

State Transportation Plan



Urban Transportation Supplement

Summary Report

New Jersey Department of Transportation

NJ TRANSIT

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SUMMARY

**URBAN TRANSPORTATION
SUPPLEMENT**

**FUTURE ECONOMIC CONDITIONS,
EMPLOYMENT GROWTH CENTERS, AND
PUBLIC TRANSPORTATION REQUIREMENTS**

New Jersey Department of Transportation

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SUMMARY
—
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EXECUTIVE SUMMARY

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Drawing upon the interviews, the analysis of census data, and the transportation problem definition efforts, seven key findings emerge:

1. *With the exception of Atlantic City, the majority of employed urban residents in each of the cities studied are employed outside the city proper. Atlantic City is the exception because of the predominance of the casino industry (86 percent of Atlantic City's employed residents work in the city); "same city" employment of urban residents of other cities ranges from 33.9 percent (Elizabeth) to 49.9 percent (Trenton).*

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EXECUTIVE SUMMARY

State legislation (P.L. 1991 Chapter 481) approved January 18, 1992 mandates that the New Jersey Department of Transportation (NJDOT), in conjunction with NJ TRANSIT (NJT), prepare and submit to the Legislature an Urban Transportation Supplement to the State Transportation Plan. In order to improve access into and out of New Jersey's major urban centers, the Plan is to identify and address transportation needs and issues of each of seven cities. In particular, the legislation places emphasis on "the transportation problems of the state's inner-city residents who are employed by or who are seeking employment with employers located in suburban areas of the state." The seven cities included in the legislation are Atlantic City, Camden, Elizabeth, Jersey City, Newark, Paterson, and Trenton (Map A). The Urban Transportation Supplement is to be updated every five years.

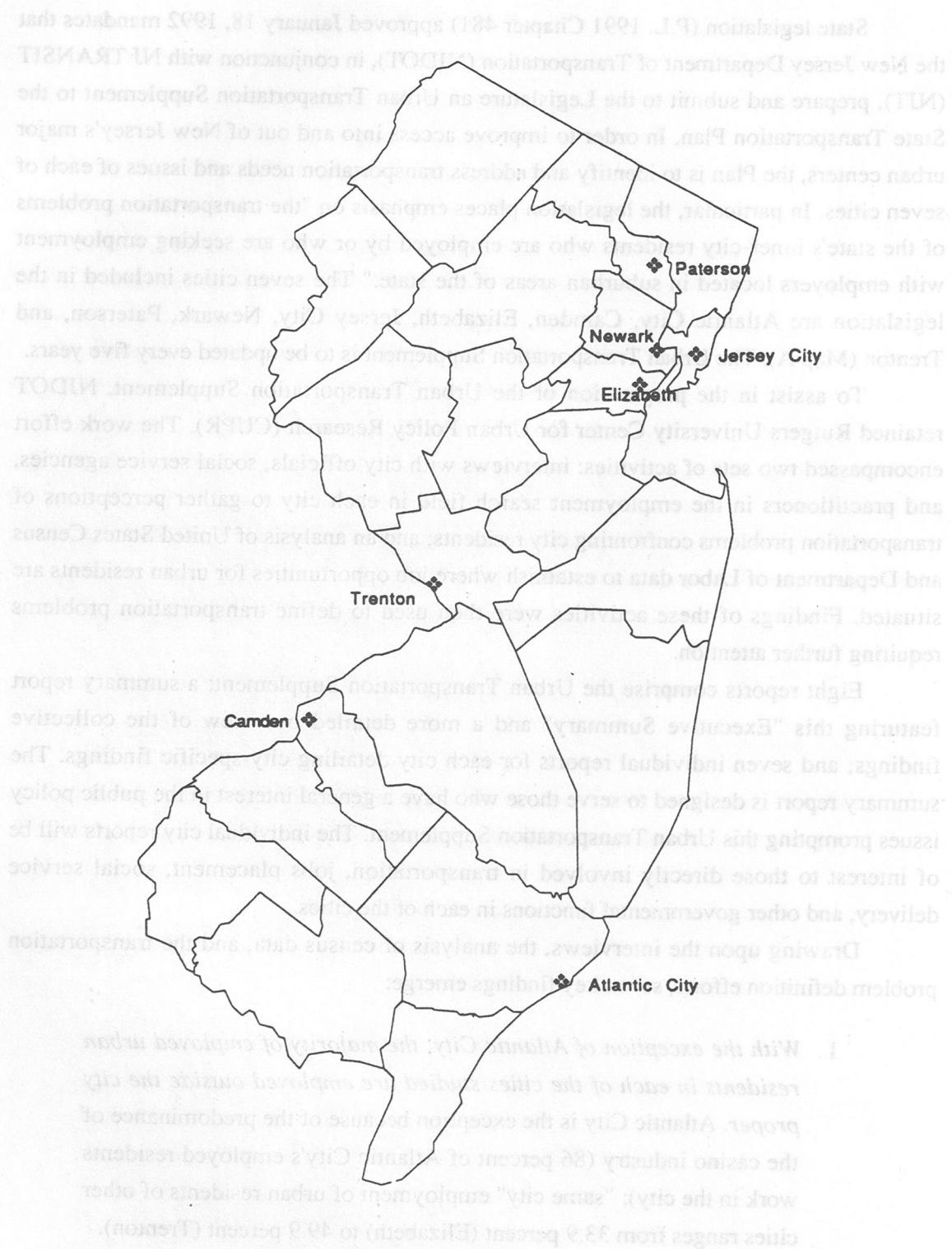
To assist in the preparation of the Urban Transportation Supplement, NJDOT retained Rutgers University Center for Urban Policy Research (CUPR). The work effort encompassed two sets of activities: interviews with city officials, social service agencies, and practitioners in the employment search field in each city to gather perceptions of transportation problems confronting city residents; and an analysis of United States Census and Department of Labor data to establish where job opportunities for urban residents are situated. Findings of these activities were then used to define transportation problems requiring further attention.

Eight reports comprise the Urban Transportation Supplement: a summary report featuring this "Executive Summary" and a more detailed overview of the collective findings; and seven individual reports for each city detailing city-specific findings. The summary report is designed to serve those who have a general interest in the public policy issues prompting this Urban Transportation Supplement. The individual city reports will be of interest to those directly involved in transportation, jobs placement, social service delivery, and other governmental functions in each of the cities.

Drawing upon the interviews, the analysis of census data, and the transportation problem definition efforts, seven key findings emerge:

1. *With the exception of Atlantic City, the majority of employed urban residents in each of the cities studied are employed outside the city proper.* Atlantic City is the exception because of the predominance of the casino industry (86 percent of Atlantic City's employed residents work in the city); "same city" employment of urban residents of other cities ranges from 33.9 percent (Elizabeth) to 49.9 percent (Trenton).

THE NEW JERSEY TRANSPORTATION SUPPLEMENT CITIES



Source: Rutgers University, Center for Urban Policy Research, Spring 1993

2. *Job opportunities for unemployed (and underemployed) urban residents are located overwhelmingly outside the city proper.*¹

Although this varies considerably by city, there are on average, seven or more job opportunities outside the city for each job opportunity contained within the city.² In Atlantic City more than half of the job opportunities are in the city proper, again reflecting the predominance of the casino industry within the area's economy. In all the areas studied, most of the job opportunities are in the form of job separations rather than new jobs, reflecting the low rate of growth anticipated in the economy.

3. *City residents have a high dependency on public transit, no matter where they work.* The incidence of transit use among city residents is higher than the statewide average in every city studied. According to the 1990 Census, 8.8 percent of all work trips within the state are made by public transit. This is the case for both "in-city" commuting and "reverse commuting," reflecting the socioeconomic condition of city residents. Transit accounts for as many as 40 to 50 percent of the overall work trips being made by urban residents (in Newark and Jersey City) with lesser percentages in the other cities. Of particular interest to this work, the percentage of urban resident work trips being made by transit for reverse commuting is as high or higher than the percentage for in-city commuting. Ridership surveys conducted by NJ TRANSIT also confirm this high dependence; 70 percent of urban transit riders report that they have no alternative means of transportation.

4. *Interviews confirm that transportation problems are an employment impediment to urban residents, but other problems are far more formidable impediments.* Lack of skills, personal histories, and lack of adequate child care were cited as the primary impediments facing urban residents seeking jobs, and transportation as an impediment to

¹ Job opportunities include newly created jobs and "separations." A separation is defined as a job opening due to a worker leaving the work force permanently; it does not include normal job turnover within a company.

² This does not include Atlantic City in the average nor does it double count the rest of the labor area when two central cities (Newark and Elizabeth) are in the same labor area.

employment was assigned a medium to low rating in all of the cities studied. This reflects the fact that existing public transportation services are satisfying a substantial majority of public transportation needs of urban residents, though problems with these services have been identified.

5. *While public transit service within the cities is generally accorded high ratings by those interviewed, at specific locations there are service gaps, especially for second or third shift workers. Concerns were expressed in each city about the absence of designated bus stops, inadequate transit service information for non-users, and security while traveling to and from the stops.* According to NJ TRANSIT, this "in-city" service assessment corresponds with customer complaints and general public reactions to transit service.

6. *A variety of public transit concerns were expressed by those interviewed about reverse commute service.* While reverse-commute service received no less than "fair" to "good" ratings in all the cities studied (and better ratings for Newark and Elizabeth), reverse-commute service related to each city has gaps in geographic coverage and duration (i.e., routes warranting service for more hours each day to meet shift changes and "weekday only" routes warranting service on weekends to meet work week demands of service workers). The analysis of job opportunities in relation to existing services corroborates these perceptions; while most areas having significant numbers of job opportunities within a reasonable commuting distance of each city are served to a degree by public transit, gaps are apparent.

Other problems related to reverse-commute service were also cited:

- *The cost of service is perceived to be too high*, reflecting the fact that virtually all transit service has distance based fares (i.e., zones) and that many trips to suburban job sites involve multiple zone trips. More selectively, costs for certain reverse-commute trips are high because of transfer requirements involving bus carriers that do not have reciprocal transfer fare allowances.
- *Travel times are seen as detriments*; a consequence of general traffic congestion on urban to suburban roadways; also service

is less frequent than desired. Buses are delayed by congestion on urban to suburban roadways.

- *Information about routes, schedules and stops is wanting in certain areas.* Many private carriers do not publish route and schedule information, and designated stops are absent where municipalities, the New Jersey Department of Transportation (NJDOT), and NJ TRANSIT cannot reach consensus on stop locations.
- *Design barriers serve as a public transit impediment,* including median barriers that inhibit roadway crossing, set-backs that typify suburban development site plans, and the lack of "pedestrian-friendly" paths between the work-sites and pick-up/drop-off points.

7. *The service deficiencies identified in the preparation of the Urban Transportation Supplement constitute a demand for expanded and improved transit service.* While budgetary constraints have inhibited NJ TRANSIT from responding to demands for such services (inasmuch as the services are not financially self-supporting and additional operating costs require increased subsidies), service planning efforts are underway to substantially address the deficiencies noted, and there are promising prospects for funding on the horizon. These prospects include:

- Federal Air Quality mandates that require major employers to reduce single occupant automobile commute trips during the peak periods;
- the discretion to use federal Congestion Mitigation Air Quality (CMAQ) funds to operate new transit services which can benefit air quality for up to two years;
- a pending request for \$5 million of CMAQ funds for this purpose; and
- changes in federal tax policy that allow greater employer subsidization of transit on a tax deductible basis.

These key findings indicate that a variety of actions need to be taken to respond to urban residents' transportation needs. Required actions and progress made to date are summarized below.

1. *Service gaps both in and outside the cities need to be addressed.*
Planning efforts to define appropriate service responses are underway, and highest priority services could be implemented as early as FY1994 if funds permit. The suburban service planning efforts are being undertaken by NJ TRANSIT in cooperation with transportation management associations (TMAs) throughout the state, while NJ TRANSIT continues to play a primary role in the in-city planning efforts. A more descriptive summary of the gaps appears later in this summary report, and still more detailed descriptions appear in the individual city reports.
2. *Ongoing major new transit initiative plans benefitting the cities need to be expedited.* These include the planned light rail system along the Hudson River Waterfront, the planned light rail system extension serving Newark and Elizabeth, plans for new rail (or busway) links in Burlington and Gloucester counties that will benefit Camden, the Secaucus Transfer Station that will benefit Paterson, Newark, and Elizabeth, and the Kearny Connection that will benefit Newark.
3. *Communication of routes, schedules, and stops needs to be improved.* Knowledge of route and schedule information was identified as a deficiency where stops are unmarked in a number of locations throughout the state. NJ TRANSIT intends to continue to disseminate route and schedule information and focus marketing efforts on providing information to potential riders. NJ TRANSIT is also in the midst of developing a staged plan to improve bus stop identification and signage. Signage presently requires municipal and NJDOT approvals to formally designate the stop. NJ TRANSIT is working with NJDOT to simplify the formal designation/signage process.
4. *Efforts must be made to address concerns expressed about high costs (fares).* Relative to the pay scale for less-skilled jobs, long commutes which have multi-zone fares are often impediments to employment.

The fare for these trips can be reduced in cases where employers are willing to participate in special subsidy programs. NJ TRANSIT and the TMAs are working with employers to encourage them to participate in a \$60 per month tax free transit subsidy program to employees who wish to commute by transit or van pool. This program has the potential to substantially, if not entirely, offset the fares for most reverse-commute trips.

5. *Concerns about security near bus stops need to be addressed.* NJ TRANSIT has installed bus radios on board all of its buses. This allows bus drivers to have immediate communication with NJ TRANSIT security and local police to request assistance or to report incidents they observe along the bus routes. NJ TRANSIT has tested and now is implementing a statewide program which allows buses to stop at night to discharge passengers closer to their destinations rather than only at designated bus stops.

The preparation of this Urban Transportation Supplement marks a beginning. The road and transportation infrastructure network will be extensively overhauled during the next decade and, in consonance with the New Jersey State Development and Redevelopment Plan, central city areas will receive high priority for these capital investments. Public transit deficiencies have been clearly defined; services designed to respond to these deficiencies are in active preparation. How much of this service materializes will be financially dependent and, in any event, will evolve over time as air quality mandates become more imminent and agreements are forged between public transit service providers and employers facing these mandates.

Other deficiencies demand non-financial solutions. The designation of bus stops requires more concerted, cooperative efforts between NJ TRANSIT, municipalities, and NJDOT, since stops must be agreed to by municipalities and NJDOT, and since parking prohibitions at bus stops must be enforced by police forces having jurisdiction over these stops. Design deficiencies—including median barriers, suburban site plans with large setbacks, and the lack of pedestrian amenities—pose more daunting challenges, and suggest the need for new site planning standards and road/sidewalk design accommodations to govern future development approvals and roadway improvement efforts.

In summary, the Urban Transportation Supplement defines an ambitious agenda for transit service improvement, and the update called for by state statute in 1996 will serve as an important milestone for measuring progress.

INFORMATION SOURCES

Information has been gathered for this report from the U.S. Census, the New Jersey Transportation Plan, the NJ TRANSIT Capital Plan, county and local master and transportation plans, population and employment projections from the State Development and Redevelopment Plan, annual reports from private industrial councils and job training agencies, and numerous other forms of published data.

An important source of information included in this report is the feedback received from field professionals in the form of personal interviews. Approximately forty interviews were undertaken in the seven target cities. Two- to three-hour interviews were completed with individuals representing the following types of entities:

Planning/Transportation Offices

Economic Development/Housing Agencies

Job Placement/Job Training Agencies

The data analysis undertaken, field information compiled, and transportation insights provided by knowledgeable individuals combine to make this overall report and the individual city studies unique and important.

ORGANIZATION OF THE REPORTS

The Urban Transportation Supplement consists of six groupings of information for each city, dealing primarily with the social and economic condition of the cities, their local and regional transportation systems, and the impact of these systems on the employment of central city residents, and strategies to deal with these problems. Information is organized into the following sections:

SECTIONS I-II	<i>Demographic Profile of the City</i>
SECTIONS III-VI	<i>Employment Patterns and Projections</i>
SECTION VII	<i>The City-to-Suburb/In-City Transportation Network</i>
SECTION VIII	<i>Synthesis of Job Growth Data and Existing Public Transit Network</i>

SECTIONS IX-XI

*Transportation and Other Problems
Impacting Employment*

SECTION XII

Transportation Strategies

This information is presented in eight stand-alone reports, one for each city and a single summary report. The information contained here has been standardized to present a comparable picture for each city. This picture profiles the unique economic evolution of the city and its labor area and how this evolution has affected where jobs are and the potential for central city residents to access these jobs. It is a picture that explains where jobs will go in the future and the relationship of these jobs to private and public transportation networks. The picture further details the strengths and weaknesses of the various transportation networks and how these strengths and weaknesses impact on those who are looking for work. Finally, it is a glimpse of what strategies are necessary to connect those who are unemployed and the jobs that will emerge in the region.

I. BACKGROUND

New Jersey is a very small state in size. It ranks 46th among the states with a total area of 8,224 square miles. On the other hand, New Jersey ranks as one of the larger states in population. With an estimated 7.73 million people in 1990, New Jersey is the ninth most populous state. Not surprisingly, it remains the most densely populated and most highly urbanized state in the nation. It is located near the center of the sprawling megalopolis that has taken shape between Boston and Washington, and accordingly it epitomizes "urban sprawl" and all of the baffling problems that this phenomenon presents to urban and transportation planners.

New Jersey has in the past been involved in its own kind of population explosion. Not till 1850 did the total population of the state reach one million. In the single decade between 1950 and 1960, one million people were added to the state's population; this was repeated again between 1960 and 1970. But for the next twenty years, between 1970 and 1990, only one-half million people were added to a 1970 total of nearly 7.2 million. During the period 1980 to 1990 the population of New Jersey increased by barely 5 percent.

II. DEMOGRAPHIC PROFILE OF THE CITIES' POPULATIONS

The major cities of New Jersey as a whole have not participated in the later periods of population gain. Most of the state's major cities hit their peaks in terms of number of residents in the 1940s and 1950s, and while the suburbs were to peak in the 1960s, the

cities either declined or barely grew. This is certainly true for Newark, Paterson, Camden, Trenton, and Atlantic City, and somewhat less true for Jersey City and Elizabeth. In the former case, Newark lost eighteen percent of its households from 1980 to 1990 while the remaining four cities lost about five percent each; in the latter case Jersey City gained slightly in its number of households (2 percent) while Elizabeth remained essentially even from decade to decade (Figure 1 and Table 1).

The population mix of these cities is changing. There has been a significant shift of the white population out of the cities, and a replacement of this population by blacks, Hispanics, and Asians. In some of these cities, this population shift is either not accompanied by an age shift, where the increase in working population is about at the statewide average (Elizabeth, Trenton, Camden), or in others it is accompanied by an age shift, where the increase in the working population is at least double the statewide average (Atlantic City, Jersey City, Newark, and Paterson). These working-age poor are often either unemployed or underemployed.

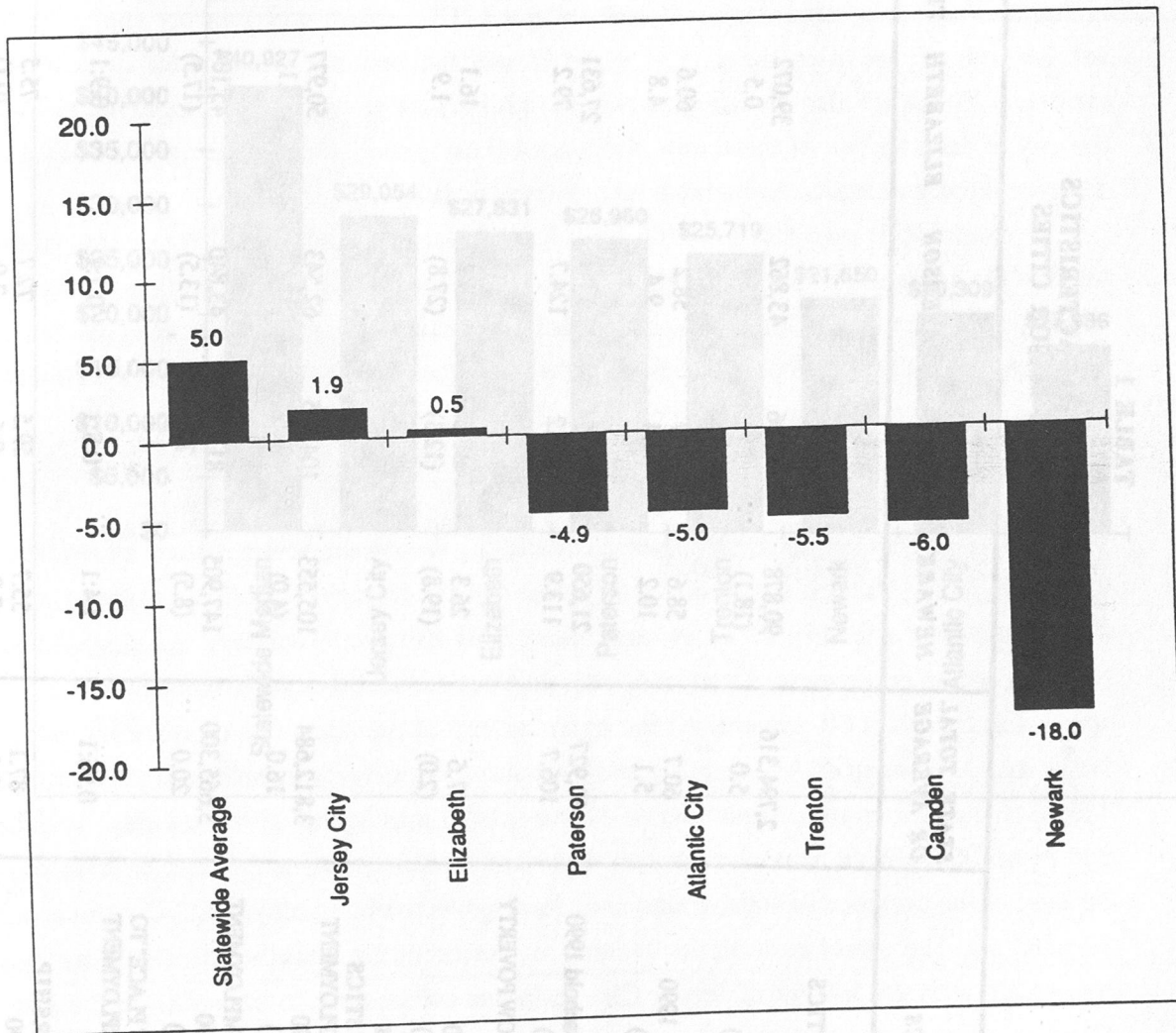
With population change, there is a concomitant shift in wealth and educational achievement. Inhabitants of New Jersey's large cities are both poorer and less educated than their suburban counterparts. Median income is barely half the statewide average in Newark and Atlantic City, below half the statewide average in Camden, and about half to three-quarters of the state average in Trenton, Paterson, Elizabeth, and Jersey City (Figure 2). These latter four cities have 2.5 times the percentage of households below the poverty level as the statewide average; Newark and Atlantic City have three times the state average; and Camden, five times.

III-VI. LABOR FORCE PARTICIPATION AND "AT-PLACE" EMPLOYMENT— CURRENT LEVELS AND PROJECTED GROWTH

The employment of residents due to greater labor force participation increased in many of New Jersey's major cities over the decade. In most cases (Paterson, Jersey City, Camden, Atlantic City, and Trenton) employment gains hovered about the statewide average at 10–20 percent increases (Table 1). In Elizabeth the resident employment increase was significantly below the state average increase at five percent growth in a decade; in Newark resident employment actually declined by four percent. Resident employment increases reflect primarily the growth in job opportunities outside the city for city residents. This becomes particularly evident when "at-place" employment statistics are viewed.

At-place employment consists of employment opportunities that are found within the city and in which both city and non-city residents participate. In the majority of cities studied (Elizabeth, Paterson, Trenton, and Newark), at-place employment is declining

FIGURE 1
URBAN TRANSPORTATION SUPPLEMENT CITIES'
PERCENT HOUSEHOLD GROWTH 1980-1990
RELATIVE TO THE STATEWIDE AVERAGE



Source: U.S. Dept. of Commerce, Bureau of the Census. U.S. Census of Population and Housing, New Jersey, 1990.

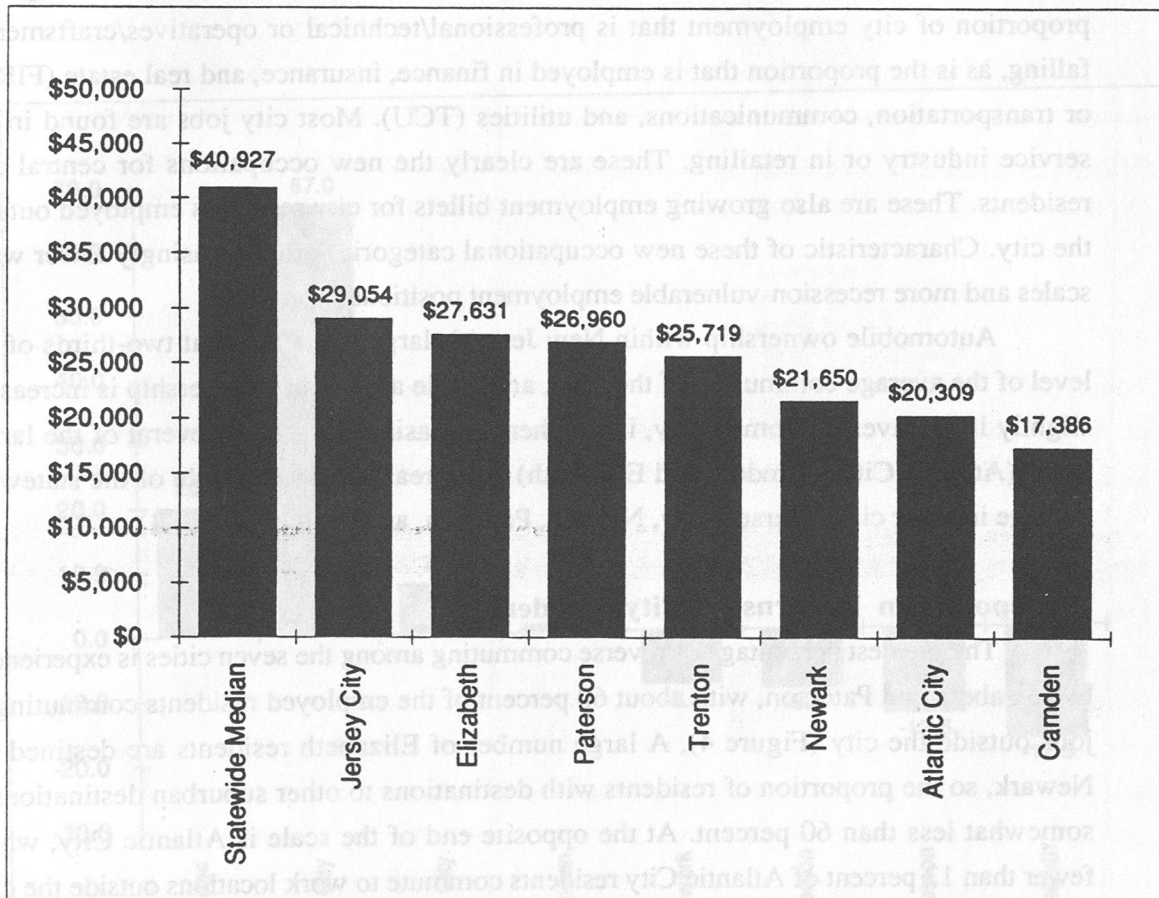
TABLE 1
SOCIOECONOMIC CHARACTERISTICS
OF NEW JERSEY'S MAJOR CITIES

SOCIOECONOMIC CHARACTERISTICS	NEWARK	JERSEY CITY	PATERSON	ELIZABETH	TRENTON	CAMDEN	ATLANTIC CITY
STATE TOTAL OR AVERAGE							
I. POPULATION CHARACTERISTICS							
A. HOUSEHOLDS							
Total 1990	90,878 (18.1)	82,306 1.9	43,862 (4.9)	39,072 0.5	30,673 (5.5)	26,526 (5.9)	15,891 (5.0)
Δ 80-90 (%)							
B. POPULATION							
Aged 20-64 1990	58.6 10.2	61.7 11.4	58.2 9.4	60.6 4.8	57.9 4.9	49.1 6.7	55.6 12.8
Δ 80-90 (%)							
C. INCOME							
Median Household 1990	21,650 113.9	29,054 127.2	26,960 124.7	27,631 79.2	25,719 111.11	17,386 87.2	20,309 107.0
Δ 80-90 (%)							
D. PERCENT BELOW POVERTY LEVEL							
Percent 1990	26.3 (19.8)	18.6 (12.3)	18.2 (27.8)	16.1 1.9	18.1 (3.9)	36.6 0.8	24.2 (2.8)
Δ 80-90 (%)							
II. EMPLOYMENT CHARACTERISTICS							
A. RESIDENT EMPLOYMENT							
Number 1990	105,553 (4.0)	104,595 18.5	62,543 18.6	50,977 5.1	37,616 9.1	27,306 15.7	16,812 10.2
Δ 80-90 (%)							
B. "AT PLACE" EMPLOYMENT							
Number 1990	147,905 (8.5)	81,404 7.6	43,840 (13.5)	45,104 (17.5)	31,851 (9.3)	37,392 1.2	73,779 67.0
Δ 80-90 (%)							
C. RATIO OF "AT PLACE" TO RESIDENT EMPLOYMENT							
Ratio 1990	1.4:1	0.8:1	0.7:1	0.9:1	0.8:1	1.4:1	4.4:1
III. AUTO OWNERSHIP							
Percent 1990	55.7 7.9	59.5 8.6	72.7 7.0	75.5 (0.1)	69.2 4.2	56.4 (0.5)	47.1 (1.7)
Δ 80-90 (%)							

Source: U.S. Department of Commerce, Bureau of the Census. U.S. Census of Population and Housing, New Jersey 1980, 1990.

FIGURE 2

**URBAN TRANSPORTATION SUPPLEMENT CITIES'
1989 MEDIAN HOUSEHOLD INCOME
RELATIVE TO THE STATEWIDE MEDIAN**



Source: U.S. Dept. of Commerce, Bureau of the Census. U.S. Census of Population and Housing, New Jersey, 1990.

(Table 1). In two other cities at-place employment is increasing slightly (Jersey City and Camden), and in one city (Atlantic City) it has increased significantly (Figure 3). At-place employment is typically less than resident employment in most of New Jersey's large cities (Trenton, Paterson, Elizabeth, and Jersey City); it is greater by forty percent in Newark and Camden and greater by 340 percent in Atlantic City (Table 1). Not only is at-place employment declining in many of the state's central cities, but the share of occupants in professional job billets and white-collar employment categories is also decreasing. The proportion of city employment that is professional/technical or operatives/craftsmen is falling, as is the proportion that is employed in finance, insurance, and real estate (FIRE), or transportation, communications, and utilities (TCU). Most city jobs are found in the service industry or in retailing. These are clearly the new occupations for central city residents. These are also growing employment billets for city residents employed outside the city. Characteristic of these new occupational categories are increasingly lower wage scales and more recession-vulnerable employment positions.

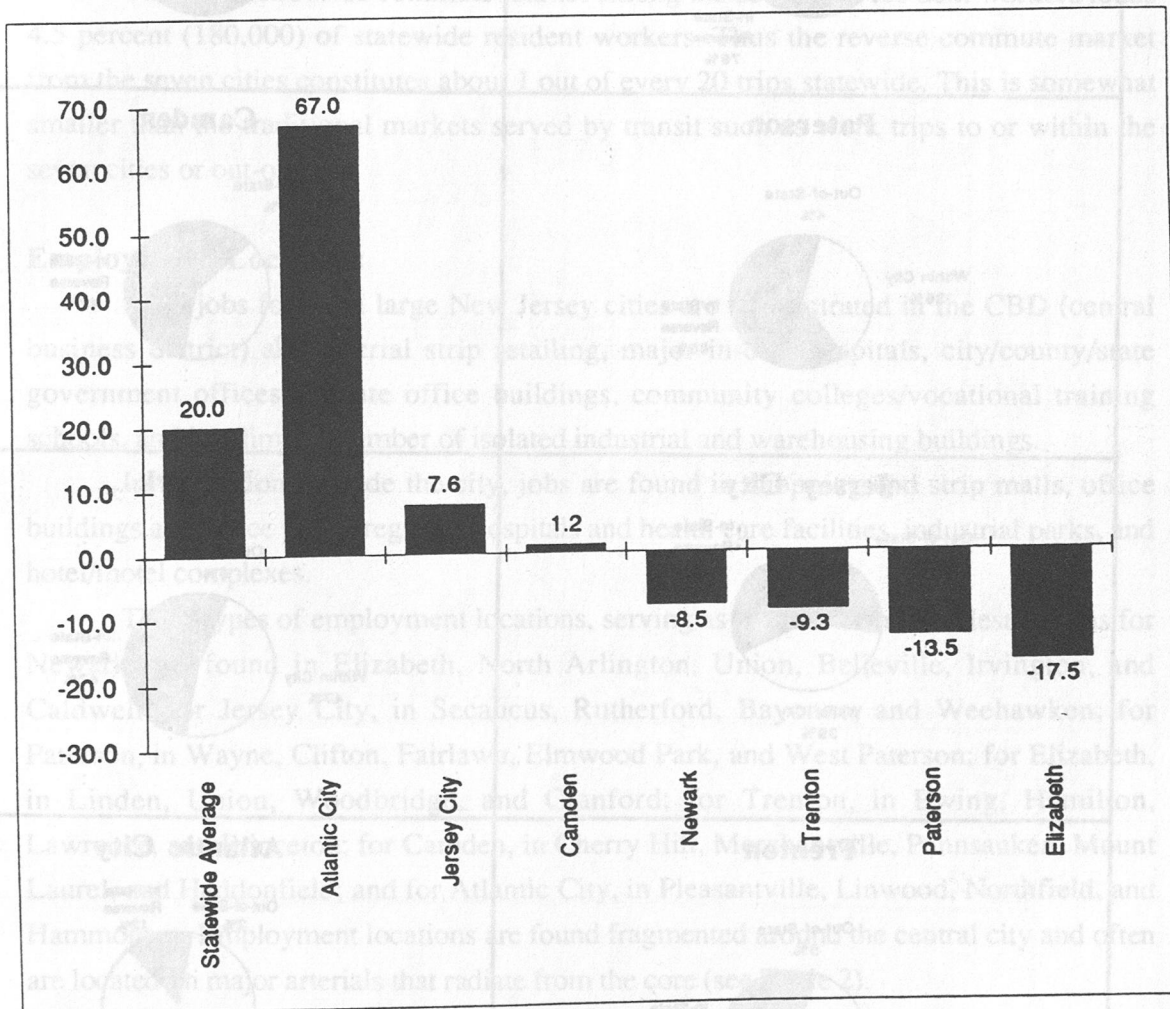
Automobile ownership within New Jersey's large cities is about two-thirds of the level of the average community of the state, and while automobile ownership is increasing slightly in the average community, it is either decreasing slightly in several of the larger cities (Atlantic City, Camden, and Elizabeth) or increasing at a multiple of the statewide average in other cities (Jersey City, Newark, Paterson, and Trenton; Table 1).

Transportation Patterns of City Residents

The greatest percentage of reverse commuting among the seven cities is experienced by Elizabeth and Paterson, with about 60 percent of the employed residents commuting to jobs outside the city (Figure 4). A large number of Elizabeth residents are destined for Newark, so the proportion of residents with destinations to other suburban destinations is somewhat less than 60 percent. At the opposite end of the scale is Atlantic City, where fewer than 12 percent of Atlantic City residents commute to work locations outside the city. This is due to the enormous number of casino-related jobs found within the city. Trenton and Newark show an almost even split between in-city trips and in-state reverse trips because of the presence of state, county, and local government employment (45 percent and 48 percent). The travel patterns for Jersey City residents are heavily influenced by New York City with 28 percent of Jersey City residents commuting to jobs outside the state. Camden also shows a significant number of residents working in another state (13 percent), reflecting primarily the strength of Philadelphia as an employment center.

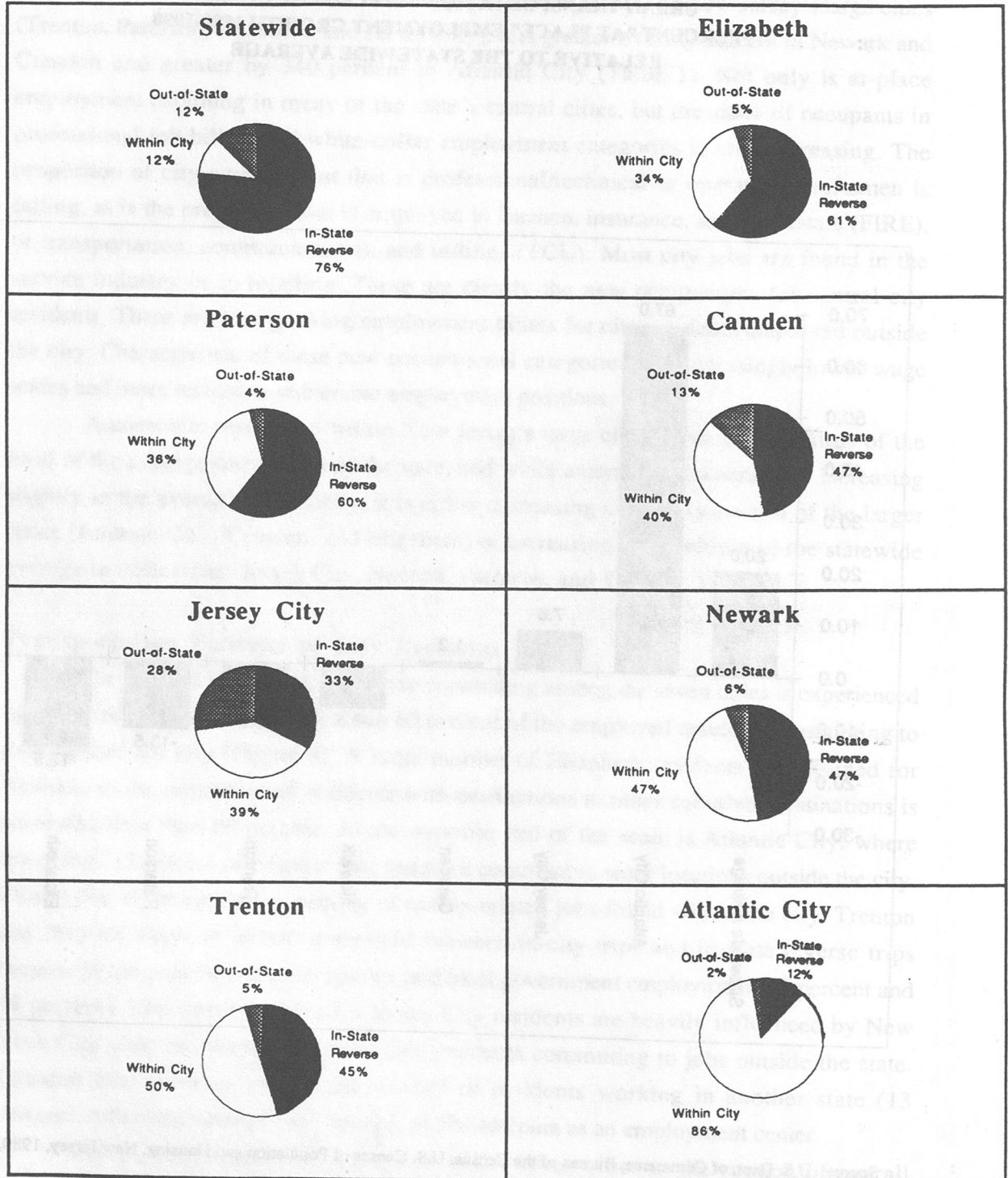
Figure 4 illustrates the importance of the seven cities in the context of overall commuting patterns among the 3.8 million resident workers in New Jersey in 1990.

FIGURE 3
URBAN TRANSPORTATION SUPPLEMENT CITIES'
PERCENT "AT PLACE" EMPLOYMENT GROWTH 1980-1990
RELATIVE TO THE STATEWIDE AVERAGE



Source: U.S. Dept. of Commerce, Bureau of the Census. U.S. Census of Population and Housing, New Jersey, 1980, 1990.

FIGURE 4
COMMUTING PATTERNS - STATEWIDE
AND IN THE URBAN TRANSPORTATION SUPPLEMENT CITIES



Source: U.S. Department of Commerce, Bureau of the Census, U.S. Census Population and Housing, New Jersey, 1990

Overall, 11.5 percent of resident workers commute to jobs in the seven cities. Another 11.7 percent of New Jersey residents commute out-of-state, primarily to New York City and Philadelphia. The remaining 76.8 percent commute to work inside the state, but outside the seven cities. Thus, resident work trips to or within the seven cities (440,000) constitute 1 out of every 9 work trips on a statewide basis, approximately equal to the traditional transit oriented market of out-of-state commuting to New York City and Philadelphia. Combined, these two markets constitute most of NJ TRANSIT's potential primary market, with almost 1 in 4 (23.2 percent) resident workers.

The in-state reverse commute market among the seven city resident workers totals 4.5 percent (180,000) of statewide resident workers. Thus the reverse commute market from the seven cities constitutes about 1 out of every 20 trips statewide. This is somewhat smaller than the traditional markets served by transit such as work trips to or within the seven cities or out-of-state.

Employment Locations

Most jobs found in large New Jersey cities are concentrated in the CBD (central business district) and arterial strip retailing, major in-city hospitals, city/county/state government offices, private office buildings, community colleges/vocational training schools, and in a limited number of isolated industrial and warehousing buildings.

In the region, outside the city, jobs are found in shopping and strip malls, office buildings and office parks, regional hospitals and health care facilities, industrial parks, and hotel/motel complexes.

These types of employment locations, serving as reverse-commute destinations for Newark, are found in Elizabeth, North Arlington, Union, Belleville, Irvington, and Caldwell; for Jersey City, in Secaucus, Rutherford, Bayonne, and Weehawken; for Paterson, in Wayne, Clifton, Fairlawn, Elmwood Park, and West Paterson; for Elizabeth, in Linden, Union, Woodbridge, and Cranford; for Trenton, in Ewing, Hamilton, Lawrence, and Princeton; for Camden, in Cherry Hill, Merchantville, Pennsauken, Mount Laurel, and Haddonfield; and for Atlantic City, in Pleasantville, Linwood, Northfield, and Hammonton. Employment locations are found fragmented around the central city and often are located on major arterials that radiate from the core (see Table 2).

Employment Projections

Total Employment

Projections of total employment growth show mostly all of *the labor areas* growing in which these central cities are found. The one exception is the labor area encompassing

TABLE 2
EMPLOYMENT GROWTH AND EMPLOYMENT LOCATIONS

EMPLOYMENT CHARACTERISTICS	STATE TOTAL OR AVERAGE	NEWARK	JERSEY CITY	PATERSON	ELIZABETH	TRENTON	CAMDEN	ATLANTIC CITY
I. EMPLOYMENT GROWTH								
A. TOTAL "AT PLACE" EMPLOYMENT GROWTH 1990-2000								
City	N/A	(10,548) (7.3)	12,106 15.2	(7,057) (17.1)	(2,359) (4.9)	7,690 22.4	12,122 34.0	6,554 8.5
Labor Area	205,680 5.6	(13,500) (1.4)	30,777 12.4	8,094 1.2	(13,500) (1.4)	17,569 8.9	83,697 18.5	8,191 4.7
B. LESS-SKILLED EMPLOYMENT GROWTH 1993-2000								
Labor Area	130,716	(7,745)	12,725	(13,905)	(7,745)	6,222	41,031	3,737
Major Municipalities Losses		Newark East Orange Bloomfield Elizabeth Linden Union	Hoboken Kearny	Paterson Clifton Passaic Wayne	Morris Plains Dover Newark Bloomfield Linden Union Twp.	N/A	Wrightstown Barrington Paulsboro Pitman	Wildwood Ocean City Wildwood Crest North Wildwood
Gains		Morristown Par-Troy Hills	Secaucus Jersey City North Bergen Weehawken	West Paterson Hackensack Fort Lee	Morristown Par-Troy Hills Roseland Newtown Sparta	Trenton Lawrence Twp. West Windsor	Mt. Laurel Evesham Camden Pennsauken Woodbury	Middle Twp. Upper Twp. Atlantic City Hamilton Twp.
C. LESS-SKILLED EMPLOYMENT SEPARATIONS 1993-2000								
Labor Area	440,053	108,947	28,331	73,007	108,947	20,224	55,230	28,060
Major Municipalities Gains		Newark Livingston West Orange Morristown Par-Troy Hills Florham Park Hanover	Jersey City Secaucus North Bergen Bayonne	Paramus Wayne Hackensack Clifton Paterson	Morristown Par-Troy Hills Newark Millburn Livingston Elizabeth	Trenton Princeton Lawrence Twp. Hamilton Twp. Ewing Twp.	Evesham Mt. Laurel Cherry Hill Camden Deptford Woodbury	Atlantic City Egg Harbor Hamilton Hammonon Somers Pt. Middle Twp. Ocean City

TABLE 2 (continued)
EMPLOYMENT GROWTH AND EMPLOYMENT LOCATIONS

EMPLOYMENT CHARACTERISTICS	STATE TOTAL OR AVERAGE	NEWARK	JERSEY CITY	PATERSON	ELIZABETH	TRENTON	CAMDEN	ATLANTIC CITY
II. EMPLOYMENT LOCATIONS A. MAJOR REVERSE COMMUTE DESTINATIONS	N/A	Elizabeth No. Arlington Union Belleville Irvington Jersey City	Secaucus Rutherford Bayonne Newark Weehawken	Wayne Clifton Fairlawn Elmwood Park West Paterson	Newark Linden Union Woodbridge Cranford	Ewing Hamilton Twp. Lawrence Princeton	Cherry Hill Merchantville Pennsauken Mt. Laurel Haddonfield Cinnaminson	Pleasantville Linwood Northfield Hamilton
	B. SPECIFIC LOCATION OF EMPLOYMENT POTENTIAL	N/A	Bloomfield Ave. Passaic-Fairfield Shop. Centers I-280 Oranges Hosp. Route 22 Retail-Industry Springfield Ave. Short Hills Mall Livingston Mall	Route 169 Industrial Center Newark Int'l Airport Secaucus Harmon Cove Harmon Meadows Meadowlands Complex Lyndhurst Corp. Park	Route 23 Wayne Industrial Route 80 Totowa Wayne Willow Brook Mall Route 46, 203 Clifton Passaic West Paterson General Hosp. Route 4, 17 Paramus Mall	Linden Exxon Rahway Merck Woodbridge Mall Berkeley Heights	Route 1 Princeton Hamilton DOT Complex Area Mercer City Airport and Office Park Trenton State College Industrial Parks	Route 70 Marlton/ Pennsauken Route 38 Moorestown Mall Cherry Hill North Burlington County
In-City		Retail-Broad Market Offices-Ins. Co. In-City Hosp. City/City/State Govt. Five Colleges Airport/Port Airports	Retail-Downtown Offices Hospitals City/City/State Fed. Govt. Three Colleges Industrial Park	Retail-Downtown In-City Hosp. City/City. Govt. Industrial Park	Retail-Downtown Three Hosp. One College Industrial Park Two Airports Three Coll. Industrial Pk.	Retail-Downtown Trenton Commons- State Street City/City/ State/Fed. Govt. Two Coll. Two Ind'l Parks	Retail-Downtown Campbell Soup In-City Hosp. City/City/ State/Fed. Govt.	Retail-Downtown Boardwalk City/City Govt. Law Firms

Source: CUPR interviews in the seven Urban Transportation Supplement cities, July-December 1992

Elizabeth and Newark. Employment in these two *cities* themselves along with Paterson will also decrease over the projection period 1990–2000. While the Newark–Elizabeth labor area decline amounts to only one percent, the two cities in this labor area will lose from 5 to 7 percent of their 1990 base. The city of Paterson is projected to lose more than 17 percent of its 1990 employment base by the year 2000.

On the positive side, Jersey City, Trenton, and Camden will likely increase their future employment base at 3–6 times the level of the average percent increase for the state as a whole.³ Atlantic City's employment will increase at a rate slightly more than that of the statewide average.

Less-Skilled Employment

Projections of less-skilled employment growth essentially parallel those of total employment and encompass about 60 percent of all employment growth. Over the period 1993–2000, there will be a net loss of less-skilled jobs in the Newark–Elizabeth labor area and a similar net loss for the Paterson labor area. The percentage loss in the Paterson labor area will be twice the level observed for the Newark–Elizabeth labor area. On the other hand, there will be significant growth of less-skilled employment in the Camden and Jersey City labor areas, and also less significant but clearly observable growth in the Trenton and Atlantic City labor areas.

In most labor areas, regardless of what is happening to overall growth, there are individual municipalities that will experience employment loss; these are primarily the close-in, older, developed municipalities. There are also some municipalities in the labor area that will experience growth. In most cases these are the newly developing, more-distant municipalities.

VII. THE EXISTING TRANSPORTATION NETWORK

The existing transportation network in New Jersey's cities consists of road networks that serve employers in-city and outside the city, and transit facilities that serve many of these same employers. The road network is newer and healthier in the suburbs; it is older and more in need of repair in the cities.

³ These projections reflect the emphasis of the State Development and Redevelopment Plan to reconcentrate some share of population and employment growth in central cities. This has the effect of both slowing population/employment losses in cities where there are declines and accelerating growth in locations of increase.

Highways (Map B)

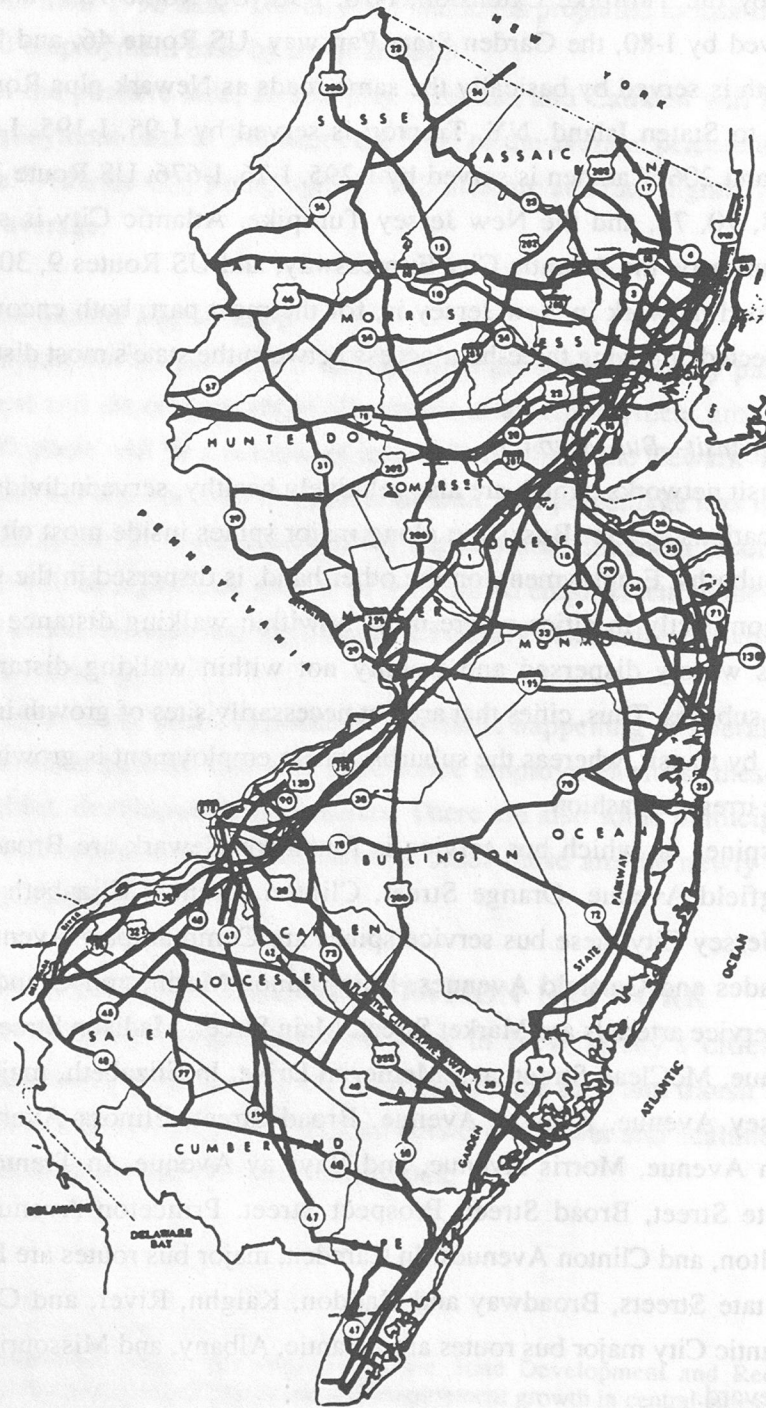
Newark is served by a regional road network consisting of I-280, I-78, the New Jersey Turnpike, the Garden State Parkway, US Route 1&9, and US Route 22. Jersey City is served by the Turnpike Extension, I-78, I-95, US Route 1&9, and Route 440. Paterson is served by I-80, the Garden State Parkway, US Route 46, and Routes 4, 19, and 20. Elizabeth is served by basically the same roads as Newark plus Route 27, Route 439, and I-287 to Staten Island, NY. Trenton is served by I-95, I-195, I-295, and US Routes 1, 130, and 206. Camden is served by I-295, I-76, I-676, US Route 30, US Route 130, Routes 38, 70, 73, and the New Jersey Turnpike. Atlantic City is served by the Garden State Parkway, the Atlantic City Expressway, and US Routes 9, 30, and 40/322. The interstate road network in New Jersey is, for the most part, both encompassing and efficiently connected, allowing three-hour access between the state's most distant borders.

Public Transit—Bus (Map C)

Bus transit networks, which are also relatively healthy, serve individual cities well but outlying locations less so. Buses run along major spines inside most cities and major arteries in the suburbs. Employment, on the other hand, is dispersed in the suburbs but is located more compactly in cities where most is within walking distance of bus stops. Employment is widely dispersed and usually not within walking distance of transit corridors in the suburbs. Thus, cities that are not necessarily sites of growth in employment are well served by transit, whereas the suburbs, where employment is growing, are served in a much more irregular fashion.

Major spines on which bus service is found for Newark are Broad and Market Streets, Springfield Avenue, Orange Street, Clinton Avenue, Elizabeth Avenue, and Broadway. In Jersey City these bus service spines are Communipaw Avenue, West Side Avenue, Palisades and Garfield Avenues, Luis Munoz Marin, and Grand Avenues. In Paterson, bus service arterials are Market Street, Main Street, Madison Street, River Road, Vreeland Avenue, McClean Street, and Memorial Drive. In Elizabeth, major bus service routes are Jersey Avenue, Rahway Avenue, Broad Street, Elmora Avenue, Elizabeth Avenue, North Avenue, Morris Avenue, and Bayway Avenue. In Trenton, major bus routes are State Street, Broad Street, Prospect Street, Princeton Avenue, Brunswick Avenue, Hamilton, and Clinton Avenues. In Camden, major bus routes are Ferry, Federal, Market, and State Streets, Broadway and Haddon, Kaighn, River, and Collins Streets. Finally, in Atlantic City major bus routes are Atlantic, Albany, and Missouri Avenues, and Absecon Boulevard.

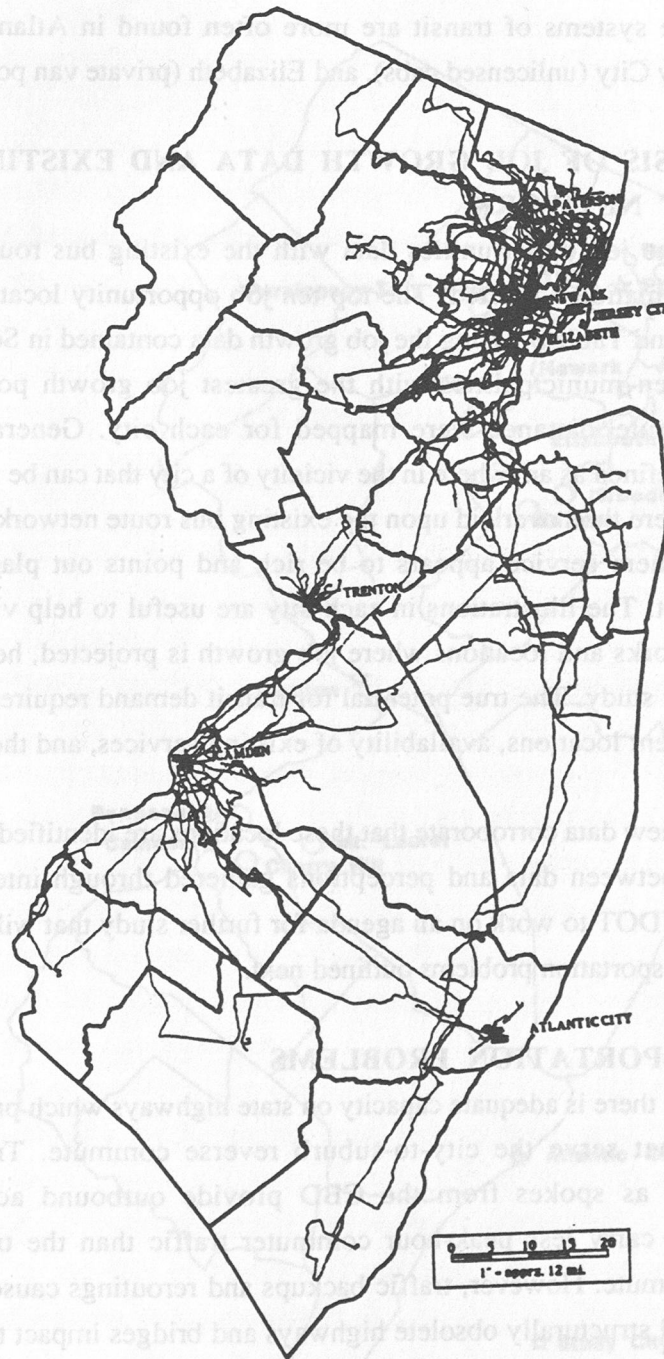
MAP B EXISTING HIGHWAY SYSTEM IN THE STATE OF NEW JERSEY



Source: New Jersey Department of Transportation, Division of Comprehensive Transportation Planning

MAP C

EXISTING BUS LINES IN THE STATE OF NEW JERSEY



Source: NJ TRANSIT

Source: Rutgers University, Center for Urban Policy Research, Spring 1993

Public Transit—Rail

Regional rail service serves all seven cities, although it is less prevalent in Paterson.

Alternative Services

Alternative systems of transit are more often found in Atlantic City (jitneys), Camden and Jersey City (unlicensed cabs), and Elizabeth (private van pools).

VIII. SYNTHESIS OF JOB GROWTH DATA AND EXISTING PUBLIC TRANSIT NETWORK

Merging the job opportunities data with the existing bus route networks helps illustrate the information collected. The top ten job opportunity locations statewide are shown in Map D and Table 3. Using the job growth data contained in Section VI of all the reports, the top ten municipalities with the greatest job growth potential within the 'reasonable commute' distance were mapped for each city. Generally, a reasonable commute can be defined as anywhere in the vicinity of a city that can be reached in an hour. These locations were then overlaid upon the existing bus route network for each city. The maps illustrate where service appears to be rich and points out places where service opportunities exist. The illustrations in each city are useful to help visualize the public transit route networks and locations where job growth is projected, helping to define an agenda for further study. The true potential for transit demand requires detailed study of specific employment locations, availability of existing services, and the potential for new services.

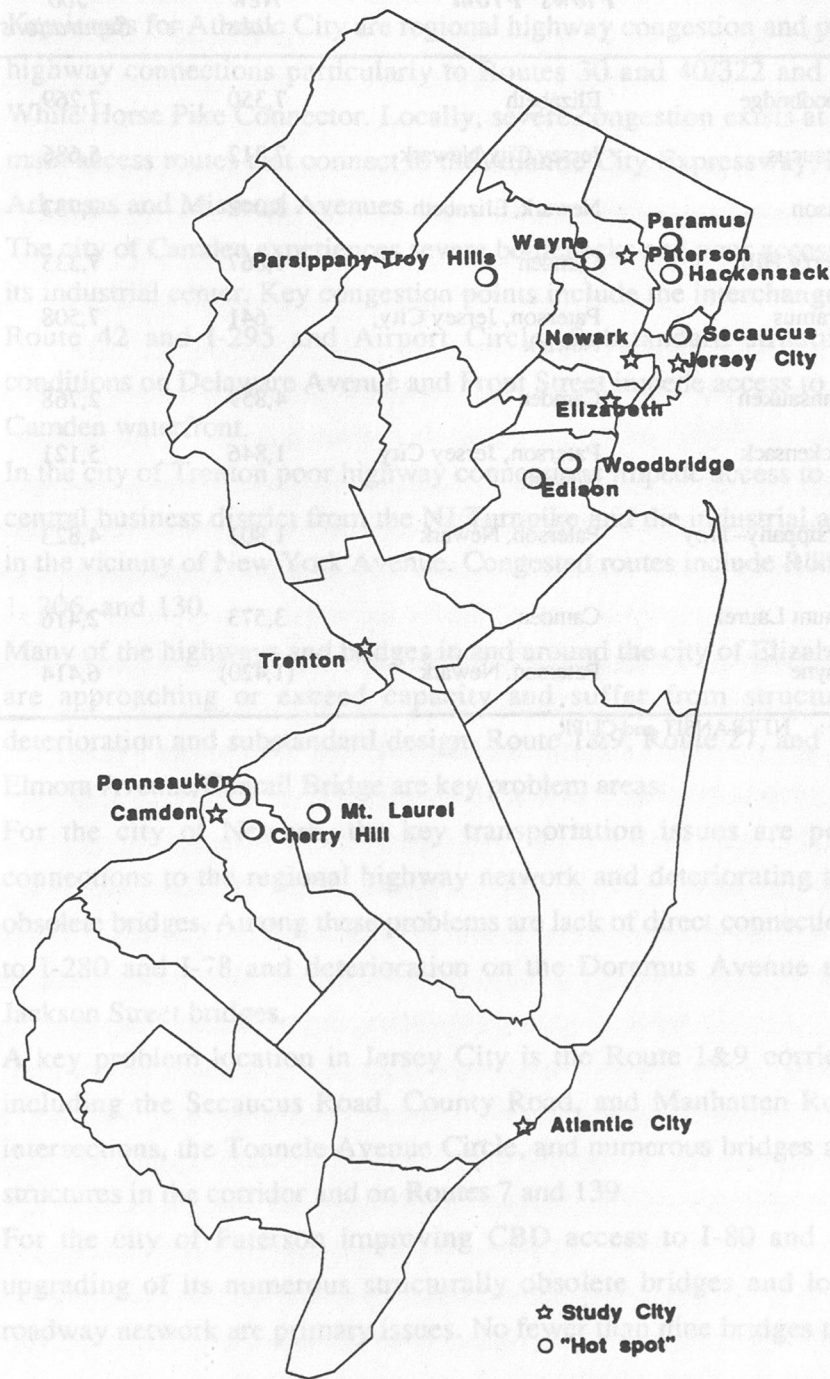
The interview data corroborate that these locations are identified as key for growth. The connection between data and perceptions gathered through interviews allows NJ TRANSIT and NJDOT to work on an agenda for further study that will prove responsive to the specific transportation problems outlined next.

IX-X. TRANSPORTATION PROBLEMS

In general, there is adequate capacity on state highways which provide radial access to downtowns that serve the city-to-suburb reverse commute. Traditionally, these highways acting as spokes from the CBD provide outbound access to suburban employment and carry less peak-hour commuter traffic than the traditional inbound employment commute. However, traffic backups and reroutings caused by high volume usage of aged and structurally obsolete highways and bridges impact the reliability of all state and local highways, including those serving the reverse commuter.

MAP D

HOT SPOTS OF MUNICIPAL LESS-SKILLED EMPLOYMENT GROWTH (1993-2000) IN RELATION TO THE URBAN SUPPLEMENT CITIES



Source: Rutgers University, Center for Urban Policy Research, Spring 1993

MAP D
HOT SPOTS OF MUNICIPAL EMPLOYMENT GROWTH
(1993-2000) IN SELECTED SUPPLEMENTARY CITIES

TABLE 3
MUNICIPALITIES WITH
GREATEST JOB GROWTH POTENTIAL, 1993-2000

<i>Location</i>	<i>Employment Flows From</i>	<i>Job Volume</i>		
		<i>New Jobs</i>	<i>Job Separations</i>	<i>Total</i>
Woodbridge	Elizabeth	7,350	7,269	14,619
Secaucus	Jersey City/Newark	7,312	5,686	12,998
Edison	Newark, Elizabeth	3,042	7,733	10,775
Cherry Hill	Camden	1,867	7,333	9,200
Paramus	Paterson, Jersey City, Newark	641	7,508	8,150
Pennsauken	Camden	4,859	2,768	7,627
Hackensack	Paterson, Jersey City, Newark	1,846	5,121	6,967
Parsippany-Troy Hills	Paterson, Newark	1,801	4,823	6,624
Mount Laurel	Camden	3,573	2,416	5,989
Wayne	Paterson, Newark	(1,420)	6,414	4,994

Source: NJ TRANSIT and CUPR.

For the most part, state and local highway problems that impact vehicular mobility—aging, obsolete, and congested facilities—are similar for all New Jersey cities. There are highway problems that are significant in particular cities.

Highways

- Key issues for Atlantic City are regional highway congestion and poor highway connections particularly to Routes 30 and 40/322 and the White Horse Pike Connector. Locally, severe congestion exists at the main access routes that connect to the Atlantic City Expressway, i.e., Arkansas and Missouri Avenues.
- The city of Camden experiences severe bottlenecks and poor access to its industrial center. Key congestion points include the interchange at Route 42 and I-295 and Airport Circle. Substandard structural conditions on Delaware Avenue and Front Street impede access to the Camden waterfront.
- In the city of Trenton poor highway connections impede access to the central business district from the NJ Turnpike and the industrial area in the vicinity of New York Avenue. Congested routes include Routes 1, 206, and 130.
- Many of the highways and bridges in and around the city of Elizabeth are approaching or exceed capacity and suffer from structural deterioration and substandard design. Route 1&9, Route 27, and the Elmora Avenue/Conrail Bridge are key problem areas.
- For the city of Newark, the key transportation issues are poor connections to the regional highway network and deteriorating and obsolete bridges. Among these problems are lack of direct connections to I-280 and I-78 and deterioration on the Doremus Avenue and Jackson Street bridges.
- A key problem location in Jersey City is the Route 1&9 corridor including the Secaucus Road, County Road, and Manhattan Road intersections, the Tonnele Avenue Circle, and numerous bridges and structures in the corridor and on Routes 7 and 139.
- For the city of Paterson improving CBD access to I-80 and the upgrading of its numerous structurally obsolete bridges and local roadway network are primary issues. No fewer than nine bridges that

serve to connect the city over the Passaic River are in need of repair or replacement.

As indicated above, problems with transportation do not vary a great deal from city to city. Each city has a regional road system wherein portions of that road system experience severe congestion. As part of this regional network, there are traffic circles, bridges, over- and underpasses, and sections of roadways that require improvement and replacement. Other portions of the system require better traffic channelization and management due to conflicts between commercial truck traffic and commuter traffic during peak periods. Most of these problems affect those commuting into the city as opposed to residents who are reverse-commuting.

Public Transit

Problems with the reverse commute relate much more to spillover inbound traffic and general levels of heavy congestion than they do to specifically required capital improvements or transportation management efforts. Problems on the reverse commute relate also to transit wherein specific destinations are infrequently reached by transit, or where service is not available to meet a certain shift (Newark, Elizabeth, Trenton, and Camden). Very rarely is service totally unavailable to a site of significant employment. Most of those reporting also indicate that the rolling stock of buses and railcars is relatively new or has been recently refurbished.

From Newark, access by bus transit to the Caldwell-Fairfield, Morristown, and Meadowlands employment centers are expensive and difficult. Airport and seaport bus access for the late shifts is also problematical. From Jersey City, the various employment nodes of the Meadowlands (Sports Complex, Harmon Cove, and Harmon Meadows) are difficult to access during the day and even more difficult at night. There is also a problem of understanding and coordinating private and public bus routes and a cost for transferring between the two types of service providers. From Paterson, suburban employment nodes in Bergen County (Paramus, Hackensack), northwest Essex County, and Northern Passaic County are difficult to reach by bus, as are the several Meadowlands employment concentrations. From Elizabeth there is difficulty reaching the Summit/Route 22/Westfield employment node, as well as the Woodbridge-New Brunswick area. Late shifts at Newark Airport and the Newark-Elizabeth Seaport are also problematical. From Trenton, suburban commuters are hampered by infrequent service in the Princeton Corridor, a lack of continuous service on Olden Avenue, and virtually no service across the various bridges to Pennsylvania. From Camden, bus service to North Camden does not run at night. In the

Route 73 corridor, setbacks of office buildings and median dividers make access to employment a long and difficult task. Burlington County employment centers (a multi-zone bus ride) can be costly for reverse commuters from the poorest of all central cities. From Atlantic City, the more-distant off-island locations in the Route 40 corridor are difficult to reach as are off-island equivalents in the Route 30 corridor. One or two in-city locations also seem to be skipped over by proximate bus service (Bungalow Park, the Taj Mahal).

There are transportation problems in particular cities that are perceived to affect economic development or sustained prosperity. These include the need for a Newark-Elizabeth Rail Link in these cities, a White Horse Pike connector in Atlantic City, key traffic circle improvements in and around Trenton, industrial park access and a bus identification system for Camden, the elimination of parking-related congestion in Jersey City, and train station improvements in Paterson.

There are also complaints, usually from non-transit users, that buses going to particular locations are hard to identify (Camden and Jersey City), or the places at which they stop are improperly or impermanently marked (Paterson, Atlantic City, and Trenton). On the whole, however, urban transportation problems in-city are relatively minor. Those from city to suburb (the reverse commute) are more significant but can also be dealt with given present knowledge and technology.

XI. PROBLEMS OTHER THAN TRANSPORTATION

Unemployed and underemployed inner-city residents must overcome diverse obstacles. In the interviews conducted by the research team, economic development, planning, and employment professionals were asked to rank four obstacles: lack of skills, lack of transportation, lack of information about job opportunities, and problems relating to the individual's personal history. Lack of appropriate skills was identified as the most important obstacle to finding employment in all cities except Atlantic City, where it was ranked second. (In Atlantic City, casinos are the largest employer; all casino jobs require licenses and background checks. Because of the licensing requirements, the individual's personal history was identified as the most important obstacle.) The importance of transportation as a key to accessing employment was assessed quite differently from city to city. While lack of transportation was ranked as the second most important obstacle in Trenton, it was generally given medium to low importance overall and ranked least important in Atlantic City and Camden.

Each of these job-related problems refers, in fact, to a cluster of obstacles. In discussing the most important problem, lack of skills, two components were emphasized. First, many unemployed inner-city residents are deficient in basic language and math skills.

Residents who speak only languages other than English face particular difficulties. This was specifically mentioned in Jersey City, which has a large foreign population and a mature labor force that experiences a great deal of competition from New York City. Second, residents need to acquire vocational skills for specific jobs. Jobs to be tooled-up for vary by geographic area of the state. Truck driving seems to be more in demand around the Port Newark-Elizabeth area, nurses aids are in significant demand in the southern part of the state, and clerical workers are needed in the northern part of the state. Those having gaming skills are in demand only in Atlantic City.

Problems relating to the individual's personal history include being on welfare, having a criminal record, having a poor work history, or not having a valid drivers license. Among these, by far the most important is the person's work history. Not having worked for a long time is a significant barrier to obtaining work currently, both because of the psychological effects on the individual and because of employers' reluctance to hire inexperienced workers. Employers are also often reluctant to hire people with a bad work history or those who change jobs often.

As interviewees described the problems posed by lack of skills or information, or by one's prior history, they emphasized other problems faced by unemployed inner-city residents. By far the most important of these is lack of adequate child care. Child care in urban areas is underprovided both publicly and privately; where it is provided, it is costly and oversubscribed. Child care is a very serious problem to some and less of a problem to others.

Lack of information about jobs was ranked as least important relative to other obstacles. The main communication problems are that many jobs are never advertised formally, so knowing that these jobs are available depends to a large degree on word-of-mouth. A related problem, especially for jobs in some small retail establishments, is that the job market is segmented ethnically, with each ethnic group tending to recruit from within.

XII. TRANSPORTATION STRATEGIES

The Urban Transportation Supplement clearly describes how the socioeconomic conditions of cities have created a situation where their residents must, at least in the short run, increasingly look to the suburbs for primary employment. Further, an analysis of job growth locations and transportation that serves them identified the strengths and weaknesses of the existing transit and highway systems. Finally, the report summarizes transportation problems that were identified through interviews with city officials, social service agencies, and practitioners in the employment search field. While the interview sessions did identify some transportation problems in each of the cities, it is important to

note that interviewees in each city did not rate "transportation insufficiency" as the major problem city residents face in seeking employment. In fact, as just mentioned, "inadequate skills" was consistently noted as more critical, along with other factors such as prior work history, lack of adequate child care, and communication of available work opportunities.

Highways

By statute, the focus of this report is on reverse-commuting problems and opportunities. This relates primarily to public transportation (bus and rail) services. However, Sections IX, X and XII on existing highway problems and strategies, respectively, have been included to provide a view of the comprehensive approach being advanced to improve transportation in and around New Jersey's largest cities. The Urban Transportation Supplement report is not intended to be a comprehensive detailed analysis and assessment of all cities' transportation infrastructure needs.

The state of New Jersey will continue to place the highest priority on improving the transportation systems that serve New Jersey's cities. The strategies outlined below and summarized in Table 4 have been formulated by NJDOT to improve the greatest number of facilities serving urban areas. In developing these strategies and initiatives, NJDOT gives priority to investments that:

- Improve and preserve the existing system
- Improve highway connections
- Improve highway operations and alleviate congestion

Rehabilitation of the highway system and the replacement of deficient and obsolete bridges and roadways are given the highest investment priority. These are among the most pressing needs for all of New Jersey's largest cities. In the city of Paterson there are extensive plans to replace or rehabilitate no fewer than nine bridges, most of which connect the city over the Passaic River. In Jersey City the replacement of the Whitpenn Bridge and the St. Paul's Avenue Bridge are among the key projects in design, along with operational improvements to the Tonnele Circle. Several bridge projects are being planned for the city of Newark including the Doremus Avenue Bridge reconstruction over Oak Island Yards and the South Street Viaduct over the Waverly Yards. Replacement of viaducts on Route 1&9 in Elizabeth as well as the bridge on Magnolia Avenue over Route 1&9 are key future improvements to the city. In Trenton, replacement of the Calhoun Street Bridge is a targeted need. Camden has a number of bridges planned for replacement including the

TABLE 4
NEW JERSEY URBAN TRANSPORTATION SUPPLEMENT
TRANSPORTATION STRATEGIES

TRANSPORTATION STRATEGIES	NEWARK	JERSEY CITY	PATERSON	ELIZABETH	TRENTON	CAMDEN	ATLANTIC CITY
HIGHWAYS							
SYSTEM REHABILITATION	Doremus Avenue Bridge South Street Viaduct	Whitpenn Bridge St. Paul's Avenue Bridge Tonnelle Circle	Rehabilitation of nine bridges over Passaic River	Replace viaducts on Route 1&9 Magnolia Avenue Bridge	Calhoun Street Bridge	Multiple bridges including Route 30 bridge over Cooper River	Upgrade to major roadways including Route 40/322 and New York Avenue
LINKS	I-78, I-280 connections with downtown			I-78 to Newark International Airport	Trenton Complex Route 29 completion	Route 42/I-295/ I-76 Connection Route 130/ NJ Turnpike Interchange	Route 30 connection NJ Turnpike/ Route 42 connection
OPERATIONAL IMPROVEMENTS	Operational improvements to Route 21, Route 1&9 Computerized signals on Route 1&9	Operational improvements to Route 1&9 Computerized signals on Routes 1&9, 139, and 440	Operational improvements to I-80	Operational improvements to Route 1&9 Computerized signals on Routes 27 and 439	Computerized signals on Route 1	Computerized signals on Routes 30, 38, 70, and 73	Computerized signals on Routes 9, 30, and 40
CAPACITY EXPANSIONS		Waterfront Boulevard			Route 1	Route 42 and Routes 70/38	

TABLE 4 (continued)

NEW JERSEY URBAN TRANSPORTATION SUPPLEMENT
TRANSPORTATION STRATEGIES

TRANSPORTATION STRATEGIES	NEWARK	JERSEY CITY	PATERSON	ELIZABETH	TRENTON	CAMDEN	ATLANTIC CITY
PUBLIC TRANSIT							
TRADITIONAL SERVICES (T)							
Bus Stop Sign and Shelter Program		Bus Stop Sign and Shelter Program	Bus Stop Sign and Shelter Program	Bus Stop Sign and Shelter Program	Bus Stop Sign and Shelter Program	Bus Stop Sign and Shelter Program	Bus Stop Sign and Shelter Program
TOP and bus radio system to improve security		TOP and bus radio system to improve security	TOP and bus radio system to improve security	TOP and bus radio system to improve security	TOP and bus radio system to improve security	TOP and bus radio system to improve security	TOP and bus radio system to improve security
Newark Airport/Seaport (Restructured service)		Jersey City-Meadowlands (Reroute trips)	Expanded evening and late night service to north and west on 712, 704, P54, P86	Newark Airport/Seaport (Restructured service)	Route 1 traffic mitigation on 600 (Expanded service)	Camden-Route 73 (New service) Camden-Cherry Hill (New late-night service)	Atlantic City-Hamilton Mall (Express service) Atlantic City-Linwood and Somers Point (Expanded service)
Newark-Meadowlands (Reroute trips)		Rationalizing of NW Hudson, Secaucus, Union City services on 85, 190, 121	Expanded evening and late night service to south and east on P2, 74, 161, 703			Downtown (Request-a-Stop)	Commuter routes and 501 to Brigantine (Improved connections)
Downtown (Request-a-Stop)						Routes 413, 451, 457 (Expanded service)	Bungalow Park and Venice Park (Expanded service)
							Rail shuttles to Taj Mahal and Showboat

TABLE 4 (continued)

NEW JERSEY URBAN TRANSPORTATION SUPPLEMENT
TRANSPORTATION STRATEGIES

TRANSPORTATION STRATEGIES	NEWARK	JERSEY CITY	PATERSON	ELIZABETH	TRENTON	CAMDEN	ATLANTIC CITY
PUBLIC TRANSIT							
NON-TRADITIONAL SERVICES (N/T)	Suburban Initiatives (Study N/T services) TRANSIT PLUS+ Meadowlink TMA, E-Z Rider ride matching for Newark employees Somerset County Ridewise TMA service to complement Raritan Valley Line Morris County and MCRIDES TMA, transit shuttles from train stations to major employers	Meadowlink TMA Lyndhurst Office Complex	Suburban Initiatives (Study N/T services) Route 46, Fairfield Study Meadowlink TMA Lyndhurst Office Complex MCRIDES-West Essex, Fairfield study	Suburban Initiatives (Study N/T services) Meadowlink TMA Lyndhurst Office Complex Meadowlink TMA, E-Z Rider ride matching TRANSIT PLUS+	Suburban Initiatives (Study N/T services) Route 1 with Greater Princeton TMA, Mercer County employers	Suburban Initiatives (Study N/T services) Cherry Hill Twp	Suburban Initiatives (Study N/T services) Route 575, Route 30 corridors
MAJOR NEW INITIATIVES	West Essex, Fairfield Route 46 Study Newark-Elizabeth Rail Study Secaucus Transfer	NJTRANSIT Waterfront Transportation Project	Newark-Elizabeth Rail Study	Burlington-Gloucester Corridor Study			

Source: New Jersey Urban Transportation Supplement Study, Spring 1993.

Route 30 Bridge over the Cooper River. Finally, upgrades in Atlantic City will occur at Route 40/322.

Plans are being developed for all cities to improve their links to the regional highway system and to improve traffic flow through highway operational investment and traffic management approaches. Significant improvements will be made toward improving access into Trenton with the completion of the "Trenton Complex" and construction of the missing section of Route 29 from Ferry Street to Lamberton Road. In Elizabeth, the PANYNJ is considering improving the I-78/Newark Airport connection and North Avenue for better access to Port Newark-Elizabeth. In Newark, several projects are being planned to improve connections from the downtown to I-280 and I-78. Studies are being completed for the Route 42 Freeway, I-295, and I-76 connection and for the construction of the Route 130/Turnpike Interchange in Camden. Major activities for Atlantic City include a project to improve Route 30 from First Avenue to East Riverside Drive and proposed improvements to Route 40/322. These activities will also provide major capacity increases for the regions they serve.

NJDOT is no longer investing heavily in major capacity increases to mitigate congestion. Adding new through lanes and building interchanges to replace at-grade intersections are geometrically difficult and extremely expensive in dense urban areas. Stringent environmental restrictions particularly, the Clean Air Act air quality attainment requirements and the high cost of congestion mitigation during construction are the primary reasons. State policy is to de-emphasize investment in major capacity increases in favor of investment in system management and operational improvements. Plans are underway to make operational improvements to Route 21 in Newark, and to Route 1&9 in Jersey City, Newark, and Elizabeth.

A key strategy for improving traffic flow on major arterials is through the implementation of computerized traffic signal control system programs throughout the state. In Atlantic City, systems are planned for segments of Route 9, Route 30, and Route 40/322; in Camden, for the major segments of Route 30, Route 38, Route 70, and Route 73; in the Trenton area, for Route 1; in Jersey City, for Route 1&9, 139, and 440; in Elizabeth, for Routes 27 and 439; and in Newark, for Route 1&9.

Although no longer a prominent strategy, the NJDOT is investing in capacity expansions where they are feasible and carefully targeted to shape growth and leverage economic opportunities in strategic locations. Such expansions are under study and development for Camden at Route 42 and Route 70/38; for Trenton on Route 1; and for Jersey City, the waterfront boulevard.

Over the past few years a number of new strategies have emerged which, when taken together, can have some measure of success in improving traffic flow and safety in dense urban areas. Incident management and motorist advisory/diversion systems will alert motorists to accidents and suggest reroutings. One initiative currently in development is the Metropolitan Area Guidance Information Control (MAGIC) system for the highway network leading to the Hudson River Crossings in northern New Jersey.

Another strategy that the NJDOT actively encourages is the formation of transportation management associations (TMAs) to assist businesses to promote and coordinate employee ridesharing programs. This strategy is a key requirement of the Clean Air Act Amendments of 1990 and will be discussed further below.

Public Transit

General Problems Reported Through Interviews

In all seven cities, the transportation problems noted earlier can be regrouped into the following categories:

- *Service Frequency*

Schedule gaps such as shift, late evening or night hours of service, or limited frequency problems leading to difficult transfers were reported.

- *Service Cost*

Cost of transportation—parking fees or transit fares—is a consideration, especially for the unemployed seeking employment, or for lower paid workers.

- *Safety Issues*

Late night travel in poorly lighted locations is a common issue. In general, security is a concern that has increased for all passengers.

- *Bus Stop Sign and Shelter Coordination*

Poor consideration of public transit requirements (turning radius, pedestrian access over divided highways, bus pullouts, and so on) in some suburban locations, as well as access to malls, hospitals, and office parks, makes it less convenient for buses to serve these locations. Therefore, significant traditional bus service to highway corridors such as Route 22 will be difficult, if not impossible, to achieve because of the design of the highway and the surrounding land uses that effectively preclude a safe local transit operation.

- *Information and Marketing*

In every city, knowledge about bus routes, stops, schedules, and fares, by non-bus users, is reported as almost nonexistent. However, existing bus

riders have a very detailed knowledge of their routes. The challenge is providing targeted information for non-users.

Tables 24A and 24B in each city profile list the specific problems pertinent to city residents and notes their particular locations, corridors, or sites. Section XII of each city profile, Transportation Strategies, provides descriptions of specific projects that are planned to combat these problems.

Agenda Setting

Much of the work of this first Urban Transportation Supplement entailed compiling information to provide a database for each city that could be used to determine current travel patterns and emerging centers of employment.

Focusing attention on one transportation market, the reverse commute, helps set an agenda that targets improvements. In each city profile, strategies that have been developed to respond to transportation needs are organized into either traditional or nontraditional service strategies and major new initiatives.

The issue of cost has also been raised. The comparative costs between public transit and autos is predicated upon the cost of driving and the availability of an auto. Provided that a worker drives a car, suburban commuting rarely incurs major toll or parking costs. Therefore the perceived out-of-pocket driving costs are low. Interviews raised the issue that transit fares seemed high in comparison. However, the recent Comprehensive Energy Policy Act provides tax incentives to employers who subsidize employee fares. Employers can provide a tax-free benefit to their workers worth up to \$60 per month towards the purchase of a transit ticket. This benefit can significantly reduce, if not completely offset, the fare on NJ TRANSIT bus service. For example, NJ TRANSIT's one-zone and two-zone monthly bus fares in North Jersey are \$41 and \$54, and in South Jersey they are \$37 and \$49, respectively. Many of the major suburban employment clusters outside the urban areas examined in the Urban Transportation Supplement can be reached by a one- or two-zone bus trip.

The issue of bus stop signs and shelters was also raised. Both in urban and suburban areas, bus stop signs and shelters are controlled by the local government and NJDOT (for code conformance). Another local responsibility is parking enforcement. When bus stops are designated, but parking restrictions are not enforced, buses cannot exit traffic flow and use the bus stop zone, effectively undermining one of the important purposes of bus stops as a congestion management tool. The more movement for buses, traffic flows improve, the cleaner the air. The other purpose served by bus stop signs and

shelters, also reported by interviewees, is in the promotion of transit for both the regular rider as well as the non-user. This is an effective form of public communication about where routes go. Bus stops need to be designated and parking enforced so that buses can exit and enter the traffic flow, easing congestion, ensuring curbside access for passenger safety and accessibility and providing an important promotion and visible reference for public transit, improving communication about services.

Implementation of improvements to existing service requires that they be evaluated and subjected to rigorous review to prepare them for inclusion in NJ TRANSIT's operating and/or capital budgets. Annually, NJ TRANSIT seeks appropriations to meet its operating budget. Although recent pressures for NJ TRANSIT to reduce expense growth and cut costs are not central to this Urban Transportation Supplement, they are a limiting factor on the ability of NJ TRANSIT to implement solutions to identified problems. For example, NJ TRANSIT has received numerous requests for bus service from Newark, Paterson, and surrounding communities to small employers located in the Fairfield and West Caldwell areas. Because of their relatively small size, these employers cannot easily support bus service or other forms of ridesharing on their own. Estimates show that substantial subsidies would be required to cover the cost of new transit service because most employees originate from dispersed origins.

New Sunday service and ongoing study of suburban access needs are discussed below.

Service Cost-Effectiveness

The critical element for improvements and new or expanded services is funding availability. The cost of providing public transit services is shared by the rider through fares and by state appropriations. Traditional transit services using 40-foot buses is routinely evaluated against operating efficiency standards that include minimum standards for cost-effectiveness. Failure to meet the standards results in actions ranging from minor route scheduling changes to total elimination of service. In suburban areas where maximum bus loads can reach only 10–15 people, it is particularly evident that smaller vehicles may be more efficient. It is also evident that standard 40-foot vehicles, which are long and require a wide turning radius, are not suited to suburban access roads, which are sometimes constricted.

The past three years have been difficult times for state and federal support. For example, cross-town service on Olden Avenue in Trenton was discontinued due to low ridership; however, access to the area is still provided because most of the city's routes cross Olden Avenue and transfers can be made. Operating funding has been sufficient only

to sustain existing service, though no increases for expanded service have been approved. Consequently, demonstration and/or expanded services have been severely limited, because such services have been confined to situations in which 100 percent cost recovery was assured. This policy ensures that the extensive transit network that currently serves the cities and traditional-direction, peak-period commuters is not jeopardized. For instance, much of the problem for Newark workers on the second and third shift occurs because their particular work site and home are unlikely to be on the same route. If the *system* of service is not complete for these workers, the service remains unusable. Maintaining a core of service so that connections can be made is subject only to the constraint of funding. Similarly, in both Newark and Paterson, many identified needs are in locations outside the traditional commutershed for the cities, or at times when existing service cannot be easily matched to work shifts. Providing service to these locations will require additional funding.

On the other hand, as part of the traffic mitigation effort undertaken in response to major construction planned for Route 1, NJ TRANSIT is significantly expanding bus service between Trenton and Princeton with direct connections to rail stations financed by federal highway funds designed to "mitigate" traffic problems during construction.

In an effort to improve the cost-effectiveness of transit service and to serve untapped suburban markets, NJ TRANSIT has developed a new program, Suburban Initiatives. NJ TRANSIT has initiated an extensive outreach program to work in partnership with TMAs, counties, employers, and municipalities as appropriate. The Suburban Initiatives program seeks to determine "nontraditional" transit service options—public transit that does not mean service by standard 40-foot buses. Service strategies run the gamut from ridesharing, supporting TMAs, subscription buses, mini-buses, van pooling, shuttle and jitney vans, fixed route shuttles to train stations and work sites, group taxis, off-peak service, guaranteed ride home services for car-poolers, and dial-a-ride paratransit services. These are all service strategies that respond to the emerging demand for public transportation services in suburban communities. The first step involved is a needs study focusing on the work commute with input from target area employers and local officials about their transportation priorities. For example, NJ TRANSIT has identified the Route 575 corridor from Atlantic City as a potential site for nontraditional transit service. Similarly, NJ TRANSIT has received numerous requests for service to Route 46, Fairfield, and West Caldwell. Since estimates there show insufficient ridership for new traditional bus service, NJ TRANSIT is working with the West Essex Chamber of Commerce, Essex County, Morris County Rides, and employers to design new innovative transit services, for instance nontraditional transit shuttles between train stations and employment sites. Meanwhile, the Meadowlink TMA has identified the Lyndhurst Office Complex, Harmon

Cove Outlet Center, and Harmon Meadows as having potential for significant nontraditional transit opportunities that may be of benefit to Jersey City, Newark, and Paterson residents. In each of these locations, NJ TRANSIT is surveying employers to determine origins and destinations and travel patterns, as well as commuting habits and attitudes. In addition, employment levels and locations are being assessed. These qualitative and quantitative data will form the basis for recommended transit options. Valuable insight has been provided by this first Urban Transportation Supplement, and readers will note in each city profile that the Suburban Initiatives program is already making inroads into the particular issues reported in the interviews.

Traditional Service Strategies

Traditional service strategies refer to those projects, large or small, that are designed to enhance the existing bus, rail, and light rail transportation network. Traditional service strategies, in many cases, reflect service modifications through schedule changes—adjusting running time to meet work-site hours, extending service to meet closing hours at shopping malls, and so on. NJ TRANSIT has recently instituted express service from Atlantic City to Hamilton Mall; when the Post Office moves to the Expressway Corporate Center, NJ TRANSIT will reevaluate this service. NJ TRANSIT has implemented new service from Camden along the Route 73 corridor to serve growing employment opportunities, as well as adding trips to Cherry Hill to serve second and third shift workers. The Port Newark and Elizabeth/Newark Airport areas are a high priority for NJ TRANSIT to investigate the potential for new or restructured bus services and complementary non-traditional services. In addition, NJ TRANSIT is examining both ridership and current schedules serving the area east of Route 1 and the Elizabeth/Newark Airport. NJ TRANSIT has attempted to improve access for Jersey City and Newark residents to the Meadowlands and Secaucus by rerouting the reverse trips on an entire network of interstate services. In both Camden and Newark, NJ TRANSIT has responded to concerns about nighttime safety by instituting two programs. "Request a Stop" enables riders to request the driver to stop closer to their destination. "Transit on Patrol" asks bus operators and other personnel to use the bus radio system to report suspicious behavior on the bus or along the route.

Although no city interviewees noted problems with current rail service, it warrants acknowledgement that NJ TRANSIT's Rail Service Planning staff diligently adjusts running times, anticipates construction work, and schedules accordingly, coordinating with known demand and seasonal changes. For the purposes of reverse commute, it is more likely that strategies will fall into the non-traditional category, as employer-provided

shuttles to train stations from specific work sites, supported by those employers, will be implemented over the next 5 years.

Nontraditional Service Strategies

As noted above, nontraditional service strategies refers to the newly developed Suburban Initiatives program. In part, suburban initiatives were targeted within the 1990 NJ TRANSIT Business Plan to attack the emerging suburban commute market. With the Federal Clean Air Act Amendments (CAAA) of 1990, the Suburban Initiatives program becomes an important component of compliance. Virtually all of the urban centers in the state of New Jersey are in severe non-attainment zones. The requirement of the CAAA that employers of more than 100 workers must reduce single-occupant vehicle trips magnifies the importance of looking for transportation solutions for the work commute—traditional or nontraditional—peak direction or reverse commute. NJ TRANSIT, as an integral part of the solution, has made a commitment to assume a leadership role in helping the state meet these mandates. In this role, NJ TRANSIT has drafted a working approach that in fact is pertinent to many of the issues raised in this first Urban Transportation Supplement.

1. NJ TRANSIT is establishing a transportation management association (TMA) in the transit-rich areas of Essex and Union counties, covering the cities of Elizabeth and Newark. Since both private and public institutions employing more than 100 staff will be greatly affected by the Clean Air Act and associated Rand bill, its mission is to educate and assist the approximately 2,000 private and public employers to comply with the Employee Trip Reduction (ETR) program and to promote the use of mass transit. The urban TMA, aptly titled TRANSIT PLUS+, will work to develop and promote travel in multiple-occupant vehicles, with particular emphasis on transit. Its mission is "We will provide services and expertise to deliver a full range of commuting alternatives with a dedicated, innovative team of professionals, responsive to the needs of Essex and Union County employers." This will be accomplished by identifying transportation issues, advocating and implementing associated improvements, developing and promoting transit, developing strategies for parking management, gaining cooperation in influencing commuter travel behavior, and serving as the focus for travel strategies to and within the Essex and Union county

areas. An Advisory Board of employers in the two counties has been established.

2. NJ TRANSIT's Service Development team has begun a joint partnership with NJDOT to support the suburban TMAs. This special Suburban Initiatives program is now identifying the potential for nontraditional services within the service area of the TMAs. The TMA service areas include Burlington-Camden, Greater Princeton, the Meadowlands, Middlesex, Monmouth, Morris, and Somerset and comprise a base of approximately 1,800 employers. These services will likely incorporate options for inner-city residents. Specific employment centers near each of the study cities are listed in the city reports. NJ TRANSIT is preparing operations, financial, and implementation plans; final recommendations are expected in the summer of 1993.

3. The Business Transit Alliance (BTA) is an outreach program to businesses throughout the state. The BTA assists companies located in areas where there is not a TMA. In addition to the traditional BTA services, such as TRANSIT Days and Resources Centers, companies will be able to conduct ridesharing programs for car and van pools. With the help of the BTA, employers will be able to develop their compliance plans and implement Employee Trip Reduction (ETR) programs. There are approximately 2,700 private sector companies with 100 or more employees in non-TMA service areas, and equally as many local, state, and federal agencies that will require special assistance for the Clean Air Act, for a total of more than 5,000 potential clients.

Major New Initiatives

There are also several major planning initiatives of importance to the Urban Transportation Supplement for the seven cities: the Newark-Elizabeth Rail Link Options Study, the NJ TRANSIT Waterfront Transportation project, the Burlington-Gloucester Corridor Study, and the Secaucus Transfer. The new initiatives are capital-intensive projects that will provide travel time savings, new travel pattern opportunities for all New Jerseyans, and substantially improve the existing bus and rail network in the state. Some of the projects have the potential to open up new work sites for urban residents—the Hudson River Waterfront project, for example. Not only will this project provide north-south travel

improvements and all the attendant environmental benefits, but Jersey City residents will have improved access to more job sites. In part, the project is perceived as a tool to support and enhance the economic development in the Hudson River waterfront corridor. The Secaucus Transfer opens up intra-Jersey travel opportunities, simultaneously serving New York City commuters from the Morris and Essex Rail line commutershed. The Kearny Connection project will link NJ TRANSIT's Morristown Line, serving Morris, Essex, Somerset, and Passaic counties, with the Northeast Corridor Line, providing direct service and a faster trip to mid-town New York. The city profiles provide overviews of the expected benefits of these major new initiatives.

CONCLUSION

The Urban Transportation Supplement is an important beginning in that it views the transportation problems of urban residents as unique and different from problems affecting the larger, primarily suburban, population. In this view, those in New Jersey's major cities have less money, education, and have less chance of owning an automobile; they have more single-parent families, more children per household, and have greater exposure to criminal activity and substance abuse—and usually, as a result, they have either less-skilled/low-wage jobs or are unemployed.

In the short run, and until the economic bases of New Jersey's major cities are renewed, the employment opportunities for urban residents are taking place in the suburbs. But whereas urban residents can change the venue of their employment, they can't immediately change their economic positions. Many must access suburban employment via public transit.

The road and transportation infrastructure network will be overhauled extensively during the next decade and, in consonance with the New Jersey State Development and Redevelopment Plan, central city areas and central places will receive high priority for these capital investments.

The transportation needs of urban residents are significant in magnitude and prominent on the agendas of the New Jersey Department of Transportation and NJ TRANSIT.

improvements and the need for additional investment in the Hudson River waterfront corridor. The project is perceived as a school to support and enhance the economic development in the Hudson River waterfront corridor. The section further opens up more development opportunities, simultaneously serving New York City commuters from the Morris and Essex Rail and connecting The Keaney Connection project with the Hudson River waterfront. The project also provides direct service to the Hudson River waterfront, providing direct service to the Hudson River waterfront and a faster trip to midtown New York. The city provides a series of the expected benefits of these major new initiatives.

COMMISSIONERS, including the Mayor and the Board of Education, views the transportation provisions of the plan as a major step in addressing the larger, primarily suburban population in the view of the Hudson River waterfront. They have less money, education, and have less chance of owning an automobile; they are more likely to be in single-parent families, more children per household, and have greater exposure to criminal activity and substance abuse—and usually, as a result, they have either less skilled-wage jobs or are unemployed.

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