenous grouping of families and individuals who lack training and skills and either experience long-term unemployment or are not part of the labor force, individuals who engage in street criminal activity and other aberrant behavior, and families who experience long-term spells of poverty and/or welfare dependency."

2. This has been documented by Kasarda (1985). Using data from the 1980 Census of Housing, he found that more than one-half of the minority households in Philadelphia and Boston are without a means of personal transportation. In New York the proportions are even higher, with only 3 out of 10 black or Hispanic households having a vehicle available. According to the 1970 Census of Population and Housing, STF 3A, 39 percent of the black households living in the city of Atlanta have no automobile, van, or truck for use by household members.

3. Evidence that there is a link between concentrated poverty and the decentralization of manufacturing jobs is provided by Hughes (1989a).

4. Kain (1992) suggests that Jencks and Mayer's negative assessment of the SMH was strongly influenced by the work of Masters (1974, 1975), which Kain concludes, with good reason, is fatally flawed.

5. An issue overlooked in all of the reviews of the mismatch literature is whether the mismatch problem applies universally or only in selected metropolitan areas. Since the forces that give rise to mismatch, namely, housing segregation combined with job decentralization, characterize virtually every metropolitan area, it might be expected that mismatch in the labor market would be a common phenomenon. Evidence in support of this expectation for *large* metropolitan areas has been provided by Ihlanfeldt and Sjoquist (1991) and Ihlanfeldt (1992). However, in smaller metropolitan areas (i.e., less than one million in population) the findings of Ihlanfeldt (1992) suggest the mismatch problem is much less severe. The reason for this is that racial differences in job accessibility tend to be small in smaller metropolitan areas.

6. Of the 19 superdistricts defining the northern suburbs, 12 have populations that are 10 percent black or less, and six are between 11 and 20 percent black. The remaining superdistrict is the city of Decatur, an outlier that is 39 percent black.

7. The importance of considering the suburbanization of both jobs and white competitors in assessing intertemporal changes in spatial mismatch might seem obvious. Nevertheless, there is a tendency in the literature to focus only on the growing disparity between the residential locations of blacks and the locations of jobs (see, for example, Hughes, 1992).

8. The loss in jobs equalled 3,200.

9. For an overview of the *Housing Discrimination Study*, see Turner, Struyk, and Yinger, 1991.

10. See the article by Helen F. Ladd in this volume, starting on page 193, for references and for a more indepth discussion of UEZs.

11. The strongest advocate of improving blacks' access to suburban jobs has been Hughes, who labels this approach to the mismatch problem "the mobility strategy" (1987, 1989b, 1989c, 1991).

12. Another advantage of jitney services is that it may help eliminate the worsening problem of suburban automobile congestion. The most frequent journey-to-work trip is now suburb-to-suburb. Jitneys would provide the workers who make these trips with an alternative means of transportation.

13. In at least one instance, suburban employers have been able to get the developer to subsidize the transportation of reserve-commuters before signing a lease (Biddle, 1987).

14. Of these costs, insurance coverage is typically the largest component.

15. See Ladd's article in this volume for an alternate perspective on the desirability of this policy option.

Figure 1

Metropolitan Atlanta Superdistricts
9 County ARC Region

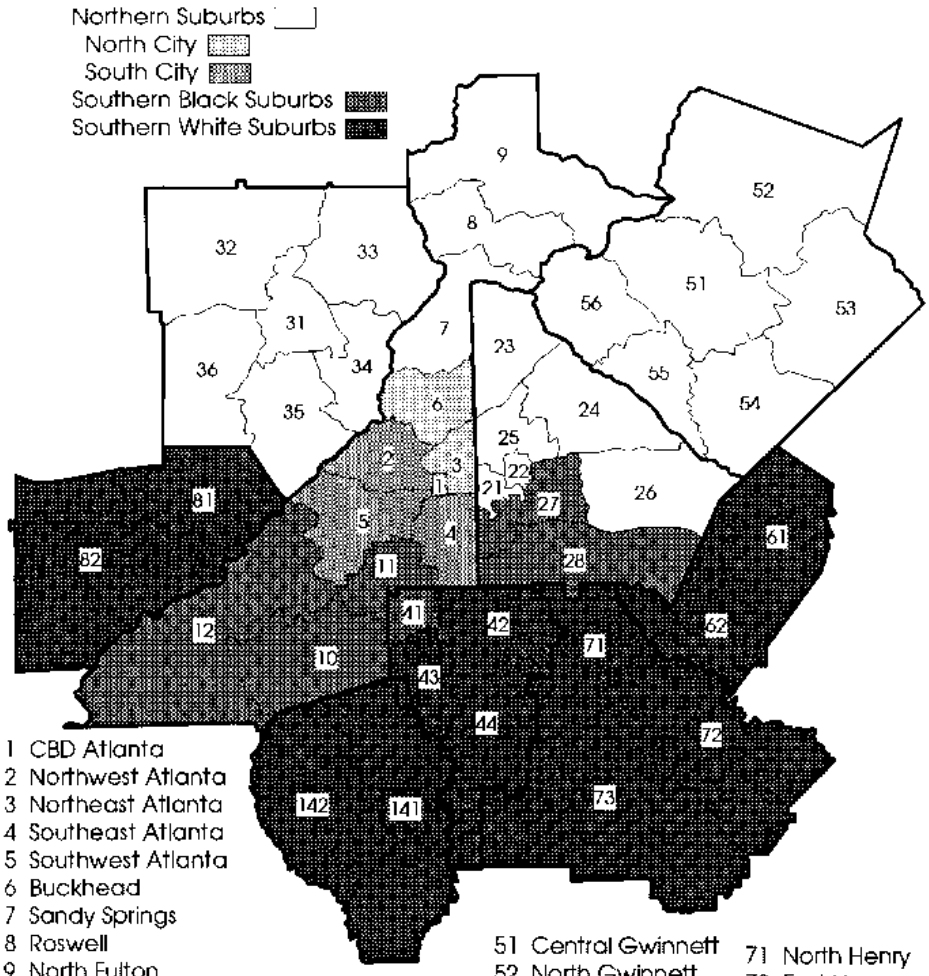

Table 1

Atlanta region employment
Number of jobs in each area, 1980 and 1990

| | Region | Central city | | Suburbs | | |
|---|---|---|---|---|---|---|
| | | North | South | North | South | |
| | | | | | Black | White |
| **Total Employment** | | | | | | |
| 1980 | 890,648 | 132,272 (14.8)[1] | 222,652 (25.0) | 351,090 (39.4) | 103,332 (11.6) | 81,302 (9.1) |
| 1990 | 1,397,159 | 172,193 (12.3) | 225,082 (16.1) | 710,628 (50.8) | 143,860 (10.3) | 145,396 (10.4) |
| **Construction** | | | | | | |
| 1980 | 48,268 | 5,188 (10.7) | 7,643 (15.8) | 23,872 (49.5) | 6,059 (12.5) | 5,506 (11.4) |
| 1990 | 62,114 | 4,137 (6.7) | 8,005 (12.9) | 34,137 (55.0) | 4,828 (7.8) | 11,007 (17.7) |
| **Manufacturing** | | | | | | |
| 1980 | 133,423 | 9,509 (7.1) | 39,477 (29.5) | 56,631 (42.4) | 11,264 (8.4) | 16,542 (12.4) |
| 1990 | 150,939 | 5,934 (3.9) | 30,958 (20.5) | 77,575 (51.4) | 13,286 (8.8) | 23,196 (15.4) |
| **Retail** | | | | | | |
| 1980 | 144,354 | 22,421 (15.5) | 23,599 (16.3) | 60,760 (42.1) | 19,580 (13.6) | 17,994 (12.5) |
| 1990 | 256,484 | 26,905 (10.5) | 22,279 (8.9) | 142,929 (55.7) | 26,201 (10.2) | 38,170 (14.9) |
| **Wholesale** | | | | | | |
| 1980 | 82,325 | 11,099 (13.5) | 19,056 (23.1) | 39,117 (47.5) | 6,622 (8.0) | 6,431 (7.8) |
| 1990 | 138,096 | 10,873 (7.9) | 22,128 (16.0) | 85,267 (61.7) | 9,367 (6.8) | 10,461 (7.6) |
| **Services** | | | | | | |
| 1980 | 180,849 | 44,444 (24.6) | 40,250 (27.3) | 73,311 (40.5) | 13,363 (7.4) | 9,481 (5.2) |
| 1990 | 347,300 | 68,134 (19.6) | 53,170 (15.3) | 180,378 (51.9) | 21,640 (6.2) | 23,978 (6.9) |
| **Transportation, communications, and utilities** | | | | | | |
| 1980 | 82,779 | 5,005 (6.0) | 27,425 (33.1) | 16,930 (20.5) | 27,953 (33.8) | 5,466 (6.6) |
| 1990 | 128,800 | 13,564 (10.5) | 16,725 (13.0) | 42,846 (33.3) | 42,947 (33.3) | 12,738 (9.9) |

Table 1 (continued)

| | Region | Central city | | Suburbs | | |
|---|---|---|---|---|---|---|
| | | North | South | North | South | |
| | | | | | Black | White |
| **Finance, insurance, and real estate** | | | | | | |
| 1980 | 71,487 | 16,029 (22.4) | 15,152 (21.2) | 32,868 (46.0) | 4,498 (6.3) | 2,940 (4.1) |
| 1990 | 128,800 | 13,564 (10.5) | 16,725 (13.0) | 42,846 (33.3) | 42,927 (33.3) | 12,738 (9.9) |
| **Government** | | | | | | |
| 1980 | 147,463 | 18,577 (12.6) | 50,050 (33.9) | 47,601 (32.2) | 13,993 (9.5) | 17,242 (11.7) |
| 1990 | 204,569 | 22,210 (10.9) | 57,228 (28.0) | 80,757 (39.5) | 19,529 (12.1) | 24,845 (9.5) |

Note:

[1] The number in parentheses is the percentage of the region's jobs located in that area.

Table 2

Number of people residing in each area, 1980 and 1990

| | Region | Central city | | Suburbs | | |
|---|---|---|---|---|---|---|
| | | North | South | North | South | |
| | | | | | Black | White |
| **Total blacks** | | | | | | |
| 1980 | 475,859 | 18,214 (3.8)[1] | 265,931 (55.9) | 36,139 (7.6) | 130,609 (27.4) | 24,966 (5.2) |
| 1990 | 675,968 | 19,987 (2.9) | 244,618 (36.2) | 121,877 (18.0) | 203,851 (30.1) | 85,635 (12.7) |
| **Adult blacks, high school or less** | | | | | | |
| 1980 | 160,847 | 7,498 (4.7) | 94,015 (58.4) | 12,23 (7.6) | 438,675 (27.4) | 8,425 (5.2) |
| 1990 | 214,260 | 8,597 (4.0) | 97,271 (45.4) | 29,041 (13.6) | 57,472 (26.8) | 21,879 (10.2) |
| **Adult blacks, more than high school** | | | | | | |
| 1980 | 55,982 | 1,712 (3.1) | 25,662 (45.8) | 3,641 (6.5) | 23,426 (41.8) | 1,541 (2.8) |
| 1990 | 168,808 | 5,226 (3.1) | 40,896 (24.2) | 41,287 (24.5) | 55,370 (32.8) | 26,029 (15.4) |
| **Total whites** | | | | | | |
| 1980 | 1,348,622 | 86,186 (6.4) | 52,229 (3.9) | 772,103 (57.3) | 130,133 (9.6) | 307,971 (22.8) |
| 1990 | 1,640,303 | 83,720 (5.1) | 35,224 (2.1) | 1,066,244 (64.9) | 71,625 (4.4) | 385,490 (23.5) |
| **Adult whites, high school or less** | | | | | | |
| 1980 | 434,012 | 18,034 (4.2) | 22,255 (5.1) | 218,189 (50.4) | 54,786 (12.6) | 120,118 (27.7) |
| 1990 | 440,507 | 11,279 (2.6) | 13,463 (3.1) | 243,672 (55.3) | 32,864 (7.5) | 139,229 (31.6) |
| **Adult whites, more than high school** | | | | | | |
| 1980 | 349,269 | 39,151 (11.2) | 11,086 (3.2) | 222,021 (63.6) | 27,243 (7.8) | 49,768 (14.2) |
| 1990 | 675,909 | 52,715 (7.8) | 14,764 (2.2) | 479,609 (71.0) | 22,076 (3.3) | 106,745 (15.8) |

Note:

[1] The number in parentheses is the percentage of the group residing in that area.

## Table 3

Ratio of jobs for less-educated workers in the area to the number of less-educated adults living in the area

| | Central city | | Suburbs | | |
|---|---|---|---|---|---|
| | North | South | North | South | |
| | | | | Black | White |
| 1980 | 2.60 | 1.02 | .89 | .36 | .39 |
| 1990 | 4.23 | 1.07 | 1.50 | .93 | .55 |

## Table 4

Black suburbanization and white flight in Atlanta

| | Total population change 1980–90 | Black population change 1980–90 | White population change 1980–90 | Percent black 1980 | Percent black 1990 |
|---|---|---|---|---|---|
| **DeKalb County** | | | | | |
| SD22[1] | -1140 | -892 | -403 | 41 | 39 |
| SD23 | +855 | +11,324 | -20,113 | 4 | 15 |
| SD24 | +18,211 | +20,835 | -9,813 | 3 | 20 |
| SD25 | +2,286 | +2,761 | -3,103 | 7 | 12 |
| SD26 | +34,164 | +29,216 | +1,778 | 10 | 45 |
| SD27 | +1,502 | +16,060 | -15,519 | 63 | 79 |
| SD28 | +10,634 | +22,476 | -12,218 | 50 | 80 |
| **Clayton County** | | | | | |
| SD41 | +3,521 | +6,511 | -3,942 | 28 | 68 |
| SD42 | + 87 | +8,985 | -11,705 | 6 | 19 |
| SD43 | +16,682 | +15,011 | -645 | 2 | 27 |
| SD44 | +11,405 | +2,146 | +8,273 | 8 | 11 |
| **South Fulton County** | | | | | |
| SD10 | +2,697 | +2,552 | -57 | 42 | 50 |
| SD11 | -8,050 | +8,437 | -18,471 | 44 | 64 |
| SD12 | +9,568 | +17,206 | -8,301 | 32 | 66 |

Note:

[1] SD refers to the superdistricts defined by the Atlanta Regional Commission for planning purposes. See Figure 1.

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