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**How Welfare Recipients Travel on Public Transit, and Their Accessibility to  
Employment Outside Large Urban Centers**

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## **Abstract**

Transportation programs aimed at moving welfare participants into paid work have been based largely on studies showing a spatial mismatch between the concentration of welfare participants in central cities and rapidly expanding jobs in suburbs. Most spatial mismatch research, however, has been conducted in very large metropolitan areas. This paper examines the relevance of the spatial mismatch hypothesis to welfare recipients living in medium-sized cities and rural areas. Our findings suggest that the spatial mismatch hypothesis and policies based upon it may not be relevant to welfare recipients living in areas in which the urban structure does not fit the simple model of poor, central-city neighborhoods and distant, job-rich suburbs.

## 1. Introduction

Current welfare programs mandate employment for most recipients and offer temporary financial aid and short-term employment assistance to help welfare recipients' transition into the labor market. Public agencies must now establish programs to transition recipients into the labor market or else risk dramatic increases in poverty. Many policymakers have seized on transportation as a simple and effective answer to welfare participants' employment difficulties, on the assumption that inadequate transportation is a significant barrier to steady employment for many welfare participants.

But while the research linking transportation to welfare recipients' employment success is quite varied (Allard and Danziger, 2000; Blumenberg, 2002; Blumenberg and Ong, 1998; Cervero, Sandoval, and Landis, 2002; Danziger *et al.*, forthcoming; Ong, 1996; Ong, 2002; Ong and Blumenberg, 1998), the policy framework in which transportation services for low-income workers has developed has been narrowly focused. Transportation programs and policies aimed at welfare participants and other low-wage workers have largely been predicated on studies showing a spatial mismatch between the residential location of welfare participants in central cities and the rapidly expanding job opportunities in the suburbs (Allard and Danziger, 2000; Bania, Coulton, and Leete, 1999; Lacombe, 1998; Laube, Lyons, vanderWilden, 1997; Pugh, 1999; Rich 1999; Sawicky and Moody 2000). In response to these studies, many policies, including the federal Job Access and Reverse Commute Program, have been designed to improve public transit service to better link low-income women to suburban job opportunities (U.S. Department of Transportation, 1998).

The notion of the spatial mismatch between the low-income residents and employment opportunities may be a useful framework for understanding the employment barriers of African Americans living in large urban areas.<sup>1</sup> However, as evidence from this study shows, the spatial mismatch hypothesis is less applicable to welfare recipients living in smaller urban areas or counties in which the urban structure does not fit the simple model of poor, central-city neighborhoods and distant, job-rich suburbs. Moreover, the application of these findings to all welfare recipients can be misleading since 60 percent of the nation's welfare population resides outside of the urban counties that are home to the 30 largest U.S. cities (Brookings Institution, 1999). This study relies on geographic data of welfare recipients, employment, and public transit to examine the relative access that welfare recipients have to low-wage employment opportunities in Fresno County, California and proposes a set of policies to better connect welfare recipients to employment.

## **2. Welfare Recipients and Access to Employment**

The spatial mismatch hypothesis was first proposed by John Kain in the 1960s to explain the deepening poverty in many central-city, African-American neighborhoods. Kain (1968) argued that joblessness and low wages among African Americans are, in part, the result of their spatial separation from low-wage job opportunities increasingly located in suburban areas. Intuitively compelling, this argument has been promoted by a number of policymakers and scholars as the framework by which to understand the geographic location of welfare recipients in relation to low-wage jobs and public transit. Through the use of maps and other data, several major studies have shown welfare

recipients' concentration in inner-city neighborhoods, far from job vacancies disproportionately located in the suburbs and poorly served by existing fixed-route, public transit (Allard and Danziger, 2000; Bania *et al.*, 1999; Lacombe, 1998). Building on these ecological and mapping-oriented analyses are statistical models linking welfare participants' spatial separation from employment to negative economic outcomes such as lower employment rates and earnings, and higher welfare usage rates (Allard and Danziger, 2000; Blumenberg and Ong, 1998; Ong and Blumenberg, 1998).

The findings from these studies have supported the development of transit services to better connect welfare recipients to suburban job opportunities. Accordingly, federal initiatives, such as the Bridges to Work Demonstration Project and, more recently, the Job Access and Reverse Commute Program, are designed to improve public transit services for welfare participants and other low-income riders by funding services that connect inner-city residents to job opportunities many of which are located in the suburbs (Elliott, Palubinsky, and Tierney, 1999; Federal Transit Act, 1998).<sup>2</sup>

Despite its wide acceptance in the welfare policy realm, the spatial mismatch hypothesis is, in general, a poor model on which to base welfare-to-work transportation policy. Some scholars have recently begun to challenge the universal application of the spatial mismatch hypothesis to welfare recipients. They argue that welfare recipients' access to jobs cannot be simply characterized, but rather varies by neighborhood as well as by their relative access to automobiles. Welfare recipients in some urban areas, such as Detroit or Cleveland, experience a distinct central city-suburban mismatch (Allard and Danziger, 2000; Bania, Coulton, and Leete, 1999). However, in many other areas, such as Los Angeles and Philadelphia, the spatial distribution of welfare recipients and jobs is

more varied and nuanced (Blumenberg and Ong, 2001; Pugh, 1998). In these metropolitan areas, some welfare recipients live in neighborhoods in close proximity to employment; others are isolated in job-poor neighborhoods many miles from employment.

With respect to welfare recipients living in smaller cities and rural areas, however, far less is known. Rural welfare recipients appear to face unique challenges in making a transition into the labor market. Rural areas tend to offer fewer job opportunities, average earnings tend to be lower in rural compared to urban areas, and, in some counties, available jobs are concentrated in the highly seasonal agricultural sector where the demand for labor fluctuates monthly (Fisher and Weber, 2002; Kaplan 1998; Rural Policy Research Institute, 1999; Weber, Duncan, and Whitener, 2002). Rural welfare recipients typically find themselves living in areas with little public infrastructure (public transportation, social service programs, and other services) distant from urban employment centers (Deweese, 2000; Fletcher, Flora, Gaddis, Winter, and Litt, 2002; Rural Policy Research Institute, 1999). Studies suggest that close to 40 percent of all U.S. rural residents live in areas without public transportation and another 28 percent of rural residents live in areas with low levels of transit service (Rucker, 1994).

### **3. Data and Methodology**

The research reported here uses data on the geographic location of welfare recipients, low-wage employment, and public transit to examine recipients' spatial access to employment and public transit in Fresno County, California, an agricultural-based county located in central California.<sup>3</sup> Our analysis draws from a series of maps from



which we pay particular attention to the differences between urbanized and non-urbanized areas of Fresno County.

Fresno County was chosen as a case study since it has a varied urban structure, including a medium-sized metropolitan area, small cities scattered throughout the county, and rural areas. It is also a county that is experiencing rapid population growth, has high welfare usage rates, and a racially and ethnically diverse population. Although Fresno County is the most productive agricultural county in the U.S. (Umbach, 1998) and contains a vast expanse of non-urbanized land, it is not technically considered “rural” by the U.S. Department of Agriculture since it also includes a metropolitan area. However, distances from the remote areas of Fresno County into the urban area can be lengthy since the county is large, approximately 6,000 square miles (U.S. Census Bureau, 2002).

Figure 1 depicts Fresno County and its location within California. The City of Fresno (441,870 population) is the largest city in the entire 18-county, 450-mile-long San Joaquin Valley agricultural region (California Department of Finance, 2002). Adjacent Clovis (72,808 population) is Fresno County’s second largest city (California Department of Finance, 2002). Sixty percent of county residents live in these two cities (California Department of Finance, 2002). Of the remaining 40 percent, 20 percent live in small cities and towns scattered around the county, and the remaining 20 percent live in small, unincorporated towns and rural areas (California Department of Finance, 2002). Like most other resource-based economies, Fresno is characterized by seasonal fluctuations in employment, high unemployment rates, and higher than average poverty and welfare usage rates. Approximately six percent (6,325 cases) of all California’s welfare participants live in Fresno County; another 24 percent (25,541) live in the other 17

Central Valley agricultural counties. In total, the welfare caseload in California's Central Valley exceeds the caseloads of 30 U.S. states (California Department of Social Services, 2002).

To conduct this analysis, the study draws on data assembled from a variety of sources. The Fresno County Department of Employment and Temporary Assistance provided administrative data for all welfare participants who were enrolled in California's welfare program (CalWORKs) in 1999. These data include addresses that were geocoded, assigned both a map position and a census block group. Of the 25,270 records, 99 percent were successfully geocoded. The welfare administrative data were also matched to administrative data from the California Employment Development Department (using their Business Establishment List) to identify those welfare participants who had worked in 1999 and, among this subset, to determine the industrial sector within which they were employed.

The data on low-wage employment is from the 1998 American Business Directory (ABI, 1998), a directory produced by a private vendor. The data include number of jobs by industry and block group. We estimated the number of feminized, low-wage occupations by block group by, first, using data from the California Employment Development Department to determine the percentage of low-wage jobs by industry. We then used data from the U.S. Bureau of Labor Statistics to identify feminized occupations. Using these percentages, we developed a coefficient (percent of low-wage and feminized occupations) by which we multiplied the number of jobs in each block group.

Finally, transportation data are from the local transit agencies, the Fresno Area Express (FAX), Clovis Transit, and Fresno County Rural Transit Agency (FCRTA). We digitized transit lines from transit maps and geocoded data on the location of bus stops in the FAX service area. These transit data are complemented by data from the 1990 U.S. census (STF3) on travel mode and average travel time by block group.

#### **4. The Spatial Location of Welfare Participants and Employment in Fresno County**

Both welfare recipients and low-wage employment are concentrated in the urbanized area of Fresno County. Among those welfare recipients living in the metropolitan area, spatial proximity to employment opportunities is relatively high. In the non-urbanized areas, spatial proximity is still surprisingly high even though employment opportunities are fewer in number and more dispersed. Figure 2 shows the geographic distribution of welfare recipients in the county. Most welfare recipients (80%) live in the urbanized area of the county in the cities of Fresno and Clovis. Ten percent live in the other small cities that are scattered around the county; and 10 percent live outside of cities entirely. The highest concentration of welfare recipients is in the southeast quadrant of the urbanized area.

Employment is also concentrated in the urbanized area, although slightly less concentrated than welfare recipients. Seventy-four percent of all jobs and 78 percent of low-waged, feminized jobs are located in the urbanized area. Table 1 shows the industrial distribution of welfare recipients. Relative to the industrial distribution of all jobs in Fresno, working welfare recipients are much more heavily concentrated in services and retail sectors and are less represented in public administration (a sector that comprises 19 percent of all employment in the County). In the urbanized areas, 74

percent of all low-wage employment is in retail and services and another 13 percent in manufacturing. In non-urbanized areas, however, a smaller percentage of employment (55%) is in retail and services and 18 percent is in manufacturing and another 18 percent in wholesale trades.

Figure 3 shows the distribution of low-wage, feminized employment in Fresno County. A comparison of the two maps shows that employment is more concentrated than welfare participants around the north-south highway (State Route 41) corridor. However, since Fresno is a compact, medium-sized metropolitan area, welfare recipients live in relatively close proximity to these job-rich neighborhoods. To travel by bus from the northern most reaches of the city to the downtown transit center takes approximately 40 minutes; in contrast travel by transit across Los Angeles (from Pacoima to downtown) takes at least twice that long.<sup>4</sup>

Welfare recipients living outside of the urbanized area also may not experience spatial barriers to employment even though, as Figure 3 and Table 2 show, low-wage employment opportunities are less concentrated in the rural relative to the urbanized area. Table 2 presents welfare recipients' access to low-wage employment opportunities. The job richness of each block group is measured using a modified gravity model.<sup>5</sup> The first column in Table 2 divides Fresno County block groups into quartiles according to the relative job richness of the neighborhood. The table shows that compared to the working-age population, welfare recipients are more likely to live in job-rich neighborhoods, a block group that falls within the top two quartiles in terms of proximity to employment. Sixty-eight percent of all welfare recipients in the county live in job-rich block groups compared to 55 percent of the working-age population. Further, the data

show that rural welfare recipients are more likely than urban welfare recipients to live in job-poor neighborhoods. All rural welfare recipients live in neighborhoods in the bottom two quartiles compared to only 16 percent of urban welfare recipients. However, despite the lower employment densities, welfare recipients in the non-urbanized area tend to live in close proximity to smaller cities where much of the rural service and retail employment is located. Additionally, since fewer welfare recipients live in the non-urbanized areas of the county, the ratio of low-wage jobs to welfare recipients is actually *higher* in the non-urbanized area (3 jobs per recipient) compared to the urbanized area (2.6 jobs per recipient). However, employment access for the small percentage of welfare recipients who live distant from small towns or the urbanized area may be limited.

Therefore, most welfare recipients living in Fresno County have relatively good access to employment regardless of their residential location. However, welfare recipients who live in close proximity to employment still may have difficulty finding jobs since many face other employment barriers that reduce their effectiveness in the labor market. Welfare recipients often face multiple and simultaneous employment barriers such as low education, limited access to child care, language barriers, limited skills, or health problems (Blumenberg, forthcoming; Danziger *et al.*, forthcoming; Olson and Pavetti, 1996). And, jobs are scarce in Fresno County where the unemployment rate is over 13 percent, the eighth highest among the 58 California counties and almost twice as high as the overall state unemployment rate (California Employment Development Department, 2002).

## **5. Access to Public Transit**

Welfare recipients' geographic access to employment is the product of their residential location, the location of potential employment opportunities, and the transportation available to travel between home and work. Not only do most welfare recipients in Fresno County live reasonably close to employment, they also have good access to transportation which places most area jobs within easy reach. The data show that the vast majority of welfare recipients commute by personal vehicle. Among transit dependents, most live in the metropolitan area near bus stops and jobs. However, the job prospects for the few transit-dependent welfare recipients who live in rural areas distant from employment opportunities may be quite limited.

In general, residents in Fresno County are more dependent on private vehicles than residents in other areas. Data from the 1990 U.S. Census show that 90 percent of the Fresno population commutes to work in private vehicles; this figure is three percentage points higher than among the total U.S. working population. Only a small percentage, 2 percent, of Fresno commuters travel by public transit compared to 5 percent of all U.S. commuters. Low-wage workers and, therefore, welfare recipients are more likely than higher income commuters to travel by public transit (Murakami and Young, 1997). This is true in Fresno County where 7 percent of welfare recipients commute by public transit (Blumenberg, 2002). Moreover, as Figure 4 shows, welfare recipients tend to live in neighborhoods where public transit use is relatively high. Twenty-two percent of all urban welfare recipients, but only 10 percent of the working-age population, live in block groups where transit usage for the journey-to-work is 5 percent or higher.

Welfare recipients living within the urbanized area have good spatial access to public transit networks. Fresno County has three major types of transit service – intra-city bus service serving some of the larger urban areas and a few smaller cities, inter-city bus service that transports riders from outlying areas into the City of Fresno, and demand-responsive service or dial-a-ride van service that largely serves rural areas. The largest transit system in the county is the Fresno Area Express (FAX) which offers 18 fixed-route bus lines and paratransit service. The City of Clovis has the second largest transit system in the County. The Fresno County Rural Transit Agency (FCRTA) provides service within each of the thirteen rural incorporated cities of Fresno County. Much of the service provided by FCRTA is demand responsive; however, their services include fixed-route service in two cities (Sanger and Selma) and fixed-route inter-city service. Figure 5 shows the route coverage of the three systems.

To examine welfare recipients' access to public transit, we created one-quarter and one-half mile buffers around each transit line. Table 3 presents the results of this analysis by area. Within the urbanized area of the county 87 percent of all welfare recipients live within a quarter-mile from a transit line and 98 percent live within a half-mile from a line. Except for dial-a-ride riders, passengers board public transit at fixed locations. Using data from the Fresno Area Express (FAX), we geocoded bus stops located in the FAX service area. Once again, we find that most welfare recipients in Fresno had good access to bus stops.<sup>6</sup> Eighty-five percent of welfare recipients in Fresno live within a quarter mile from a stop and 98 percent live within one-half mile. These measures do not reflect levels of service nor commute time. However, they do show that

the vast majority of welfare recipients living in the urbanized area can reach a bus stop within a short walk from their homes.

In the non-urbanized areas of the county, only 44 percent of welfare recipients live within a quarter mile and 64 percent live within one half mile from a transit line. These figures are more difficult to interpret since much of the rural transit service is demand responsive. Residents are picked up from their homes and, therefore, do not need to travel to bus stops. Moreover, while welfare recipients may have reasonable access to transit either because they live close to a stop or because they can take advantage of demand responsive service, inter-city travel times can be lengthy. Census data do not report travel time by mode. However, the data show that 40 percent of all rural welfare recipients compared to 26 percent of all urban recipients live in census tracts in which commute times are 20 minutes or more. Welfare recipients who are dependent on public transit typically face much longer commute times than those who rely on automobiles. Table 4 is based on timetables from the individual inter-city carriers. Scheduled travel times to and from the City of Fresno vary dramatically from as little as 9 minutes from Fowler to over 3 hours from Coalinga. (See Figure 1 for the location of these cities.) On average, across all 12 of the lines, travel times into Fresno are approximately 70 minutes. These figures are lower-bound estimates since they do not include travel times to inter-city bus stops. For their travel to inter-city bus stops, rural transit users would either rely on demand-response service or friends and family with private vehicles. They would then take fixed-route transit into the Fresno area.

In addition to long travel times and infrequent service, rural transit services also tend to have more limited hours of operation. This is particularly problematic for low-



income women who are more likely to travel during off-peak hours when transit service may be limited or, in some cases, non-existent (Blumenberg, 2002). On average, less educated women are more likely to work non-standard hours than are other women and, therefore, are more likely to commute during evenings, nights, and weekends (Presser and Cox, 1997). Furthermore, women with pre-school age children are one and a half times more likely to work non-standard hours compared to women without children (Presser 1995). The data are similar for welfare recipients in Fresno County, where 43 percent work on weekends and 43 percent travel to work during non-peak periods (before 7:00 am and after 10:00 am) (Blumenberg, 2002).

## **6. Conclusion**

The findings from this study suggest that most welfare recipients in Fresno County do not face a spatial mismatch between their residential locations and employment opportunities. They typically live close to jobs and public transit. However, while there are jobs in the rural areas of the county, both jobs and welfare recipients are more dispersed, making travel much more difficult for those without access to automobiles. Therefore, many rural, transit-dependent welfare recipients have only limited access to employment opportunities within a reasonable commute distance. From a policy perspective, therefore, the principal challenge to policymakers is how best to serve the transit-dependent rural population who, while relatively few in number, are widely dispersed throughout the county. Moreover, additional research is needed to determine whether other aspects of the public transit system need to be modified. For example, have public transit schedules accommodated the changing work schedules of welfare recipients many of whom increasingly travel during off-peak hours on nights and

weekends? Although transit service hours have been extended in Fresno, overall evening and weekend transit service remains quite limited (Blumenberg, 2002).

Improved public transit service simply cannot solve employment access problems faced by welfare recipients, especially in smaller cities and rural areas like Fresno County. Transit investments must be carefully targeted to insure that travel times are reasonable and that ridership is high enough to warrant the financial investment in the new service. In instances when public transit is not effective – either for welfare recipients or for transit agencies – policies and services must be developed to enable welfare recipients to purchase, insure, and maintain reliable vehicles. Many policymakers are loathe to support policies and programs that might be perceived by their constituents as contributing to traffic congestion, air pollution, and sprawl. However, eliminating “cars” as a policy option will have negative consequences for both welfare participants *and* public agencies especially in counties such as Fresno where commute times for rural, transit dependents can be lengthy. Transit agencies, therefore, may find themselves establishing expensive transit service that transports relatively few welfare participants or low-income riders.

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## Endnotes

<sup>1</sup>See Ihlanfeldt and Sjoquist 1998 for a recent review of the spatial mismatch literature.

<sup>2</sup>The Bridges to Work Program was a joint project of Public/Private Ventures (P/PV), a Philadelphia-based nonprofit organization, and the U.S. Department of Housing and Urban Development (HUD). The purpose of the project was to connect inner-city residents with suburban employment opportunities by providing job placement and transportation services. The Job Access and Reverse Commute Program is a component of the 1998 Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). The program provides \$150 million annually to assist states and localities in developing new or expanded transportation services to connect welfare participants and other low-income persons to jobs and employment-related services.

<sup>3</sup>The Central Valley is comprised of 10 counties and 2.3 million people in the northern Sacramento Valley, and 8 counties and 3.4 million people in the southern San Joaquin Valley (California Department of Finance, 2002).

<sup>4</sup>Scheduled transit times were used to identify estimated travel times from outlying areas into the downtown area without transfers. This method likely underestimates total travel time for many trips since many riders must walk to a transit stop and/or make transfers.

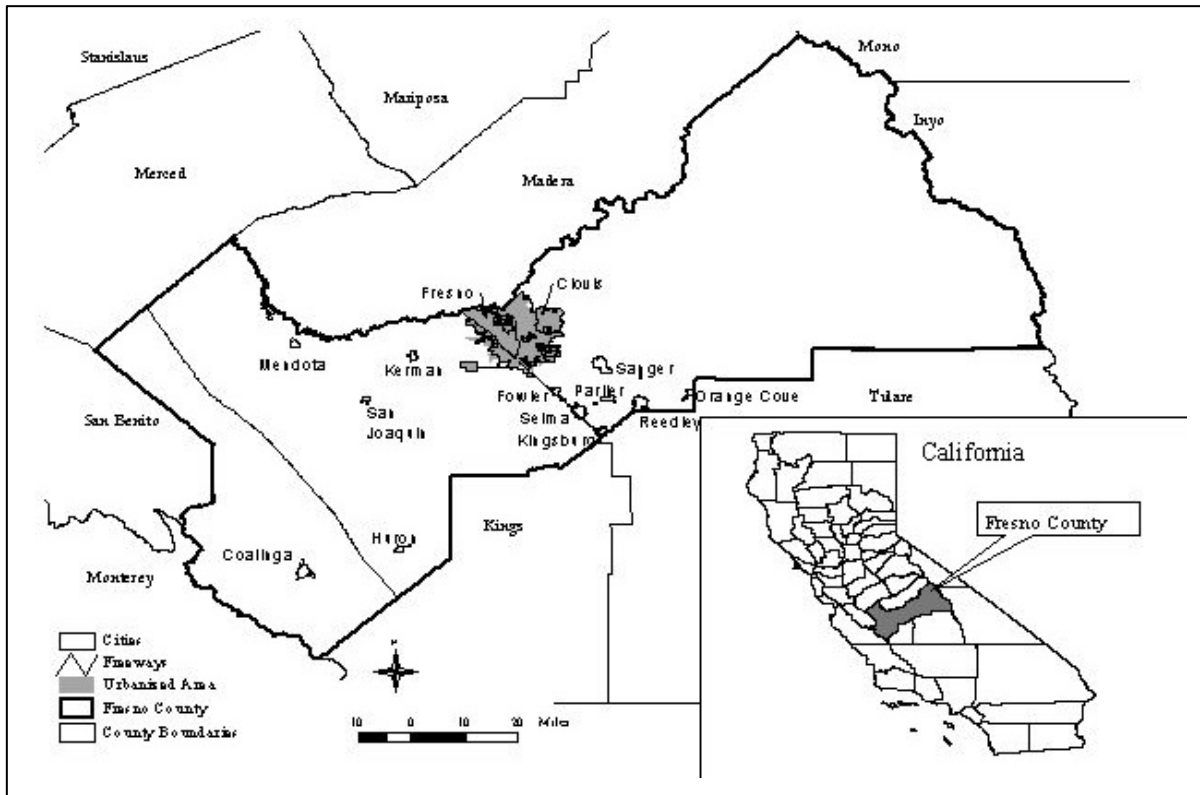
<sup>5</sup>All block groups whose centroids are within a three-mile radius from block group  $i$  are identified. Given that the probability of a welfare recipient finding employment decays with distance, block groups within one mile are weighted by one and block groups beyond one mile are weighted by one divided by the square of the distance between the two centroids. Finally, since the relevant measure of job access is the number of



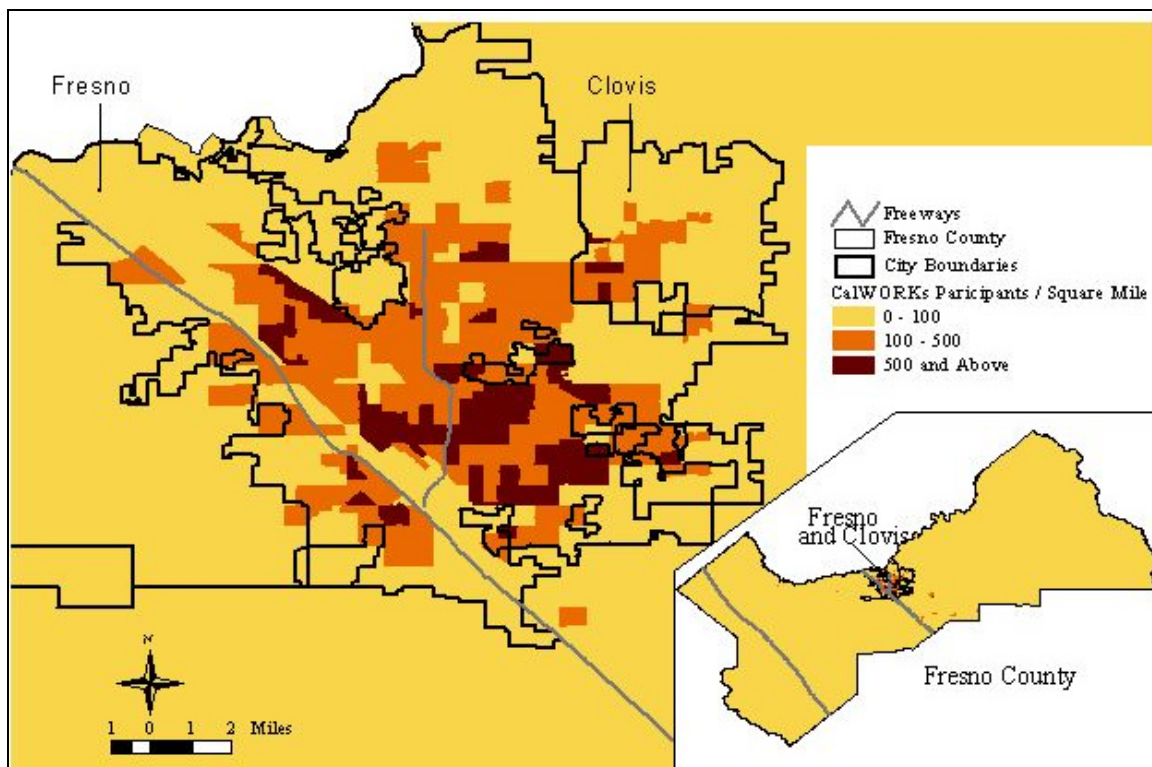
available jobs relative to the potential labor supply, the weighted number of jobs is divided by the number of working-age adults in each block group.

<sup>6</sup>Ninety two percent of the 2,148 Fresno Area Express (FAX) bus stops were successfully geocoded for this analysis.

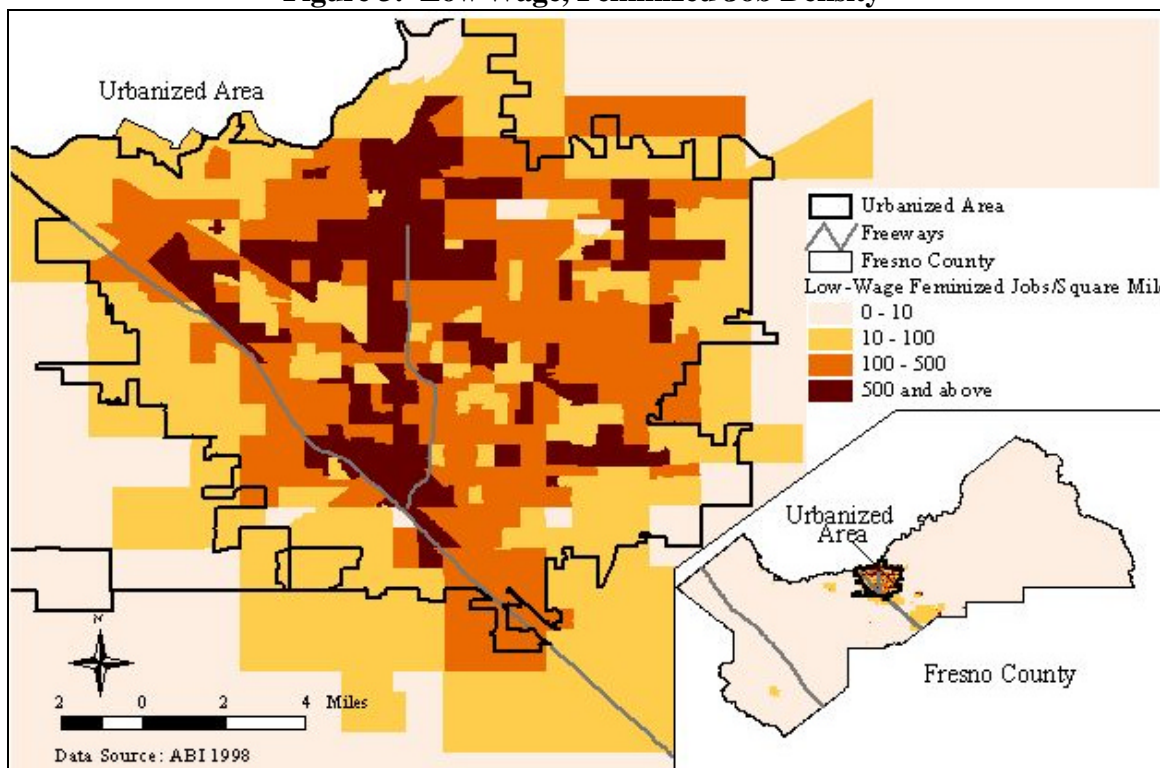
Figure 1: Fresno County, California



**Figure 2: Welfare Recipient Density, Fresno County**



**Figure 3: Low-Wage, Feminized Job Density**



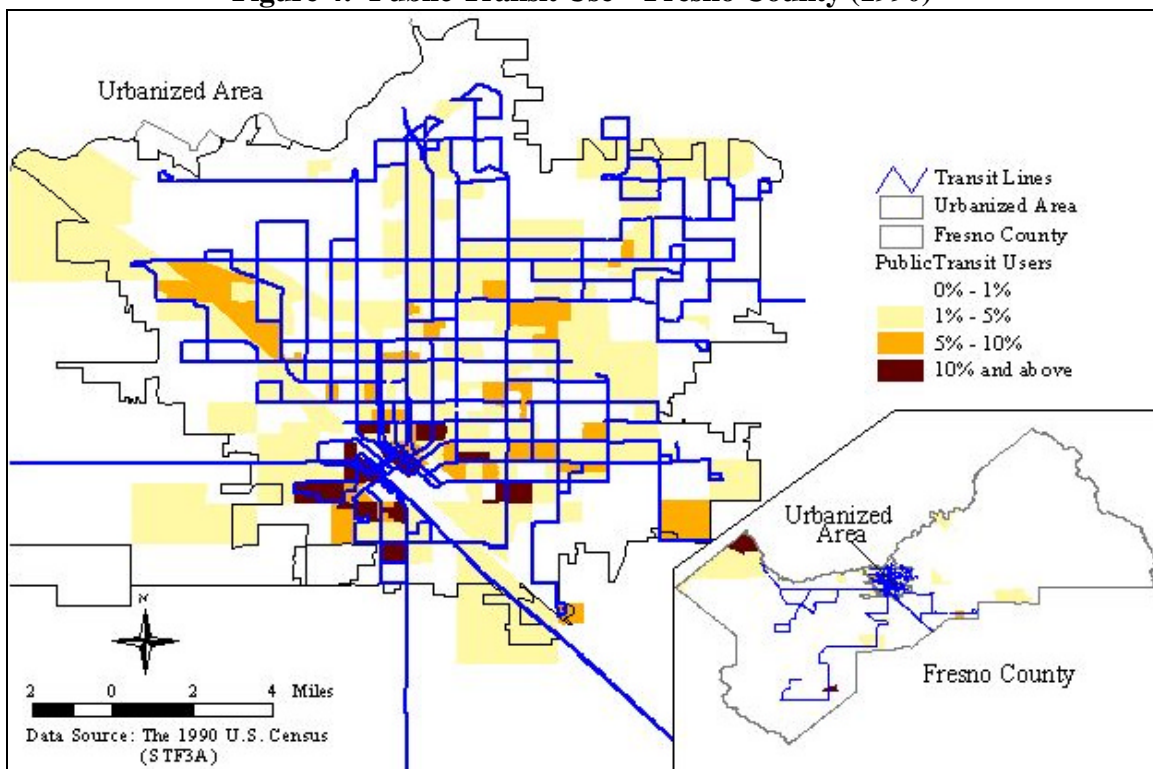
<b>Table 1: Industrial Distribution of Employment, 1999 All Employment and Employment of Welfare Recipients*</b>		
<b>Industrial Sector</b>	<b>All Employment</b>	<b>Welfare Recipients</b>
Agricultural	19%	15%
Construction/Mining	4%	3%
Manufacturing	9%	10%
Transportation/Communications	4%	2%
Wholesale Trade	5%	3%
Retail Trade	15%	26%
Finance, Insurance, Real Estate	4%	2%
Services	21%	38%
Public Administration	19%	1%
Total, all industries	305,822	15,608

Source: Fresno County welfare administrative data and California Employment Development Department, Business Establishment List for first two quarter of 1999 (1999)

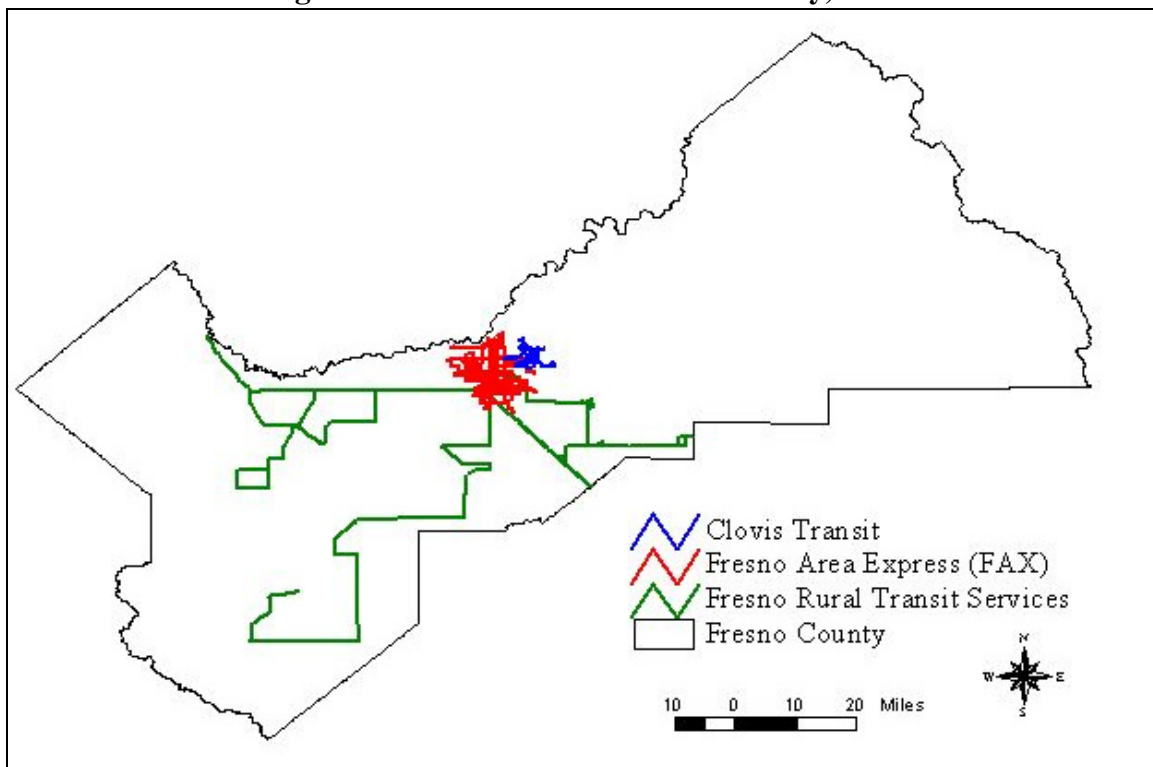
\*In the total employment data, workers are counted more than once if they were employed at multiple establishments during 1999. For welfare recipients, Fresno County welfare administrative data were matched to the employer in which they earned the highest earnings in 1999.

<b>Table 2: Relative Proximity to Employment by Residential Location Fresno County, 1999</b>				
<b>Job Access Quartiles</b>	<b>Working-Age Population</b>	<b>% Welfare Recipients</b>	<b>% Urban Welfare Recipients</b>	<b>% Rural Welfare Recipients</b>
Job Rich ↑ ↓ Job Poor	26%	35%	43%	0%
	29%	33%	41%	0%
	24%	22%	16%	47%
	21%	10%	0%	53%
Total	390,051	24,974	20,079	4,895

**Figure 4: Public Transit Use – Fresno County (1990)**



**Figure 5: Public Transit in Fresno County, 2002**



<b>Geographic Area</b>	<b>Transit Agency</b>	<b># of Recipients</b>	<b>Transit Lines</b>		<b>Bus Stops</b>	
			<b>% within 0.25 mile</b>	<b>% within 0.5 mile</b>	<b>% within 0.25 mile</b>	<b>% within 0.5 mile</b>
Fresno City	FAX & Clovis	17,739	88.2%	98.0%	85%	98%
Clovis City	FAX & Clovis	1,171	87.5%	98.2%		
Urbanized Area	FAX & Clovis	20,087	87.2%	97.6%	84%	97%
Outside Urbanized Area	FCRTA	4,894	43.6%	64.3%		

<b>City</b>	<b>Scheduled Travel Time (in minutes)</b>	<b>City</b>	<b>Scheduled Travel Time (in minutes)</b>
Coalinga	188	Mendota	55
Huron	153	Kingsburg	39
Orange Cove	100	Sanger	35
Reedley	78	Kerman	29
Firebaugh	75	Selma	29
Parlier	65	Fowler	9
Average travel time from 12 cities: 71 minutes			
Source: Fresno County Rural Transit Agency, <a href="http://www.ruraltransit.org/">http://www.ruraltransit.org/</a>			