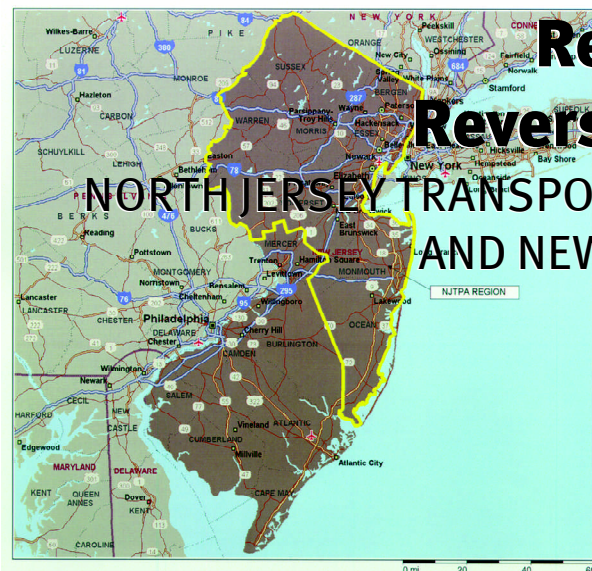




Data Sources, GIS Analytical Methods, and MPO Regional Coordination



Regional Job Access and Reverse Commute Planning: NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY AND NEW JERSEY WORKFIRST PROGRAM

necessary support services, such as child care and shopping, must be readily accessible. Traditional public transportation services typically do not address these unique commuter demands. Inadequate transportation services are a barrier to the success of the welfare-to-work program.

Introduction

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) replaced the former Federal welfare program with the Temporary Assistance to Needy Families (TANF) program. A hallmark of the legislation was imposed time limits and mandatory work requirements for welfare recipients. Commonly known as the welfare-to-work (WtW) program, TANF’s goals include reducing welfare rolls and providing job skills for welfare recipients and opportunities for steady employment.

Secretary of Transportation Rodney Slater has stated, “Transportation is the *to* in welfare-to-work.” The comment recognizes that welfare recipients often face unique challenges in searching for jobs and maintaining employment. In addition to disadvantages in education, work skills, and training, welfare recipients often lack access to vehicles or housing served by public transportation with which to reach most entry-level and service sector jobs. Estimates are that approximately 75 percent of welfare recipients nationwide live in central cities or rural areas, whereas two-thirds of the suitable job opportunities are in the suburbs. For welfare-recipients to successfully meet the challenge of balancing work and family responsibilities,

The Transportation Equity Act (TEA-21) of 1998 included the Job Access and Reverse Commute Program to address the mobility challenges facing welfare recipients and low-income persons. This grant program requires States to develop solutions collaboratively with Metropolitan Planning Organizations (MPOs), local and regional transportation agencies, and social service providers. Partnerships are essential to the success of WtW because reliable access to jobs involves more than merely providing transportation to and from work. In implementing this program, the Federal government acknowledged MPOs as good administrators that already coordinate a wide variety of regional planning agencies.

WorkFirst New Jersey

The State of New Jersey implemented its welfare program, WorkFirst New Jersey (WFNJ), following passage of PRWORA. Like the Federal initiative, WFNJ emphasizes moving aid recipients off welfare rolls and into steady employment.

In 1997, the New Jersey Department of Human Services (NJ DHS) studied the State’s bus transportation network for its ability to help

The Job Access and Reverse Commute Program

The Job Access and Reverse Commute Program provides grants to help States and localities develop a coordinated regional approach to new or expanded transportation services that connect welfare recipients and other low-income persons to jobs and other employment-related services. Projects funded must result from collaborative planning efforts that include States and MPOs, transportation providers, agencies administering TANF and WtW funds, human services agencies, public housing and child care organizations, employers, and other stakeholders. The program also seeks to leverage other transportation-eligible funds.

- **Applicant Eligibility.** MPOs select the applicant(s) in urbanized areas with populations of 200,000 or more. States select the applicant(s) in smaller urbanized areas (population less than 200,000) and in nonurbanized rural areas. Tribal governments must go through the State process but, once selected, can choose to be subrecipients of the State or apply directly to the Federal Transit Agency. Job Access and Reverse Commute grant applications are subject to the following criteria:
 - Coordinated human services/transportation planning process must involve State, MPO, or local agencies that administer the TANF and WtW programs, the community to be served, and other area stakeholders.
 - Meet a need for additional services and extent to which the service will meet that need.
 - Involve project financing, including sustainability of funding and financial commitments from human service providers and existing transportation providers.
 - Address other factors such as innovative approaches, project implementation schedule, and geographic distribution.
- **Eligible Projects.** *Job Access* projects support developing new or expanded transportation services such as shuttles, van pools, new bus routes, late night and weekend services, connector services to mass transit, and guaranteed ride home programs for welfare recipients and low-income persons. *Reverse Commute* projects provide transportation services to suburban employment centers from urban, rural, and other suburban locations for all populations.
- **Available Funding.** Beginning in FY 1999, annual authorized funding for Job Access and Reverse Commute Program grants is \$150 million. A 50/50 Federal/local match is required. Other Federal funds can be used as part of the local match. In FY 2000, the Congress appropriated \$75 million for the program and more than \$600 million is likely to be expended over 5 years.

WorkFirst participants (welfare clients) reenter the workforce. The study, *Assessment of Public Transportation Opportunities for WorkFirst New Jersey Participants* (WorkFirst Study), used a geographic information system (GIS) to analyze factors such as known locations of jobs held by and appropriate for WorkFirst participants, child care facilities, job training centers, and bus routes.

The North Jersey Transportation Planning Authority, Inc. (NJTPA), the State's largest MPO, also used GIS for its recent *Regional Job Access & Reverse Commute Transportation Plan* to identify

opportunities for cooperative efforts, or linkages, among New Jersey's 13 northern counties. The plan suggested coordinating county-based or regional services and implemented a method to evaluate and prioritize future job access and reverse commute projects.

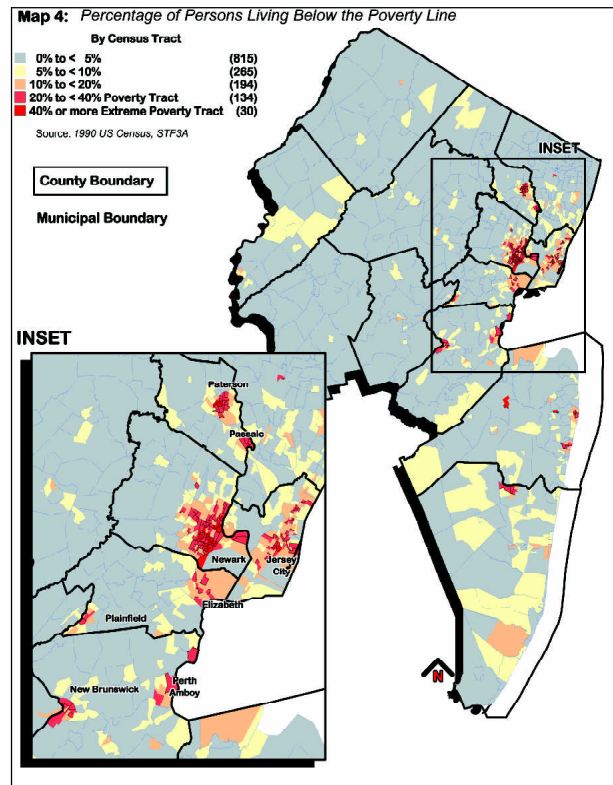
These two New Jersey initiatives combined GIS analysis and post-census data to address the fundamental question of how States and regional transportation agencies can meet the transportation-related needs of low-income families seeking to join the workforce. While the two reports have

somewhat different goals and reach slightly different conclusions, they provide practical examples for transportation planners and decision makers. The reports illustrate how an easily reproducible method can identify and begin to address the service requirements of a transit-dependent population.

The Region

The NJTPA region encompasses the 13 northernmost counties in New Jersey (see map, page 1) and is home to most of New Jersey’s largest cities, including Jersey City, Newark, New Brunswick, Elizabeth, and Paterson. An extensive highway network and large public bus and commuter rail systems serve the area. For several decades, however, employment growth in the traditional urban centers — including the older “closer-in” suburbs — has not kept pace with the more rapidly growing suburban corridors that possess substantial land area for greenfield developments and enjoy the regional access provided by an extensive Federal, State, and county highway network.

The 1990 U.S. Census reveals a concentration of poverty (potential WFNJ participants) in the NJTPA region urban centers — 19.5 percent of all persons below the poverty line compared to 4.8 percent for



NJTPA examined the spatial patterns of poverty, in part, by preparing a GIS map of persons living below the poverty line.

the rest of the NJTPA region. Similarly, the unemployment rate reported for the urban centers was well above the rest of the region.

Snapshot of the Region

- The NJTPA region encompasses the 13 northernmost counties in New Jersey.
- The NTPA region is home to five of New Jersey’s six major urban centers, and several of these centers are ringed by older suburbs exhibiting patterns of poverty.
- 417,460 persons (7.6 percent) live below the poverty level; nearly one-third are children.
- Higher percentage of persons live below the poverty level in urban centers than the rest of the region (19.5 versus 4.8 percent).
- Unemployment rates in the urban centers are higher than the rest of the region (13.5 versus 5.2 percent).

Source: 1990 U.S. Bureau of the Census Data

What Happened

Welfare-to-work participants must have reliable transportation if they are to realize the economic independence envisioned in Federal and State welfare reform legislation. State agencies and MPOs face the daunting challenge of understanding and addressing those transportation-related needs. GIS is a powerful tool for identifying transit routes responsive to the housing patterns, support services, and jobs available to WtW clients. Crucial barriers to mobility can be identified with the careful use of appropriate data and GIS methods. This analytical phase benefits greatly

WorkFirst Study Post-Census Data Sets

- Potential WFNJ participants — data from the AFDC/FAMIS database
- Training centers — data about the location of the State’s 99 training centers furnished by the New Jersey Department of Human Services
- Licensed child care and registered family day care facilities — facility location data provided by the New Jersey Department of Human Services
- Employers — the New Jersey State Employer reporting database (ES-202) provided by the NJ Department of Labor

when the process encourages interagency coordination between MPOs, State and local transportation agencies, social service agencies, and workforce programs.

The NJDHS sponsored the WorkFirst study to examine whether New Jersey’s existing bus system could help a significant percent of WorkFirst participants reenter the workforce. The study combined current data — not just census data released every decade — with GIS applications. The methods employed are not unique, but they are reproducible and suitable for assisting in public policy decision making.

The study’s hypothesis is that New Jersey’s public bus network can provide an important link between WorkFirst client residences and a variety of destinations. Four different post-census data sets were collected to construct an analysis that tests this hypothesis.

These databases were mapped and overlain using GIS software. Mapping these data was not always easy and overcoming inconsistencies often required several iterations of data matching (for example, geo-coding) between maps and data sets. The report’s

authors illustrate methods for ensuring accuracy and data integrity — often a complicated process. New Jersey Transit provided bus route maps to overlay the data maps. The study addressed comprehensive bus routes and fixed routes (such as local, county, and Interstate), as well as the NJ Wheels Program — an innovative program of feeder transit connections that fill missing links to existing transit stations, park and rides, and circulator services to area stores and restaurants.

The GIS software was further used to create buffers or boundaries at set distances around the bus routes. Study authors assumed that potential transit riders would be reluctant to walk more than about one-half mile (the average person can walk one-half mile in about 10 minutes). Using this assumption, preliminary spatial analysis techniques were applied to measure the percentage of client residences, training centers, child care and family day care facilities, and potential employers within walking distance of the transit routes. Table 1 presents data on distance from transit routes.

The relative proximity of welfare recipients, child care facilities, employment training centers, and employers in relation to transportation services is the key access concern. Choosing analytical tools that work for you will depend on local circumstances and resources. The tools may be as simple as sticking pushpins in a wall map or as advanced as using GIS. The analytical goal is to understand how available transportation services need to be improved or can improve accessibility.

– Challenge of Job Access:
Moving Toward a Solution, U.S. DOT

Table 1. Percent of Families Within a Half Mile of Bus Transit Routes

County	Client Residences	Training Centers	Child Care Centers	Family Day Care Centers	Potential Employers
Essex	99%	100%	97%	98%	98%
Hudson	99%	100%	100%	100%	98%
Passaic	99%	100%	93%	94%	96%
Mercer	98%	93%	83%	87%	87%
Union	97%	100%	94%	97%	96%
Camden	96%	100%	88%	92%	93%
Bergen	95%	100%	78%	83%	81%
Atlantic	91%	100%	86%	85%	93%
Salem	91%	100%	88%	94%	88%
Cape May	88%	100%	79%	71%	92%
Monmouth	88%	100%	75%	76%	78%
Middlesex	84%	75%	75%	65%	77%
Ocean	82%	100%	89%	76%	74%
Gloucester	80%	0%	85%	68%	92%
Morris	78%	100%	56%	57%	74%
Cumberland	73%	100%	72%	71%	78%
Burlington	71%	100%	60%	64%	82%
Somerset	65%	100%	39%	30%	68%
Warren	65%	0%	44%	47%	56%
Hunterdon	15%	0%	19%	12%	19%
Sussex	14%	0%	11%	11%	8%
Average	94%	92%	79%	77%	85%

The WorkFirst study concludes that the existing New Jersey bus system is generally capable of serving WorkFirst client needs. Research indicates that nearly 94 percent of welfare families statewide live within one-half mile of a transit route, and that 85 percent of potential employers are within one-half mile of transit. The relatively concentrated patterns of poverty in New Jersey, as well as State’s overall population density, afford opportunities to improve transit services. The WorkFirst study provides an interesting comparison to another recent study of the Atlanta metropolitan area, a less-densely populated area where only 50 percent of welfare recipients and only 44 percent of entry-level jobs are within one-half mile of public transportation.

Although WorkFirst study findings suggest the potential for enhancing job access, the study is cautious about its analytical limitations and points to the next steps required to meet the unique needs of this ridership segment:

- A more thorough study would include bus hours of operation, frequency of service, and pickup/discharge site data.
- There is no guarantee that jobs near transit routes will be appropriate — or available — for WFNJ clients.
- The study must factor in the need to make multiple trips because numerous trips and stops can considerably lower the probability of finding all necessary services within a reasonable travel distance.

With its careful analysis and balanced presentation of findings, the WorkFirst study is a useful preliminary tool for identifying the transportation needs of WtW clients. Because the study is explicit about the need to implement more planning at the local level, by county-level administrators, NJ Transit, and other transit providers, the study provided a springboard for more intensive study of transit services. The New

Jersey Department of Transportation (NJDOT) and the NJDHS have committed resources for county transportation coordination planning, prepared a Transit Training video, and devised a promotional incentive, *Get A Job, Get A Ride*, which provides any WFNJ participant — who’s working or in training — 1 free month of New Jersey Transit public transportation.

NJTPA Regional Job Access and Reverse Commute Transportation Plan

In July 1998, the NJTPA received an FTA Job Access Planning Challenge Grant to coordinate preparation of community transportation plans throughout the northern New Jersey region. Each county had to develop a Community Transportation Plan that promoted and assisted the WFNJ program by addressing the need for job-access services.

Available and Suitable Jobs for WtW Recipients: A Closer Look at an Estimating Method

The Atlanta Approach

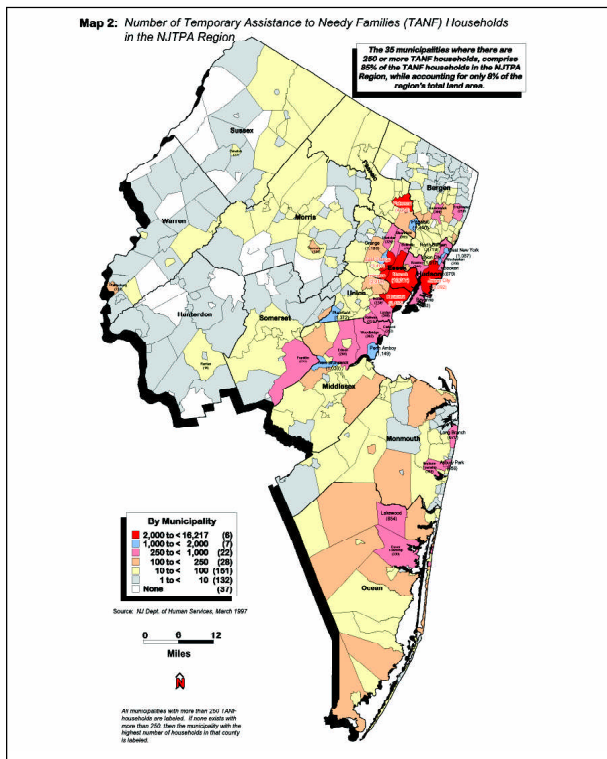
Beyond the need to further improve transit schedules, frequencies, and hours of service, the WorkFirst Study cautions that there is no guarantee that a client living near transit will find a job near a transit route. The study represents the problem mainly in statistical terms — joint probabilities — and offers an instructive example of how to calculate the likelihood of both client and job being near transit:

In Hudson County, NJ, 99.89 percent of clients and 98.40 percent of firms are located within one-half mile of transit. Thus, there is a 98.29 percent (99.89 x 98.40) joint probability of a client and job being near transit. This calculation assumes that all firms have an equal likelihood of being selected by a client. The likelihood drops for Ocean County where 73.61 percent of jobs and 82.29 percent of clients are within one-half mile of transit — the joint probability is only 60.57 percent. Of course, a WorkFirst client would seek to maximize the job opportunities along a transit route, and the search process would not be random. Although the latter joint probabilities represent a worst case scenario, they are nevertheless instructive.

The WorkFirst Study cautions that some types of employment may be more suitable to WtW recipients. Several other studies, including one in Atlanta, more closely focus upon methods to address this issue. Researchers in Atlanta used similar data from the Georgia Department of Labor (ES-202) to identify the locations of entry-level jobs. These researchers elected to address-match (e.g., geo-code) total jobs by census tract. The resulting file also included taxable wages, employer names, and a multiestablishment 4-digit Standard Industrial Classification (SIC) code. More than 1.3 million total jobs were allocated to census tracts. Three additional steps were taken to estimate the locations of entry-level jobs:

- 1. Translate Jobs into Occupations.** An occupational profile was prepared for each SIC code using the 1 percent U.S. Census Public Use Microdata Sample (PUMS) for the Atlanta Metropolitan Statistical Area (MSA). The value of the data set is that it contains employment — SIC code — and occupational data for all workers who completed the 1990 Census of Population and Housing long form. From this data set, it is possible to prepare a “bridge table” or matrix that links industries to occupations. The table enables the analyst to translate “jobs” at each business establishment into “occupations.”
- 2. Estimate Entry-Level Occupations.** Although the Atlanta study considered alternative approaches, it ultimately relied on one developed for a study in Cleveland, OH, that reviews Specific Vocational Preparation data, General Equivalency Degree (GED) data, and level of education (achieved in the first quartile) by occupation. These data sources make it possible to rank occupations by skill content and worker education level. In Atlanta, the bottom 92 of 389 occupations were specified as entry-level occupations, which account for 22.1 percent of total employment.
- 3. Adjust Occupational Employment to Entry-Level Jobs.** The total numbers of workers in entry-level occupations were then extracted from the total occupations file and displayed as points on a map in order to analyze whether there was a spatial mismatch between available, suitable jobs and recipients.

Source: Excerpts from Richard K. Brail, “Assessment of Public Transportation Opportunities for WorkFirst New Jersey Participants, Bloustein School of Planning and Public Policy,” Rutgers, the State University of New Jersey. July, 1997, and David S. Sawicki and M. Moody, “Developing Transportation Alternatives for Welfare Recipients Moving to Work,” *Journal of the American Planning Association*, Vol. 66, No. 3, Summer 2000.



The NJTPA used the grant to examine current data sources and conduct GIS analysis techniques, similar to the work described in the WorkFirst study. This information complemented the findings of the individual Community Transportation Plans. The resulting *Regional Job Access & Reverse Commute Transportation Plan* includes several work activities that:

- Identify the current location of TANF recipients (see table 2).
- Map poverty and employment concentrations.
- Illustrate the prospective client travel patterns.
- Screen for specific projects proposed in individual County Community Transportation Plans that successfully establish regional linkages — projects that link particularly well with each other.

NJTPA Regional Household, Employment and Client Travel Profile

Households

- 64,947 households in NJTPA region receive TANF aid.
- TANF aid is distinctively dispersed and heavily concentrated in the State's four northeast counties: Essex, Hudson, Passaic, and Union.
- 77 percent of the region's TANF recipients live in these four counties.
- 49 percent of the region's TANF clients are concentrated in the NJTPA urban centers of Newark, Jersey City, Paterson, Elizabeth, and New Brunswick.
- 70 percent of the region's TANF clients live in these urban centers and the municipalities adjacent to them.
- Approximately 85 percent of TANF participants are located within 35 of the region's 385 municipalities.
- Each of the 35 municipalities is within 6 miles of an urban center and accounts for only 8 percent of the region's total land area.

Employment

- Between 1972 and 1997, urban counties lost more than one-quarter of their share of private sector jobs.
- Majority of employment growth is in areas that are largely vehicle dependent, not in the urban centers served by public transportation.

Client Travel

- Employed women in urban areas average 3.8 trips per day, usually involving a combination of work, school and running errands.
- Approximately 90 percent of New Jersey TANF recipients are female.
- Obvious needs exists for effective and efficient complete trip chains.

Source: Regional Job Access Reverse Commute Transportation Plan, NJTPA, October 1999

NJTPA's Recommended Transportation Strategies

- Modify existing bus routes and schedules to increase the frequency of service, add destinations, or provide connections to other services.
- New services, operating on fixed or flexible routes and schedules, to link county residents with regional transit services or employers and other major destinations.
- Increase coordination of para-transit services, including establishing transportation brokers.
- Expand para-transit systems to offer service to new user groups or add hours of service.
- Initiate programs to assist low-income individuals with the purchase and operation of their own cars.
- Initiate employer shuttles.
- Increase distribution of public transportation information to users, including trip-planning services.
- Implement NJ Transit's WorkPass program and other incentives for using transit passes.
- Encourage car pooling and van pooling.

- Outline procedures for prioritizing and selecting proposed projects. Once priority programs and projects are identified, they are then forwarded to the FTA for approval for funding.

The NJTPA devoted significant time and monetary resources to identify and document the needs and patterns of welfare recipients' lives. This effort provided an important foundation for interpreting GIS data because it provided information about welfare recipients' education levels, travel and expenditure trends, and emerging suburban and urban employment spatial patterns.

Using NJDHS and U.S. Census data in GIS applications, the NJTPA developed a comprehensive profile of the NJTPA region. The spatial examination of the residential, work, and transit links data helped the NJTPA identify strategic regional linkages capable of connecting transit-dependent populations to job opportunities.

The NJTPA plan concludes with clear recommendations as to what

the region's proposed programs should include and how they will be prioritized. Communicating the method of prioritization is an important element of the plan as it sets the ground-rules — the expectations and the criteria — for communities to develop their local plans.

Table 2. TANF Recipients and Total Households by Counties of NJTPA Region

County	1997		1990		Relative County Share of TANF Recipients
	TANF Recipients	Percent of Region	Total Households	Percent of Region	
Essex	24,689	38.0%	277,667	13.3%	286.0%
Hudson	14,153	21.8%	208,574	10.0%	218.3%
Passaic	6,193	9.5%	155,450	7.4%	128.2%
Union	5,392	8.3%	179,966	8.6%	96.4%
Monmouth	3,456	5.3%	197,325	9.4%	56.3%
Middlesex	4,184	6.4%	238,974	11.4%	56.3%
Ocean	2,538	3.9%	168,312	8.1%	48.5%
Warren	403	0.6%	33,876	1.6%	38.3%
Somerset	730	1.1%	88,819	4.3%	26.4%
Bergen	2,363	3.6%	308,795	14.8%	24.6%
Sussex	186	0.3%	44,492	2.1%	13.4%
Morris	585	0.9%	148,627	7.1%	12.7%
Hunterdon	69	0.1%	38,152	1.8%	5.8%
NJTPA Region	64,941	100.0%	2,089,029	100.0%	

The Participants

- U.S. Department of Transportation (U.S. DOT)
- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- New Jersey Department of Transportation (NJDOT)
- New Jersey Department of Human Services (NJHHS)
- North Jersey Transportation Planning Authority (NJTPA)
- 13 NJTPA counties, with participation from members of their economic development corporations, planning departments, divisions of social services, transportation divisions, and others
- The Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey

Effective Environmental Justice Practices

The WorkFirst Study demonstrates how post-census data incorporated into GIS mapping can facilitate a better understanding of the needs of an often highly transit-dependent population:

- With the cooperation of the State's health and social services agencies, it is possible to compile highly relevant data on the welfare recipients, the location of training centers for welfare recipients, and licensed child care facilities.
- The State's labor department maintains important post-census, administrative records data about business establishments and also employment and payroll (ES-202) data. Restrictions and limitations on the use of this data can often be overcome when there is a compelling public purpose.
- GIS mapping of post-census data provides a spatially sensitive technique for exploring the unique transportation needs of welfare recipients as well as the opportunity to match transit and para-transit services to these needs.

- The report assessed barriers to job access for welfare recipients (e.g., the fact that bus service was inadequate in certain counties) that could be solved by specific policy initiatives. It also identified the uncertainties in the analysis that require further research.

The NJTPA Regional Job Access and Reverse Commute Transportation Plan also demonstrates several effective practices important for integrating environmental justice principles into transportation planning:

- The study used the Job Access Planning Challenge Grant to focus upon the crucial problem of job access, which disproportionately affects low-income and, often, minority populations. Developing successful transit solutions that address this problem directly benefits often overlooked communities and is consistent with national social policy focused on eliminating barriers for all who need to work.
- The study illustrates how cooperative relationships with Federal, State, and local partners, and collaboration between State labor departments and social service agencies can effectively leverage resources to solve problems. The diverse expertise and resources tapped facilitated identification and use of multiple data sets, disclosed critical gaps in transit services, and explored needed operational services and capital equipment purchases. Each primary participant made complementary contributions to the planning process. The Federal

We have to stop thinking like transportation organizations, labor organizations, or human resource organizations and start thinking like organizations that are here to provide services — whether it be services for those who are in welfare-to-work, or housewives to work, or husbands to work. We need a holistic approach.

— Ernest Maddox
Michigan Department of Employment Security

Major Challenge: Establishing Effective Partnerships

Three major laws passed in the last several years promote collaboration between the transportation and employment and training communities:

- **The Personal Responsibility and Work Reconciliation Act of 1996.** Better known as welfare reform or Temporary Assistance for Needy Families (TANF), the Act sets a 60-month (5-year lifetime) limit on public assistance and mandates work. The Act's passage requires that communities focus upon meaningful strategies for overcoming the barriers to employment. Lack of effective transportation options is a major hurdle.
- **Transportation Equity Act for the 21st Century (TEA-21).** In 1998, TEA-21 raised funding levels for public transportation. The Job Access and Reverse Commute Program was established to fund community partnerships that build upon existing public transportation services to provide greater opportunities for low-income people to find and keep employment.

- **Workforce Investment Act of 1998.** This Act consolidated the former Job Training Partnership Act (JTPA) and many other Federal job-training programs into three State-managed block grants. The law replaced Private Industry Councils (PICs) with Workforce Investment Boards to oversee employment and training activities that are centralized in one-stop locations. These locations provide information on job training and placement as well as on transportation and other support services.

Workforce development professionals must ensure that people can get to training, interviews, and jobs each day. Workforce Investment Boards and TANF agencies set policies, plan activities, and negotiate contracts with other Federal, State, and local programs to enhance service delivery. Central to their success is the need to establish workable agreements with transportation providers to deliver transit support services to those who need it.

government helped to communicate the broad environmental justice principles and goals as well as made funds available. The MPO and State-level agencies provided regional coordination and administration and were significant resources for data. The counties and other local partners, as well as the social service agencies, contributed intimate knowledge about local job-access and transportation obstacles, and they were able to suggest specifically targeted solutions.

- The NJTPA plan also demonstrates how post-census data can be combined with GIS applications to provide an analytical and presentation tool. Data-based maps bring a new perspective to the job-access problem. GIS methods enabled planners to better understand poverty and welfare spatial patterns and make more informed decisions about transit service needs.
- MPOs can provide the necessary forum for developing close partnerships with local communities affected in the transportation planning process. In this case, NJTPA coordinated the plans of New Jersey's northern and central counties to ensure identification of regional deficiencies and opportunities. By soliciting the participation of many counties and local agencies, the NJTPA successfully integrated environmental justice practices by ensuring that the planning process considered the concerns of all the constituents.

Project Chronology

February 1994

Executive Order 12898, Federal Action to Address Environmental Justice in Minority and Low-Income Populations, issued.

January 1996

Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) passed.

April 1997

WorkFirst New Jersey — New Jersey's State welfare reform program implemented.

July 1997

Assessment of Public Transportation Opportunities for WorkFirst New Jersey Participants prepared for the Office of Policy and Planning, New Jersey Department of Human Services.

June 1998

The Transportation Equity Act for the 21st Century (TEA-21) passed, creating the Job Access and Reverse Commute Grants Program.

1998 – 1999

Each New Jersey county prepares a Community Transportation Plan.

October 1999

NJTPA prepares the *Regional Job Access and Reverse Commute Transportation Plan* to address transportation issues.

1999-2000

NJTPA begins to select and prioritize proposed transportation programs for presentation to the FTA for funding.

Challenges Ahead

No single method is sufficient to address all environmental justice issues in transportation planning; however, discovering and refining the use of appropriate data sets and analytical methods are important research elements of an ongoing process. As this case study demonstrates, combining post-



NJTPA staff evaluated the Community Transportation Plans prepared by each County for inter-county regional linkages and opportunities for cooperation as part of a grant application review.

census data with GIS analysis is one method for targeting origins and probable destinations of WtW recipients. Among the challenges facing the transportation planner:

- **Ensure Data Quality.** To be a valuable resource, the data sources must be current and accurate. Different States, municipalities, and social service agencies collect and maintain data of differing qualities. It is important to fully check sources and evaluate the limits and applicability of the data because the quality of data factors significantly in the ability to perform valid analyses.
- **Identify Qualitative and Primary Data Sets.** Important limitations of secondary data sets must be overcome to design transit and para-transit services that accurately address the travel and support-service needs of its target population — in this case, WtW participants. Certain types of needs can only be identified through more direct forms of outreach and communication with social services, transportation providers, potential employers, and eligible participants. Traditional market research tools such as focus groups, surveys, and interviews can complement other forms of

Statewide Partnerships to Address Transportation Barriers

Since 1997, New Jersey's welfare reform program, WorkFirst New Jersey (WFNJ), has served as a catalyst for increased statewide coordination of efforts to address the mobility challenges faced by many low-income individuals. At the state level, the New Jersey Departments of Human Services (NJ DHS), Labor (NJ DOL), and Transportation (NJ DOT), NJ Transit, and the State Employment and Training Commission (SETC) have developed the Project Oversight Group (POG). The POG, comprised of representatives from NJ DHS, NJ DOL, NJ DOT, NJ Transit, and SETC, was established to facilitate inter-departmental planning and assist counties in the development of innovative solutions to local mobility issues.

This partnership has led to several initiatives designed to address transportation barriers that limit access to employment opportunities including implementation of the WorkPass program, which provides transit passes to welfare recipients who are involved in work activities, creation of the Transportation Innovation Fund, which provides funding for new and expanded transportation services, and completion of a statewide community transportation coordination planning effort.

regular public involvement to reveal these needs and preferences. Designing responsive transit services requires understanding the needs and patterns of multiple trips or trip chains in various communities. Similarly, many entry-level jobs require evening or weekend work, which may require more extensive research into time-of-day and day-of-week dimensions to create responsive transit services.

- **Establish Effective Partnerships.** Transportation planning is more than a desktop exercise, and the transportation decision maker must collaborate with a diverse set of stakeholders in order to select, prioritize, and ultimately operate effective job-access and reverse-commute services and routes. The process depends upon partnerships among members of the transportation and education and training communities.
- **Recognize Crucial Resource Needs and Devise Sustainable Program.** The ultimate measure of success, of course, is not a well-received transportation plan, rather it is the number of persons who successfully enter the workforce because transportation services respond to their needs. This ultimate success is achieved only with effective partnerships, careful strategic and operational planning and adequate resources —

financial, technical, legal, operational. Funding for job access and reverse commute programs is clearly one factor necessary for success. The State of New Jersey provides matching funds under its NJ Transportation Innovative Fund, which are matched with Federal Labor Welfare to Work Grants and/or the FTA's Job Access and Reverse Commute Grants. The National Transit Resource Center has amassed a database of Federal funding opportunities for transportation and mobility partnerships that includes, but is not limited to, programs traditionally used by community transportation systems. The primary resource for this information was the *Catalog of Federal Domestic Assistance*. From this directory, planners identified more than 100 programs within 20 different Federal agencies.

Lessons Learned

Making employment accessible to WFNJ participants is an ongoing challenge, but the plans and reports described above can help relevant agencies achieve that goal. The process of developing these plans has related some important lessons about environmental justice, data analysis, and planning:

- Many State and Federal agencies compile post-census data, which can be invaluable resources for

Benefits from Environmental Justice in Decision Making

For the Agencies:

- Environmental justice principles and procedures recognize that transportation decision making improves when agencies enhance their data collection, monitoring, and analysis tools in order to assess the needs and analyze the potential consequences upon low-income persons. These specific needs and effects can be directly identified and assessed by overlaying maps of transit routes with the residences of welfare recipients, potential employment locations, and child care and other facilities.
- The Job Access and Reverse Commute Program encourages collaborative planning processes that leverage the resources of transportation and human services agencies. Both the WorkFirst and NJTPA initiatives recognize the value of partnerships and the limits of transportation-only-based solutions for improving workforce participation.

For Low-Income Populations:

- Environmental justice principles recognize that community-based partnerships can improve the quality and usefulness of transportation for currently isolated low-income populations. The data and GIS tools used in this study assisted in identifying regional service gaps. New transit services and other initiatives have been proposed in local community transportation plans to address such gaps.
- The Job Access and Reverse Commute Program delivers substantial funding source with which to target transit services that meet the needs of persons leaving welfare and other low-income persons.

analyzing demographics, needs and transit destination locations for target populations, such as WorkFirst participants.

- GIS applications are tools that provide a method for analyzing data two dimensionally. The spatial representation of data and patterns holds significant benefits, especially when examining linkages between regions.
- GIS applications are readily available and user-friendly in that they can be used by a variety of transportation organizations, government agencies, or social services.
- The limitations of GIS data and analysis must be recognized and incorporated into a report's conclusions.
- A regional planning agency, such as an MPO, can be instrumental in providing resources, guidance, and links with smaller jurisdictions. Such arrangements foster opportunities for broader

planning solutions and often provide an opportunity to engage a more diverse set of participants.

- Effective use of quantitative tools (like GIS) requires an understanding of the qualitative characteristics of the populations and regions for which an agency plans. Agencies must be sensitive to the entire context in which welfare recipients live, including gender, marital status, education, training, and more. Post-census data alone does not present the entire picture and should not be depended upon to completely define the problem or to build solutions.

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Regional Transportation Plan for Northern New Jersey, Appendix I, North Jersey Transportation Planning Authority, Fall 1995.

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The Challenge of Job Access, Moving Toward a Solution, U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration, Washington, DC, cited May 2000. <http://www.fhwa.dot.gov/reports/challeng.htm>

National Personal Transportation Survey, 1990. <http://www-cta.ornl.gov/npts/1990/index.html>

Job Access and Reverse Commute Web Sites and Related Links

Community Transportation Association
National Transit Resource Center: www.ctaa.org/ntrc/atj/
Publications: www.ctaa.org/ntrc/ctap/pubs/

Federal Transit Agency welfare-to-work
www.fta.dot.gov/wtw/

New Jersey Department of Transportation WorkFirst
www.state.nj.us/transportation/workforce/

North Jersey Transportation Planning Authority
<http://njtapa.njit.edu/>

Poverty Center at Case Western University Job Access Project <http://povertycenter.cwru.edu/jobaccess/cupsc.htm>

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For more contact information on the NJTPA *Regional Job Access & Reverse Commute Transportation Plan*, see: http://njtpa.njit.edu/jarc/Reg_Jarc_Trans_Plan.pdf