Proximity and Opportunity: How Residence and Race Affect the Employment of Welfare Recipients

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Abstract

This article examines the relationship between access to jobs, work activity, and welfare receipt. We hypothesize that welfare recipients who live in closer proximity to employment opportunities are more likely to work and less likely to remain on welfare than those who live farther away.

To test this hypothesis, we analyze two unique data sets. The first has information on the residences and characteristics of welfare recipients; the second contains a list of the location of jobs in the three-county Detroit metropolitan area in the late 1990s. We find that, after controlling for individual characteristics, greater proximity to employment opportunities is associated with both a higher probability of working and a higher probability of leaving welfare.

Keywords: Employment issues; Household location; Welfare

Introduction

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) ended the federal entitlement to cash assistance and replaced Aid to Families with Dependent Children with the Temporary Assistance for Needy Families (TANF) program. PRWORA gives states a block grant of fixed size, places a five-year lifetime limit on the receipt of federally funded cash welfare benefits, requires most recipients to work within two years of entering TANF, and gives states great discretion over eligibility and operational criteria. A combination of welfare program changes, a robust economic boom, and changes in other policies, such as the expanded Earned Income Tax Credit and increased funding for child care, contributed to a decline of about 50 percent in the national welfare caseload between 1996 and 2000 (U.S. Department of Health and Human Services 2001).

Although welfare caseloads have declined significantly, today a larger percentage of the recipients reside in major urban centers than in the

mid-1990s (Allen and Kirby 2000). Characteristics of recipients may be changing as well, with the result that central-city caseloads have increasing percentages of long-term recipients, nonwhite minority recipients, and recipients from large households (Allard 2002).

One reason why the percentage of recipients residing in large urban areas is increasing is the "spatial mismatch hypothesis," which suggests that the ability of central-city residents to find work is shaped in part by their geographic proximity to job opportunities (Ihlanfeldt and Sjoquist 1998; Kain 1992). Although several studies find that greater access to jobs is related to better labor market outcomes for low-income households, few studies directly link access to jobs to the work outcomes of welfare recipients. The goal of this article is to assess the linkages between job accessibility and welfare-to-work outcomes.

We hypothesize that greater access to employment opportunities increases both the probability that welfare recipients will work and the probability that they will leave welfare. To test these hypotheses, we created a data set containing detailed information on where welfare recipients live and whether they work, as well as the location of employment opportunities in the three-county Detroit metropolitan area in the late 1990s. We find that, after controlling for individual-level characteristics, greater proximity to employment opportunities is associated with a greater likelihood of working and of leaving welfare.

This article proceeds as follows. First, we discuss the spatial mismatch literature and the impact of job accessibility on employment outcomes of low-income urban residents. Second, we examine how welfare recipients' access to employment opportunities varies according to where in the Detroit metropolitan area they live. Third, we explain variation in the rates of reported work earnings as a function of access to employment opportunities, the characteristics of welfare recipients, and tract-level characteristics. We then present similar analyses exploring the factors related to welfare exit rates.

Proximity and opportunity: The importance of access to jobs

Several recent studies consider the meaning of place and space for the employment outcomes of low-income populations. We know both that job growth occurred at a quicker pace in suburban versus central-city areas during the 1990s (Brennan and Hill 2001) and that welfare receipt remained largely a central-city phenomenon (Allard 2002; Allen and Kirby 2000). Distance between jobs and job seekers can affect

employment outcomes in several ways. Access to suburban employers, especially those located away from public transportation stops, can be difficult for central-city residents (Coulton, Leete, and Bania 1999; Holzer and Ihlanfeldt 1996; Holzer and Stoll 2001). The amount of available information about potential job opportunities declines as the distance between jobs and applicants increases (Holzer, Ihlanfeldt, and Sjoquist 1994; Rogers 1997; Stoll 1999). As low-skill employment opportunities have increasingly located in the suburbs, employers remaining in central cities have increased their demand for greater skills, experience, and education from the labor force (Holzer 1996; Kasarda 1995). Residential segregation by race and by economic class limits the mobility of central-city residents, preventing many low-skilled workers from moving closer to suburban jobs (Fernandez 1997; Immergluck 1998; Jargowsky 1997; Stoll, Holzer, and Ihlanfeldt 2000; Yinger 1995, 2001). Moreover, Turner (1997) argues that spatial mismatches in the location of job opportunities interact with racially discriminatory hiring practices among suburban employers, making it difficult for blacks to find work even if they have access to the suburbs.

There is some evidence supporting the hypothesis that differences in work outcomes between welfare recipients residing in inner-city and suburban neighborhoods can be explained, in part, by differential access to employment. A recent multicity study found that even though suburban firms had many job openings for low-skilled workers and expressed a willingness to hire welfare recipients to fill those openings, recipients were 50 percent more likely to be hired in and around central-city areas (Holzer and Stoll 2001). Competition for central-city jobs allows employers there to pay lower wages than their suburban counterparts (Turner 1997). Ong and Blumenberg (1998) found that all other things being equal, a census tract's proximity to low-skill jobs is inversely related to the size of its welfare caseload. Combining data from administrative files and the 1990 census, Ong and Blumenberg (1998) estimate that blacks living in a tract with job access in the 10th percentile had a welfare participation rate over 3 percentage points higher than blacks living in tracts with access in the upper 90th percentile (20.23 percent versus 16.98 percent, respectively).

To our knowledge, no previous study has included direct measures of job accessibility and individual-level data on whether or not welfare recipients are working. We created a unique data file containing individual-level information on the residential location of welfare recipients and their access to employment opportunities for the three-county Detroit metropolitan area. The city of Detroit rests in the eastern corner of Wayne County (see figure 1, on p. 680), with the largely suburban counties of Oakland and Macomb lying to the northwest and

northeast of Wayne County, respectively.[1] Administrative data on welfare receipt in June 1996, June 1998, and February 2000 were made available by the State of Michigan Family Independence Agency (FIA).[2] Into these administrative data, we merged data on employment opportunities from the 1992 Multi-City Survey of Urban Inequality and a 1997 survey of Detroit-area employers conducted by Harry J. Holzer.[3] When weights are applied, each employer survey represents an accurate descriptive and spatial picture of employment in the metropolitan area. This allows us to examine the spatial correlations between the location of welfare recipients and the location of jobs.

The relationships between welfare, work, and access to jobs in Detroit are of interest for several reasons. First, in many ways, Detroit is a typical older, Rustbelt industrial area; it has a high degree of residential segregation, a high central-city poverty rate, and a low suburban-ring poverty rate. For instance, female unemployment in 1998 in the city of Detroit was 7.2 percent, nearly twice the rate for the overall metropolitan area—that is, 3.8 percent (U.S. Bureau of the Census, Bureau of Labor Statistics [BLS] 2000). The mean poverty rate in Wayne County in 1997 was 18.0 percent, compared with 5.9 percent in Macomb and 6.0 percent in Oakland (U.S. Bureau of the Census 2002). Second, restricting attention to one area allows us to examine the effects of proximity on opportunity within a specific policy and macroeconomic context. By 1996, Michigan had implemented statewide "Work First" programs. Titled the Family Independence Program (FIP), the state's TANF program emphasizes job search and placement. Employed recipients can keep the first $200 of their earnings each month and 20 percent of all additional earnings without a reduction in their grant.[4]

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[1] For an account of the interactions among race, residential location, and employment outcomes in the Detroit metropolitan area, see Farley, Danziger, and Holzer (2000).

[2] Under a research agreement between the FIA and the Poverty Research and Training Center at the University of Michigan, we received administrative data on the universe of single-mother welfare recipients in the three counties in June 1996 (N = 56,877), June 1998 (N = 41,169), and February 2000 (N = 24,752). For each case, we have information on the age, household size, race, and earnings from work reported for the previous month. Information on educational level is available for the June 1996 data only; information on the start date of the case file is available only for June 1998 and February 2000.

[3] Appendix A (table A.1) contains descriptive statistics for our data.

[4] The maximum FIP benefit for a family of three in Wayne County is $459. Danziger et al. (2002) estimate that a single mother with two children and no income other than earnings can earn approximately $800 per month in Michigan before her cash welfare benefit ends. For more detail on the evolution and implementation of FIP in Michigan, see Seefeldt et al. (2001).

While Detroit is one of the most sprawling and racially segregated urban areas in the country, we believe that our unique data on welfare and jobs provide insights into welfare-to-work processes that are applicable to many Rustbelt areas.

Any analysis of job accessibility in urban labor markets may be biased by the endogeneity of residential choice. That is, the individuals most likely to work will seek residential locations with good job access and those least likely to work will be less concerned with job access. Although the accessibility scores we compute will be less reliable for populations that are mobile across the entire metropolitan area, we think that the magnitude of the bias is relatively small because welfare recipients in Detroit are highly constrained in their residential choices. There is little low-cost housing in the suburbs and much resistance to residential integration (Farley, Danziger, and Holzer 2000). Limited residential choice means that central-city residents are not likely to move to the suburbs (Gramlich, Laren, and Sealand 1992; Massey and Eggers 1990; Massey, Gross, and Shibuya 1994).[5]

Variation in access to employment opportunities

We created two job accessibility measures for each residential census tract in the Detroit metropolitan area from the 1992 and 1997 employer surveys: access to all employment opportunities in 1997 and the change in access to all job opportunities between 1992 and 1997.[6] Combined, these scores provide a descriptive account of job accessibility and can be used to estimate the impact of access to jobs on the work rates of welfare recipients.[7]

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[5] Immergluck (1998) finds that increases in black homeownership in Chicago in the 1990s occurred in a relatively small number of census tracts and in tracts that remained or became more highly segregated by race. Gabriel and Rosenthal (1996) find that blacks with less than a high school education were less mobile than their white counterparts. Pettite and Ross (1999) find that in Detroit, blacks with less than a high school education have 24 percent longer commutes than their white counterparts. Further, Ross's (1998) examination of job and residential mobility in the Panel Study of Income Dynamics indicates that blacks living in highly segregated cities where job opportunities are decentralized (cities much like Detroit) were less likely to make residential moves related to job change than whites living in those cities.
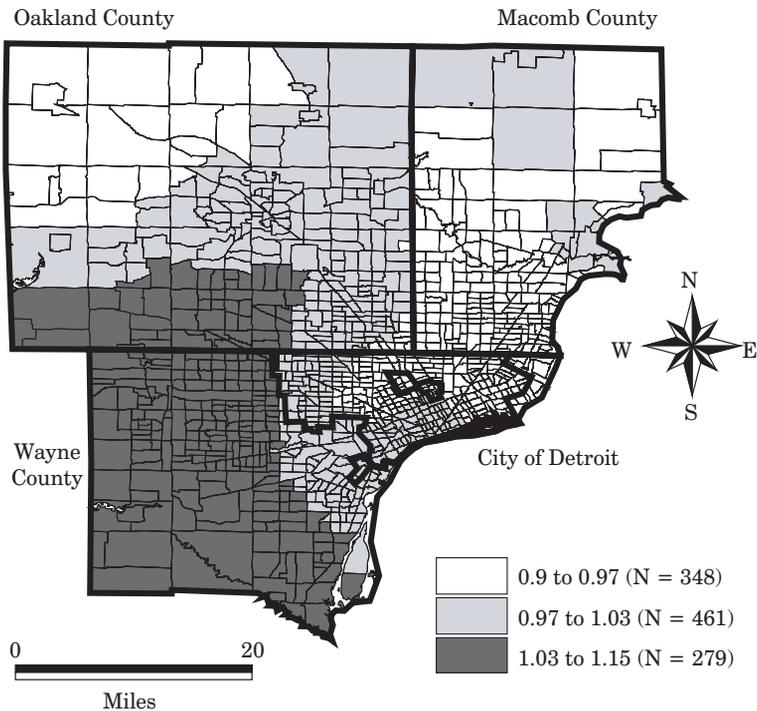
[6] Appendix B details how our accessibility measures were calculated.

[7] Our measures are useful indicators of job accessibility. Ideally we would have actual counts of all jobs and all low-skill jobs in the metropolitan area, data on job turnover, and data on the number of new jobs created in a given tract. Such data, however, are not available.

For ease of interpretation, we also divide each access score by the overall metropolitan mean score for that particular access measure. Thus, a welfare recipient living in a tract with an access score of 1.10 resides in proximity to 10 percent more jobs per adult than a resident of a tract with the mean access score; a recipient living in a tract with an access score of 0.90 resides in proximity to 10 percent fewer jobs per adult than a resident of the mean tract. For our measure of change in job accessibility between 1992 and 1997, a score of 0.10 would correspond to a 10 percent increase in overall job access compared with the mean metropolitan tract. Because there are over 2.5 million jobs in the Detroit metropolitan area, even small shifts in access scores reflect important differences.

Figure 1 shows access to employment in 1997. Darker areas of the map indicate tracts that had access to more jobs per job seeker than the metropolitan mean, while lighter areas reflect tracts that had access to fewer jobs per job seeker than the metropolitan mean. As the map shows, access to jobs in 1997 was greatest in the western suburban areas, particularly Wayne County. Residential areas within the city and in Macomb County tended to have the lowest job access scores in the metropolitan area.

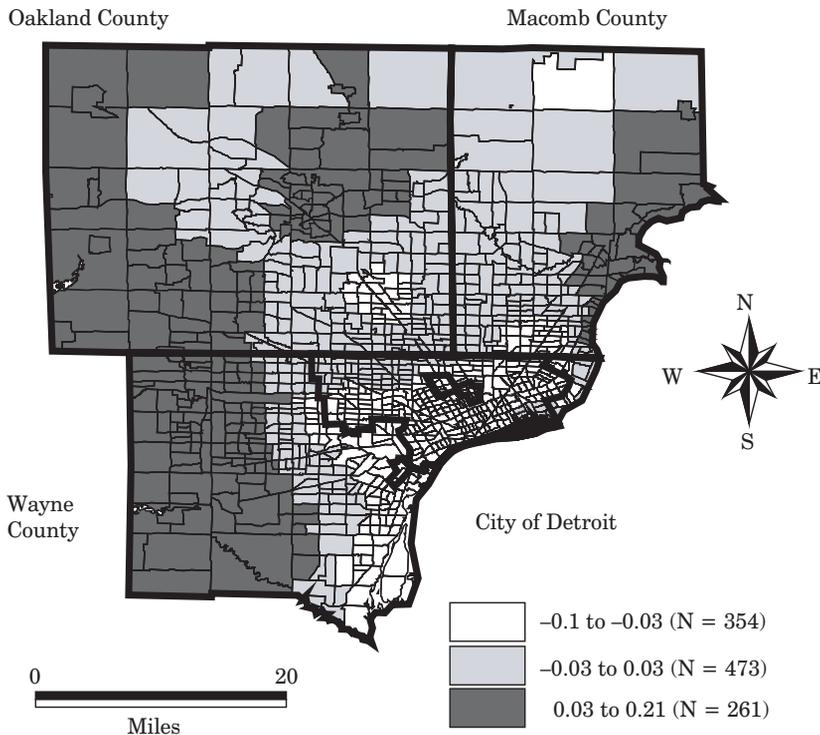*Figure 1.* **Access to Job Opportunities, 1997**

Oakland County Macomb County

N
W — E
S

Wayne County

City of Detroit

0.9 to 0.97 (N = 348)
0.97 to 1.03 (N = 461)
1.03 to 1.15 (N = 279)

0   20
Miles

Source: 1997 Holzer employer survey.

Figure 2 maps how access to employment shifted between 1992 and 1997. Compared with the metropolitan mean, central-city areas, which have greater percentages of poor families, nonwhite minorities, and welfare recipients, experienced a net loss of access to jobs. By contrast, many suburban areas experienced a net increase in access to jobs compared with the metropolitan mean.

Figure 2. **Change in Access to Job Opportunities, 1992 to 1997**

Oakland County

Macomb County

Wayne County

City of Detroit

N
W   E
S

0   20
Miles

−0.1 to −0.03 (N = 354)
−0.03 to 0.03 (N = 473)
0.03 to 0.21 (N = 261)

Source: 1992 Multi-City Employer Survey and the 1997 Holzer employer survey.

Table 1 presents the variation in access to jobs in June 1996 for welfare recipients, classified by their residential location, race, and educational attainment. The first panel shows that recipients living in Oakland County and the suburban portion of Wayne County had greater access to jobs in 1997 than central-city residents (column 1). Suburban areas all experienced increases in access to jobs between 1992 and 1997 (column 2), but access fell in the city of Detroit. For instance, recipients living in suburban Wayne County in 1997 had access to 7.7 percent more jobs per adult than recipients living in the

Table 1. **Welfare Receipt and Access to Jobs**

Characteristic of the Welfare Recipient in June 1996	Mean Access to All Jobs, 1997 (1)	Mean Δ in Access to All Jobs, 1992 to 1997 (2)	Percentage of Recipients in Tracts above the Metropolitan Mean Access to All Jobs, 1997 (3)	Percentage of Recipients in Tracts above the Metropolitan Mean Δ in Access to All Jobs, 1992 to 1997 (4)	N
Residing in					
Macomb County	0.950	0.012	0.25	42.15	1,967
Oakland County	1.003	0.029	60.72	66.81	3,381
Suburban Wayne County	1.044	0.004	82.33	50.76	5,609
City of Detroit	0.967	−0.039	7.03	0.00	37,537
Race					
White	1.000	−0.009	42.32	33.90	9,732
Nonwhite	0.972	−0.032	13.40	6.80	38,762
Educational attainment					
High school degree	0.980	−0.024	17.11	10.56	24,047
No high school degree	0.975	−0.030	21.35	13.95	24,447

Source: June 1996 administrative data from the FIA; data also derived from the 1992 Multi-City Employer Survey and the 1997 Holzer employer survey.

Note: All differences between reported means and percentages by county, race, and educational attainment are significant at the 0.01 level or below. See appendix B for details on the calculation of job access measures.

city (1.044 less 0.967). Welfare recipients living in the city experienced a 3.9 percent loss in access to jobs between 1992 and 1997, whereas recipients living in Oakland County experienced a net increase of 2.9 percent (column 2). A greater percentage of recipients in the Oakland and Wayne County suburbs lived in residential tracts with access to jobs above the metropolitan mean (columns 3 and 4); over 80 percent of welfare recipients in suburban Wayne County lived in areas with access to jobs above the metropolitan mean in 1997, compared with only 7 percent in the city.

Given these spatial differences, it is not surprising that white welfare recipients, many of whom live outside the central city, had access to 2.8 percent more jobs per job seeker than nonwhites (middle panel of table 1, 1.000 less 0.972). Column 3 indicates that 42 percent of white recipients, but only 13.4 percent of nonwhites, lived in tracts with above-average access to all jobs in 1997. Nonwhite welfare recipients tended to live in areas experiencing greater declines in access in the mid-1990s than white recipients (–0.032 versus –0.009, respectively).

The percentage of recipients who reported work earnings in June 1996 and June 1998, as displayed in table 2, was higher in suburban areas than in Detroit. For instance, 22.4 percent of welfare recipients in Detroit worked in June 1996, compared with about one-third of recipients in the rest of Wayne County and Oakland County, and 44 percent in Macomb County. The percentage of recipients who worked increased in all locations between 1996 and 1998, but recipients living in Detroit still lagged behind those in the suburbs. Although the increase was 13 percentage points in Detroit, work rates were 35.5 percent in June 1998, compared with close to 50 percent in the other locations. Work also varied by race and education. In June 1998, roughly one-third of nonwhite recipients worked, compared with almost one-half of whites. In June 1996, those who had a high school degree worked more than those who did not.

We find no evidence of extensive mobility of welfare recipients out of the central city. Among adults receiving welfare in both 1996 and 1998, 33.7 percent moved to a different residential tract, but only 1.4 percent moved from a central-city tract to a suburban one. Recipients who were not working in June 1996, who moved between 1996 and 1998, and who worked in June 1998 had an average 1997 job access score that was only slightly higher than the average score for recipients who were not working in June 1996, who did not move between 1996 and 1998, and who were not working in June 1998 (0.976 versus 0.971, respectively). (See table A.1.)

Table 2. **Percentage of Welfare Recipients with Earnings,**
June 1996 and June 1998

Characteristic of the Welfare Recipient in June 1996	Reporting Work Earnings in June 1996[a]		Reporting Work Earnings in June 1998[b]	
	%	N	%	N
Residing in				
Macomb County	44.0	1,966	52.3	1,607
Oakland County	32.9	3,378	46.9	2,888
Suburban Wayne County	35.5	5,606	47.0	4,238
City of Detroit	22.4	37,499	35.5	31,936
Race				
White	37.6	9,729	49.8	7,792
Nonwhite	22.4	38,720	35.4	33,331
Educational attainment				
High school degree	29.0	24,018	NA	NA
No high school degree	22.1	24,431	NA	NA

Source: June 1996 and June 1998 administrative data from the FIA.
Note: In 1998, some addresses could not be geocoded, so the totals for residents and race do not match. NA = not available.
[a] All differences between reported percentages by county, race, and educational attainment are significant at the 0.05 level or below.
[b] With the exception of Oakland and Wayne counties, all differences between reported means by county and race are significant at the 0.01 level or below.

Impact of access to jobs on employment outcomes

To assess how access to jobs might be correlated with employment, we estimated logit models to identify the determinants of work among welfare recipients in June 1996 and June 1998. The dependent variables are whether or not a recipient worked during that month. The year 1996 is just before full implementation of Work First in Michigan, and 1998 is after welfare reform. Because economic opportunity, residential location, and educational attainment differ so much by race, we estimate separate models for white and nonwhite recipients. In addition to our measure of proximity to all jobs in 1997, we include a dichotomous variable to reflect recipients living in residential tracts that experienced a positive change in access between 1992 and 1997. We expect that recipients living in areas with greater job access and a positive change in job access will be more likely to work.

We control for a number of individual-level characteristics. Because they are more likely to be new to welfare, have very young children, and have less work experience, we expect younger recipients to be less likely to work than older ones. Given the challenges of finding and retaining work when a person is responsible for dependents, we expect recipients from smaller households to be more likely to work than those from larger ones. We have data on educational attainment only for recipients in June 1996 and expect that recipients who have a high school degree will be more likely to work than those who do not. In June 1998, we have information on how long the current case file has been open, which allows us to see whether long-term recipients are more or less likely to work than those whose cases have been active for a shorter time. To control for variation in county administration of welfare-to-work activities, we include a set of dichotomous variables for whether a recipient lived in Macomb County, Oakland County, suburban Wayne County, or the city of Detroit. Residence in Detroit is the excluded category, allowing us to see whether suburban recipients were more likely to work even after controlling for access to jobs. Finally, we include the 1990 census tract poverty rate. All else being equal, we expect recipients from poorer neighborhoods to be less likely to work than those from neighborhoods with lower poverty rates.

The results from the logit models, presented in table 3, support several of these hypotheses. As shown in the first row, the coefficients on access to jobs in 1997 are positive and significant across racial groups; both whites (column 1) and nonwhites (column 3) who reside closer to jobs had higher rates of earnings in June 1996 than those living farther away. Access to jobs in 1997 is also positive and significant in columns 2 and 4, suggesting that two years after the 1996 welfare reform, access to jobs remains a significant determinant of work.[8] The dichotomous variable reflecting a positive change in access to jobs between 1992 and 1997 has a positive and significant impact on the likelihood of work for whites in June 1996. Positive change in access is not significant for nonwhites in 1996 (column 3), and negative and marginally significant for nonwhites in 1998 (column 4). This latter finding is likely a spurious relationship between work and change in job access that reflects how welfare-to-work programs have required job search for all recipients, even those who live in areas with declining access. Recipients who do not search for work face potential sanctions from the Work First program.

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[8] Since unemployment in the Detroit metropolitan area declined only slightly from 3.5 percent in 1997 to 2.9 percent in 2000, we believe that our measures of job access in the mid-1990s are still reasonable estimates of the opportunities available for recipients in 2000. Unemployment estimates for May of each year are available from the U.S. Department of Labor, BLS (1998, 2001).

Table 3. **Logit Models of the Determinants of Earnings among Welfare Recipients, June 1996 and June 1998**

	White Recipients				Nonwhite Recipients			
	Dependent Variable: Recipient Reports Work Earnings in June 1996 (1)		Dependent Variable: Recipient Reports Work Earnings in June 1998 (2)		Dependent Variable: Recipient Reports Work Earnings in June 1996 (3)		Dependent Variable: Recipient Reports Work Earnings in June 1998 (4)	
Independent Variables	B	SE	B	SE	B	SE	B	SE
Access to all jobs, 1997	2.183*	0.782	1.385***	0.854	1.700*	0.549	3.438*	0.513
Positive change in access to all jobs, 1992 to 1997	0.216*	0.061	0.130****	0.069	0.030	0.085	-0.148****	0.084
Under 25 years of age	-0.578*	0.112	-0.272**	0.120	-0.467*	0.066	-0.299*	0.062
25 to 34 years of age	-0.208**	0.106	0.135	0.112	-0.039	0.062	0.133**	0.058
35 to 44 years of age	-0.019	0.109	0.083	0.115	-0.038	0.064	0.067	0.060
Three or fewer people in the household	0.110**	0.050	0.103***	0.054	-0.030	0.029	-0.035	0.028
Six or more people in the household	-0.084	0.063	-0.146**	0.066	-0.117*	0.034	-0.093*	0.031
Less than a high school degree	-0.303*	0.044	NA	NA	-0.300*	0.025	NA	NA
Current case file open for 1 to 4 years	NA	NA	0.155*	0.053	NA	NA	-0.150*	0.026
Current case file open for more than 4 years	NA	NA	0.211*	0.065	NA	NA	-0.177*	0.032
Reside in Macomb County	0.471*	0.092	0.139**	0.099	0.684*	0.142	0.605*	0.144
Reside in Oakland County	0.002	0.086	0.027	0.092	0.231*	0.084	0.206*	0.082
Reside in suburban Wayne County	0.107	0.077	-0.002	0.082	0.037	0.085	-0.084	0.085

Table 3. **Logit Models of the Determinants of Earnings among Welfare Recipients, June 1996 and June 1998** *(continued)*

Independent Variables	White Recipients				Nonwhite Recipients			
	Dependent Variable: Recipient Reports Work Earnings in June 1996 (1)		Dependent Variable: Recipient Reports Work Earnings in June 1998 (2)		Dependent Variable: Recipient Reports Work Earnings in June 1996 (3)		Dependent Variable: Recipient Reports Work Earnings in June 1998 (4)	
	B	SE	B	SE	B	SE	B	SE
Tract poverty rate	−0.954*	0.196	−0.962*	0.207	0.228**	0.093	−0.269*	0.088
Constant	−2.364*	0.782	−1.412**	0.851	−2.664*	0.541	−3.705*	0.506
N	9,729		7,612		38,720		32,952	

Source: June 1996 and June 1998 administrative data from the FIA; data also derived from the 1992 Multi-City Employer Survey and 1997 Holzer employer survey.
Note: B = the coefficient estimate, SE = standard error, and NA = not available.
*p < 0.01. ***p* < 0.05. ****p* < 0.10.

Younger recipients were less likely to work than older ones, and those from households containing six or more people were less likely to work than recipients from smaller households. Those who did not have a high school degree were significantly less likely to work in June 1996 (columns 1 and 3) than those who had one. Duration of the active welfare case in June 1998 had different effects on work outcomes for whites and nonwhites. White recipients with a case file that had been active for more than a year were more likely to work than white recipients with a case file that had been opened within the previous year (column 2). By contrast, nonwhite recipients with case files that had been active for longer periods were less likely to work than those with recently activated cases (column 4). Tract poverty rate had a negative and significant effect on the likelihood of work, suggesting that other factors related to living in poor neighborhoods affect work.[9] Finally, even after controlling for access to jobs and individual characteristics, recipients living in Macomb and Oakland counties (particularly nonwhite recipients) were more likely to report work earnings than recipients living in the central city. Such findings reflect the challenges of implementing welfare-to-work in Detroit, where historically poor public transportation and individual-level barriers to employment continue to make it difficult for welfare recipients to find jobs.

Table 4 shows the magnitude of differences in job accessibility on the likelihood of work for some hypothetical cases. In June 1996, the predicted probability that a white welfare recipient who lives in a tract with job access in the upper 10th percentile will work is 7.1 percentage points higher than it is for a similar recipient living in a tract with job access in the bottom 10th percentile (35.7 percent versus 28.6 percent, respectively). Despite increased pressure for all recipients to find work, job access still had a significant effect on the likelihood of work in June 1998. For instance, the predicted probability that a nonwhite recipient who lives in a tract with job access in the upper 10th percentile will work is 12.5 percentage points higher than it is for a similar recipient living in a tract with job access in the bottom 10th percentile (47.9 versus 35.4 percent, respectively). Also evident in table 4 are differences between predicted probabilities of work for whites and nonwhites living in areas with similar access to employment. For instance, whites in tracts with job access in the upper 10th percentile in June 1998 have a predicted probability of work that is 9.3 percentage points higher than it is for similar nonwhites (57.2 percent versus 47.9 percent, respectively).

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[9] Similar results were produced when a dichotomous variable for living in a tract with a poverty rate of 40 percent or higher was included in place of the continuous variable used in table 3. Between 1990 and 2000, the percentage of the population in the Detroit metropolitan area living below the poverty line fell 2.4 percentage points to 10.7 percent (Berube and Frey 2002).

Table 4. **Impact of Job Access on the Predicted Probability of Working, June 1996 and June 1998**

Job Accessibility Measure	Probability of Working for Whites		Probability of Working for Nonwhites	
	June 1996[a]	June 1998[b]	June 1996[a]	June 1998[b]
Access to jobs, 1997 in the upper 10th percentile (access score = 1.084)	35.7	57.2	24.2	47.9
Access to jobs, 1997 in the bottom 10th percentile (access score = 0.934)	28.6	52.1	19.8	35.4

[a] Predicted probabilities based on a welfare recipient who is a 25- to 34-year-old head of household with no more than two dependents, who does not have a high school degree, and who lives in a census tract in the city of Detroit that experienced no change in job access and has a 20 percent poverty rate.
[b] Predicted probabilities based on a welfare recipient who is a 25- to 34-year-old head of household with no more than two dependents, who has been on assistance for between 1 and 4 years, and who lives in a census tract in the city of Detroit that experienced no change in job access and has a 20 percent poverty rate.

Impact of job access and work on welfare exits

Our data from the state welfare agency allow us to discern whether recipients receiving assistance in June 1996 were still receiving assistance in June 1998 and whether those receiving assistance in June 1998 were still receiving assistance in February 2000.[10] Thus, we estimate logit models of the impact of job access and recipient characteristics on the likelihood of a welfare exit.

We model exits separately for whites and nonwhites as a function of work, access to jobs, tract poverty rate, and recipient characteristics. Because work should eventually lead to welfare exits, we expect that recipients working in June 1996 and June 1998 are more likely to have left welfare by June 1998 and February 2000, respectively, than those not working in the initial year. We expect those recipients with greater access to jobs in 1997 and a net increase in access to jobs between 1992 and 1997 to be more likely to exit welfare in subsequent periods than those farther from job opportunities and job growth.

Monthly welfare grants increase with household size in Michigan, meaning that recipients from larger households have to earn more than recipients from smaller households before they are transitioned

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[10] The administrative data do not have information on the nature of a welfare exit. Thus, we do not know whether a recipient exited because she got married, because she found a job, or because she was sanctioned for not complying with regulations.

off welfare.[11] Consequently, we expect household size to have an inverse relationship on the likelihood of exiting welfare. Because variation in the implementation of welfare-to-work requirements can affect welfare exit rates and because county administration of these requirements may vary, we include dichotomous variables for the county of residence. All things being equal, recipients from higher-poverty tracts are expected to be less likely to leave welfare than those from lower-poverty areas. We also control for the age of the recipient in both periods and for education in June 1996.

The coefficient estimates for the welfare exit models are presented in table 5. Again, many of our hypotheses are confirmed. In three of the four models, recipients who worked in the initial year were more likely to have exited welfare two years later. Access to jobs in 1997 was positively and significantly related to welfare exits in all four models. In two of the four, a positive change in job access had a positive and significant effect on the likelihood of welfare exit. However, recipients from high-poverty tracts were significantly less likely to exit welfare, even after controlling for job access.

A number of individual characteristics also had significant effects. Recipients without a high school degree in June 1996 were less likely to have left welfare by June 1998 (columns 1 and 3). Recipients from households with six or more people were less likely to have exited between reporting periods than those from smaller households. As shown in columns 3 and 4, nonwhites over the age of 45 were more likely to exit welfare—many perhaps exiting when their children turned 18 and they became ineligible for assistance. Three of the four models indicate that suburban recipients were more likely to exit welfare than recipients living in Detroit.

To measure the impact of job access on the probability of welfare exit, table 6 presents predicted probabilities for white and nonwhite recipients. Job accessibility affects the probability of exiting welfare in both time periods, although its impact is stronger in the earlier one. For instance, a white recipient living in a tract with access in the upper 10th percentile has a probability of exiting welfare between June 1996 and June 1998 that is 15.7 percentage points higher than it is for a similar recipient living in a tract with job access in the bottom 10th percentile (54.3 versus 38.6 percent, respectively). The size of this effect for nonwhites is 8.7 percentage points (54.3 versus 45.6, respectively) between 1996 and 1998. For the 1998 to 2000 period, the size of the access effect falls to 6.5 percentage points for whites and 4.5 points for nonwhites.

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[11] Earnings disregards do not increase with household size in Michigan; the first $200 plus 20 percent of monthly earnings is disregarded, and the remainder is subtracted from the monthly welfare grant.

Table 5. **Logit Models of the Determinants of Welfare Exits, June 1996 and June 1998**

Independent Variables	White Recipients				Nonwhite Recipients			
	Dependent Variable: Exit Welfare by June 1998 (1)		Dependent Variable: Exit Welfare by February 2000 (2)		Dependent Variable: Exit Welfare by June 1998 (3)		Dependent Variable: Exit Welfare by February 2000 (4)	
	B	SE	B	SE	B	SE	B	SE
Reported work earnings in previous observation	−0.039	0.044	0.336*	0.058	0.312*	0.025	0.307*	0.026
Access to all jobs, 1997	4.235*	0.772	3.321*	1.068	2.319*	0.470	2.078*	0.540
Positive change in access to all jobs, 1992 to 1997	0.063	0.061	0.158***	0.087	0.148**	0.076	0.004	0.099
Under 25 years of age	0.229**	0.110	0.307**	0.142	−0.260*	0.057	−0.506*	0.066
25 to 34 years of age	−0.053	0.104	0.007	0.130	−0.243*	0.055	−0.390*	0.062
35 to 44 years of age	−0.096	0.108	−0.028	0.134	−0.156*	0.056	−0.207*	0.064
Three or fewer people in the household	0.068	0.048	0.327*	0.068	0.273*	0.025	0.488*	0.030
Six or more people in the household	−0.115***	0.060	−0.358*	0.074	−0.206*	0.030	−0.325*	0.032
Less than a high school degree	−0.254*	0.043	NA	NA	−0.287*	0.022	NA	NA
Reside in Macomb County	0.615*	0.089	0.053	0.119	0.419*	0.133	0.034	0.166
Reside in Oakland County	0.366*	0.082	0.016	0.112	0.327*	0.075	0.239*	0.098
Reside in suburban Wayne County	0.026	0.073	−0.077	0.098	0.081	0.074	0.184***	0.097

Table 5. **Logit Models of the Determinants of Welfare Exits, June 1996 and June 1998** *(continued)*

	White Recipients				Nonwhite Recipients			
	Dependent Variable: Exit Welfare by June 1998 (1)		Dependent Variable: Exit Welfare by February 2000 (2)		Dependent Variable: Exit Welfare by June 1998 (3)		Dependent Variable: Exit Welfare by February 2000 (4)	
Independent Variables	B	SE	B	SE	B	SE	B	SE
Tract poverty rate	–0.814*	0.186	–0.707*	0.249	–0.712*	0.080	–0.737*	0.093
Constant	–3.979*	0.771	–2.174**	1.058	–2.253*	0.463	–0.794	0.530
N	9,729		7,612		38,720		32,954	

Source: June 1996 and June 1998 administrative data from the FIA; data also derived from the 1992 Multi-City Employer Survey and the 1997 Holzer employer survey.
Note: B = the coefficient estimate, SE = standard error, and NA = not available.
*p < 0.01. **p < 0.05. ***p < 0.10.

Table 6. **Impact of Job Access on the Predicted Probability of Exiting Welfare, June 1998 and February 2000**

Job Accessibility Measure	Probability of Exiting Welfare for Whites		Probability of Exiting Welfare for Nonwhites	
	June 1998[a]	February 2000[b]	June 1998[a]	February 2000[b]
Access to jobs, 1997 in the upper 10th percentile (access score = 1.084)	54.3	87.6	54.3	84.8
Access to jobs, 1997 in the bottom 10th percentile (access score = 0.934)	38.6	81.1	45.6	80.3

[a] Predicted probabilities based on a welfare recipient who is a 25- to 34-year-old head of household with no more than two dependents, who does not have a high school degree, and who lives in a census tract in the city of Detroit that experienced no change in job access and has a 20 percent poverty rate.

[b] Predicted probabilities based on a welfare recipient who is a 25- to 34-year-old head of household with no more than two dependents and who lives in a census tract in the city of Detroit that experienced no change in job access and has a 20 percent poverty rate.

Conclusion

We began by documenting that access to jobs varies by race and residential location across the Detroit metropolitan area, with white welfare recipients and recipients living in suburban areas having greater access than nonwhites and central-city residents. We then showed that greater access to employment is associated with both higher employment rates among white and nonwhite recipients and a greater likelihood that recipients will exit welfare.

Although Detroit shares many features with other aging urban centers, further research should examine the complex spatial and individual-level dynamics of welfare-to-work program outcomes in other settings. Studies that use panel data capturing individual-level work outcomes and detailed information about employment opportunities in firms over time will be able to better assess the complex relationships between place and work. Future research should also examine how job accessibility affects job retention, work earnings, and advancement, and which policy tools best help recipients overcome spatial barriers to employment. Finally, our analyses highlight the potential utility of state administrative data as a tool for evaluating welfare-to-work outcomes.

Our findings suggest that welfare reform does not occur on a featureless plane, since employment rates and the probability of welfare exit among recipients vary by residential location. The debate about

welfare-to-work programs emphasizes how we can best encourage and support work among recipients, but has not focused much on strategies to reduce the spatial isolation of central-city residents from economic opportunities.

Welfare caseloads have become more concentrated in central cities since the 1996 reform. Our results suggest that policies that can enhance mobility and access to suburban job opportunities are increasingly important to achieving welfare-to-work goals. Depending on the nature of the spatial isolation, these solutions may involve changing public transportation routes or expanding access to private automobiles or van pools. As states continue to pursue "work first" programs, policy makers should focus more on linking people seeking work to places with job opportunities. Enhancing access and mobility should help mitigate the negative effects that persistent economic and spatial isolation have on the work outcomes of welfare recipients who reside in central cities.

Appendix A

Table A.1. **Variable Definitions and Sample Means**

Variable	Sample Mean, June 1996 (N = 56,887)	Sample Mean, June 1998 (N = 41,169)	Variable Definition
Job access, 1997	0.977	0.976	Distance-weighted tract-level measure of proximity to employment opportunities in 1997
Change in job access, 1992 to 1997	–0.027	–0.028	Difference between distance-weighted tract-level measure of proximity to employment opportunities in 1997 and 1992

Variable	Percentage in June 1996 (N = 56,887)	Percentage in June 1998 (N = 41,169)	Variable Definition
Nonwhite	78.5	81.0	Race category entered in the State of Michigan FIA administrative file
White	21.5	19.0	
Resident of Macomb County	4.7	4.0	Geocoded from the address in the State of Michigan FIA administrative file
Resident of Oakland County	7.7	7.1	
Resident of suburban Wayne County (excluding Detroit)	11.7	10.4	
Resident of the city of Detroit	75.9	78.5	
High school degree	49.6	NA	Education code from the State of Michigan FIA administrative file
No high school degree	50.4	NA	
2 or 3 people in the household	46.7	43.2	Number of recipients in the household from the State of Michigan FIA administrative file
4 or 5 people in the household	32.2	33.0	
6 or more people in the household	21.2	23.8	
Case file open for less than 1 year	NA	37.6	Date of case file opening from the State of Michigan FIA administrative file
Case file open for 1 to 4 years	NA	40.2	
Case file open for more than 4 years	NA	22.2	

Table A.1. **Variable Definitions and Sample Means** *(continued)*

Variable	Percentage in June 1996 (N = 56,887)	Percentage in June 1998 (N = 41,169)	Variable Definition
Percentage reporting work earnings	26.7	38.2	Whether or not recipient reported work earnings from the State of Michigan FIA administrative file
Poverty rate	31.8	32.6	Percentage of census tract residents living below the poverty line in 1989

Note: Percentages were rounded to the nearest tenth. NA = not available.

Appendix B

Calculating employment access measures

We created tract-level employment access measures from two surveys conducted in the three-county Detroit metropolitan area: a 1992 survey done by the Multi-City Survey of Urban Inequality and a follow-up survey done by Harry J. Holzer of the Urban Institute in 1997. In each survey, employers reported the total number of employees at the time of the interview and how the size of the firm's workforce had changed in the previous year. When properly weighted, each survey is an accurate representation of employment opportunities in the metropolitan area.

To generate access measures, we created weighted distances between residential tracts i and employment tracts j by the employment opportunities in each tract j. The first step was to calculate the distances between all tracts i and j.

$$\text{Distance}_{ij} = \left(\sqrt{(HH_{xi} - E_{xj})^{**}2 + (HH_{yi} - E_{yj})^{**}2} \right) / 0.0145 \qquad (A1)$$

where HH_{xi} is the latitude coordinate for the centroid of the household tract, HH_{yi} is the longitude coordinate for the centroid of the household tract, E_{xj} is the latitude coordinate for the centroid of the employer tract, and E_{yj} is the longitude coordinate for the centroid of the employer tract. To convert from coordinate distance to miles, the tract-to-tract distances were divided by 0.0145. If the household and

the employer are in the same tract, we use the area to generate a radius for the tract and this calculated radius as the intertract distance:

$$\text{Distance}_i = \left(\sqrt{(area_i/8.1367} \; / \sqrt{2} \right) \tag{A2}$$

To control for labor market competition, we estimated similar intertract distances between all residential tracts in the same manner.

Following Raphael (1998) and Mouw (2000), we used a distance decay function to estimate access to different types of employment opportunity in 1997 and 1992:

$$\text{Access}_i = \left(\sum X_j \; (e^{\lambda dij}) \right) / \left(\sum LC_i \; (e^{\lambda dik}) \right) \tag{A3}$$

where X_j is a measure of job opportunity in employer tract j (the presence of the employer in 1997 and the number of jobs in 1992), λ is the distance decay parameter (in this case, 0.092), d_{ij} is the distance of the household tract to the job tract in miles, LC_i is the measure of labor market competition in residential tract k, and d_{ik} is the distance in miles between the household tract and the residential tract containing competing workers. The λ weights for jobs at different distances, placing greater weight on jobs closer to a fixed point of interest and placing less weight on those farther away.

Our value for λ was derived from a negative binomial count model of commuting patterns from 1990 Census Transportation Planning Package data in Detroit. Our measure of labor market competition was defined as the percentage of all adults ages 18 to 64 in the metropolitan area in a given tract and was taken from the 1990 census. This method of calculating access to jobs controls for employer size and distance, since it weights larger employers and employment opportunities near a welfare or housing assistance recipient more than those that are smaller and/or farther away.

To estimate change in job access scores from 1992 to 1997, we used the following distance decay function:

$$\text{Access}_{i9792} = \left[\left(\sum X_{j97} \; (e^{\lambda dij}) \right) / \left(\sum LC_i \; (e^{\lambda dik}) \right) \right] - $$
$$\left[\left(\sum X_{j92} \; (e^{\lambda dij}) \right) / \left(\sum LC_i \; (e^{\lambda dik}) \right) \right] \tag{A4}$$

where X_{j97} is a measure of job opportunity in employer tract j in 1997, X_{j92} is a measure of job opportunity in employer tract j in 1992, and LC_i is the measure of labor market competition in residential tract k.

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