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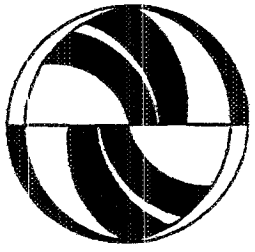

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Abstract

Using an unusually rich panel of data on welfare recipients in Alameda County, Los Angeles County, and San Joaquin County in California, this paper examines the importance of transportation policy variables, human capital policy variables and social economic variables in explaining the ability of some individuals to find gainful employment A multinomial logit model is estimated that predicts the probability someone found a job as a function of car ownership, transit service quality, regional job accessibility by different transportation modes, human-capital factors, and various control variables The results show that car ownership, along with educational attainment, significantly increased the odds that someone switched from welfare to work, while variables related to transit service quality were largely insignificant predictors Nor was regional accessibility very important in explaining employment outcomes, a finding that sheds doubts about the spatial mismatch hypothesis In terms of transit policy, improved automobility had far stronger effects on employment outcomes than improvements in transit mobility

The Transition from Welfare-to-Work:
Policies to Stimulate Employment and Reduce Welfare Dependency

INTRODUCTION

The 1996 *Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA)* fundamentally changed the nature of the U S welfare system Since the passage of PRWORA a series of policy debates have emerged about how to help welfare recipients make the transition from welfare to work Transportation has been called the "to" component of "welfare-to-work" – the vehicle for connecting unemployed, under-privileged inner-city residents to suburban job opportunities However, not all sides agree that transportation, or more generally, accessibility, is off of welfare rolls and into gainful employment And to the degree that transportation "matters", there is considerable disagreement as to which is more important – private mobility (i e , ownership of and access to a car) or public mobility (i e , availability of good public transportation services) Other policy debates about improving human capital and reducing family barriers are the other components that are essential to making the transition from welfare to work successful The purpose of this article is to throw light on these debates – does transportation matter, and if so, are fiscal resources best devoted to expanding private or public mobility? Does human capital matter more, and if so, are fiscal resources best devoted to expanding job training programs?

The Clinton Administration's *Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA)*, fully embraces the view that access to suburban jobs, and in particular, improved public transportation services, are crucial toward reducing inner-city joblessness Federal programs like *Access to Jobs* under the recent Transportation Equity Act (TEA-21) and U S Housing and Urban Development's *Bridges to Work* provide hundreds of millions of dollars for expanding transit connections from inner-city areas to suburban jobs The view that good public transit connections between inner-city neighborhoods and suburban jobs can alleviate inner-city poverty dates back to the race riots and urban upheavals of the mid-1960s. At the time, a much-publicized report by the McCone Commission identified poor public transportation as a contributor to unemployment among central-city blacks Ever since the potential role of public transportation in alleviating urban poverty has been embroiled in controversy Some contend reverse-commute services are absolutely essential, while critics dismiss public transit as a serious mobility option in surburbia, for the poor and non-poor alike(Blackley 1990, Hughes 1991, Orski 1998)

TRANSPORTATION AND WELFARE-TO-WORK

Transportation's role in welfare-to-work transitions shows up in two key policy debates (1) the spatial mismatch hypothesis, and (2) the value of public transit versus private automobile ownership Both debates are briefly reviewed in this section

The spatial mismatch hypothesis first advanced by Kain and since studied by dozens of researchers, holds that a root cause of joblessness and inter-generational poverty has been the increasing physical isolation, or inaccessibility, of inner-city residents from suburban employment opportunities (Kain 1968, 1993) Evidence, however, is inconsistent. Some researchers have concluded, based on statistical evidence, that improved accessibility is absolutely essential in moving the poor off of welfare rolls (Jencks and Meyer 1990, Holzer, Ihlanfeldt, and Sjoqist 1994) A study of poverty in Los Angeles by Ihlanfeldt and Squoquist found that accessibility to jobs explained between 30 and 40 percent of the difference in employment rates among black and white teenagers(Ihlanfeldt and Sjoqist 1991) Recent work by Rosenbloom and Blumenberg and Ong further substantiate the importance of job accessibility, showing that neighborhoods with higher levels of accessibility to low-wage firms average lower rates of welfare dependence (Rosenbloom 1995) (Blumenberg and Ong 1998) Other researchers, however, argue just as strongly that accessibility is fairly inconsequential factor in moving the poor off of welfare rolls, and that spatial mismatch is a smokescreen to more deeply rooted racial divisions(Ellwood 1986, Leonard 1987, Zax 1990) In an influential study of black households in Chicago, Ellwood found comparably high unemployment rates among blacks with similar education levels regardless whether they resided on the southside, away from job opportunities, or west of the city nearly the booming Interstate 88 employment corridor (Ellwood 1986) He concluded the chief reasons for chronic unemployment among blacks is "race, not space"

The debate over the efficacy of private versus public mobility has been just as divided, though research has focused mainly on the value of public transit services, with less attention given to the importance of automobile ownership A study by Thompson found a modest statistical relationship between transit access to jobs and employment participation in Dade County, Florida using 1990 census data (Thompson 1997) Similarly, Sanchez used block-level data from the 1990 census to examine differences in rates of labor-force participation among residents of Atlanta and Portland, Oregon who lived within a quarter-mile walking distance of a transit stop versus those who did not (Sanchez 1999) He found those residing near bus and rail stops had higher rates of employment, controlling for other factors like education level, although the relationship did not hold for non-whites

While inner-city residents generally receive more intensive transit services than those in the suburbs, this does not necessarily translate into good connectivity to suburban jobs In

the United States, suburban transit services are notoriously poor, a product of low densities, abundant and free parking, circuitous road designs, and high automobile ownership rates (Cervero and Landis 1994) Many bus routes serving in-city neighborhoods simply do not connect to fast-growing suburban job centers, and if they do, they often do not operate at night or weekends, times when many low-skilled laborers work on late shifts An estimated 40 percent of suburban entry-level jobs in the United States are not on public transit routes (Orski 1998) One recent study found that 98 percent of TANF (Temporary Assistance for Needy Family) recipients in Boston lived within a quarter mile of a transit route and could easily travel from their homes to downtown (Lacombs and Lyons 1998) However, two-thirds of the Boston region's job growth has been in the suburbs where transit services are generally poor, and few TANF recipients qualify for front-office downtown jobs were transit connections are good

Because of the paucity of good suburban transit services in the United States, some contend that public funds might be better spent on providing loans to inner-city residents for buying cars versus expanding public transportation services (Taylor and Ong 1995, Orski 1998, Waller and Hughes 1999) When specialized reverse-commute services have been introduced in the past, transit ridership often fell within a few month's time as participants bought cars once they found steady, well-paying jobs (Rosenbloom 1992) In the suburbs, low-skilled workers could very well need access to cars for the same reasons high-salaried workers do -- in order to drop their kids off at day care centers en route to work, the need to economize on time spent commuting to free up more time for home life, the availability of free parking but not free transit passes, and so on It is for such reasons that some areas of the United States have shifted their focus to enhancing private mobility for the poor In Fairfax County, Virginia, former welfare recipients are eligible for loans that can be used to purchase and insure second-hand cars The states of Maryland and Texas offer sizable tax deductions to firms and individuals who donate vehicles for welfare recipients Even these initiatives have not evaded controversy The retention of older vehicles, environmentalists point out, exacerbates air quality problems Others warn that the cost of insuring a car in high-crime, central-city settings can be prohibitively expensive Some also worry that those depending on the private car to reach jobs will not be able to cover mounting maintenance expenses and costly repair bills that accompany owning older vehicles

From a methodological standpoint, past studies on the importance of transit services in explaining job participation rates exhibit some weaknesses that we believe our research has successfully overcome One, earlier studies (Thompson 1997, Blumenberg and Ong 1998, Sanchez 1999) relied on census data in drawing causal inferences, and thus unavoidably suffer from aggregation biases to some degree Our work studies relationships at a more

appropriate "ecological unit" -- specifically, individuals whom at one time received welfare assistance Second, past studies have used data from a single time point (e g , 1990 census data), relying on cross-sectional differences to infer causal relationships Our work examines change in employment status over two-time points, providing a longitudinal context for examining welfare- to-work transitions Third, we develop multiple measures of transit accessibility at different grains of analysis (e g , both the neighborhood and regional scales) that, we believe, offer robust indicators of transit service availability and proximity Last, our analysis is carried out across three different metropolitan areas of different sizes and different character, enhancing the external validity of the research

HUMAN CAPTIAL AND WELFARE-TO-WORK

In 1964, Gary Becker, argued that investments in human capital lead to future monetary income(Becker 1964) Therefore, scholars and policy makers have argued that increasing resources that augmented human capital would reduce people economic dependency on the welfare system (Kates 1996) These investments could include schooling, on-the-job training, medical care and health fitness, and other knowledge (e g , ability to speak English)

The current welfare reform laws have a job first approach thus placing little emphasis on increasing education, skill enhancement, job training, and other efforts to augment human capital that welfare recipients can offer to potential employers Coupled with this lack of emphasize to increase human capital, the labor market has been unforgiving for welfare recipients with low human capital investments in both relative and real terms (Moffitt 1992) (Edin and Lein 1997) The demand of semi-skilled and skilled labor has increased for the past twenty years thus there is a higher barrier to entry for those individuals who have a weak labor market preparation, no soft skills, or limited education

Studies have also shown that there are two dimensions of education that need to be considered when looking at the impacts of low human capital among welfare recipients Researchers need to differentiate between level of high school education and levels of literacy (Zill et al 1991, Burtless 1995) (Burtless 1999) These studies have shown that important labor market predictors of success are the number of years spent in education and a high school diploma (Finegold, 1998, Burtless, 1995) However, these indicators do not capture the basic literacy skills in reading, document interpretation, and mathematics Simply having a high school diploma or completing a certain number of years of educations does not translated into meaningful human capital investments Scholars have shown that a low level of education is also associated with longer durations of welfare use and recidivism (Bane and

Ellwood 1994) A good education and strong labor market attachment and job skills may be equally important as transportation in assisting the urban and rural poor to exist the welfare system

Research has also shown that employers place more weight on work experience than education attainment (Seccombre 1999, Regenstein, Meyer, and Hicks 1998, Bishop 1989) Previous work experience may serve as a proxy for employers to examine the potential employee's attitudes towards work, soft skills, and preparedness for the work environment If this is the case, welfare recipients may be at a disadvantage because many job-training programs fail to train people for the fastest growing occupations, thus they often lack a focus on the "soft skills" needed by long-term aid recipients to obtain and maintain a job Recipients who lack a high school diploma or have low levels of literacy skills or lack soft skills or who have had a long absence spell from the private job market may encounter challenges to make the transition from welfare to work (Maynard 1995, Burtless 1995) In the end, transportation is one hurdle to finding and maintaining employment--finding and holding good paying jobs without human capital investments may be equally important (Brooks and Buckner 1996, Kates 1996, Olsen and Pavetti 1996, Burtless 1995, Danziger and Danziger 1995)

Following a brief discussion of methodology and data sources, this article presents a multinomial logit model that explains why individuals have been able to move off of welfare and into some level of formal employment in three California Counties Alameda, Los Angeles, and San Joaquin Based on the collective findings, we suggest ways in which transportation and educational policies might better achieve the objectives of welfare-to-work policies In particular, we weigh in on the debate over whether improving private versus public mobility and investments in human capital offer the most promise in stimulating employment among America's inner-city poor

RESEARCH METHODOLOGY

Our research was designed to study the relative influence of transit versus highway accessibility and car ownership in explaining the ability of some individuals to switch from welfare recipient to active employment The research relied on an unusually rich panel of data on characteristics of welfare recipients in the three California counties during the first half of the 1990s All data were tied to records maintained for a random sample of individuals who at one time were receiving public assistance Multinomial logit estimation allowed the incremental influence of transportation, human capital, and various control variables on the probability of obtaining a job to be measured

Sampling Frame and Person-Level Data

As part of the California Work Pays Demonstration Project (CWPDP), data were obtained from a random sample of 1,865 who in 1993/1994 received Aid for Families with Dependent Children (AFDC) -- 466 from Alameda County, 802 from Los Angeles County, and 597 from San Joaquin County A second wave of survey data was compiled for the same individuals in 1995/1996, some of whom by this time had found jobs and were no longer receiving AFDC assistance (see Table 1)

Table 1 – Panel Data of AFDC Recipients in Alameda, Los Angles, and San Joaquin Counties, CA[1]

	Alameda	Los Angles	San Joaquin
Wave I – 1993/1994	719	1,446	952
Wave II – 1995/1996	589	1,146	811
Wave I and Wave II	576	802	597

Source (California Work Pays Demonstration Project Survey English/Spanish Interviews, 1993-1994 (Wave I)/ 1995/1996 (Wave II), Berkeley, CA 1997)

Table 2 shows the three California case-counties are quite different in population size, urban densities, demographic composition, and economic standing Alameda County, the second most populated county in the San Francisco Bay Area, has a fairly diverse economy, and compared to the other two counties and the state as a whole, averages fairly low unemployment Still, the county suffers from high concentrations of poverty, mainly in and around west and south Oakland, areas that far removed from the suburban job boom in the eastern and southern parts of the Bay Area Between 1981 and 1990, 70 percent of the 182,000 new jobs that were created in the East Bay occurred east of the hills of Alameda and Contra Costa Counties, many located in high-tech job enclaves like Pleasanton and Walnut Creek (United States Department of Commerce)[2] Los Angeles County, the state's most populated, has more residents than all but eight states A steady influx of immigrants from the south has over the past few decades transformed the county into one of the largest Latino

[1] For our analysis we only included individuals who completed surveys in Wave I and Wave II Several factors explain the difference in the sample population between Wave I and Wave II Individuals who completed the survey in Wave I and did not complete the survey in Wave II include those individuals who move to another state or county, those individuals who got married, or those individuals who lost telephone services

[2] Calculated from U S Department of Commerce, *County Business Patterns*, U S Department of Commerce, Washington, D C , 1981 and 1990

enclaves in the country Because of its large concentration of defense and aerospace contractors, the county has been harder hit than most by post-cold-war defense cuts San Joaquin County stands in marked contrast to the other two -- a partly rural, partly exurban county in the middle of California's fertile agricultural belt, the San Joaquin Valley In addition to its large population of seasonal and undocumented workers, it has also become a conduit for affordable housing among Bay Area workers displaced by the highest housing prices in the nation

Figure 1. Three Case-Study California Counties

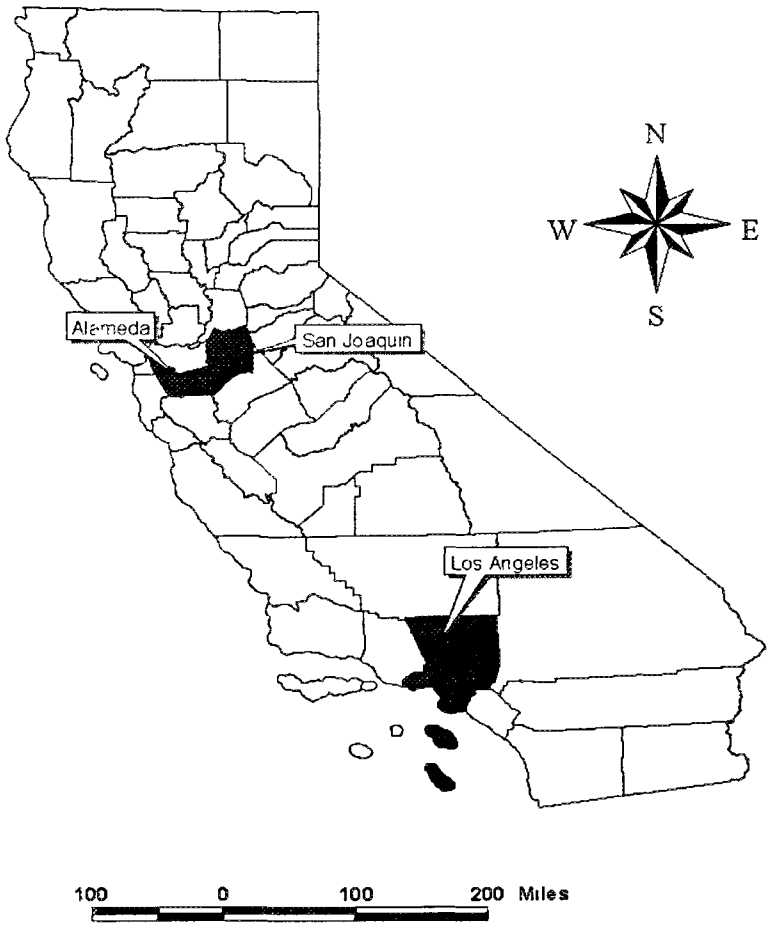


Table 2. Background comparison of three California case-study counties

	County			
	Alameda	**Los Angeles**	**San Joaquin**	**California**
Population, 1998	1,279,182	9,649,800	551,500	33,494,000
% White (1990)	59 6%	56 9%	73 5%	69 1%
% Hispanic (1990)	13 8%	37 3%	22 7%	25 4%
Median Yrs Education, 1990	13 9	13	12 7	13 4
Persons/Sq Mi , 1990	1,734	2,183	343	191
Per Capita Income, 1997	$37,544	$34,965	$20,092	$26.314
Unemployment rate, 1999	3 4%	5 9%	8 7%	5 2%

Sources. California Department of Finance· http //www dof ca gov/html/fs_data/profiles/pf_home htm; U.S. Bureau of the Census, Summary Tape File 3A, 1990

Regional Job-Accessibility Measures

An important metric for studying the importance of transportation adopted in this study is regional job accessibility For each person in the panel samples, cumulative-opportunities measures of regional job-accessibility were calculated In the case of the Alameda and Los Angeles County panels, these took the following gravity-based form

$$A_{ik} = \sum_j E_j \exp(-\nu T_{ijk})$$

where A_{ik} = Accessibility indicator of person residing in location i by mode k,
E_j = Employment (non-professional, non-executive, and non-managerial occupational classes) in destination zone j (where, for Alameda County, j = 1 to 1382 census tracts in the nine-county San Francisco Bay Area, and for Los Angeles County, j = 1 to in the 3377 in the six-county Southern California region) in 1990, occupational classes were determined from Part II of the Census Transportation Planning Package (CTPP)

T_{ijk} = Travel time (in minutes) from residential location i to census-tract of employment j by transportation network (i e , transit or highway) of mode k, for both Alameda and Los Angeles Counties, these were based on regional travel-time matrices maintained by their respective metropolitan planning organizations (Metropolitan Transportation Commission, and the Southern California Association of Governments),

ν = Empirically derived coefficient for work-trip impedances based on best–fitting results from a gravity model that explained home-based work-trip interchanges, for Alameda County, this was set at -0 14 to reflect impedance effects in the San Francisco-Oakland-San Jose Consolidated Statistical Area in 1990, for Los Angeles County, friction factors varied by seven different modal classes

k = Mode of transportation and associated travel network regional transit network versus regional highway network

Accessibility indicators for San Joaquin County were similarly calculated, though the cumulative index took a power-function form and was calculated for traffic analysis zones rather than census tracts [3]

Stratifying accessibility indices by mode allowed employment opportunities to be gauged for each place of residence i over the corresponding regional transit network versus highway network Accessibility via highways was based on peak-period travel times for drive-alone trips since journeys to work tend to occur during the peak, predominantly by solo-commuting Also, accessibility via transit were further refined according to mode used to reach transit facilities – i e , walk-and-ride or park-and-ride Transit accessibility indicators were also based on travel times during peak periods (when transit services are generally the most intensive)

One further refinement made in estimating job accessibility was limiting employment counts to non-professional, non-executive, and non-managerial positions -- i e , the kinds of jobs for which AFDC recipients from wave one (1992/1993) would most likely qualify for This provided a proxy of the availability of low-skilled, low-to-moderate salary jobs in each region's census tracts (or traffic analysis zones)

[3] The index took the form $A_{ik} = \sum_j E_j T_{ij}^{-2\ 08}$, where notations are as before, and the impedance coefficient is based on experiences for work trips for other U S metropolitan areas with populations under 500,000 For San Joaquin County, indices were calculated for each residential area by cumulatively summing numbers of non-management/non-professional jobs over 522 traffic analysis, adjusted for impedance Source for impedance coefficient National Cooperative Highway Research Program (1978)

Model Structure

For each county, a discrete-change model was estimated to account for change in employment status among panel members over the two time points Models took the form of multinomial logit equations that weighed the importance of transportation, human-capital, and various control variables in explaining differences in outcomes For each county, a model predicted the probability that a survey respondent belonged to each of three possible discrete-change categories between the 1992/93 and 1994/95 periods (1) remained unemployed (i e , no job in either time period), (2) secured employment but remained on AFDC, and (3) secured employment and got off AFDC These three categories roughly correspond to ordinal outcomes that range from the least to the most favorable The second category reflects situations where individuals found jobs, albeit most likely low-paying ones Besides low-wage employment, category two likely also represents part-time and contingency work – i e , unstable employment situations which kept working parents with children dependent on public assistance Of course, the explicit aim of recent welfare reforms, like TANF, is to move recipients into the third category -- gainful employment without direct public assistance

The model we used to test the hypothesis that transportation services and accessibility "matter" took the following form

$$p_{io} = \frac{\exp(T_{io}, H_{io}, C_{io}, O_{io}, I_{io})}{\sum_j \exp(T_{ij}, H_{ij}, C_{ij}, O_{ij}, I_{io})} \qquad \text{for } j = 1, 2, 3$$

where p_{io} = probability person i belongs to discrete-change category o,

T_i = vector of transportation "policy" variables of person i, including variables measuring vehicle ownership, accessibility to regional jobs via highway and via transit networks, and neighborhood-scale transit service quality

H_i = vector of human capital characteristics of person i, including educational level, receipt of job training, and health status

C_i = vector of cultural capital characteristics of person i, including number of dependents, language, and use of day-care services.

O_i = vector of other control variables, including race and marital status

I_o = vector of interaction effects between transportation and human-capital variables (e g , the combination of owning a car and having a child who attends day care)

Generalized least squares estimated the size, direction, and probability of coefficients for both policy and control variables Weights were used to normalize the sample so that it matched the actual proportions of AFDC recipient in Alameda county according to their socio-demographic characteristics

We postulate that the transportation policy variables (represented by vector T_i) provide significant incremental explanatory power in estimating the likelihood each panel respondent belongs to any one of the three discrete-change categories, although to varying degrees The degree to which transit versus automobile accessibility and service-level factors increase the probability of respondents falling into the third category (i e , employment without AFDC), we believe, offers insights into how transportation resources should be allocated in assisting America's inner-city poor transition from welfare to work

The use of human-capital, cultural-capital, and other control variables improves the internal validity of the analysis by statistically removing the influences of potential confounding factors that might also explain employment outcomes Human-capital factors, like levels of vocational and special training, account for the degree of resources invested in improving the employment potential of individual welfare recipients Cultural-capital factors account for cultural dimensions that might further explain employment outcomes, such as the larger average size (and number of dependent children) of Latino households

Caveats

Several caveats about the underlying sample used in our analysis are in order First, samples were fairly small, under 1 percent in the case of Alameda and Los Angeles counties, and just 3 percent in the case of San Joaquin County Still, sample observations were randomly chosen, thus we feel they are fairly representative of each county's welfare population during the early to mid 1990s Also, our data observations pre-date the welfare reform act of 1997, PRWORA The chief difference between AFDC, which was the welfare program that affected our panel, and its replacement program, TANF, is that TANF imposes work requirements and sets a lifetime limit of five years for receiving welfare benefits Whether the relationships we have uncovered between finding a job and various transportation policy variables still hold under TANF is uncertain Because transportation variables should be independent of the work requirements of TANF, we suspect they do

BACKGROUND STATISTICS

Differences in welfare populations of the three counties are underscored by racial and ethnic compositions For the Alameda County panel, the largest share of wave-one AFDC recipients was African-American (34 percent), compared to Latinos in the case of Los

Angeles County (51 percent) and whites in the case of San Joaquin County (33 percent) In other respects, however, members of the sample panel were similar, typically women (over 98 percent) in their mid-thirties with children In the cases of Alameda and San Joaquin Counties, most recipients were single, for the Los Angeles panel, 62 percent were married

With respect to human-capital variables, the mean years of schooling ranged from 9 years (San Joaquin County) to 11 years (Los Angeles County) For all three counties, fewer than one in ten of welfare recipients received job training between wave one and wave two Moreover, 84% of recipients spoke English in Alameda County compared to 64% of recipients in Los Angeles County In all three counties, recipients that got a job and left AFDC were more likely to have English as their primary language compared to recipients who did not change their work or welfare status Also, those who found jobs were less likely to have had health problems compared to those who did not change their work or aid status In Alameda County, physical disabilities appeared to be significant impediments to finding work among welfare recipients Although the survey did not allow us to ascertain the direction of causality, those who found jobs were also more likely to have had a child in day care

In terms of outcomes, 8 to 10 percent of those in wave one had found a job and left AFDC two years later in wave two Eight-two to 86 percent found no job and stay on AFDC Alameda County, the most common job found was a clerical position (39 percent of the sample which found employment in wave two), in the other two counties, those who found jobs tended to work in the service sector

Table 3 - Description of Variables Used

Variable Name	Description
Private Mobility	
Own Car In Wave I	Owned a Car in Wave (0/1)
Own Car In Wave II	Did not own car in Wave I and owned a Car in Wave II (0/1)
Did not Own Car in Wave II	Owned a Car in Wave I and did not own car in Wave II (0/1)
Car Access	Had car access in Wave II (0/1)
Human Capital	
Human Capital 1	Take part in classes to help get job and completed program (0/1)
Human Capital 2	Take part in vocational school and completed program (0/1)
Human Capital 3	Take English as second language class and completed program (0/1)
Speak English	English is the primarly language (0/1)
Education	Higest school grade achievement
Health Barrier	Limiting health condition that prevents work (0/1)
Health Rating	Recipient's rating of his/her health condition (1=poor thru 4-excellent)
Family Obstacles	
Number of Children	Number of Children 18 years of age or younger
Number of Disabled Children	Number of Disabled Children 18 years of age or younger
Daycare	Used day for youngest child (0/1)
Married	The recipient is married or in a marriage type relationship (0/1)
Age of welfare receipt	The age that the recipient first started receiving AFDC
Socioeconomic Characteristics	
Age	Age of recipient
Gender	Male (0/1)
Moved	Moved since Wave I (0/1)
Res-Length	Number of years living at current residence
White	White (0/1)
Black	Black (0/1)
Latino	Latino (0/1)
Asian	Asian (0/1)
Other	Other (0/1)

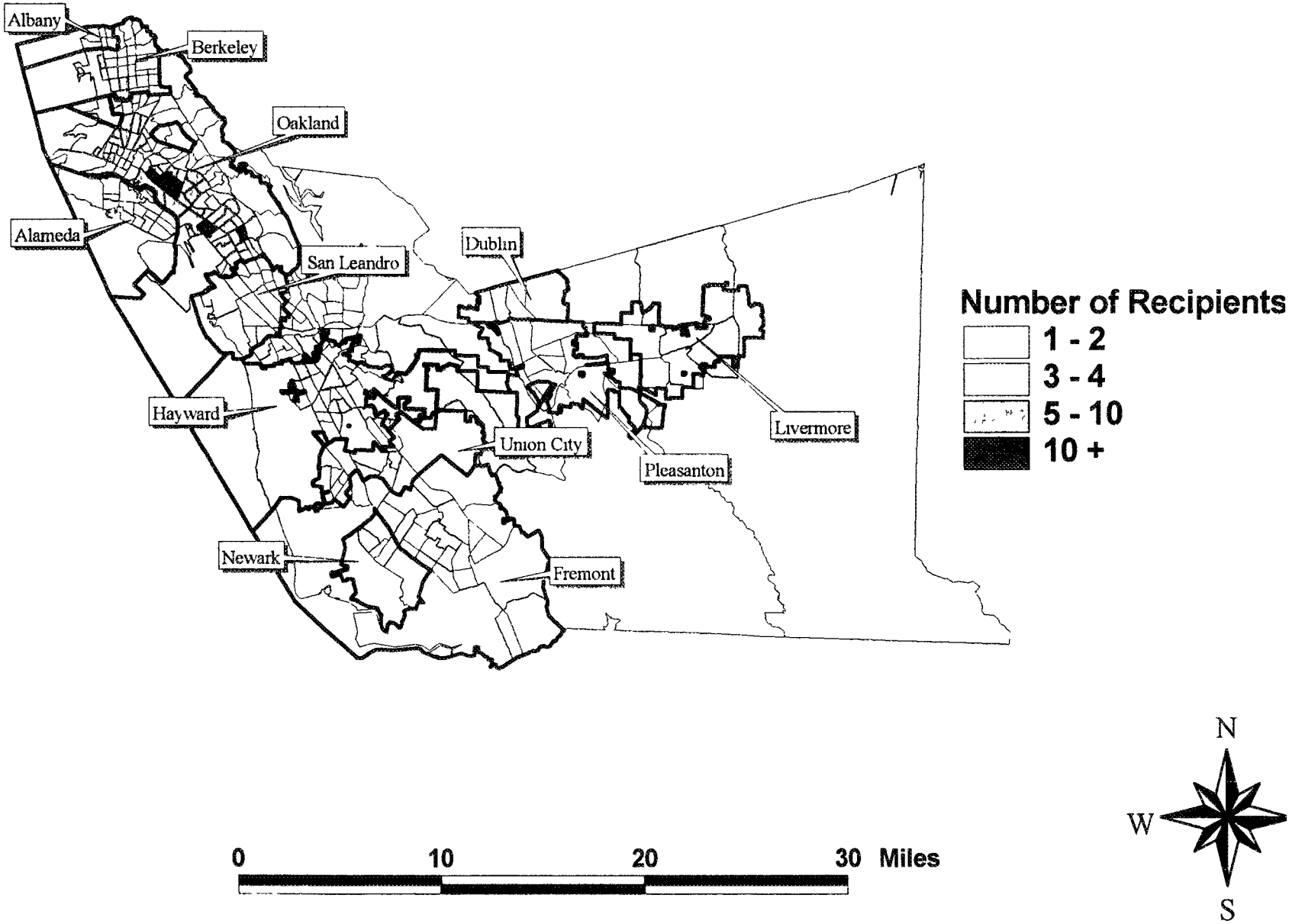
Sources: California Work Pays Demonstration Project Survey: English/Spanish Interviews, 1993-1994 (Wave I)/ 1995/1996 (Wave II), Berkeley, Ca.: Research Branch, California Department of Social Services and UC Data Archive & Technical Assistance, University of California [producers] 1997 Berkeley, Ca.: UC Data Archive & Technical Assistance, University of California [distributor], 1997.

Table 4 Sample Descriptive Statistics by County

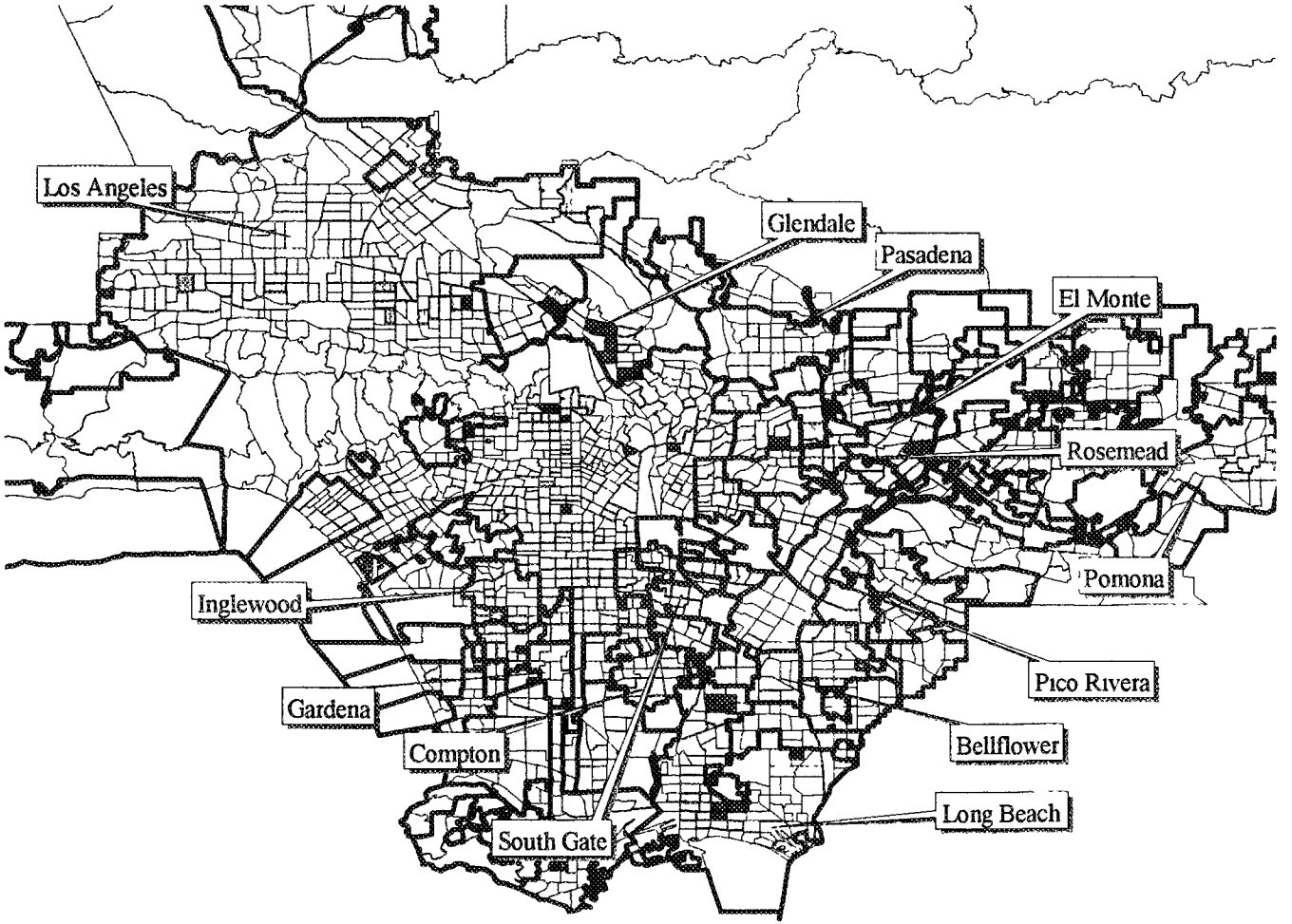
Variable Name	Description	Alameda	Los Angeles	San Joaquin
		576	767	596
Job Status				
Got Job/Left AFDC	% who got a job and left AFDC	11%	12%	10%
Got Job/On AFDC	% who got a job but were receiving AFDC	6%	12%	7%
No Job/On AFDC	% who found no job and were receiving AFDC	83%	76%	84%
Private Mobility				
Own Car In Wave I	% Owned a Car in Wave I	21%	27%	39%
Own Car In Wave II	% Did not own car in Wave I and owned a Car in Wave II	15%	10%	14%
Did not Own Car in Wave II	%Owned a Car in Wave I and did not own car in Wave II	6%	7%	11%
Car Access	% Had car access in Wave II	21%	19%	22%
Human Captial				
Human Capital 1	% Take part in classes to help get job and completed program	5%	5%	4%
Human Capital 2	% Take part in vocational school and completed program	7%	4%	6%
Human Capital 3	% Take English as second language class and completed program	1%	12%	8%
Speak English	% English is the primarly language	84%	64%	72%
Education	% Higest school grade achievement	11	10	9
Health Barrier	% Limiting health condition that prevents work	31%	28%	35%
Health Rating	% Recipient's rating of his/her health condition	2 6	2 5	2 4
Family Obstacles				
Number of Children	Mean Number of Children 18 years of age or younger	2 6	2 5	2 8
Number of Disabled Children	Mean Number of Disabled Children 18 years of age or younger	0 33	0 26	0 28
Daycare	% used day for youngest child	19%	13%	9%
Married	% married or in a marriage type relationship	18%	24%	43%
Age of welfare receipt	Mean age that the recipient first started receiving AFDC	23	26	24
Socioeconomic Characteristics				
Age	Mean Age of recipient	34	35	35
Female	% Female	98%	98%	98%
Moved	% Moved since Wave I	40%	30%	35%
Res-Length	Mean number of years living at current residence	3 4	4 8	3 5
White	% White	12%	14%	33%
Black	% Black	56%	28%	13%
Latino	% Latino	17%	51%	27%
Asian	% Asian	4%	2%	4%
Other	% Other	10%	5%	23%

Sources: California Work Pays Demonstration Project Survey- English/Spanish Interviews, 1993-1994 (Wave I)/ 1995/1996 (Wave II), Berkeley, Ca.. Research Branch, California Department of Social Services and UC Data Archive & Technical Assistance, University of California [producers] 1997 Berkeley, Ca. UC Data Archive & Technical Assistance, University of California [distributor], 1997

Wave II - AFDC Recipients



Los Angeles County
Wave II - AFDC Recipients

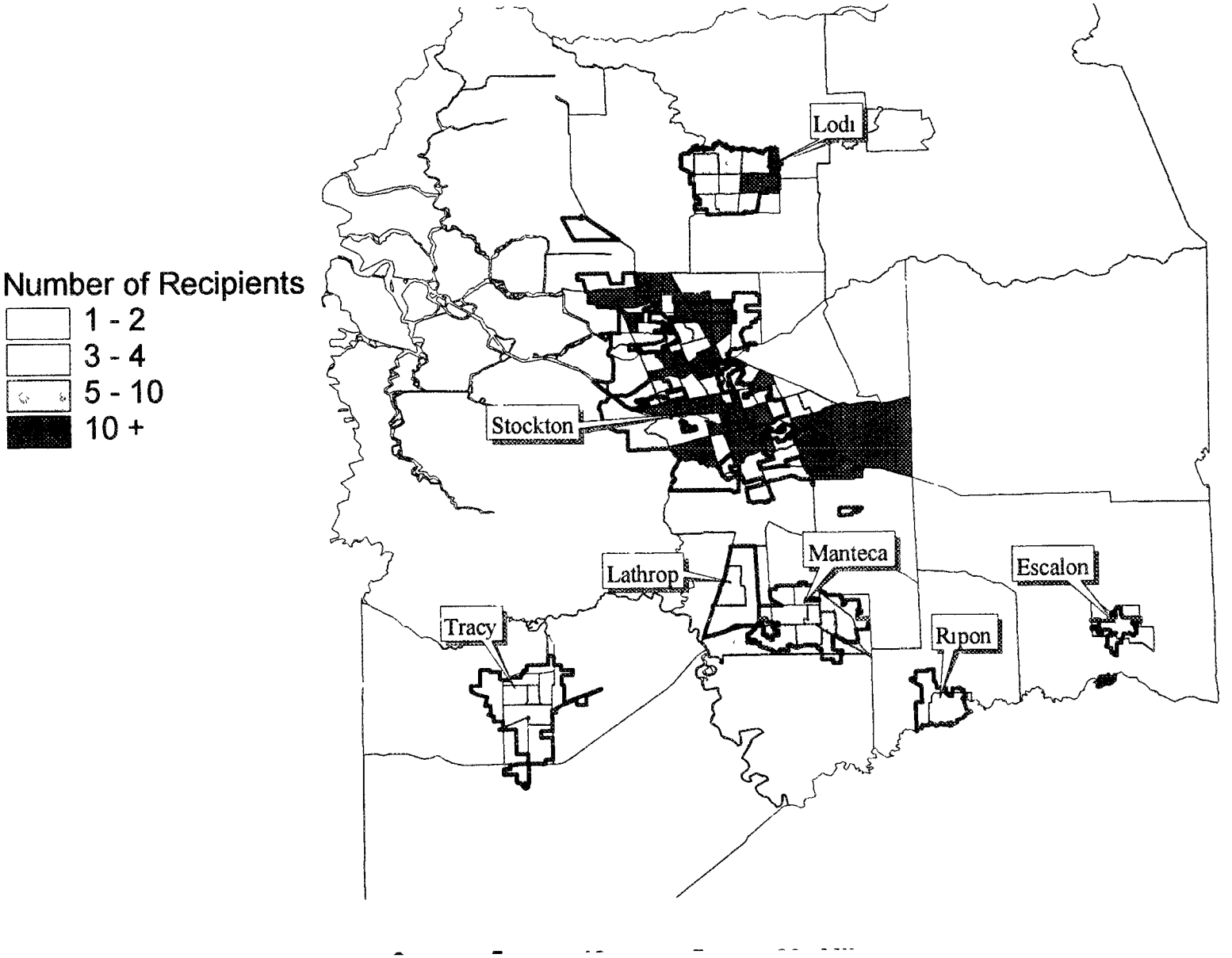


Number of Recipients

- 1
- 2
- 3
- 4 - 5
- 6 - 11

N
W E

San Joaquin County
Wave II - AFDC Recipients



MULTINOMIAL LOGIT RESULTS

The logit results in Table 5 offer clear insights into the value of different policy variables in explaining the probability of securing employment The strongest predictor among transportation variables of the ability to obtain a job and get off of welfare was ownership of a car in Wave II The table suggests that, controlling for other factors, the odds ratio of getting a job (and staying off AFDC) to not getting a job jumped by a factor of 10 when an individual living in Alameda County whose status switched from not owning to owning a car [i e , exp(2 267) = 9 6 times increase in the odds ratio of working and getting off AFDC relative to not working and staying on AFDC] This compared to the odds ratios of 10 3 and 70 1 for individuals who live Los Angles County and San Joaquin County, respectively These findings are consistent with other research related to car ownership (Ong 1996) The table also shows an association with loss of car ownership and change in job status The findings suggest that individuals who were car owners in Wave I and for what ever reason were not car owners in Wave II were less likely to get a job and off AFDC Another interesting point is the Urban and Rural findings regarding car access Car access was only significant in San Joaquin County This finding may suggest that there is even a greater reliance on private mobility in San Joaquin County and that rural welfare recipients have special transportation needs given the nature of the transportation infrastructure in the area The rural poor may have less access to public transportation compared to the urban poor and the rural poor may have to travel greater distances to commute to work compared to urban poor (United States General Accounting Office 1998) The private mobility results clearly argue in favor of policies that assist the inner-city poor purchase a car as a means of stimulating employment We note that in Alameda County owning a car was negatively associated with individuals working but remaining on AFDC We interpret this to mean that those in this category earned sufficient wages to become independent of public assistance, but were not able to afford (or because of the eligibility requirements of public assistance, were discouraged from owning) a car because of their low incomes Thus, the directionality likely worked in the opposite direction for this category getting a low-paying job and remaining on AFDC precluded most surveyed individuals from purchasing a car

All other transportation variables shown in Table 5 were weaker predictors and in some instances, the signs of coefficients were opposite from what was expected Notably, regional accessibility to low-to-moderate skilled jobs via the highway network was negatively associated with individuals obtaining jobs, controlling for other factors This somewhat counter-intuitive result, we believe, reflects the fact that those living near core cities and who remained dependent on welfare were still closer to more low-skilled jobs than those who lived

farther from core cities Together, these results suggest that once an inner-city resident obtained a car, it did not matter whether he or she was close or far away from regional job opportunities, either way, the odds of finding a job substantially increased.

Table 5 also shows that job accessibility via transit was more important than via highways in stimulating employment when individuals were in a position to walk-and-ride in Alameda County Thus, controlling for car ownership, being within a walkable distance of a bus stop or rail station mattered If someone did not own a car, one can interpret, having plentiful jobs that were reachable via transit and being able to walk to transit lines did incrementally increase the odds of securing employment, at the 001 probability level This finding, we feel, argues in favor of transit-oriented development as a strategy for increasing inner-city employment In recent years, interest in transit villages has gained considerable momentum in the East Bay Oakland's widely publicized Fruitvale transit village, which recently received funding assistance through the Liveable Communities Initiative of TEA-21, specifically aims to attract jobs and build affordable housing near the neighborhood BART station (Bernick and Cervero 1997) Our findings lend credibility to such initiatives

While job accessibility via transit for walk-and-ride access was highly significant in stimulating employment, park-and-ride access had the opposite effect This could reflect the reality that once individuals owned cars, they were less likely to drive to stations and take transit to work Because the quality of transit services to suburban destinations is fairly poor in the East Bay, this result was not surprising Indeed, car ownership can spawn entrepreneurship among inner-city residents Several studies provide accounts of how inner-city residents with cars sometimes supplement their earnings by operating informally as jitneys, connecting their neighbors to jobs when heading to work themselves (Davis and Johnson 1984)

Of the human-capital variables, as anticipated, education attainment substantially increased the likelihood that AFDC recipients found work in all three counties All things being equal higher levels of education are associated with finding a job and leaving welfare Table 5 also suggests that the other human capital variables may have a very small labor market payoff Welfare recipients who completed some type of vocational school training program who more likely to get a job and get off welfare in Los Angeles and San Joaquin Counties One possible explanation that the human capital variables had little impact on job status is that actual job experience captures the positive labor market benefits (Blank 1997) Nonetheless, the findings regarding education level the job status differential is consistent with other studies (Edin and Lein 1997) Although most of these findings are not particularly surprising, the marginal gains by the human capital variables may indicate that these

individuals need more specific human capital investment Employers in fact, may be putting a higher value on work experience and strong labor market attachments

The findings also suggest that even if welfare recipients wanted to work, those individuals with a limiting health barrier were less likely to find a job and leave welfare The odds of finding a job and leaving welfare significantly decreased for those individuals that reported a limiting health problem This was especially apparent in San Joaquin where there may be insufficient social services compared to two urban counties to help the poor overcome these health barriers This finding is consistent with other studies that show that about one-third of the long-term recipients suffer from physical limitation or suffer disproportionately from mental health and substance abuse problems (Aaronson and Hartmann 1996, Brooks and Buckner 1996, Salomon, Bassuk, and Brooks 1996)

The odds of getting a job and staying off of AFDC were also higher for married recipients in good physical health that had few dependents Our findings suggest that there may be a cost for young women who are not married or in a marriage type relationship These findings are consistent with other studies that show that single men have better labor market outcomes compared to single women (Smock 1993) The number of children and number of disabled children are also barriers to finding a job and leaving welfare For those with children, the use of day care services significantly increased the odds of finding a job and getting off of welfare However, the odds of finding a job and getting off of welfare in all three counties decline, for those recipients with disable children These findings augment other studies that show that welfare recipients are more likely to care for children with health or behavioral problems without another parent living in the household (Olsen and Pavetti 1996) Welfare recipients must try to find reliable and safe childcare programs for their children, which is difficult for non-welfare recipients

Also notable was the significant interaction effects between owning a car and having a child who attended day care This combination significantly increased the probability of getting a job and leaving welfare Thus, while owning a car or having a child in day care, by themselves, improved outcomes the two in combination did so even more Evidently, owning a car was of even greater importance to working moms and dads, formerly on AFDC, who also had to drop off and pick up their kids The trend toward chained trip-making is likely working in favor of car ownership as much for former welfare recipients from the inner city as for well-off suburban workers This finding lends further credence to private mobility as a means of stimulating employment among needy individuals living in core areas

Table 5 - Parameter Estimates and Summary Statistics Alameda, Los Angeles, and San Joaquin County

		Got Job/Off AFDC			Got Job/On AFDC		
		Alameda	Los Angeles	San Joaquin	Alameda	Los Angeles	San Joaquin
Job Access	Ride	8 93E 6			1 92E 08		
	Walk	1 70F 05 *		9 60E 04	9 61E-06		8 52E 06
	Drive Alone	6 00E 05		7 72E 04	7 00E 05		6 41E 04
	Bike			2 25E 02			1 03E-02
	Auto		1 08F 11			4 34E 11	
	Transit		5 56E 08	2 41E 02		6 11E 12*	8 90E 04
Private Mobility	Own Car In Wave I	1 5882	1 0844	5 1125	3 4039*	0 6124	0 612
	Own Car In Wave II	2 2567 *	2 3273	4 2495	0 8584*	1 0124	1 1301
	Did not Own Car in Wave II	2 4854*	0 3702	5 3728	2 8876	-0 1435	-0 1511
	Car Access	0 3638	0 4592	1 6759	0 0094	0 1273	-0 1098
Human Capital	Human Capital 1	0 5056	0 1174	0 0297	0 1266	0 5363*	0 9237**
	Human Capital 2	0 1811	0 7553	1 2259 *	0 1119	0 1773	-0 1099
	Human Capital 3	2 0017	0 0145	1 3314	1 2001	0 4647	1 3314*
	Speak English	1 3462 *	1 0184*	-0 278	1 7354	0 0591	1 2698
	Education	0 2646 *	0 2156**	0 5819**	0 5796**	0 0601	0 1785*
	Health Barrier	1 5562	2 9204**	5 0857*	-0 2083	-0 8813*	1 5012*
	Health Rating	0 1751	0 1416	-0 3399	0 1823	0 3466*	0 1144
Family Obstacles	Number of Children	0 6660 *	-0 5643**	0 0505	0 2018	-0 3601**	0 0197
	Number of Disabled Children	1 1583	1 1288	2 5195**	1 9970*	-0 2461	2 1307*
	Daycare	1 1227	-0 216	2 4882 *	1 1746*	0 6763*	1 8321**
	Married	0 6316	1 3149*	0 6983	0 2759	0 4076**	0 7211
	Age of welfare receipt	0 0184	0 0638	-0 1829	0 1193*	0 349	0 0001
Socioeconomic Characteristics	Age	0 0413	0 0711*	0 1077*	0 1018	0 0443*	0 0039
	Gender	2 1217*	1 7758	10 3545	5 2096	1 0005	7 437
	Moved	0 4242	-0 2289	1 3896*	0 2859	-0 1712	0 8626
	Res Length	0 035	-0 071*	-0 1060*	0 0464	0 0414*	-0 0573
	White	8 3925**	1 1548	5 2498	0 1846	1 8275	0 3954
	Black	7 5767	0 1035	12 6129	0 6245	1 5202	-0 5007
	Latino	8 2709**	1 4654	5 0108	0 9257	-0 8195	0 8986
	Asian	4 6832**	0 1113	3 9063	11 9692	0 1139	1 4539
	Other	4 8157*	0 1139	5 0001	1 721	1 3627	na
	Interaction (Daycare* Owned Car Wave II)	-0 4449	0 1133	0 6206	2 4161*	0 813	1 4335
	Intercept	9 4376	-4 0043	1 4335	10 8847	1 2105	11 8562

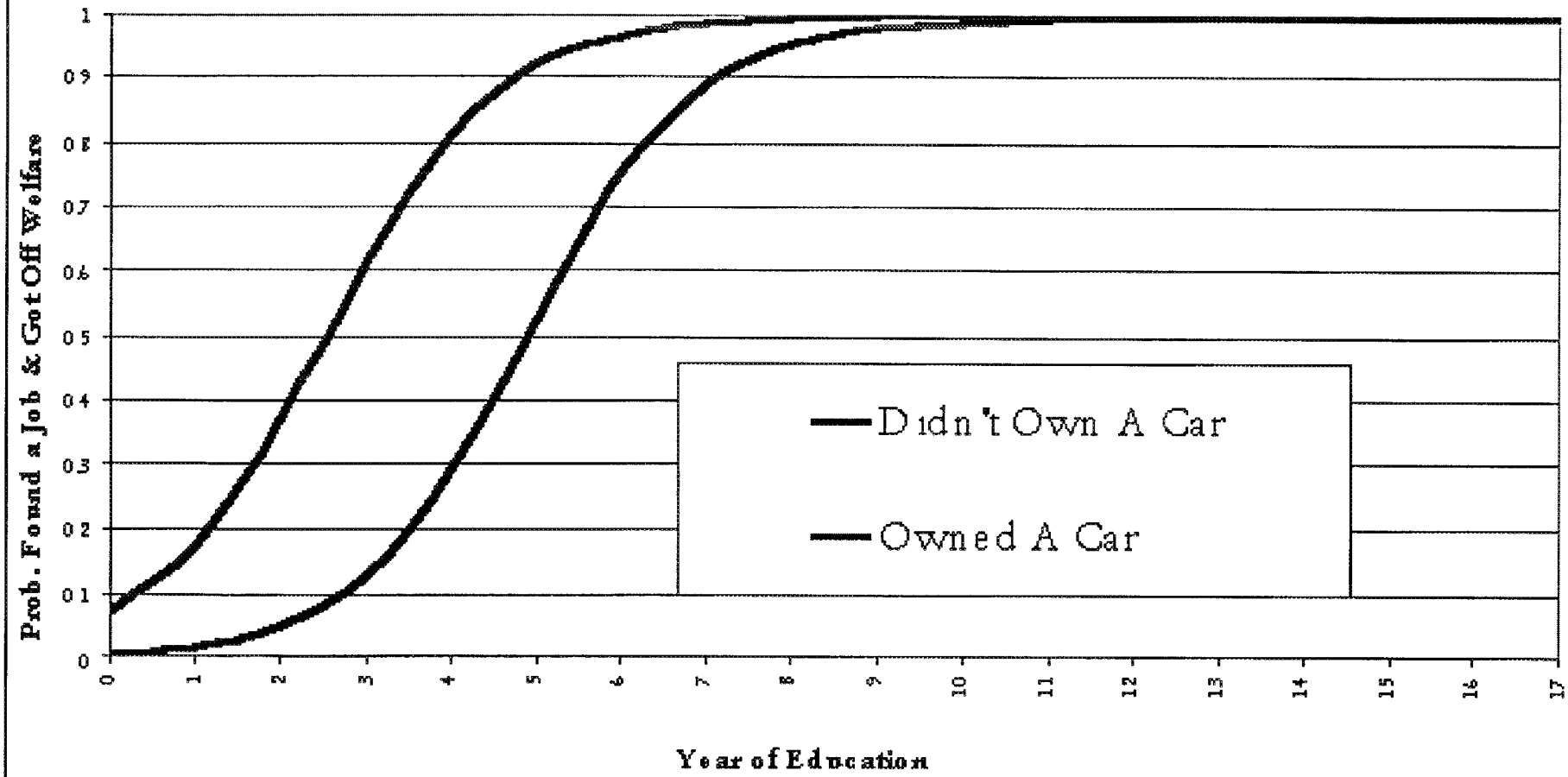
	Summary Statistics			
		Alameda	Los Angeles	San Joaquin
Classification Table	Got Job/Off AFDC	73%	41%	97%
	Got Job/On AFDC	44%	20%	8%
	No Job/On AFDC	80%	90%	56%
	Total	77%	78%	87%
Goodness of Fit Statistics	Chi Square	425 6	818 18	366 48
	Gamma	0 78	0 67	0 90
	Somers' d	0 35	0 32	0 65

** Significant at the 99 level
* Significant at the 95 level

SENSITIVITY ANALYSIS

To further convey the importance of private mobility, a sensitivity analysis was carried out Using Equation 1 of the multinomial logit model, probabilities were computed for "typical" individuals from the sample under a range of situations for two of the most important predictor variables car ownership (CAR-OWN) and educational level (MAX-EDUC) Mean (and in the
case of dummy variables, modal) values were used for all the other predictor variables in Equation 1 CAR-OWN was perturbed between values of 0 and 1 and MAX-EDUC was varied over its actual range, 0 to 17 years The resulting probabilities reflect the sensitivity of finding a job and getting off AFDC to changes in these two variables Statistically, this amounts to an Analysis of Covariance (ANCOVA), wherein MAX-EDUC represents the control covariate a CAR-OWN represents the policy variable of interest Figure 1 presents the results of the sensitivity analysis Most evident from this graph is the fact that, in the typical situation (e g , no disabilities, spoke English, etc), once a person completed 8 or more years of education, he or she was almost certain to find a job and get off AFDC, whether or not a car was owned This graph clearly shows human-capital factors like schooling have a strong bearing on employment outcomes However, the graph also reveals that for those with only primary levels of education, owning a car can appreciably increase the odds of finding a job and staying off welfare, all else being equal In general, the likelihood of finding a job for those with only two to five years of education who were otherwise similar was about 50 percent higher if they owned a car versus if they did not This is a huge differential, and suggests that car ownership helps the neediest and least employable individuals the most in finding work

Sensitivity Analysis Results of Probability Estimates for Someone Finding a Job and Getting Off AFDC



CONCLUSIONS

Our research results allow us to take fairly clear positions on the three key policy debates that were raised at the beginning of this paper the spatial mismatch hypothesis, the efficacy of promoting transit versus automobility in stimulating welfare-to-work transitions, and augmenting human capital With respect to spatial mismatch, our work suggests that once other factors, including education and car ownership, are controlled for, regional accessibility has a fairly modest bearing on employment outcomes. That is, we did not find spatial proximity, as expressed by our measures of regional accessibility, to be particularly important in explaining employment outcomes This is consistent with other recent findings on spatial mismatch in the San Francisco Bay Area (Cervero, Rood, and Appleyard 1999) And with regard to transportation policy, our results suggest that private mobility is more important than public mobility in getting inner-city residents completely off of welfare and into gainful employment At least in the case of Alameda County during the first half of the 1990s, car ownership significantly increased the odds of former welfare recipients securing a job and relinquishing public assistance Once individuals had access to a car, the odds markedly increased that they found a job, regardless whether they lived close to or far from employment opportunities The only job accessibility indicator that was significant and in the direction that was expected was for those who were able to walk-and-ride to transit This, we believe, lends credence to the proposition that transit-oriented development improves the economic well-being of inner-city neighborhoods Notably, our model suggests that those who were within walking distance of bus and rail stops were better able to reach job opportunities in East Bay suburbs that are well-served by transit, like Walnut Creek and Concord Lastly, we believe that human capital does a play a significant role in getting a job and off welfare Improving the marketable job skills of unskilled recipients and providing them with on-job skills with some type of internship program may be the best strategy to pursue to improve welfare recipients employability

While our research findings are unambiguous, the fact that the main findings were consistent across three counties indicates that these challenges may be present in other counties in California We believe our results are instructive given inner-city neighborhoods continued to experience high welfare dependence at the same time its suburbs prospered throughout the 1990s We also recognize that variables related to transit accessibility and service quality might have been more significant predictors had the quality of reverse-commute services been far better than what existed in the three counties. A growing market of city-to-suburb commuters could, over time, generate enough new revenues to substantially upgrade the quality of reverse-commute transit services, which in turn would likely attract

more commuters to transit The best way to test this proposition, however, is to mount and carefully evaluate reverse-commute demonstration programs The Federal Transit Administration's recently initiated Bus Rapid Transit demonstration is a step in the right direction However, so are initiatives by states like Maryland, Virginia, Texas, and Florida that provide loans, and other incentives that enable welfare recipients to acquire cars Frankly, there is no "one-size-fits-all" transportation solution to the welfare-to-work challenge Specialized transit services and private mobility both have roles to play, as do adult training, child-care services, and other human-capital investments However, when making resource allocation choices within the transportation arena, our findings lend credibility to the often-heard contention that enhancing private mobility is every bit as important to stimulating employment as is enhancing transit mobility, if not more so

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