



**Center for the Study of Urban Poverty
University of California, Los Angeles
Working Paper Series**

*WITHIN CITIES AND SUBURBS: RACIAL RESIDENTIAL
CONCENTRATION AND THE SPATIAL DISTRIBUTION
OF EMPLOYMENT OPPORTUNITIES ACROSS
SUB-METROPOLITAN AREAS*

Michael A. Stoll, Harry J. Holzer and Keith R. Ihlanfeldt

October 1999

WITHIN CITIES AND SUBURBS:

RACIAL RESIDENTIAL CONCENTRATION AND THE SPATIAL DISTRIBUTION OF EMPLOYMENT OPPORTUNITIES ACROSS SUB-METROPOLITAN AREAS

By

Michael A. Stoll
Department of Policy Studies
UCLA
e-mail: mstoll@ucla.edu

Harry J. Holzer
Department of Economics
Michigan State University
e-mail: holzer@pilot.msu.edu

Keith R. Ihlanfeldt
Department of Economics
Georgia State University
e-mail: kihlanfeldt@gsu.edu

October 1999

Published in the *Journal of Policy Analysis and Management*, 19(2), April 2000

The authors thank Julian Ware for his Geographic Information Systems expertise and research assistance during this project. We are also indebted to the two anonymous referees for their many helpful suggestions. This research was funded by a grant from the National Science Foundation [SBR-9809154]. Please send all correspondence to: Michael A. Stoll, UCLA School of Public Policy and Social Research, 3250 Public Policy Bldg. Box 951656, Los Angeles, CA 90095-1656.

Within Cities and Suburbs:
Racial Residential Concentration and the Distribution of Employment Opportunities
Across Sub-Metropolitan Areas

ABSTRACT

In this paper, we examine and compare the spatial distributions of new jobs and people across sub-metropolitan areas for Atlanta, Boston, Detroit, and Los Angeles. The jobs data come from the Multi-City Study of Urban Inequality and the data on people come from the *US Bureau of the Census*. The results indicate that less-educated people, public assistance recipients, and especially poor females with children mostly reside in heavily minority areas where the availability of less-skilled jobs is quite low, while the availability of these jobs relative to less-educated people in heavily white suburban areas is high. Large fractions of the less-skilled jobs in these metropolitan areas are not accessible by public transit. Furthermore, there is significant variation within both central cities and suburbs in the ethnic composition of residents and in less-skilled job availability. The ability of various minority groups to gain employment in each area depends heavily on the ethnic composition of the particular area.

keywords: spatial mismatch, low-skill jobs, race

Introduction

A consistent pattern observed across metropolitan areas is the spatial concentration of disadvantage. Joblessness, poverty, welfare receipt, and other indicators of disadvantage are not evenly spread throughout metropolitan areas, but instead are spatially concentrated in particular parts of central cities [Jargowsky, 1997, 1992; Galster and Mikelsons, 1995; Abramson and Tobin 1995; Wilson, 1987]. Moreover, this spatial concentration of disadvantage is highly correlated with racial residential patterns that are themselves distinct and noticeable in metropolitan areas [Massey, Gross, and Eggers, 1991]. Much of this spatial concentration of disadvantage is found in black, and to a lesser extent Latino, central city ghettos and barrios, respectively. It is not surprising then that comparisons of indicators of disadvantage by race invariably show that blacks, and to a lesser extent Latinos, have worse outcomes than whites. For example, even in the tight labor market of 1999, the unemployment rate of white adults in metropolitan areas was 3.6 percent, while those for blacks and Latinos stood at 8.1 percent and 5.8 percent, respectively [US Bureau of Labor Statistics, 1999].

At the same time, there is consistent evidence that employment opportunities as measured by added new jobs continue to locate in suburbs. Indeed, employment growth from 1990 to 1993 in US metropolitan areas was much greater in suburbs than in central cities. Moreover, an overwhelming percentage of the newly created low-skilled jobs over this same period located in the suburbs as well [HUD, 1997]. The growing spatial division between the location of employment opportunities and disadvantage has led some scholars to argue that spatial location itself has an independent affect on individuals' employment outcomes [see, for example, O'Regan and Quigley [1996] and Rosenbaum [1995]. This argument, first articulated by John Kain [1968], has come to be known as the spatial mismatch hypothesis (SMH). According to the SMH, blacks' employment problems are in part due to the conjunction of job suburbanization and housing market discrimination practices in suburbs that restrict blacks' residential choices to the central city. These spatial patterns of employment and

residences result in the creation of an oversupply of low-skill workers relative to the number of jobs for which they are qualified in the central city, thereby raising blacks' unemployment levels both absolutely and relative to those of whites. The SMH, while conceptually a relatively simple idea, has proven to be notoriously difficult to reliably test, however. As a result, there remains considerable controversy surrounding the hypothesis, despite the fact that more recent studies are less mixed in their support of the SMH in comparison to earlier studies.¹

The general methodological approach used to test the SMH is to examine the effects of space on labor market outcomes. This involves creating measures of physical accessibility to jobs and then examining whether job access affects individual or geographic level labor market outcomes. The spatial mismatch hypothesis is supported if job access is found to affect these outcomes and if blacks are found to have worse job access than whites. However, this standard approach can easily result in biased estimates because it is difficult to accurately measure job access and because labor market outcomes may affect job access, thus resulting in spurious correlations [Ihlanfeldt, forthcoming]. In an attempt to address the latter problem, most studies have focused on youth still living at home, based on the argument that their residential location (and therefore job proximity) is exogenously determined by their parents. As a result, there is relatively little recent evidence on the SMH as it applies to adults.

We take a different approach to examine spatial cleavages between the location of jobs and particular racial groups in metropolitan areas. We directly examine and compare the spatial distribution of new jobs and people of different racial backgrounds across sub-metropolitan areas. Moreover, unlike most studies that investigate the role of geography in labor markets, we define sub-metropolitan areas at a lower level of geography than the simple central city/suburban dichotomy in order to uncover spatial dynamics within these commonly-used, broad geographic categories. The degree of divergence in the spatial variation of jobs and various people in large metropolitan areas

provides an indication of the degree to which spatial frictions in the labor market might matter. Moreover, the degree of spatial disjuncture between the location of jobs and blacks' and Latinos' residences has direct implications on the location of their employment.

In the remainder of this paper, we first discuss the data and define the key variables used in the analysis. We then examine the spatial distributions of job opportunities and people within four large metropolitan areas, paying particular attention to low-skill jobs, their proximity to public transit, and minorities' residential patterns. Finally, we analyze the implications of these spatial frictions on the spatial distribution of job applications and employment locations of blacks and Latinos in metropolitan areas.

Data and Definition of Key Variables

To compare the spatial distributions of jobs and people within metropolitan areas, we use data from the Multi-City Study of Urban Inequality (MCSUI) and the *US Census of Population and Housing*, respectively, for the Atlanta, Boston, Detroit and Los Angeles metropolitan areas (MSAs for short). These MSAs are generally representative of the different regional urban forms and dynamics found in the US. Atlanta represents a "New South" metropolitan area with tremendous growth from 1980 to 1990, while Boston is a northeastern city rebounding from de-industrialization and emerging as a high skill, high technology center. Boston also possesses a number of unique characteristics; such as, a relatively small black population (6.2 percent of the MSA population) and a relatively large number of college graduates (31 percent of the total population). Detroit represents the midwestern city that is characterized by extreme de-industrialization and racial polarization in residential patterns, while Los Angeles characterizes the sprawling metropolitan areas (sun cities) of the west, where central city/suburban dichotomies are difficult to impose.

Data on people come from the 1990 *US Census* Summary Tape Files and are aggregated at the census tract level. Data on jobs come from MCSUI telephone surveys with 3,220 employers in

the four MSAs (approximately 800 per metropolitan area) conducted between 1992 and 1994. Our primary focus is on those survey questions that described the most recently filled job and worker hired into that job at each establishment. Information was obtained on the hiring requirements, job tasks, and starting wage and benefits associated with this position and the race/gender of the hiree. Also obtained was the racial background of those who applied for the position. In a follow-up telephone survey, firms were queried regarding their proximity to public transit.

The sampling frame was stratified by establishment size categories so as to reproduce the distribution of employment across these categories in the workforce.² The sample of firms therefore approximates employee-weighted samples of firms for each metropolitan area. Moreover, the sample was restricted to employers that had hired in the past three years. Thus, the sample of recently filled jobs at these firms reasonably represents the universe of new jobs that are currently available to job seekers.

The focus of the analysis is on low-skill jobs. Because MCSUI asked employers the hiring requirements (education, experience, and training) of and tasks involved in the last filled job in the firm, we are able to construct measures of low-skill jobs that may be more accurate than other, more universally used measures based upon occupation or industry, and that may better represent the jobs for which new low-skill labor market entrants are qualified. Use of occupation or industry indicators to measure the skill requirements of jobs does not recognize the extreme heterogeneity of tasks and skill requirements within these categories. Alternatively, we define three categories of low-skill jobs based upon the tasks performed and the experience, training or educational levels required by employers. We consecutively place stricter definitions on the categories of low-skill jobs. In the first category, we define low-skill jobs broadly as those that require no college degree, training (general or specific) or experience (recent or specific). The second category of low-skill jobs includes those that require no high school degree, experience or training. Finally, in the third

category, we define low-skill jobs narrowly as those that involve no reading, writing, or math tasks and require no experience, training or high school diploma.³

To examine the spatial distributions of low-skill jobs and people across sub-metropolitan areas of different racial composition, we first geocoded the address of each firm in MCSUI to a census tract. Next, we used Geographic Information Systems (GIS) and *US Census* data to examine the racial/ethnic residential composition of census tracts and defined seven types of sub-metropolitan areas within each of the four MSAs. We then assigned each firm in MCSUI to one of these seven areas. These areas are the central business district (CBD), black central city, Latino central city, white central city, black suburbs, integrated suburbs, and white suburbs.⁴

Except for the CBD, we defined these areas to be in keeping with the premises of the SMH. The SMH is in part premised on the racial segregation of minorities. Thus, we define areas within cities and suburbs based on their racial concentration. We include areas in suburbs identified by their racial concentration because research indicates that the suburban areas in which blacks tend to live are themselves racially segregated [Galster, 1991]. Moreover, we include the CBD as a separate spatial unit in the analysis because of its unique characteristics. Except for Atlanta, the CBDs in our analysis are not residential areas. However, in all four MSAs, they are characterized by their high employment densities and as a central location for financial and other office using industries.

Except for the CBD, the sub-metropolitan areas are defined by racial/ethnic composition and central city/suburban boundaries. The CBD is defined by the *US Census Bureau* and is that area within the central city commonly referred to as downtown. We define the black (Latino) central city as that area within the central city with contiguous census tracts of blacks (Latinos) representing 50 percent or more of the population. Los Angeles and Boston are the only MSAs here that have a Latino central city. Except for Los Angeles, the white central city is defined as that area within the central city with contiguous census tracts of whites representing 50 percent or more of the

population. Because of the diversity of its population, Los Angeles' white central city area is alternatively defined as those contiguous census tracts where whites represent the plurality of the population.⁵ Because of the lower levels of racial residential diversity in the suburbs, the sub-suburban areas are defined somewhat differently. The black suburban area is defined as that area within the suburbs with contiguous census tracts of blacks representing at least 30 percent of the population.⁶ We define the white suburban area as that area within the suburbs with contiguous census tracts of whites representing 80 percent of the population. In Atlanta, Boston, and Detroit, this area represented the vast majority of suburban census tracts. Finally, the remaining suburban census tracts are defined as integrated suburban areas. In this area, whites represent less than 80 percent of the population with the remaining residents being black or Latino. This area is most different in Los Angeles. In Los Angeles, the integrated area is racially mixed (Asians, Latinos, whites and blacks) and is represented by census tracts where no one group is the majority.⁷

Generally, the seven sub-metropolitan areas define single areas of contiguous census tracts.⁸ However, black suburbs and integrated suburbs are sometimes represented by more than one area. This is consistent with the existence of minority enclaves in otherwise white suburban areas.

We make two important assumptions in the analysis. Our analysis focuses only on the relative availability of jobs to different groups of people by geographic location in MSAs. To the extent that the absolute number of jobs available to low-skill workers may be insufficient for all to become employed [e.g., Holzer and Danziger, 1998], our results may understate their employment problems. Furthermore, we assume that job proximity is more heterogeneous across sub-metropolitan areas than within them. This assumption may not always hold; in particular, due to the geographic expanse of the white suburban area, physical job accessibility may display important variability within this area. Nevertheless, by dividing each MSA into seven geographic areas that are distinguished by their location and/or racial composition, we are improving upon the simple central

city versus suburban ring dichotomy adopted in previous analyses [Harrison, 1972; Price and Mills, 1985; Cooke, 1996; Cohn and Fossett, 1996].

Spatial Distributions of Jobs and People

Before turning our attention to low-skill jobs, it is of interest to map the distribution of new jobs of all skill levels and people aged 25 – 65 years across the seven sub-metropolitan areas for the pooled sample of four MSAs.⁹ Table 1 shows the spatial distributions of recently filled jobs and people (total and by race) across the seven sub-metropolitan areas for the pooled sample of MSAs. Table 1 shows that central cities have 26.1 percent of all newly filled jobs and 27.2 percent of the people, while the suburbs have 73.9 percent of the jobs and 72.8 percent of the people. Thus, people in central cities, considered as a whole, have about the same proximity to newly filled jobs as people in the suburbs, considered as a whole. However, when we look within cities and suburbs we find that people and recently filled jobs are not evenly distributed. For example, the combined share of people residing in black and Latino central cities and integrated suburbs (over 30 percent) is significantly greater than the combined share of jobs located in these sub-metropolitan areas (less than 20 percent). On the other hand, the share of jobs is greater than the share of people in the white suburbs, white central city and the CBD.

The particular spatial distributions shown in Table 1 suggest that at the general level residents of white in comparison to minority areas have an employment advantage because of their greater physical proximity to jobs. Furthermore, though there are lots of jobs in the CBD that are spatially accessible to blacks and Latinos, many of these may be inaccessible to them for other reasons. Data from MCSUI show that requirements of college degrees for jobs is greatest in the CBD, while the percentage of residents who are high school dropouts is greatest in the black and Latino central city. Though shown at lower levels of geography, this finding is consistent with previous research

[Kasarda, 1985, 1995], which documents a growing skills mismatch between the educational requirements of jobs and the educational attainment of residents in central cities.

Low-Skill Jobs and People

We now turn our attention to low-skill workers, the group for whom job accessibility is of greatest concern. Table 1 also shows the spatial distributions of recently filled low-skill jobs and people (total and by race), high school dropouts (total and by race), public assistance recipients, and female-headed households in poverty across the seven sub-metropolitan areas for the pooled sample of MSAs. The spatial distribution of low-skill jobs across the sub-metropolitan areas is very similar regardless of how these jobs are defined. In addition, the distribution of low-skill jobs, regardless of definition, is similar to that of all jobs, except that there is a greater share of low-skill jobs in white suburbs than jobs in general, 65 and 63 percent, respectively. This implies that low-skill jobs are more decentralized than high-skill jobs. What is most remarkable is that, regardless of how low-skill jobs are defined, at least 65 percent of them are located in white suburbs.

The extreme decentralization of low-skill jobs has important implications when viewed in relation to the spatial distribution of less-educated people. At the broadest geographic comparison (i.e., central city versus total suburbs), 77.4 percent of the metropolitan areas' lowest-skilled jobs but only 55.2 percent of the least-educated people (i.e., those with no high school degree) are located in the suburbs. The spatial disparity between jobs and people becomes worse at the more disaggregated level represented by the seven sub-metropolitan areas. Consider two extreme areas – white suburbs and black central city. The former contains 67.9 percent of the lowest-skilled jobs but only 40.6 percent of the least-educated people, while the latter holds 8.2 percent of these jobs relative to 15.4 percent of the least-educated people. These comparisons suggest that job proximity, as measured by the number of nearby jobs available per resident, is markedly higher in the area where most of the least-educated whites reside (65.6 percent of white high school dropouts reside in white suburbs) in

comparison to the area where most of the least-educated blacks reside (67.4 percent of black high school dropouts reside in black central city areas). However, as noted above, low-skill jobs in the CBD may be physically accessible to residents of the black central city, but not functionally accessible. The CBD is the most searched sub-metropolitan area in Los Angeles by low-skill workers, suggesting that competition for jobs there may limit job access as well [Stoll, forthcoming]. When the latter two areas are combined, the percentages of low-skill jobs and poorly educated people are 10.3 and 17.6, respectively, so expanding the black central city to include the CBD has little affect on the physical job access advantage enjoyed by whites.

As bad as job proximity is for less-educated people living within the black central city, it is even worse in the Latino central city. The latter contains 19.3 percent of the high school dropouts in the pooled sample but only 5.5 percent of the lowest-skill jobs. 36.4 percent of the metropolitan areas' least-educated Latinos are located in this area.

An important advantage offered by our data is that unlike previous analyses we do not treat the suburbs as one monolithic whole. The results show that suburbs are highly heterogeneous in the job accessibility they offer. While white suburbs contain huge shares of jobs relative to people, this is not the case in the black suburbs or the integrated suburbs. Black suburbs contain 2.7 percent of the lowest-skill jobs versus 2.1 percent of the least-educated people. While these percentages are much closer in value than those within the black central city, they are much less favorable than those within the white suburbs (67.9 percent of the lowest-skill jobs and 40.6 percent of the least-educated people). The shares of lowest-skill jobs and least-educated people located in integrated suburbs are 6.8 percent and 12.5 percent, respectively, which suggests that suburban job proximity is particularly inferior within these areas. This may have a disproportionate affect on Latinos because they are relatively concentrated within the integrated suburban areas.

With the introduction of time limits on welfare use, recent legislative changes in the rules and regulations of welfare receipt have intensified concerns over low-skill workers' access to jobs. While some have argued that there are numerous low-skill jobs available for low-skill workers and welfare recipients in metropolitan areas [Mead, 1989], others have shown potentially major job shortages for such workers [Holzer and Danziger, 1998; Newman and Lennon, 1995]. Moreover, lack of nearby jobs has been found to positively affect welfare usage [Blumenberg and Ong, 1996]. Table 1 shows that these job shortages are likely exacerbated by very unequal spatial distributions of low-skill jobs and welfare recipients. While the 1990 *US Census* does not provide spatial data on welfare recipients, data are available on public assistance recipients and female-headed households in poverty. The latter data may roughly approximate the spatial distribution of people on welfare.¹⁰ The distributions of public assistance recipients and poor females with children diverge markedly from the distribution of low-skill jobs. The spatial divergence in these distributions is most stark in black central cities, where the shares of public assistance recipients and poor females with children are 3.5 and 5.2 times greater than the share of lowest-skill jobs. Conversely, the share of lowest-skill jobs in the white suburbs is large relative to the shares of those on public assistance and who are impoverished female-heads. Thus, the results indicate that spatial differences between the locations of low-skill jobs and the residences of welfare recipients in black and Latino central cities are likely to negatively impact the ability of such residents to move from welfare to work.

Table 2 shows the spatial distributions of jobs and people for each MSA separately. In this table, low-skill jobs are defined as the union of the three sets of low-skill jobs defined previously.¹¹ Although there is variation in the degree of job decentralization across these MSAs, what is true for all of them is that the greatest number of job opportunities is located in white suburbs. We find that the decentralization of jobs is greatest in Detroit and, unsurprisingly, least in Los Angeles. This

latter finding is expected given the sprawling suburban character of much of the land area within the city of Los Angeles.

The divergences in the spatial distributions of jobs and people shown in Table 1 for all MSAs combined is confirmed in Table 2 for each MSA separately, although there is variation in their magnitude. The share of the metropolitan area's low-skill jobs located in the central city is less than the share of less-educated people located there for all four MSAs. Job shares are less than people shares also for all four of the black central city areas and both of the Latino central city areas. In all cases, spatial disparities between low-skill jobs and people are especially large if people include only those receiving public assistance or poor females with children. In contrast, all white suburbs have larger shares of low-skill jobs than people, regardless of how these variables are defined. In white central city areas, integrated suburbs, and black suburbs, the results are more mixed across MSAs with no clear pattern emerging, except of course that all of these areas offer relatively poor physical access to jobs in comparison to the white suburbs.

Among the four metropolitan areas, Atlanta is distinguished by the large percentage of blacks that reside in the suburbs (60.6 percent). Moreover, the divergence between the shares of the region's low-skill jobs and less-educated people located in the central city is relatively small – 20.9 percent versus 26.0 percent. These facts suggest that physical job accessibility for blacks may be less of a problem in Atlanta than elsewhere. However, other facts belie this conclusion. First, within Atlanta's black suburbs job access is relatively poor, with the share of jobs less than half as large as the share of people. Second, Atlanta's black suburbs, which are located on the south side of the region, are far removed from the white suburbs on the north side where job growth rates at the entry level have been among the highest in the nation [Hartshorn and Ihlanfeldt, 1993]. Third, only a small portion of the north side of Atlanta is served by public transportation, which makes it difficult for blacks, whether they live in the central city or the southern suburbs, to reach available jobs.

As for the other metropolitan areas, we find the black population most heavily concentrated in the central city of Detroit, while the ratio of shares of low-skill jobs to high school dropouts, public assistance recipients, or poor females with children there are the lowest. Boston has relatively low concentrations of both jobs and people in its central city, though minorities are quite heavily concentrated there. Finally, we find that substantial percentages of low-skill jobs in Los Angeles are located in the Latino central city and the integrated suburbs, but in the former case the concentration of less-educated people is markedly higher than the regional share of low-skill jobs.

While the white suburbs have the highest ratios of low-skill jobs to least-educated people, it is also true that the geographical expanse of these areas is far larger than any of the other sub-metropolitan areas. As noted above, there may therefore exist important variations in physical job accessibility within white suburbs, possibly causing some low-skill whites living there to be farther from job openings than central city blacks. Evidence from the 1990 *US Census* on the journey-to-work broken down by race, residential location, and educational attainment for the MSAs in our analysis indicates that this argument is not likely plausible, as white suburbanites are significantly more likely to travel to work by car than either central city or suburban blacks of similar educational levels.¹² This suggests that distance may still be more of an impediment to the central city blacks in comparison suburban whites due to differences in automobile access.

Distance of Low-Skill Jobs to Nearest Public Transit Stop

The need to use public transportation as a mode of travel to work might make the attainment of distant jobs even more difficult for some workers. This problem is of particular concern for blacks and Latinos who are less likely than whites to own cars and for welfare recipients who are more likely not to own cars [Raphael and Rice, 1999; Ong, 1996]. Commuting times by public modes of transit are considerably longer than private modes of travel [Taylor and Ong, 1995], suggesting that

real wages net of travel time costs are significantly reduced if workers living in black or Latino central city areas travel to low-skill jobs in white suburbs by public transit.

Use of public transportation to get to work not only increases the burden of the commute as a result of increased commuting time, but also renders some jobs completely inaccessible because of spatial variation in firms' distances to public transportation stops. Historical land use patterns, with development more dense in the central city than suburbs, have left public transportation systems more integrated within central cities than between central city and suburban areas. In addition, recent investments in new public transit routes have most often involved light and heavy rail routes, and express buses from residential suburbs to downtowns [Wachs and Taylor, 1998]. Generally, frequent service is offered from suburbs to downtowns in the morning, and reverse commutes to suburbs in the late afternoon. Such services improve transit links between middle-class, suburban residential areas and white-collar CBDs, but are not designed to serve central city workers seeking suburban employment. Central city commuters on public transit systems must often make two or three time consuming transfers to get to outlying suburban employment centers [Hughes, 1995]. Furthermore, suburban firms are more distant from public transit stops than are central city firms, making low-skill job opportunities in such firms even that much less accessible to inner city workers [Holzer and Ihlanfeldt, 1996].

Table 3 shows the distances of low-skill jobs from the nearest public transportation stop across the sub-metropolitan areas for the pooled sample and separately for each MSA. Transportation planners commonly define distances that are less than a quarter of a mile away from a public transit stop as accessible and those farther away as inaccessible [Bernick and Cervero, 1994]. Based upon this definition, what is immediately striking is that for the pooled sample nearly half of all low-skill jobs in white suburbs are inaccessible by public transportation. Since 65 to 70 percent of all low-skill jobs are located in the white suburbs, this alone suggests that a large fraction of low-

skill jobs in metropolitan areas, about 30 to 35 percent, are not accessible by public transportation. On the other hand, virtually all low-skill jobs in the CBD are accessible by public transit, as are over 80 percent of low-skill jobs in most other parts of the central city. Overall, these results suggest that about 40 percent of low-skill jobs in these metropolitan areas are not easily accessible by public transportation.

However, the breakdown by MSA shows that the public transit accessibility of jobs in white suburbs varies considerably across MSAs. In Atlanta, Boston, and Detroit, accessibility is distinctly lower in the white suburbs than elsewhere, but in Atlanta it is especially poor, with only 33.6 percent of low-skill jobs in white suburbs within a quarter mile of a public transit stop. Los Angeles differs from the other MSAs in that the percentage of jobs accessible by public transit is roughly uniform across sub-metropolitan areas and is almost as high in the white suburbs (78 percent) as within the central city (83.5) percent. These results are not surprising as enormous resources have been devoted to extending transit coverage (in particular light rail) throughout the Los Angeles region since 1990 [*Los Angeles Times*, 1996]. However, these new rail investments primarily serve suburban commuters that travel to downtown employment centers.¹³ Moreover, the large geographic expanse of Los Angeles suggests that commute time by public transit from the central city to the suburbs is particularly long. For example, a one way trip by bus from the black central city to the west San Fernando Valley in the white suburbs is approximately 2.5 hours long and requires three bus transfers [MTA, 1998].

The Spatial Distribution of Minority Workers

The spatial arrangements of people and jobs and distances of jobs from public transit stops are likely to have an impact on the workplace locations of minority groups. As far back as the 1960s, it was argued that the growing separation between black residential communities and the location of jobs as a result of housing market discrimination and job decentralization would likely affect blacks'

employment locations. Evidence from Chicago and Detroit showed that the percentage of workers who are black in a given workplace area declined with physical distance from the edge of major black neighborhoods [Kain, 1968], while more recent evidence from Chicago and Los Angeles showed that an establishment's black male share of blue-collar employment declined with distance from black residential areas [Leonard, 1987]. We extend this literature by analyzing not only the location of minority employment but also the spatial variation in the racial composition of applicants and recent hires.

Table 4 shows the percentages of employees, applicants and recent hires as well as the percentage of residents who are minority within each sub-metropolitan area separately for each MSA.¹⁴ These data are calculated for firms whose most recent hire was in a low-skill job. Table 4 shows that for all MSAs there is considerable variation in these percentages across sub-metropolitan areas. But this variation is highly similar across MSAs. For example, blacks' employment share is high in the black central city relative to the white central city and white suburbs within each MSA. In Atlanta and Detroit, where black suburbs are defined, the latter areas have a black employment share comparable to the black central city. In Boston and Los Angeles, black employment shares are particularly low within the Latino central cities defined for these two MSAs. These data also show that Latinos have larger employment shares in Latino central cities than elsewhere, except that they also hold the majority of jobs in Los Angeles' integrated suburbs, despite the fact that their share of the population there is less than half of what it is in the Latino central city.

While the total percentage of recent hires into low-skill jobs who are minorities is greater than the total percentage of low-skill jobs held by minorities, the spatial patterns for recent low-skill hires mirror those observed for total low-skill employment.¹⁵ However, there is one noticeable exception – Latinos in Los Angeles. They are a larger percentage of recent hires in the suburbs than

within the central city – a result driven by the large percentage of new jobs obtained by Latinos in Los Angeles’ integrated suburbs (60 percent).

Table 4 also shows data for applicants. The applicant data represent the potential quantity of labor supply from black and Latino workers across space. Although these percentages can be affected by numerous other factors, such as the intensity of firms’ recruitment of minority workers and job information flows from firms’ employees to potential minority workers, the results show that physical distance of firms from minority neighborhoods clearly plays a role as well. For all MSAs, the percentages of applications coming from blacks and Latinos are greater in firms in the central city than the white suburbs, suggesting that firm location from minority residential areas affects the degree of low-skill job accessibility for these groups. Whether the access of inner city blacks and Latinos to employment in white suburban areas is limited because of poor job information, transportation difficulties, perceptions of hostility or employer discrimination is not clear from the data presented here, though there is evidence to support each of these claims [Holzer, 1998; Ihlanfeldt, 1997; Holzer and Ihlanfeldt, 1996; Sjoquist, 1997; Turner, Fix and Struyk, 1991].

While the shares of applications coming from blacks and Latinos are smaller in firms located in white suburbs in comparison to those located in the central city, it is clear from Table 4 that minorities are drawn to white suburbs when applying for low-skill jobs. For all MSAs, within white suburbs, the percentage of applicants who are black exceeds the percentage of black residents by a wide margin. This pattern also applies to Latinos, although the differences in applicant and resident percentages are much smaller for them than for blacks.

The relatively high percentage of applications coming from minorities in firms located in white suburbs may reflect 1) a lower willingness to take low-skill jobs among the white than the black residents of white suburbs, 2) the attractiveness of low-skill jobs in white suburbs to minorities living elsewhere, and/or 3) a compositional effect where a greater percentage of minorities than

whites are less-educated and therefore where minorities are relatively more likely to apply for low-skill jobs. While the data do not permit an assessment of the relative importance of these factors, the magnitude of the differences in the resident and applicant percentages for minorities in white suburbs suggests that minorities outside of these areas are applying for jobs there. This is an encouraging sign, because it suggests that at least some minorities are able to overcome the barriers associated with distance in applying for jobs.

While the applicant pools from minority groups reflect the potential supply of these workers to employers, the extent to which employers hire minority workers out of their respective applicant pools reflects their relative demand for such workers. The ratio of recent hires to applicants for each sub-metropolitan area shows the relative demand for applicants of a particular group across space. Ratios above one for any group indicate, on average, a relative preference for applicants from a particular group, while ratios below one indicate a relative disinclination to hire applicants from that group. Of course, the differences in hiring ratios across racial groups and location are conditional on many factors such as the relative skills of the applicants and the skill needs of jobs, as well as employer preferences across groups.¹⁶

The ratios of recent hires to applicants shown in Table 4 reveal variations across sub-metropolitan areas that have both common and distinct features among the four MSAs. The common features for blacks include a relative preference for them in black central cities and black suburbs, and a relative disinclination to hire them in white central cities and integrated suburbs. There is also a disinclination to hire blacks in the white suburbs of three of the MSAs – the exception is Atlanta. A noticeable difference across MSAs is the extremely low black hires to black applicants ratio for the Latino central city in Los Angeles (.104) in comparison to the much higher ratio for the Latino central city in Boston (.733). Also differing across MSAs are the ratios for blacks in CBDs relative

to the ratios for the other sub-metropolitan areas. The relative magnitude of the CBD ratio is low in Atlanta and Detroit but high in Boston and Los Angeles.

In contrast to the hires to applicants ratios for blacks, the patterns in the ratios for Latinos across sub-metropolitan areas are more different than they are similar among MSAs. For example, in Boston and Detroit ratios are higher for the central city as a whole than for the white suburbs, while the opposite is true in Atlanta and Los Angeles. However, a common finding for all MSAs is that the ratios of Latino hires to Latino applicants are very low within CBDs.

Finally, it is of interest to compare hires to applicant ratios for blacks and Latinos within sub-metropolitan areas. Generally, ratios are higher for Latinos than blacks across all four MSAs. The noticeable exception is within CBDs, where blacks have the advantage in 3 of the 4 cases.

To summarize the finding for hires to applicants ratios, there are two common patterns across MSAs. First, ratios for blacks, but not Latinos, tend to be relatively small in white central cities, integrated suburbs, and, at least in Los Angeles, the Latino central city. This suggests that blacks' access to low-skill jobs is restricted in these areas, even though they may be more physically accessible than jobs in white suburbs. Whether this is due to discrimination against blacks or other factors (e.g., lower relative reservation wages among other groups) cannot be clearly distinguished from these data. Second, the results clearly suggest a relative employer preference for Latinos over blacks in all areas except CBDs. The extent to which the greater hire rates of Latinos in non-CBD locations are due to their lower reservation wages, more effective social networks in particular industries [Waldinger, 1993], or to the perception that members of many immigrant groups are harder workers [Wilson, 1996; Kirschenman and Neckerman, 1991] is not clear from these data. What is clear is that if Latino workers overcome the physical access to jobs barrier, their opportunities for employment are superior to those of blacks.

Access to Public Transportation and the Spatial Distribution of Minority Hires

As noted above, the accessibility of low-skill jobs may be limited not only by physical distance from jobs, but also by the distance of such jobs to public transportation stops. Given the greater reliance of blacks and Latinos on public transportation than other groups, we might expect such groups to have greater accessibility to jobs that are closer to, rather than farther from, public transportation stops. Table 5 shows the percentages of recent hires that are black (Latino) for low-skill jobs that are physically accessible and inaccessible to public transportation stops within sub-metropolitan areas.

At the central city and suburban level, the data for blacks meet our expectations. That is, in both places, across all four MSAs blacks are a higher percentage of new hires among jobs that are accessible to public transit. For Latinos the results are mixed across MSAs. Only in Atlanta and Boston are our expectations fulfilled. For the sub-metropolitan areas within cities and suburbs, results for blacks again are as expected. Particularly of interest is that even in the black central cities, blacks are much less likely to be hired into jobs inaccessible by public transportation relative to those that are accessible. In addition, this pattern hold for Latinos in white central cities in the two MSAs (Boston and Los Angeles) where they are a larger proportion of the population. These results suggest that even within central cities public transit accessibility affects minority employment.

Conclusion

In this paper, we examine and compare the spatial distributions of jobs and people across sub-metropolitan areas. The results indicate that there is a general unevenness between the locations of jobs and people in metropolitan areas. Black and Latino residents tend to be concentrated in respective central city areas where the availability of jobs is low, while whites tend to live in white suburban areas where the availability of jobs is high. These uneven spatial distributions are particularly striking for low-skilled jobs and less-educated people. While the magnitudes of the

discrepancies between people and jobs shares vary somewhat across MSAs, they are everywhere nontrivial in magnitude. The uneven distributions of low-skill jobs and people are even more pronounced for those receiving public assistance and for poor females with children, which suggests that physical job accessibility may have a negative impact on the ability of welfare recipients to move from welfare to work. These results are consistent with previous research on spatial mismatch and suggest that blacks, and to a lesser extent Latinos, are spatially disadvantaged in the labor market.

There are two additional important findings from our research. First, for those central city residents who travel to work by public transportation, suburban jobs are even less physically accessible than distances alone would suggest. Except for Los Angeles, a much smaller percentage of suburban jobs, especially those available in white suburbs, are accessible by public transit in comparison to those located within the central city. Second, the percentage of employees who are black in Latino central city areas is low, as is the hire rate for black applicants in the white part of central cities and for Latino applicants in the CBD. Thus, blacks' and Latinos' access to jobs is not always higher in central cities, even though these areas may be more physically accessible than those in white suburbs; much depends on the exact ethnic composition of the particular central city area.

Taken together, the results suggest that policy interventions to make low-skill jobs throughout the metropolitan area more physically accessible to central city minorities are likely to have a positive impact on their employment outcomes. Furthermore, the success of these efforts also depends on the extent to which employers in the different areas are willing to hire minority applicants. While employers in black suburbs are clearly willing to hire black workers, employers in integrated and white suburbs seem to favor hiring Latinos over blacks.

Two general approaches are available to increase central city minority residents' physical access to jobs in white suburbs, although the results shown here offer limited information about

which approach might be most effective. The first is to increase minority access to suburban housing. Policies that eliminate or mitigate suburban housing market discrimination and mortgage lending discrimination, such as enforcement of the 1988 Fair Housing Act, are likely to increase minority access to suburban housing [Yinger, 1995]. Moreover, residential mobility policies, such as the ‘Moving to Opportunity’ program, are also likely to have such an effect [Katz, Kling, and Liebman, 1997; Rosenbaum, 1995].¹⁷ However, such programs are also likely to be politically controversial and costly [Briggs, 1997; Haar, 1996]. In addition, they are likely to be limited in scale, and therefore would affect few people relative to the number of people who are spatially disadvantaged in the labor market.

The second approach, such as subsidizing commutes, providing van pools to suburbs or improving public transportation and its connection between central city and suburban routes, takes residences as given and attempts to improve physical access to suburban jobs. An example of this kind of program is HUD’s “Bridges to Work” initiative, which is designed to improve central city workers access to suburban jobs by emphasizing job placement and transportation assistance (i.e., reverse commute) programs. These policies are generally less costly per participant and are less politically controversial. However, these programs do not address other potentially negative effects of residing in concentrated minority and/or poor neighborhoods. Furthermore, such programs may also have limited success if the wage benefits gained as a result of having a suburban job are likely not sufficient to compensate for the additional travel costs. These policies should therefore target employers that are relatively nearer to minority communities, and where applicants are likely to be hired. Moreover, making more central city low-skill jobs accessible to public transportation may also have a positive impact on minorities’ employment. Finally, the results suggest that stricter enforcement of anti-discrimination laws in employment may be an important complement to policies designed to improve the physical access of minorities to jobs.

References

- Abramson, A.J., & Tobin, M.S. (1995). The changing geography of metropolitan opportunity: The segregation of the poor in U.S. metropolitan areas, 1970 to 1990. *Housing Policy Debate*, 6, 45-72.
- Bernick, M., & Cervero R. (1994). Transit-based development in the United States: A review of recent experiences. Unpublished paper, Institute of Urban and Regional Development, University of California, Berkeley.
- Blumenberg, E., & Ong, P. (1998). Job accessibility and welfare usage: Evidence from Los Angeles. *Journal of Policy Analysis and Management*, 17, 639-657.
- Briggs, X. (1997). Moving up versus moving out: Neighborhood effects in housing mobility programs. *Housing Policy Debate*, 8, 195-234.
- Cohn, S., & Fossett M. (1996). What spatial mismatch? The proximity of blacks to employment in Boston and Houston. *Social Forces*, 75, 557-572.
- Cooke, T. J. (1996). City-suburb differences in African American male market achievement. *Professional Geographer*, 48, 458-467.
- Ellwood, D. (1986). The spatial mismatch hypothesis: Are there teenage jobs missing in the ghetto? In R. Freeman and H. Holzer (Eds.). *The black youth employment crises*. Chicago: University of Chicago Press.
- Galster, G. (1991). Black suburbanization: Has it changed the relative location of the races? *Urban Affairs Quarterly*, 26, 621-628
- Harrison, B. (1972). The intrametropolitan distribution of minority economic welfare. *Journal of Regional Science*, 12, 23-43.
- Hartshorn, T.A., & Ihlanfeldt, K.R. (1993). *The dynamics of change: An analysis of growth in metropolitan Atlanta over the past two decades*. Atlanta, GA: Research Atlanta, Inc.
- Holloway, S.R. (1996). Job accessibility and male teenage employment, 1980-1990: The declining significance of space? *Professional Geographer*, 48, 445-458.
- Holzer, H.(1991). The spatial mismatch hypothesis: What has the evidence shown? *Urban Studies*, 28, 105-122.
- Holzer, H.J., Ihlanfeldt, K.R., & Sjoquist, D.L. (1994). Work, search, and travel among white and black youth. *Journal of Urban Economics*, 35, 320-345.
- Holzer, H.J. (1996). *What employers want: Job prospects for less skilled workers*. New York: Russell Sage Press.

- Holzer, H. J., & Ihlanfeldt, K.R. (1996). Spatial factors and the employment of blacks at the firm level. *New England Economic Review*, May/June, 65-86.
- Holzer, H.J., & Danziger S. (1997). Are jobs available for disadvantaged groups in urban areas? Unpublished paper, Dept. of Economics, Michigan State University, East Lansing, MI.
- Holzer, H.J. (1998). Black applicants, black employees, and urban labor market policy. Unpublished paper, Institute for Research on Poverty, University of Wisconsin, Madison.
- HUD (US Department of Housing and Urban Development) (1997). *The state of cities*. Washington, DC: US Department of Housing and Urban Development.
- Hughes, M.A. (1995). A mobility strategy for improving opportunity. *Housing Policy Debate*, 6, 271-297.
- Ihlanfeldt, K.R., & Sjoquist, D.L. (1998). The spatial mismatch hypothesis: A review of recent studies and their implications for welfare reform. *Housing Policy Debate*, 9, 849-892.
- Ihlanfeldt, K.R. (forthcoming). Is the labor market tighter outside the ghetto. *Papers in Regional Science*.
- Jarkowsky, P.A. (1994). Ghetto poverty among blacks in the 1980s. *Journal of Policy Analysis and Management*, 13, 288-310.
- Jarkowsky, P.A. (1997). *Poverty and place: ghettos, barrios, and the American city*. New York: Russell Sage.
- Kain, J.F. (1968). Housing segregation, Negro employment and metropolitan decentralization. *The Quarterly Journal of Economics*, 82, 175-97.
- Kain, J.F. (1992). The spatial mismatch hypothesis: Three decades later. *Housing Policy Debate*, 3, 371-460.
- Kasarda, J.D. (1985). Urban change and minority opportunities. In Paul E. Peterson (Ed.). *The new urban reality*. Washington, DC: The Brookings Institution.
- Kasarda, J.D. (1995). Industrial restructuring and the changing location of jobs. In Reynolds Farley (Ed.). *State of the union: America in the 1990s*. New York: Russell Sage Press.
- Katz, L., Kling J., & Liebman, J. (1997). Moving to opportunity in Boston: Early impacts of a housing mobility program. Unpublished paper, Harvard University, Cambridge, MA.
- Kirshenman, J., & Neckerman, K.M. (1991). 'We'd love to hire them, but...': The meaning of race for employers. In C. Jencks and P.E. Peterson (Eds.). *The urban underclass*. Washington, DC: Brookings Institution.
- Kling, J. (1995). High performance work systems and firm performance. *Monthly Labor Review*, 18, 29-36.

- Leonard, J.S. (1987). The interaction of residential segregation and employment discrimination. *Journal of Urban Economics*, 21, 323-346.
- Massey, D.S., Gross, A.B., & Eggers, M.L. (1991). Segregation, the concentration of poverty, and the life chances of individuals. *Social Science Research*, 20, 397-420.
- Mead, L.M. (1989). The logic of workfare: The underclass and work policy. *The Annals*, 501, 156-169.
- MTA (Metropolitan Transit Authority) (1998). *Bus Routing Service*. Los Angeles, CA: MTA.
- Newman, K., & Lennon, C. (1995). Finding work in the inner city: How hard is it now? How hard will it be for the AFDC recipients. Unpublished paper, Columbia University, New York, NY.
- O'Regan, K.M., & Quigley, J.M. (1996). Spatial effects upon employment outcomes: The case of New Jersey teenagers. *New England Economic Review*, May/June, 41-60.
- Ong, P. (1996). Work and automobile ownership among welfare recipients. *Social Work Research*, 20, 255-262.
- Price, R., & Mills, E.S. (1985). Race and residence in earnings determination. *Journal of Urban Economics* 17, 1-18.
- Raphael, S. (1998). The spatial mismatch hypothesis of black youth unemployment: Evidence from the San Francisco Bay area. *Journal of Urban Economics*, 43, 79-111.
- Raphael, S., & Rice, L. (1999). Car ownership, employment and earnings. Unpublished paper, Goldman School of Public Policy, University of California, Berkeley, CA.
- Rosenbaum, J.E. (1995). Changing the geography of opportunity by expanding residential choice: Lessons from the Gautreaux Program. *Housing Policy Debate*, 6, 231-269.
- Simon, R. (1996). Settlement of bus suit approved. *Los Angeles Times*, Metro, sec. B, pp. 1, October 29.
- Sjoquist, D. (1997). Spatial mismatch and social acceptability. Unpublished Paper, Georgia State University, Atlanta, GA.
- Stoll, M.A. (1999a). Spatial job search, spatial mismatch and the employment and wages of racial and ethnic groups in Los Angeles. *Journal of Urban Economics*, 46, 129-55.
- Stoll, M.A. (1999b). Spatial mismatch, discrimination, and male youth employment in the Washington, DC area: Implications for residential mobility programs. *Journal of Policy Analysis and Management*, 18, 77-98.

- Stoll, M.A. (forthcoming). Search, discrimination, and the travel to work in Los Angeles. forthcoming in L.D. Bobo, M.L. Oliver, J.H. Johnson, Jr., & A.Valenzuela, Jr., (Eds.). Prismatic metropolis: Race, segregation and inequality in Los Angeles. New York: Russell Sage Press.
- Taylor, B.D., & Ong, P. (1995). Spatial mismatch or automobile mismatch? An examination of race, residence and commuting in US metropolitan areas. *Urban Studies*, 32, 1453-1473.
- Turner, M.A., Fix M., & Struyk, R.J. (1991). Opportunities denied, opportunities diminished: Racial discrimination in hiring. Washington, DC: The Urban Institute.
- U.S. Bureau of Labor Statistics (1999). Employment and earnings. March. Washington, DC: U.S. Dept. of Labor, Bureau of Labor Statistics
- Wachs, M., & Taylor, B.D. (1998). Can transportation strategies help meet the welfare challenge? *Journal of the American Planning Association*, 64, 15-20.
- Waldinger, R. (1993). The ethnic enclave debate revisited. *International Journal of Urban and Regional Research*, 3, 444-452.
- Wilson, W.J. (1987). *The truly disadvantaged: The inner city, the underclass, and public policy*. Chicago: University of Chicago Press.
- Wilson, W. J. (1996). *When work disappears: The world of the new urban poor*. New York: Knopf.
- Yinger, J. (1995). *Closed doors, opportunities lost: The continuing costs of housing discrimination*. New York: Russell Sage.

Table 1
Distributions of Jobs and People Across Sub-Metropolitan Areas: Pooled Sample of MSA

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs	In S
All Jobs	26.1	5.9	4.8	9.3	6.1	73.9	4.2	
Low-Skill Jobs^a								
Non-College Job, No Experience or Training	23.3	5.4	4.1	9.3	4.5	76.7	4.7	
No H.S. Diploma, No Experience or Training	22.1	4.4	6.5	7.9	3.3	77.9	4.0	
No H.S. Diploma, No Experience or Training, No Reading, Writing, Math	22.6	8.2	5.5	6.8	2.1	77.4	2.7	
People^b (Age 25 Years or Older)								
All People:								
White	13.1	2.2	4.0	6.6	0.3	86.9	1.8	
Black	65.3	57.0	2.2	5.4	0.7	34.8	10.4	
Latino	53.7	10.2	31.6	8.9	3.0	46.2	0.7	
Total	27.2	9.8	9.2	7.2	1.0	72.8	2.5	
High School Dropouts:								
White	22.2	4.0	7.0	10.4	0.8	77.9	2.1	
Black	76.3	67.4	2.9	5.1	0.9	23.6	7.1	
Latino	62.7	13.1	36.4	9.1	4.1	37.2	0.5	
Total	44.8	15.4	19.3	7.9	2.2	55.2	2.1	
Female Headed HH in Poverty	63.2	42.2	11.0	8.6	1.4	36.8	2.7	
Public Assistance	50.2	28.9	12.7	7.5	1.1	49.8	2.5	

Sources: ^a1994 MCSUI.
^b1990 US Census.

Table 2
Distributions of People and Jobs Across Sub-Metropolitan Areas: Separately for Each

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburb
Atlanta							
All Jobs	24.3	6.9	--	12.0	5.4	75.7	9.7
All Low-Skill Jobs ^c	20.9	6.1	--	10.4	4.4	79.1	11.3
Total Population	15.6	9.5	--	5.9	0.2	84.3	16.3
Black	40.3	38.1	--	1.5	0.7	60.6	36.0
High School Dropouts	26.0	24.2	--	1.2	0.6	73.9	20.4
Female HHH in Poverty	57.4	54.2	--	1.2	2.0	42.7	20.0
Public Assistance	44.4	42.2	--	0.9	1.3	55.6	21.0
Boston							
All Jobs	22.3	1.6	0.4	15.1	5.2	77.6	--
All Low-Skill Jobs ^c	15.8	0.9	0.9	12.6	1.4	84.1	--
Total Population	15.0	3.6	1.5	9.7	0.2	85.0	--
Black	66.8	45.0	1.2	20.4	0.1	33.2	--
Latino	50.2	14.6	10.6	24.8	0.2	49.9	--
High School Dropouts	20.8	6.4	2.5	11.6	0.3	79.3	--
Female HHH in Poverty	43.5	19.9	8.6	15.0	0.0	56.5	--
Public Assistance	27.8	11.2	3.3	13.1	0.2	72.2	--
Detroit							
All Jobs	17.8	10.2	--	3.0	4.6	82.2	4.4
All Low-Skill Jobs ^c	13.6	5.4	--	3.2	5.0	86.4	5.4
Total Population	22.1	19.5	--	2.4	0.2	77.9	2.8
Black	81.0	75.0	--	5.5	0.5	19.5	5.8
High School Dropouts	34.5	28.9	--	5.3	0.3	63.0	2.8
Female HHH in Poverty	77.8	66.9	--	5.0	0.1	22.2	0.3
Public Assistance	59.9	54.5	--	5.2	0.2	40.9	4.2
Los Angeles							
All Jobs	39.6	5.3	16.2	9.1	9.0	60.3	2.5
All Low-Skill Jobs ^c	40.5	6.9	17.3	8.9	7.4	59.5	0.5
Total Population	38.6	9.3	19.8	7.6	1.9	61.5	0.7
Black	66.4	54.7	4.8	5.8	1.1	33.8	1.0
Latino	55.1	9.8	34.0	8.0	3.3	44.9	0.5
High School Dropouts	57.4	13.7	31.6	8.4	3.7	42.6	0.5
Female HHH in Poverty	61.5	29.4	22.5	6.9	2.7	38.6	0.5
Public Assistance	54.1	21.3	23.2	7.6	2.0	45.9	0.5

Sources: ^a1994 MCSUI.

^b1990 *US Census*.

Note: ^cThe low-skill jobs category refers to the union of all low-skill job categories defined in Table 1.

Table 3
Distribution of Low-Skill Jobs^a from Nearest Public Transportation Stop within Sub-Metropolitan

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs
<i>Atlanta</i>							
0 - 0.25 Mile	89.8	85.7	--	92.0	90.0	37.6	63.0
0.26 - 1.00 Mile	2.0	0.0	--	4.0	0.0	5.8	3.7
Greater than 1.00 Mile	8.2	14.3	--	4.0	10.0	56.6	33.3
<i>Boston</i>							
0 - 0.25 Mile	88.2	100.0	100.0	84.6	100.0	62.9	--
0.26 - 1.00 Mile	8.8	0.0	0.0	11.5	0.0	8.6	--
Greater than 1.00 Mile	2.9	0.0	0.0	3.8	0.0	28.6	--
<i>Detroit</i>							
0 - 0.25 Mile	82.8	75.0	--	66.7	100.0	50.0	60.0
0.26 - 1.00 Mile	10.3	8.3	--	33.3	0.0	28.5	30.0
Greater than 1.00 Mile	6.9	16.7	--	0.0	0.0	21.5	10.0
<i>Los Angeles</i>							
0 - 0.25 Mile	83.5	80.0	76.2	90.9	100.0	81.4	--
0.26 - 1.00 Mile	14.1	13.3	21.4	9.1	0.0	16.7	--
Greater than 1.00 Mile	2.4	6.7	2.4	0.0	0.0	2.0	--
<i>All MSAs</i>							
0 - 0.25 Mile	85.8	81.4	77.3	85.7	97.6	55.4	62.2
0.26 - 1.00 Mile	9.6	7.0	20.5	11.4	0.0	14.3	13.5
Greater than 1.00 Mile	4.6	11.6	2.2	2.9	2.4	30.3	24.3

Source: 1994 MCSUI.

Notes: ^aLow-skill jobs refers to the union of all low-skill job categories defined in Table 1. -- indicates no cases.

Table 4a
 Percentage of Residents^a, Employees, Recent Hires, Applicants and Hire Rates for Low-Skill Jobs^b within Sub-Metropolitan Areas

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs	Integrat Suburbs
% Residents:								
Black	.597	.717	--	.048	.789	.170	.522	.277
Latino	.017	.014	--	.028	.018	.019	.012	.018
% Employees:								
Black	.320	.400	--	.264	.347	.262	.404	.264
Latino	.037	.067	--	.030	.016	.032	.004	.028
% Applicants:								
Black	.630	.727	--	.476	.891	.473	.631	.428
Latino	.073	.084	--	.082	.040	.034	.012	.008
% Recent Hires:								
Black	.364	.567	--	.257	.356	.339	.516	.078
Latino	.024	.072	--	.083	.000	.060	.000	.204
Ratio of Recent Hires To Applicants:								
Black	.578	.780	--	.540	.400	.716	.817	.188
Latino	.329	.857	--	1.012	.000	1.765	.000	25.500

Sources: ^a1990 *US Census*. 1994 MCSUI (data on jobs).

Notes: ^bLow-skill jobs refers to the union of all low-skill job categories defined in Table 1. -- indicates no cases.

Table 4b
 Percentage of Residents^a, Employees, Recent Hires, Applicants and Hire Rates for Low-Skill Jobs^b within Sub-Metropolitan Areas

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs	Integra Suburbs
% Residents:								
Black	.189	.528	.050	.085	.026	.017	--	--
Latino	.112	.108	.516	.066	.024	.016	--	--
% Employees:								
Black	.110	.348	.047	.092	.090	.088	--	--
Latino	.108	.007	.313	.108	.027	.068	--	--
% Applicants:								
Black	.350	.533	.060	.334	.867	.174	--	--
Latino	.193	.057	.470	.175	.300	.120	--	--
% Recent Hires:								
Black	.160	.456	.044	.092	.598	.078	--	--
Latino	.300	.438	.968	.272	.000	.140	--	--
Ratio of Recent Hires To Applicants:								
Black	.457	.856	.733	.275	.690	.448	--	--
Latino	1.554	7.684	2.060	1.554	.000	1.167	--	--

Sources: ^a1990 *US Census*. 1994 MCSUI (data on jobs).

Notes: ^bLow-skill jobs refers to the union of all low-skill job categories defined in Table 1. -- indicates no cases.

Table 4c
 Percentage of Residents^a, Employees, Recent Hires, Applicants and Hire Rates for Low-Skill Jobs^b within Sub-Metropolitan Areas

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs	Integra Suburbs
% Residents:								
Black	.681	.783	--	.228	.646	.051	.423	.384
Latino	.024	.011	--	.082	.024	.012	.026	.011
% Employees:								
Black	.346	.436	--	.272	.348	.113	.454	.000
Latino	.042	.010	--	.000	.085	.007	.010	.051
% Applicants:								
Black	.610	.776	--	.525	.520	.338	.820	.700
Latino	.029	.029	--	.038	.025	.012	.005	.080
% Recent Hires:								
Black	.468	.645	--	.333	.356	.215	.645	.000
Latino	.046	.000	--	.197	.000	.010	.085	.000
Ratio of Recent Hires To Applicants:								
Black	.767	.831	--	.634	.685	.636	.787	.000
Latino	1.586	.000	--	5.184	.000	.833	17.000	.000

Sources: ^a1990 *US Census*. 1994 MCSUI (data on jobs).

Notes: ^bLow-skill jobs refers to the union of all low-skill job categories defined in Table 1. -- indicates no cases.

Table 4d
 Percentage of Residents^a, Employees, Recent Hires, Applicants and Hire Rates for Low-Skill Jobs^b within Sub-Metrop

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs	Integra Suburbs
% Residents:								
Black	.159	.510	.020	.060	.045	.041	--	.054
Latino	.429	.186	.520	.226	.386	.164	--	.221
% Employees:								
Black	.108	.325	.017	.138	.130	.070	--	.044
Latino	.458	.381	.508	.370	.483	.373	--	.510
% Applicants:								
Black	.307	.455	.231	.365	.274	.213	--	.202
Latino	.458	.377	.496	.496	.358	.391	--	.430
% Recent Hires:								
Black	.149	.575	.024	.186	.059	.095	--	.060
Latino	.351	.413	.398	.489	.118	.459	--	.600
Ratio of Recent Hires To Applicants:								
Black	.485	1.264	.104	.510	.215	.446	--	.299
Latino	.766	1.095	.802	.986	.330	1.174	--	1.370

Sources: ^a1990 *US Census*. 1994 MCSUI (data on jobs).

Notes: ^bLow-skill jobs refers to the union of all low-skill job categories defined in Table 1. -- indicates no cases.

Table 5

Percentage of Low-Skill Recent Hires that are Black/Latino by Accessibility of Low-Skill Jobs to Public Transit Stops

	Total Central City	Black Central City	Latino Central City	White Central City	Central Business District	Total Suburbs	Black Suburbs
Atlanta							
Black							
0 - 0.25 Miles	.364	.583	--	.250	.375	.368	.444
Greater than 0.25 Miles	.143	.500	--	.000	.000	.343	.600
Latino							
0 - 0.25 Miles	.023	.122	--	.000	.000	.088	.000
Greater than 0.25 Miles	.000	.000	--	.000	.000	.038	.000
Boston							
Black							
0 - 0.25 Miles	.207	.500	.000	.136	.667	.089	--
Greater than 0.25 Miles	.000	--	.000	.000	.000	.066	--
Latino							
0 - 0.25 Miles	.310	.500	1.000	.273	.000	.170	--
Greater than 0.25 Miles	.250	--	.000	.250	.000	.098	--
Detroit							
Black							
0 - 0.25 Miles	.500	.750	--	.500	.364	.308	.750
Greater than 0.25 Miles	.400	.667	--	.000	--	.104	.667
Latino							
0 - 0.25 Miles	.000	.000	--	.000	.000	.009	.125
Greater than 0.25 Miles	.200	.000	--	.500	--	.013	.000
Los Angeles							
Black							
0 - 0.25 Miles	.171	.750	.032	.100	.059	.094	--
Greater than 0.25 Miles	.071	.000	.000	--	--	.031	--
Latino							
0 - 0.25 Miles	.314	.250	.355	.600	.118	.433	--
Greater than 0.25 Miles	.571	1.000	.500	.000	--	.579	--
All MSAs							
Black							
0 - 0.25 Miles	.271	.657	.030	.197	.250	.201	.519
Greater than 0.25 Miles	.139	.375	.000	.091	.000	.188	.615
Latino							
0 - 0.25 Miles	.194	.143	.394	.213	.050	.180	.037
Greater than 0.25 Miles	.357	.375	.500	.222	.000	.084	.077

Source: 1994 MCSUI.

Notes: ^aLow-skill jobs refers to the union of all low-skill job categories defined in Table 1. -- indicates no cases.

Notes

¹ For literature reviews on the spatial mismatch hypothesis, see Ihlanfeldt and Sjoquist [1998], Kain [1992] and Holzer [1991]. For recent evidence in favor of the spatial mismatch hypothesis, see Raphael [1998], Holzer and Ihlanfeldt [1996], Holzer, Ihlanfeldt, and Sjoquist [1994], and Stoll [1999a,b]. For evidence against the spatial mismatch hypothesis, see Ellwood [1986] and Holloway [1996].

² The MCSUI sample of firms was drawn from two sources: 1) a random sample of firms stratified by establishment size; and 2) the employers of respondents in the MCSUI household survey. The random samples were drawn across establishment size categories to reproduce the distribution of employment across these categories in the work force; the household generated sample implicitly weights firms in the same way. The overall response rate for the survey was roughly 67 percent. This compares favorably with other recent telephone surveys of employers [Kling, 1995]. There were few differences in response rates across observable categories, e.g., establishment size, industry, location, suggesting little if any sample selection bias. For a more detailed description of the Multi-City Study of Urban Inequality employer survey, see Holzer [1996].

³ Although these categories are derived somewhat arbitrarily, the use of alternative definitions of low-skill jobs produced similar results to those reported here. In addition, although the summary statistics presented here differ by definition of low-skill jobs, the qualitative story that emerges remains the same.

⁴ For the Atlanta, Boston, and Detroit metropolitan areas, we use political jurisdictional boundaries to define central city versus suburban areas. In addition, we follow *US Census Bureau* designations and include Brockton and Lawrence as central cities in Boston and Pontiac and Dearborn as central cities in Detroit. However, due to the unique spatial character of the Los Angeles region, we deviated somewhat from official central city/suburban boundaries. There, boundaries define areas that are atypical central city and suburban places. The low population and employment densities of some central city areas, in particular the San Fernando Valley, are more analogous to those in the suburbs, while some close-in areas, in particular East L. A., have densities that match or exceed those in the central city. Thus, in Los Angeles, we include the San Fernando Valley, a central city area that looks more like a suburban area, as part of the suburbs, and East L.A., a suburban area that looks like a central city area, as part of the central city in the analysis.

⁵ Restriction of the white central city in Los Angeles to that central city area with contiguous census tracts of whites representing 50 percent or more of the population did not change the basic results shown here.

⁶ Consistent with the “tipping” hypothesis, there were relatively few suburban census tracts with blacks representing 20 – 40 percent of the population. With a cut-off level of 30 percent black for black suburbs, most census tracts that met this criteria are majority black suburban tracts. Moreover, alternative definitions of black suburbs did not change the basic results shown here. Finally, due to its relatively small black population, black suburbs could not be defined for Boston.

⁷ We experimented with a number of different definitions and measures of these sub-metropolitan areas. For example, we alternatively defined white suburbs as those contiguous areas with whites representing 70 or 90 percent of the population. However, none of these alternative definitions of sub-metropolitan areas changed the basic qualitative story that emerges here, although the magnitudes of the estimates changed slightly.

⁸ Available on request from the authors are physical maps that show the sub-metropolitan area, geographic boundaries for the four metropolitan areas included in the analysis.

⁹ We alternatively used people in the labor force instead of people aged 25-65 in our mapping. People in the labor force may more accurately represent individuals more likely to be impacted by the spatial distribution of jobs than individuals both in and out of the labor force. However, the results of this exercise did not alter our basic findings. Moreover, to the extent that the spatial distribution of jobs affects decisions of individuals to enter or exit the labor force, restricting the analysis to individuals in the labor force is likely to introduce bias into the results.

¹⁰ Public assistance income includes: (1) supplementary security income payments made by Federal or State welfare agencies to low income persons who are aged, blind, or disabled; (2) aid to families with dependent children, and (3) general assistance. TANF recipients are mostly poor females with children.

¹¹ The results presented in Table 2 were also generated using the three alternative definitions of low-skill jobs found in Table 1. Results are largely insensitive to these alternative definitions.

¹² We examined *US Census* journey-to-work data gathered from the 1990 Public Use Microdata A sample (PUMAs) for workers aged 21 and older living in Atlanta, Boston, Detroit and Los Angeles. The numbers for all MSAs show that less educated minorities rely on public transit to a far greater extent than less educated whites. Racial disparities are particularly large between central city blacks and suburban whites. These results are available on request from the authors.

¹³ In fact, a class action suit, entitled “The Labor/Community Strategy Center, et. al., vs. Los Angeles County Metropolitan Transportation Authority (MTA)” and filed in federal district court, charged that the MTA had discriminated against low-income and minority bus riders in favor of high-income and white rail riders as a result of its investments in rail at the expense of bus route expansion. In 1996, a court-ordered Consent Decree was reached with the MTA in which the MTA agreed to invest over one billion dollars in bus system improvements over the next 10 years [*Los Angeles Times*, 1996].

¹⁴ In the MCSUI employer survey, questions were asked of employers about the percentages of their applicants and employees who were black, Latino, and Asian. We then calculated the percentages of employees and applicants for firms where the last person was hired into a low-skilled job.

¹⁵ Available on request from the authors are physical maps showing the location of recent low-skill black hires relative to all low-skill hires across sub-metropolitan areas for the four MSAs included in the analysis. They corroborate the data in Tables 4a-d and reveal that the vast majority of new low-skill jobs are located in white suburbs, although there are also fairly strong concentrations of these jobs in and near the CBDs. Also, blacks are much more likely to be hired into low-skill jobs in or near the black central city than elsewhere, and that this is greatest in Boston and Detroit, and to a lesser extent Los Angeles. In Atlanta, the presence of large black suburbs reduces the concentration of blacks’ employment in low-skill jobs in the central city.

¹⁶ See Holzer [1996] for a more detailed discussion of the possible problems in interpretation of this ratio. The average quality of applicants and the self-selection of applicants across space make any single explanation of hire rate differences across space or between groups difficult.

¹⁷ The Moving-to-Opportunity program is also partly motivated by the notion of ‘neighborhood effects,’ where the concentration of low-income minorities in poor neighborhoods leads to their social isolation from other groups and compounds the various disadvantages that they face [see, for instance, Wilson [1987] or Jargowsky [1997].