



New Jersey's Long-Range Transportation Plan

For Public Discussion
September 2008

URBAN SUPPLEMENT REPORT City of Newark

Prepared for
**NEW JERSEY DEPARTMENT
OF TRANSPORTATION and
NJ TRANSIT**

Prepared by
DMJM HARRIS | AECOM



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INTRODUCTION

State law requires the New Jersey Department of Transportation (NJDOT), in conjunction with NJ TRANSIT, to prepare and submit to the legislature an Urban Transportation Supplement to the state's Long-Range Transportation Plan. The state requires that the Urban Supplement identify and address the transportation needs of the state's seven largest cities: Atlantic City, Camden, Elizabeth, Jersey City, Newark, Paterson, and Trenton. Because the State Development and Redevelopment Plan (State Plan) recognizes New Brunswick as an eighth urban center, an Urban Supplement has also been prepared for that city. The Urban Supplement must outline means of improving access to these major urban centers, emphasizing the transportation needs of city residents who are employed or seeking employment in suburban locations.

The State Plan recognizes the importance of cities to future development in the state, and it proposes to target infrastructure investments to urban areas to support urban development and redevelopment. In recent years, cities have begun to experience modest to substantial gains in new development, and projections and plans indicate that urban development is likely to continue.

The transportation needs of the major cities can be summarized follows:

- ◆ Diverse populations, including low-income, minority, and elderly citizens, many of whom depend on public transportation
- ◆ A need to serve both increasing development and redevelopment
- ◆ An aging infrastructure that must be maintained and rehabilitated
- ◆ A mismatch between the locations of housing and jobs

This Urban Supplement updates previous reports from 1993 and 2001. NJDOT intends for this document to be a user-friendly guide to inform its planning and capital programming processes, and those of the counties and municipalities involved, particularly to support local economic development and land use objectives.

This report provides background data on transportation and demographic conditions, and it assesses transportation system issues and needs, especially in terms of meeting existing demands and accommodating new development and redevelopment. The report also identifies current and proposed transportation investments and their status, and it proposes means of advancing key projects.

The study process involved interviews with representatives of several agencies including NJDOT Local Aid, NJ TRANSIT, the North Jersey Transportation Planning Authority (NJTPA), the Division of City Planning, the Urban Enterprise Zone program, the city Division of Traffic and Signals, the county Workforce Investment Board (WIB), and the Meadowlink transportation management association (TMA).

The process also involved reviewing reports, information, and data from several agencies, including the US Census, NJ Department of Labor, NJDOT, NJ TRANSIT, NJTPA, and the Port Authority of New York and New Jersey. Key local planning documents reviewed include the new Land Use Element of the City of Newark's Master Plan; the Newark Economic Development, Land Use and Transportation Plan (NEDLUT); the city's Cross-acceptance Report; and the Port Authority's Strategic Plan.

I. TRANSPORTATION AND DEMOGRAPHIC CONDITIONS

A. EXISTING TRANSPORTATION NETWORK

1. Roads

Regional/State Roads

Several major regional and state highways serve Newark (see Map 1), including the following:

- ◆ I-280 runs east-west through the northern part of Newark, linking the city to the west with western Essex and Morris County and with the New Jersey Turnpike to the east.
- ◆ I-78 runs east-west through the southern part of Newark. It links the city with western Essex, Union, Somerset and Hunterdon counties to the west; via the New Jersey Turnpike Extension, it connects Newark with Jersey City to the east.
- ◆ I-95 (the New Jersey Turnpike) runs north-south through the eastern part of Newark. It links the city to employment centers in Bergen County in the north and Middlesex County in the south.
- ◆ The Garden State Parkway runs north-south mostly on the western outskirts of Newark; it crosses a small portion of the western neck of the city.
- ◆ US Route 1&9 runs northeasterly through the city. It links Newark to Jersey City in the east, and with Elizabeth, Linden, and other points to the south.
- ◆ US Route 22 runs east-west, connecting with I-78 and US 1&9 in the southern portion of the city.
- ◆ Route 21 (McCarter Highway) runs north-south through the city and along the west bank of the Passaic River. It links US Route 1&9, I-78, and US 22 in the south of the city to I-280 and other arteries to the north.
- ◆ Route 27 runs along Poinier Street from its intersection with Route 21 and then south as Frelinghuysen Avenue to the city's southern boundary.

County Roads

The principal county roads serving the city include the Route 506 spur (Bloomfield Avenue), Route 508 (Central Avenue), Route 510 (South Orange Avenue/Springfield Avenue/Market Street), and Route 603 (Springfield Avenue). All these roads provide east-west access between downtown and points west. Other county roads that serve smaller segments of the city are Routes 601, 604, 605, 619, 645, 658, and 667.

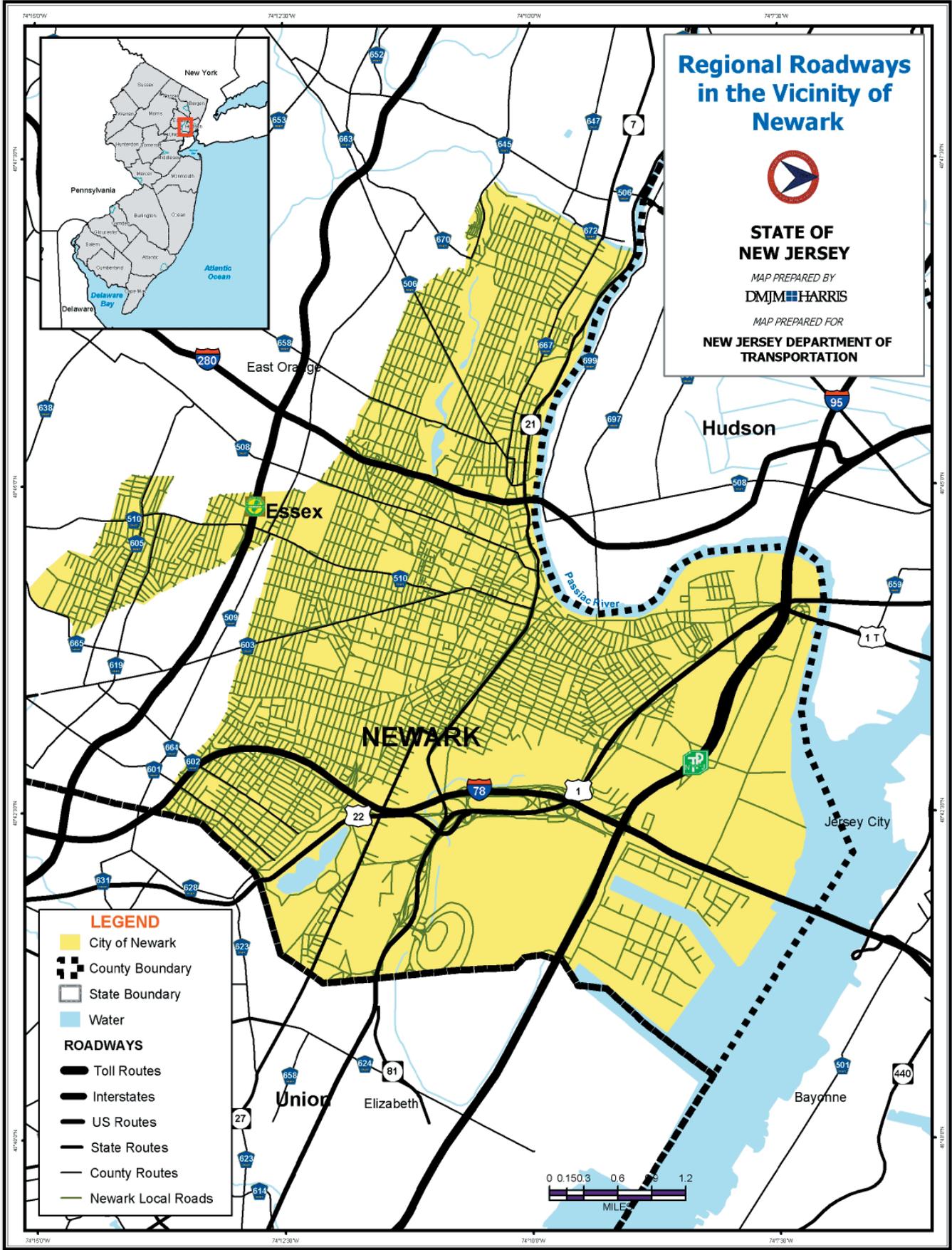
Municipal Streets

The major municipal north-south thoroughfares are Broad Street, Dr. Martin Luther King, Jr. Boulevard, Washington Street/University Avenue, Irvine Turner Boulevard/Jones Street/Norfolk Street/Clifton Avenue, Bergen Avenue/North First Street, Broadway, and Mount Prospect Avenue. Important east-west streets are Raymond Boulevard, Market Street/West Market Street, Clinton Avenue, and Orange Street.

Bridges

The city has several roadway bridges crossing the Passaic River: Clay Street, I-280 (Stickel Bridge), Bridge Street, Jackson Street, NJ Turnpike, US 1&9 (Pulaski Skyway), US 1&9 Truck, and I-78 (Newark Bay Bridge). In addition, the city has many other bridges that cross or go under highways and rail lines.

Map 1: Roadway Network



2. Public Transit

Rail Transit

Amtrak and four NJ TRANSIT commuter rail lines serve Newark, and the city has three commuter rail stations: Penn Station, Broad Street Station, and the Newark Liberty International Airport (EWR) Station, which opened in 2001.

The four commuter rail lines serving Newark are the Northeast Corridor, Raritan Valley, Morris and Essex, and the North Jersey Coast lines. These lines primarily serve commuters to Newark and New York City, and they also enable “reverse commuting” from the cities to outlying suburban locations. The following is a brief summary of each line.

Northeast Corridor

This line runs in a southwestern/northeastern direction through the center of Newark, linking it to Trenton and New York City. During weekdays, 187 trains per day depart from Penn Station, and 144 trains serve the EWR station. The line has a total of nearly 100,000 daily passenger trips. In addition, Amtrak operates intercity service along the Northeast Corridor, providing 85 trains per weekday to and from Penn Station and 31 trains at the EWR station.

Raritan Valley Line

The Raritan Valley Line runs east-west between High Bridge in Hunterdon County and Newark Penn Station, providing a route to and from New York City via the Northeast Corridor. The line carries about 19,500 daily passenger trips.

Morris and Essex Lines

The main line is the Morristown Line, which runs between Hackettstown in Warren County and Hoboken or New York Penn Station via Morristown and Newark’s Broad Street Station. The Gladstone Branch runs from Gladstone in Somerset County to a connection with the Morristown Line at Summit, west of Newark. The line has 48,550 daily passenger trips.

Montclair-Boonton Line

This line runs between Hackettstown and New York City via Montclair and the Broad Street Station. The line carries more than 12,000 daily passenger trips.

North Jersey Coast Line

The North Jersey Coast Line runs north-south between Bay Head in Ocean County and Hoboken and New York City, including service to and from the airport and Newark Penn Station. The line carries 28,950 daily passenger trips.

Stations

Penn Station is located along the Northeast Corridor rail line. It is an important multi-modal transportation hub serving the Northeast Corridor (including Amtrak), the Raritan Valley Line, PATH, and many NJ TRANSIT bus routes. The station has eight tracks; seven tracks are on one level, and one track for PATH arrivals is on an upper level.

The station has no official rail commuter parking, but several private parking areas are nearby. The average weekday passenger boardings (arrivals linked with departures) for NJ TRANSIT trains at Penn Station is 18,610. Total Amtrak annual ridership at Penn Station is over 600,000, with the top trip pair cities being Washington and Philadelphia.

Broad Street Station is located along the Morris and Essex Lines. It handles nearly 2,000

weekday passenger boardings. The station has no official rail commuter parking, but several private parking areas are nearby.

The Newark International Airport Station on the Northeast Corridor connects with the Air Train Newark monorail, which allows for direct transit service via NJ TRANSIT and Amtrak to the airport. This station has 2,652 NJ TRANSIT passenger boardings per weekday, and Amtrak total annual ridership at this station is over 65,000.

PATH

The Port Authority of New York and New Jersey operates the Port Authority Trans Hudson (PATH) rapid transit service, which comprises four weekday routes. One route runs between Newark Penn Station and the former World Trade Center site, with several intermediate stops including Jersey City. Prior to September 11, 2001, direct service also was available between Newark and the 33rd Street Station in New York City, but riders must now transfer at Journal Square in Jersey City to make this trip. Weekend service is available to and from Newark. Trains operate 24 hours with varying frequencies, which run as high as every 4-5 minutes during the weekday peak hours. Weekday passenger trips to and from Newark average 28,000.

Air Train Newark

This service is a monorail that runs between the airport and the EWR station on the Northeast Corridor, with intermediate stops at parking lots and terminals. Trains run every few minutes nearly 24 hours daily (except between 2 and 4:30 AM). The service carried over 1.4 million passengers in 2005.

Newark Light Rail

NJ TRANSIT's Newark Light Rail System comprises two components: the Newark City Subway and the Newark City Subway Extension. The Newark City Subway runs north-south for 4.3 miles between Penn Station and the Grove Street Station in Bloomfield. This line uses new light rail vehicles, and most of the line operates above ground. In 2002, NJ TRANSIT completed a project to extend the line, reconstruct stations, upgrade tracks, and introduce light rail vehicles. The subway provides frequent weekday peak hour service and also runs on weekends. Average daily trips are about 17,000. The Newark City Subway Extension, opened in July 2006, is a one-mile, five-station light rail line that runs mostly at street level between Penn Station and Broad Street Station.

Bus Service

Public and private operators provide substantial local bus service to Newark. NJ TRANSIT operates 39 bus routes that serve many destinations both within the borders of Newark and in surrounding areas of northern New Jersey. Map 2 shows the location of these routes, along with the main commuter rail lines. As noted, Penn Station is a key bus hub, handling about 1,600 daily bus arrivals and departures, serving about 31,000 passengers.

The following are the NJ TRANSIT local bus routes with the highest median weekday ridership:

- ◆ #13 (Broad Street – Clinton Avenue) route provides service to Irvington and Nutley, Belleville, and Clifton
- ◆ #1 route provides service between Newark and Jersey City
- ◆ #25 (Springfield Avenue) route provides service between Newark and Maplewood
- ◆ #27 (Mount Prospect) route runs to Irvington and to Bloomfield and Clifton
- ◆ #39 (Chancellor Avenue – Kearney Avenue) route provides service to Irvington and North Arlington

- ◆ #34 (Market Street) route provides service between the city and Montclair and Bloomfield
- ◆ #21 (Main Street) route runs between Newark and West Orange

In addition, service by private operators is an important component of bus service in Newark. Coach & Tan Tours operate the #306 route, under contract from NJ TRANSIT, which runs a “loop” between Newark Penn Station and Broad Street Station. Coach USA also operates the former ONE, Inc. routes, including #24 which serves Newark, Elizabeth, Orange and East Orange; #31 which serves Newark, South Orange, Maplewood, and Livingston; and #44 which serves Newark, Orange, and East Orange. Routes #24 and #44 have the highest ridership of any bus lines in the state. Coach USA/Olympia Trails provides the Newark Liberty Airport Express service between Newark Airport and midtown and lower Manhattan, and Trans-Bridge Lines provides service between the airport and eastern Pennsylvania.

Other Services

City residents have several other transit options, including NJ TRANSIT’s Access Link program, which provides paratransit service comparable to local bus service to persons with disabilities. The origin and destination of each trip must be within $\frac{3}{4}$ mile of a local bus route.

NJ TRANSIT also assists the Essex County Department of Citizen Services in offering three types of bus service to three clienteles: the elderly, the indigent, and the mentally and physically handicapped. Charter service is for social and recreational trips. Subscription service is provided on fixed routes for people going to nutrition sites, rehabilitation therapy, and life-essential medical care. Demand-responsive service, which does not have predetermined routes but requires reservation 24 hours in advance, is for non-emergency medical trips.

Job Access/Reverse Commute (JARC) Service

NJ TRANSIT provides funding from JARC and through the County Division of Training and Employment for the Night Owl Service. This service runs from 1 AM to 5 AM between Newark, Irvington, Orange, and East Orange to Penn Station. It provides free transportation for unemployed, underemployed, low-income, and welfare residents, and is available to others. It is now serving over 100 persons per day.

In addition, the county and Meadowlink Transportation Management Association (TMA) sponsor several services that provide access for Newark residents to jobs in outlying suburban areas, including the following:

- ◆ Route 10 Shuttle – this service is a flexible routed service for individuals to access employment in the Route 10 area between the hours of 6:00 and 9:00 AM, and 3:00 and 7:00 PM, seven days a week. Meadowlink operates this service using county funding received from the JARC program.
- ◆ Fairfield-West Essex Shuttle – this shuttle provides access to worksites in the US 46 corridor during weekday peak periods.
- ◆ Montvale Shuttle – this service operates Thursday through Sunday, picking up riders in Newark and transporting them to jobs at the Montvale rest stop along the Garden State Parkway.
- ◆ Meadowlands Shuttle – this service operates during weekday peak hours from Rutherford Train Station to the Meadows Office Complex and the Federal Reserve Bank in East Rutherford. About 54% of the commuters are from Newark and use NJ TRANSIT’s #76 bus route to reach Rutherford. Meadowlink operates this service using county funding received from the JARC program.

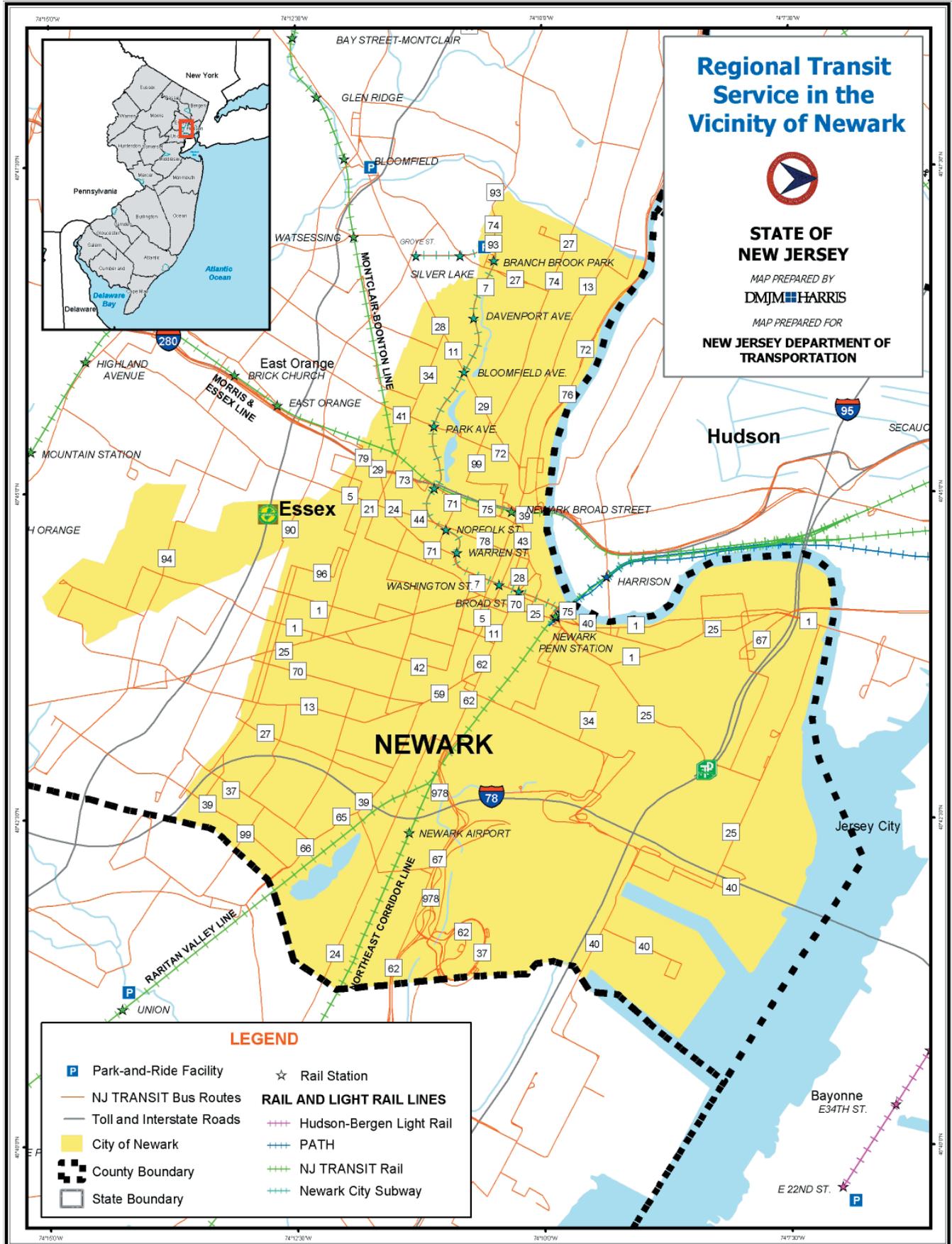
- ◆ Aramark Shuttle – this service provides transportation for Aramark employees from Newark to Giants Stadium for weekend and late-night hours during the football season.

Rutgers – Newark

The university operates the College Town Shuttle, comprising several routes which provide weekday service as shown below.

- ◆ Penn Station Route – provides continuous transportation between Rutgers, NJIT, and Penn Station Monday through Friday from 4 PM to 12 AM at 20-minute intervals.
- ◆ C.H.E.N. Routes – provide continuous transportation throughout Rutgers, the University of Medicine and Dentistry, Essex County College, and the New Jersey Institute of Technology. This shuttle operates Monday through Friday from 8 AM to 10 PM at 15-minute intervals.
- ◆ Kearny/Harrison Routes – provide transportation for the Rutgers and NJIT community to various locations in Harrison and Kearny. These shuttles operate Monday through Friday from 3:30 PM to 12 AM at 30-minute intervals.
- ◆ Robert Treat Route – provides transportation from Rutgers Newark to the Robert Treat Hotel Monday through Friday from 4 PM to 11 PM at 15-minute intervals.
- ◆ Broad Street Station/North Parking Lot Shuttle – provides transportation to Broad Street Train Station and Rutgers parking lots on Eagle and Essex Street. This service is available Monday through Thursday from 9 AM to 5 PM at 10-minute intervals.

Map 2: Public Transit Service



Newark Liberty International Airport

The Port Authority of New York and New Jersey has operated Newark Liberty International Airport (EWR) under a lease with the City of Newark since 1948. EWR is located in both Newark and Elizabeth between the New Jersey Turnpike, US Routes 1&9, and I-78. EWR is about 16 miles from midtown Manhattan and covers over 2,000 acres.

EWR is nearing completion of a \$3.8 billion redevelopment program that includes an extension of the AirTrain system, a second international arrivals facility, modernized passenger terminals, improved airport access, additional parking facilities, expanded roadways, and improved runways and taxiways.

EWR contributes \$11.3 billion in economic activity to the NY/NJ metropolitan region, including \$3.3 billion in wages for some 110,000 jobs derived from airport activity. In addition to the Northeast Corridor/Amtrak service and the monorail, five NJ TRANSIT bus routes serve the airport.

Table 1 is a historical summary of airport activity.

Table 1: Newark Liberty International Airport Activity

Year	Plane Movements	Passengers	Air Cargo (tons)	Air Mail (tons)
1949*	93,463	834,916	40,574	2,891
1960	163,378	2,935,613	58,313	10,557
1970	204,595	6,460,489	157,301	37,401
1980	196,781	9,223,260	107,167	38,227
1990	379,653	22,255,002	495,407	61,351
2000	450,289	34,188,701	1,070,380	123,015
2001	439,275	31,100,491	913,126	73,029
2002	405,816	29,220,775	906,164	38,868
2003	405,734	29,428,899	890,712	73,611
2004	437,828	31,908,556	995,313	89,913
2005	435,874	33,037,754	957,293	90,042

*First full calendar year of Port Authority operations

Source: Port Authority of New York and New Jersey.

3. Bicycle and Pedestrian

The city does not have any dedicated bicycle or pedestrian trails or paths connecting different destinations in the city. Branch Brook Park and Weequahic Park are two major parks which provide miles of trails for recreational use. The main north-south trail through Branch Brook Park is part of the regional Lenape Trail which runs 34 miles between Newark and Roseland. This trail is also part of the proposed larger Liberty-to-Water Gap trail, which runs between Jersey City and the Delaware Water Gap in northwestern New Jersey.

4. Goods Movement

Port Newark/Elizabeth

Port Newark and the Elizabeth Port Authority Marine Terminal operate as one fully integrated marine terminal, forming the largest and most comprehensive collection of maritime cargo handling facilities on the East Coast of North America. The entire complex is part of Foreign-Trade Zone No.49 which is operated by the Port Authority of New York & New Jersey. Located on the western shore of Newark Bay, the port encompasses a full range of maritime commerce activities: major container handling terminals, automobile processing and storage facilities, liquid and solid bulk terminals, breakbulk facilities, warehousing and distribution buildings, trucking firms, and an on-dock rail terminal. Port Newark is one of the most flexible multi-purpose cargo centers in the United States. Its facilities include wharves, deep-water ship berths, and 3 million square feet of buildings, distribution buildings, specialized facilities, roadways and direct rail access. Among the key features of Port Newark are the following:

- ◆ Direct rail service by Norfolk Southern and CSX for tank cars and box cars handling non-containerized cargo such as liquid and dry bulk and scrap metal.
- ◆ An interim rail terminal for containerized cargo.
- ◆ A 125,000 square-foot refrigerated storage space.
- ◆ Two bulk liquid handling facilities for warehousing refined and edible grades of fats and oils.
- ◆ A high-tech copper rod production plant.
- ◆ Two orange juice concentrate storage and blending facilities.
- ◆ Two auto preparation centers with nearly 300 acres for automobile preparation and storage.
- ◆ A wallboard manufacturing plant.
- ◆ Several bulk cargo handling facilities for gypsum, scrap metal, cement and salt.
- ◆ Public warehousing and distribution buildings.

Airport

Newark Liberty International Airport is also an important facility for air cargo shipping. Table 1 includes historical data on air cargo volumes.

Trucks

Three major regional roadways are part of the National Network for trucks: the New Jersey Turnpike, I-78, and I-280.

Rail Freight

Several major railroads and facilities serve the city. Norfolk Southern's Lehigh Line is a main east-west route serving the region. In Newark, it enters the Oak Island Yard (see below) and then continues across Newark Bay to Jersey City. Just west of Oak Island Yard, the Lehigh Connecting Track links the Lehigh Line with the Passaic & Harsimus Line, which runs to the important Kearney and Croxton intermodal yards.

The main north-south rail line is the Chemical Coast Secondary, which connects with the Lehigh Line at Oak Island Yard. The Chemical Coast line serves Port Newark/Elizabeth, waterfront industries, and several rail yards. The following is a summary of rail yards in the city.

Oak Island Yard

Oak Island, located just north of the port area, is the hub of Conrail operations in North Jersey. It is a large complex with an engine house, large classification yard, auto unloading terminal and maintenance facilities. The yard has a 150-car capacity and at times operates at or near its limit. Several local rail lines are based out of Oak Island serving Port Newark, the Irvington Industrial Track and the Raritan Line. A nightly transfer run from Port Reading Yard handles cars for Port Reading and the Bayway Refinery complex. Running through the yard are the Oak Island Running Track, which connects to the Chemical Coast Secondary, and the Portside Running Track, which runs to Portside Yard and the Bayway Refinery.

Brills Yard

This small facility is located just north of Oak Island Yard. It is a Conrail Shared Assets Facility (CSAO) whose main function is to handle solid waste shipments.

Doremus Avenue Auto Terminals

This facility is the largest rail automobile loading facility in the New York/New Jersey region. These Conrail Shared Asset terminals are located adjacent to the north side of Port Newark, at NJ Turnpike Interchange 14.

Port Newark Yard

This small industrial support yard has six tracks. It is the reporting location for crews who serve local industries and intermodal facilities. Cars for customer service from this yard are transferred from Oak Island Yard.

Portside Yard

This facility is used for "roadrailer" trains, comprised of cars with retractable rails wheels, which can be mounted on highway trailers.

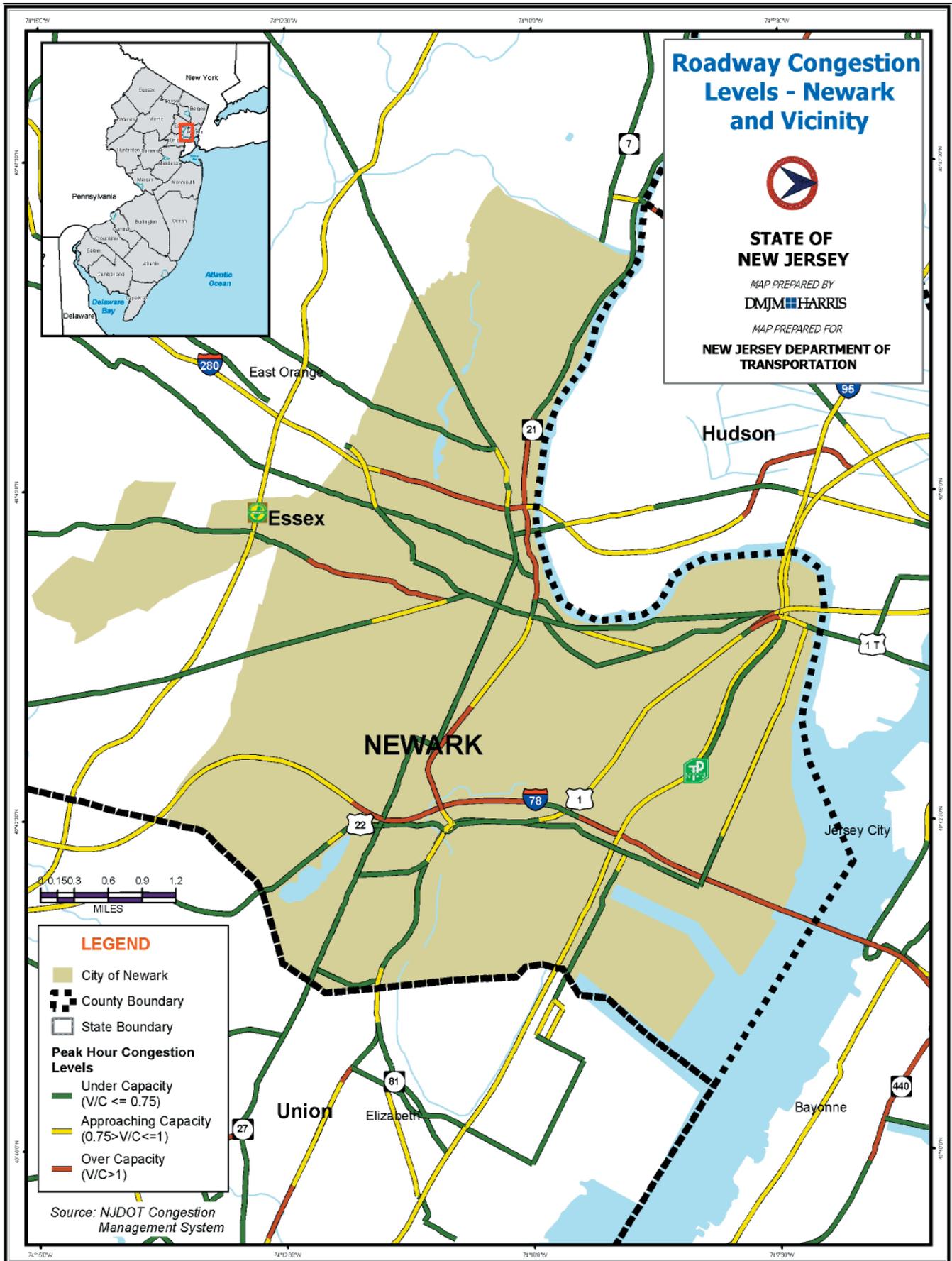
B. SYSTEM PERFORMANCE

This section provides information on transportation system performance based upon management system data that NJDOT maintains.

1. Congestion Management System

NJDOT's Congestion Management System (CMS) is a primary source of information on roadway congestion. The CMS measures congestion based upon volume-to-capacity (v/c) ratio. Roadways operating below a 0.75 v/c ratio operate well and have the capacity to accommodate growth. Roadways approaching a 1.0 v/c ratio have little ability to accept additional growth, and a v/c over 1.0 indicates that the roadway is operating at failing conditions and does not have the capacity for more traffic. Map 3 shows the 2005 congestion levels for roads within Newark and in the immediately surrounding area. The map shows that a considerable portion of roads are either over capacity or approaching capacity. Regional roads already over capacity include portions of I-78, I-280, Route 21, and US 1&9, as well as South Orange Avenue, which is a county road.

Map 3: Road Congestion Levels



2. Pavement Conditions

NJDOT maintains a Pavement Management System (PMS) database with information on pavement conditions. The PMS includes all interstate, toll, state and U.S. highways, plus significant 500- and 600-level county roads, and some local routes of regional significance. The rating system for the roadways is based primarily on two criteria: ride quality and surface distress. The Ride Quality Index (RQI) describes the comfort level by measuring roughness, and the Surface Distress Index (SDI) measures the severity of surface distresses such as cracking, patching, shoulder condition, shoulder drop, faulting and joints. A final pavement rating is calculated from RQI and SDI to determine pavement quality. These ratings, in conjunction with roadway types, are used to determine priorities for resurfacing projects throughout the state. Table 2 shows the pavement condition of state roads in and around Newark as rated by the SDI for 2004. The data show that most roads have very good or good pavement conditions. Roads with poor or very poor condition include segments of US 22, Route 21, Route 27, and US 1&9 Truck.

Table 2: Newark Pavement Condition Summary by SDI

Facility	Total Pavement Miles (Both Directions)	Very Good SDI > 4	Good 4 > SDI > 3	Fair 3 > SDI > 2	Poor 2 > SDI > 1	Very Poor SDI < 1
1&9	11.4	5.6	2.6	3.2	0.0	0.0
1&9T	1.8	0.3	0.1	0.4	1.0	0.0
21	11.4	6.4	0.8	2.9	0.7	0.6
22	4.0	1.9	0.2	0.2	1.1	0.6
27	5.0	0.9	1.3	1.8	0.8	0.2
78	8.0	3.4	4.2	0.3	0.1	0.0
280	3.6	1.2	0.5	1.9	0.0	0.0
Total	45.2	19.7	9.7	10.7	3.7	1.4
%	100%	43.6%	21.5%	23.7%	8.2%	3.1%

Source: NJDOT Pavement Management System.

In terms of roughness or ride quality, the International Roughness Index (IRI) reflects only the amount of existing surface irregularities that cause a vehicle to lose contact with the surface. As a more single dimension measurement, deficiencies are more striking but treatment may be less costly and include overlays, with or without milling, rather than rehabilitation or reconstruction that may be the treatment for SDI-indicated problems. Table 3 indicates that over 60 percent of the state roadways within Newark have deficient pavement roughness conditions.

Table 3: Newark Pavement Summary by IRI

Facility	Total Pavement Miles (Both Directions)	Good	Fair	Deficient
1&9	11.4	0.3	5.7	5.4
1&9T	1.8	0.0	0.5	1.3
21	11.4	0.3	2.6	8.5
22	4.0	0.3	1.7	2.0
27	5.0	0.2	0.9	3.9
78	8.0	0.5	1.5	6.0
280	3.6	0.0	1.5	2.1
Total	45.2	1.6	14.4	29.2
%	100%	3.5%	31.9%	64.6%

Source: NJDOT Pavement Management System.

3. Bridge Conditions

NJDOT employs a Bridge Management System (BMS) to maintain an inventory of all bridges with a span over 20 feet. The BMS lists the physical characteristics, condition and ownership of each bridge. The bridges are rated for their structural condition as well as functional characteristics. Information on structural condition is also combined with bridge size and roadway type to help determine priorities for bridge improvement projects. Table 4 shows data on bridge conditions in Newark for 2005. This data show that the city has a somewhat higher percentage of sub-standard bridges than the statewide average.

Table 4: Bridges with Substandard Conditions

Location	Total Bridges in BMS	Structurally Deficient	Functionally Obsolete	Total Sub-standard Bridges	% Sub-standard
Newark	234	25	72	97	41%
State	6,415	779	1,459	2,238	35%

Source: NJDOT, Bridge Management System.

4. Safety Conditions

NJDOT's Bureau of Safety Programs produces an annual report of motor vehicle crash rates (per one million vehicle miles traveled) for roads under NJDOT jurisdiction. Table 5 shows the state road segments in Newark with the highest crash rates in 2004. The location with the highest crash rate is along I-280 just west of the Stickel Bridge; the other high-crash locations are along Route 21.

Table 5: State Road Segments with Highest Crash Rates, Newark, 2004

Road	Location	Length	Crashes	Rate
I-280	Route 21 – Stickel Bridge	.08	59	22.96
Route 21	Center Street	.10	19	12.93
Route 21	Miller – Hamilton	1.18	178	10.99
Route 21	Clay – Gouvernor	.62	130	10.41

Source: NJDOT, Bureau of Safety Programs.

C. DEMOGRAPHIC PROFILE

This section presents a summary of the demographic characteristics of the city. It examines trends over the past 20 years and compares trends with those of the city, county and state.

1. Population

The rate of decrease of the city's population slowed substantially between 1990 and 2000. While the population decreased 16% between 1980 and 1990, it decreased by less than one percent between 1990 and 2000. During the same time, the county's population, which had decreased by 9% between 1980 and 1990, increased by 2% (see Table 6).

Table 6: Total Population - Newark, Essex County, New Jersey (1980 – 2000)

	1980	1990	2000	Change 1990 - 2000	
				Number	Percent
Newark	329,248	275,221	273,546	-1,675	-0.6%
Essex County	851,304	778,206	793,633	15,427	2.0%
New Jersey	7,365,011	7,730,188	8,414,350	684,162	8.9%

Source: U.S. Department of Commerce, Bureau of Census, Population and Housing 1980, 1990, 2000.

2. Age Distribution

The age distribution of the city's population is slightly different from that of the county and state (see Table 7). The city has a somewhat higher percentage of population under the age of 19 and a somewhat lower percentage over the age of 65. The city's median age increased between 1990 and 2000 but remains substantially below those of the county and state.

Table 7: Age Profile 1980-2000

	1980	1990	2000
<5 Years			
Newark	8.7%	7.9%	7.8%
Essex County	6.8%	7.0%	7.3%
New Jersey	6.3%	6.9%	6.7%
5-19 Years			
Newark	29.3%	24.2%	23.4%
Essex County	24.9%	20.2%	21.4%
New Jersey	24.2%	19.1%	20.4%
20-64 Years			
Newark	53.2%	58.6%	59.5%
Essex County	56.7%	60.2%	59.4%
New Jersey	57.8%	60.6%	59.7%
65+ Years			
Newark	8.8%	9.3%	9.3%
Essex County	11.6%	12.6%	12.0%
New Jersey	11.7%	13.4%	13.2%
Median Age			
Newark	26.9	29.6	30.8
Essex County	31.7	33.6	34.7
New Jersey	32.0	34.4	36.7

Source: U.S. Bureau of the Census, 1980, 1990, 2000.

3. Racial and Ethnic Composition

The racial and ethnic composition of the city remained relatively unchanged between 1990 and 2000 (see Tables 8 and 9). The percentage of non-white population increased from 71% to 73% by 2000 and the percentage of Hispanic population increased from 26% to 30% by 2000. By comparison, the county had 55% non-white and 15% Hispanic population by 2000, and the state had 27% non-white and 13% Hispanic population by 2000.

Table 8: Racial Composition 1990-2000

	1990	2000
White		
Newark	29%	27%
Essex County	51%	45%
New Jersey	79%	73%
Black		
Newark	58%	54%
Essex County	41%	41%
New Jersey	13%	14%
Other*		
Newark	13%	20%
Essex County	8%	14%
New Jersey	7%	14%

Source: U.S. Bureau of the Census, 1990, 2000.

* "Other Races" include Asian, Pacific Islander, American Indian, & Alaska Native. It also includes persons who reported that they are "2 or more" races. Since the Census Bureau used this category for the first time for the 2000 Census, some of the shift in the racial composition between 1990 and 2000 may be attributable to persons selecting this category. Hispanic origin is not a race; therefore, persons of Hispanic origin may be included in any of the race categories.

Table 9: Percentage of Hispanic Population 1990-2000

	1990	2000
Newark	26%	30%
Essex County	13%	15%
New Jersey	10%	13%

Source: U.S. Bureau of the Census, 1990, 2000.

4. Income & Poverty

Median household income in Newark increased by 24% between 1990 and 2000 but this rate was a lower rate of increase than that for the county and state. The city's 2000 median income remained well below that of the county and state (see Table 10). Also, the percentage of persons below the poverty level increased between 1990 and 2000, and the city's poverty rate is significantly higher than that of the county or state.

Table 10: Income and Poverty 1979-1999

	1979	1989	1999	Change 1989-1999	
				Number	Percent
Median Household Income					
Newark	\$10,118	\$21,650	\$26,913	\$5,263	24.3%
Essex County	\$27,122	\$34,518	\$44,944	\$10,426	30.2%
New Jersey	\$33,178	\$40,927	\$55,146	\$14,219	34.7%
% Individuals Below Poverty Line					
Newark	32.8%	26.3%	28.4%		
Essex County	17.9%	10.0%	15.6%		
New Jersey	9.5%	7.6%	8.7%		

Source: U.S. Department of Commerce, Bureau of Census, 1980, 1990, 2000.

5. Automobile Ownership

The rate of household vehicle ownership in Newark remained constant between 1990 and 2000, and it remains significantly below the rate for the county and state (see Table 11). In the city, 80% of households have one or no vehicles, compared to a statewide average of 48%.

Table 11: Percentage of Households with a Vehicle 1980-2000

	1980	1990	2000
Newark	52%	56%	56%
Essex County	85%	75%	75%
New Jersey	85%	87%	87%

Source: U.S. Department of Commerce, Bureau of Census, 1980, 1990, 2000.

6. Labor Force

The number of employed residents in Newark decreased significantly between 1990 and 2000 (see Table 12). This trend reflects a decreased labor force participation rate, as well as an increasing unemployment rate (see below).

Table 12: Employed Residents 1980 – 2000

	1980	1990	2000	Percent Employed	Change 1990-2000	
					Number	Percent
Newark	110,052	105,553	90,819	49.5%	-14,734	-14%
Essex County	358,757	364,513	336,390	59.5%	-28,123	-7.7%
New Jersey	3,288,302	3,869,698	3,950,029	64.2%	81,331	2.1%

Source: U.S. Department of Commerce, Bureau of Census, 1980, 1990, and 2000.

7. Unemployment

The civilian resident unemployment rate in Newark has been increasing steadily since 1980, and it remains well above that for the county and state (see Table 13).

Table 13: Resident Unemployment Rate 1980-2000

	1980 (%)	1990 (%)	2000 (%)
Newark	13.4	14.7	16.1
Essex County	8.4	8.8	9.3
New Jersey	7.2	5.7	5.8

Source: U.S. Department of Commerce, Bureau of Census, Population and Housing 1980, 1990 and 2000.

8. Employed Residents by Industry

Table 14 presents the number of employed city residents who work in different industrial sectors. The bulk of the labor force works in service industries; only 20% work in manufacturing or construction.

Table 14: Industrial Sector of Employment - Newark City Residents, 2000

Industry	Number Employed	% Employed
Agriculture, forestry, fishing and hunting, and mining	107	0.1
Construction	6,753	7.4
Manufacturing	11,737	12.9
Wholesale trade	3,748	4.1
Retail trade	8,456	9.3
Transportation and warehousing, and utilities	9,303	10.2
Information	2,489	2.7
Finance, insurance, real estate, and rental and leasing	5,663	6.2
Professional, scientific, management, administrative, and waste management services	8,096	8.9
Educational, health and social services	18,270	20.1
Arts, entertainment, recreation, accommodation and food services	6,227	6.9
Other services (except public administration)	5,706	6.3
Public administration	4,264	4.7

Source: US Census 2000.

9. Employed Residents by Occupation

Table 15 shows the number of employed residents who hold different occupations. The percentage of city workers in “Management, Professional, and Related Occupations” (19%) is considerably less than rates for the county (36%) or state (38%).

Table 15: Occupation of Employment - Newark City Residents, 2000

Industry	Number Employed	% Employed
Management, professional, and related occupations	17,168	18.9
Service occupations	19,796	21.8
Sales and office occupations	24,985	27.5
Farming, fishing, and forestry occupations	134	0.1
Construction, extraction, and maintenance occupations	9,455	10.4
Production, transportation, and material moving occupations	19,281	21.2

Source: US Census 2000.

10. Journey to Work - Resident Labor Force

In 2000, the percentage of the city’s resident labor force that worked in the city was 41%, which is a decrease from 47% in 1990. Over 50,000 city residents worked in locations outside the city (see Table 16). Approximately 62% of residents worked within the county. Other leading counties of employment were Union, Hudson, Morris and New York, NY (Manhattan). Leading towns of employment, outside Newark, were Manhattan (part of New York City), East Orange, Elizabeth, Union and Jersey City.

Table 16: Location of Employment - Newark City Residents, 2000

Location	Number	Percent	Number	Percent
Essex County	53,949	61.5%		
Newark			36,319	41.4%
East Orange			2,634	3.0%
Irvington			1,983	2.3%
Union County	8,207	9.4%		
Elizabeth			1,807	2.1%
Union			1,511	1.7%
Hudson County	5,252	6.0%		
Jersey City			1,533	1.7%
Morris County	3,738	4.3%		
New York, NY	3,736	4.3%		

Source: US Census, 2000.

In 2000, 55% of resident workers used modes other than single-occupancy vehicles as their primary commute mode, compared to 39% in the county and 27% in the state. The share of commuters using public transit as their preferred mode was 27%, compared to 19% for the county and 10% for the state. The average commute time for all workers who do not work at home is 32 minutes.

11. Employment

Total covered employment in Newark (including private sector, federal government, and local government jobs) in 2003 was 134,132, which was a small increase of .2% from 1998. The major employment sectors in Newark are transportation and warehousing, local government, health care, manufacturing, administrative and waste services, and finance and insurance. Although manufacturing is an important sector, the goods-producing industries of manufacturing, construction, and utilities account for only 12% of private covered employment (see Table 17).

Table 17: Covered Employment by Sector, Newark 2003

Sector	Number Employed
Utilities	293
Construction	2,857
Manufacturing	10,268
Wholesale trade	4,519
Retail trade	5,778
Transportation and warehousing	25,345
Information	5,597
Finance and insurance	8,542
Real estate and rental and leasing	2,705
Professional and technical services	4,951
Management of companies and enterprises	3,104
Administrative and waste services	8,796
Educational services	1,019
Health care and social assistance	14,470
Arts, entertainment, and recreation	950
Accommodation and food services	5,761
Other services, except public administration	3,982
PRIVATE SECTOR TOTAL	109,236
FEDERAL GOVERNMENT TOTAL	4,969
LOCAL GOVERNMENT TOTAL	19,927

Source: NJ Department of Labor. NJ Employment and Wages: 2003 Annual Report, Municipalities by Industry. Data represent annual average for 2003. Covered employment refers to all jobs covered by unemployment insurance. Private sector total does not match sum of individual industries because NJDOL suppresses data for industries with few units (businesses) or where one employer is a significant percentage of employment or wages of the industry.

These data do not include state government employees or employees of other agencies sometimes considered part of the state government workforce. These agencies include NJ TRANSIT; Rutgers, the State University of New Jersey; the University of Medicine and Dentistry of New Jersey; and the Port Authority of New York and New Jersey.

According to NJTPA, as of 2000, the number of employees in Newark was 160,010; this number was projected to increase to 160,390 in 2005.

12. Journey to Work - Employees in the City

The 2000 US Census found that about 25% people who work in Newark live in the city. Over 110,000 persons travel into the city to work. Slightly more than 20% of employees live in other towns in Essex County. Other leading residential locations are Union, Hudson and Middlesex Counties (see Table 18).

Table 18: Location of Residence - Newark Employees, 2000

Location	Number	Percent	Number	Percent
Essex County	66,877	45.4%		
Newark			36,319	24.6%
East Orange			6,025	4.1%
Union County	16,813	11.4%		
Elizabeth			4,651	3.2%
Union			2,777	1.9%
Hudson County	11,358	7.7%		
Jersey City			4,152	2.8%
Kearny			2,477	1.7%
Middlesex County	9,325	6.3%		

Source: US Census, 2000.

D. FUTURE CONDITIONS

1. Population and Employment Projections

The NJTPA issues population and employment projections for its region. These projections indicate that the city's population is expected to reverse its trend of decline and increase by 14% between 2000 and 2030 (see Table 19). Maps 4 and 5 show current (2000) and projected (2030) population densities for the city. Similarly, the city's employment is projected to increase between 2000 and 2030, gaining over 20,000 jobs (see Table 20). Maps 6 and 7 show current (2000) and projected (2030) employment densities for the city.

Table 19: Population Projections - Newark, Essex County (2000 – 2030)

	2000	2005	2010	2015	2020	2025	2030	% Change 2000-2030
Newark	272,540	276,840	280,610	285,570	296,630	306,490	311,840	14.4%
Essex County	792,300	801,000	810,500	819,400	842,200	867,400	885,500	11.8%

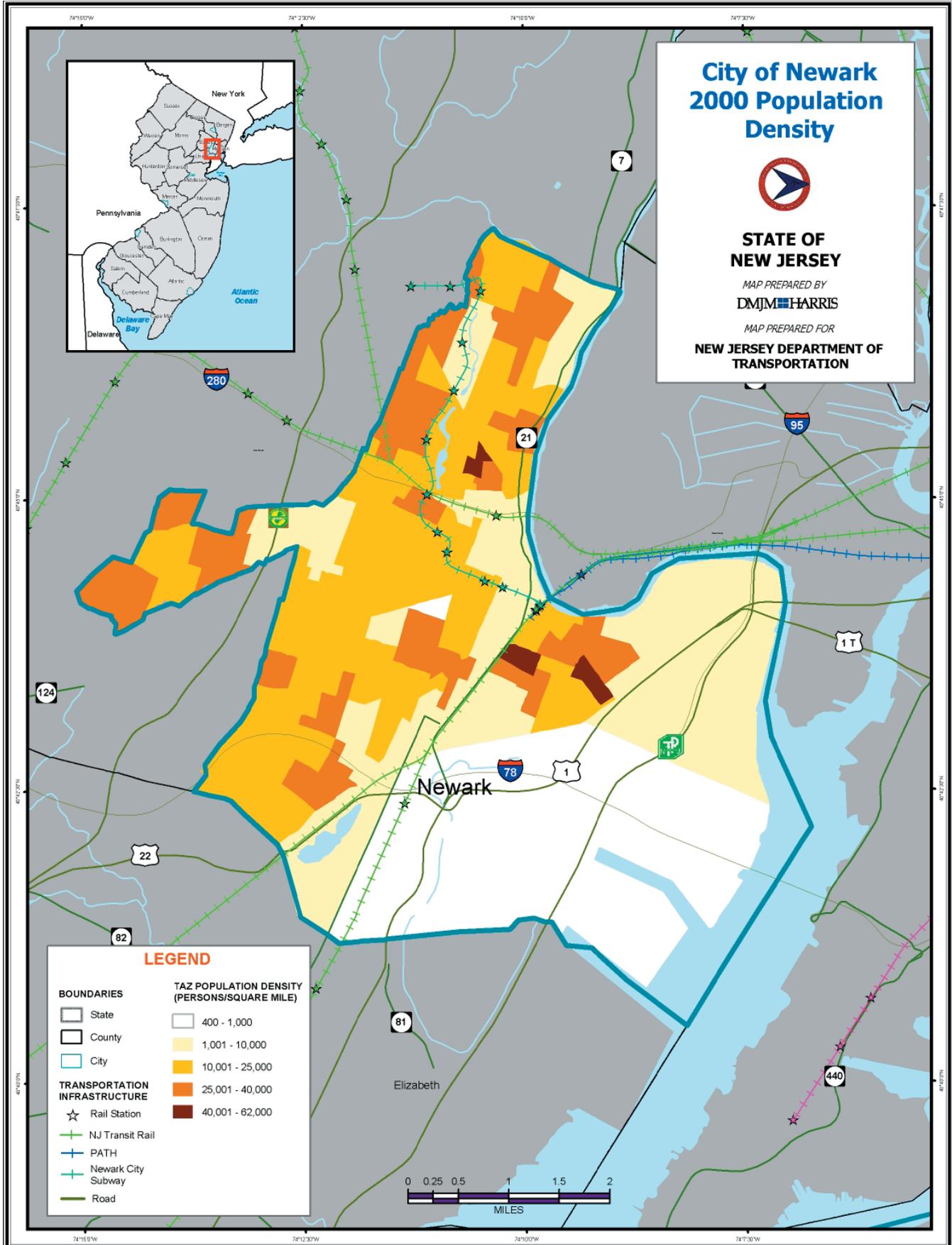
Source: NJTPA. Approved Demographic and Employment Forecasts, May 2005.

Table 20: Employment Projections - Newark, Essex County, 2000 - 2030

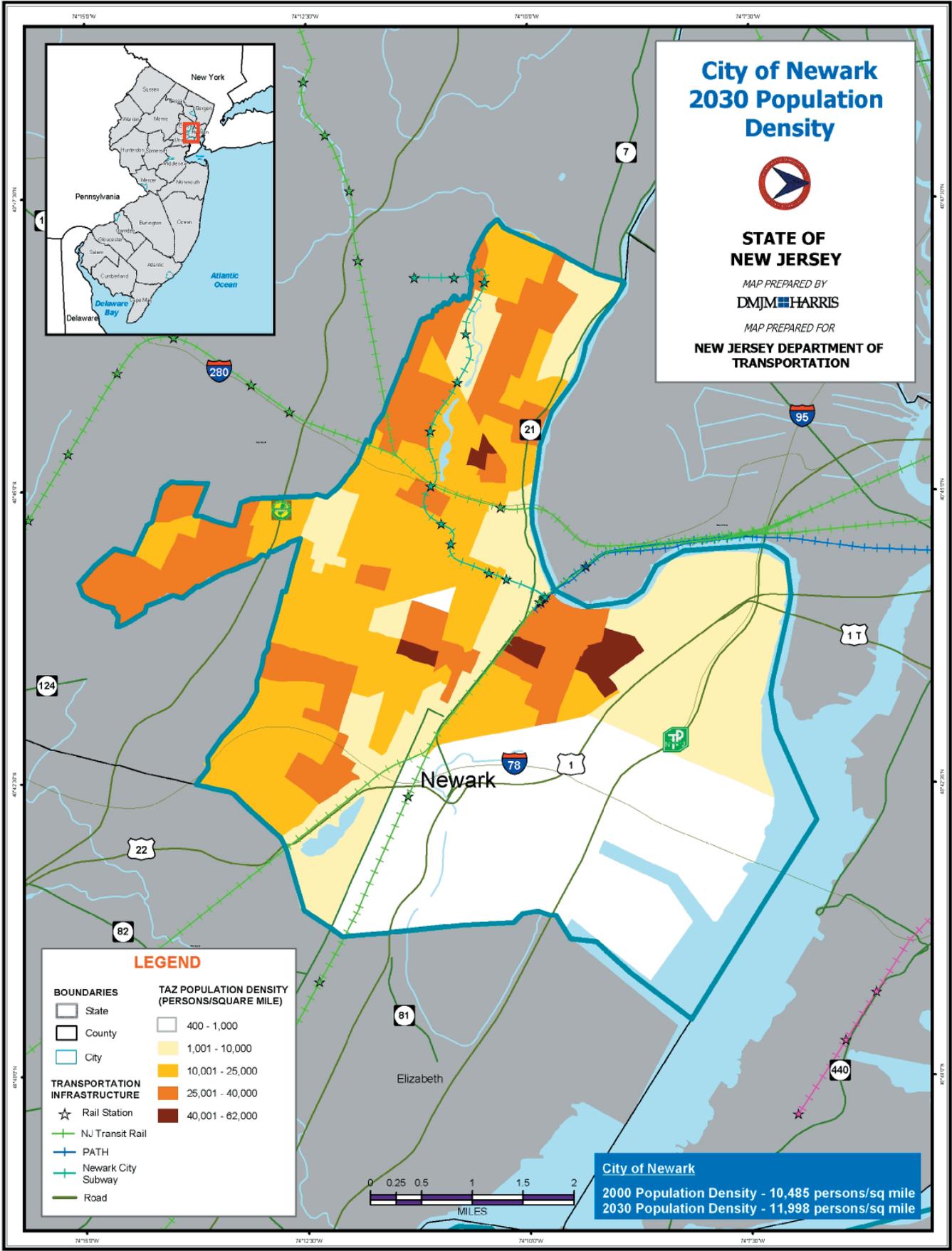
	2000	2005	2010	2015	2020	2025	2030	%Change 2000-2030
Newark	160,010	160,390	161,690	164,790	172,910	179,490	180,420	12.8%
Essex County	396,200	397,500	400,100	406,100	422,200	437,800	440,500	11.8%

Source: NJTPA. Approved Demographic and Employment Forecasts, May 2005.

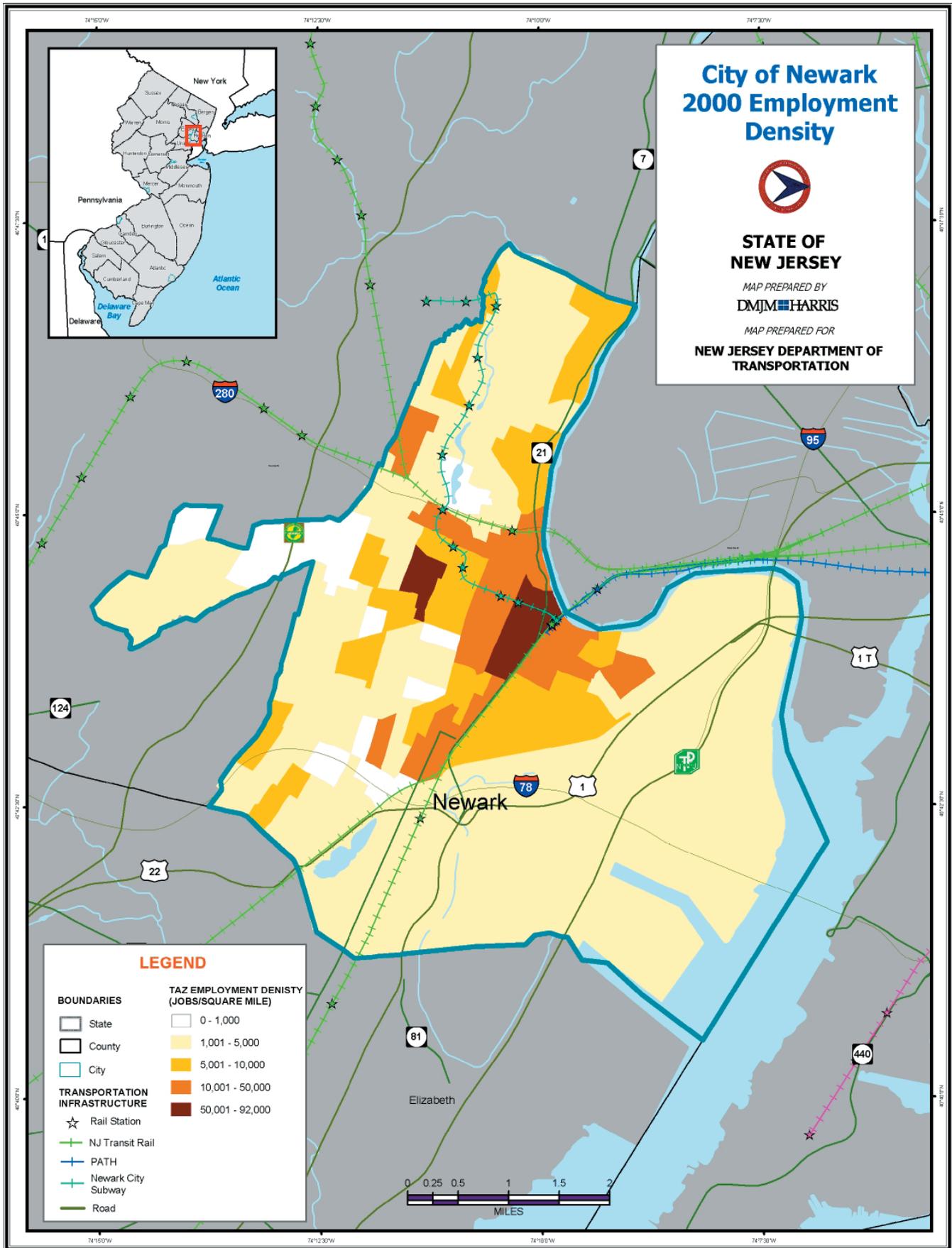
Map 4: 2000 Population Density



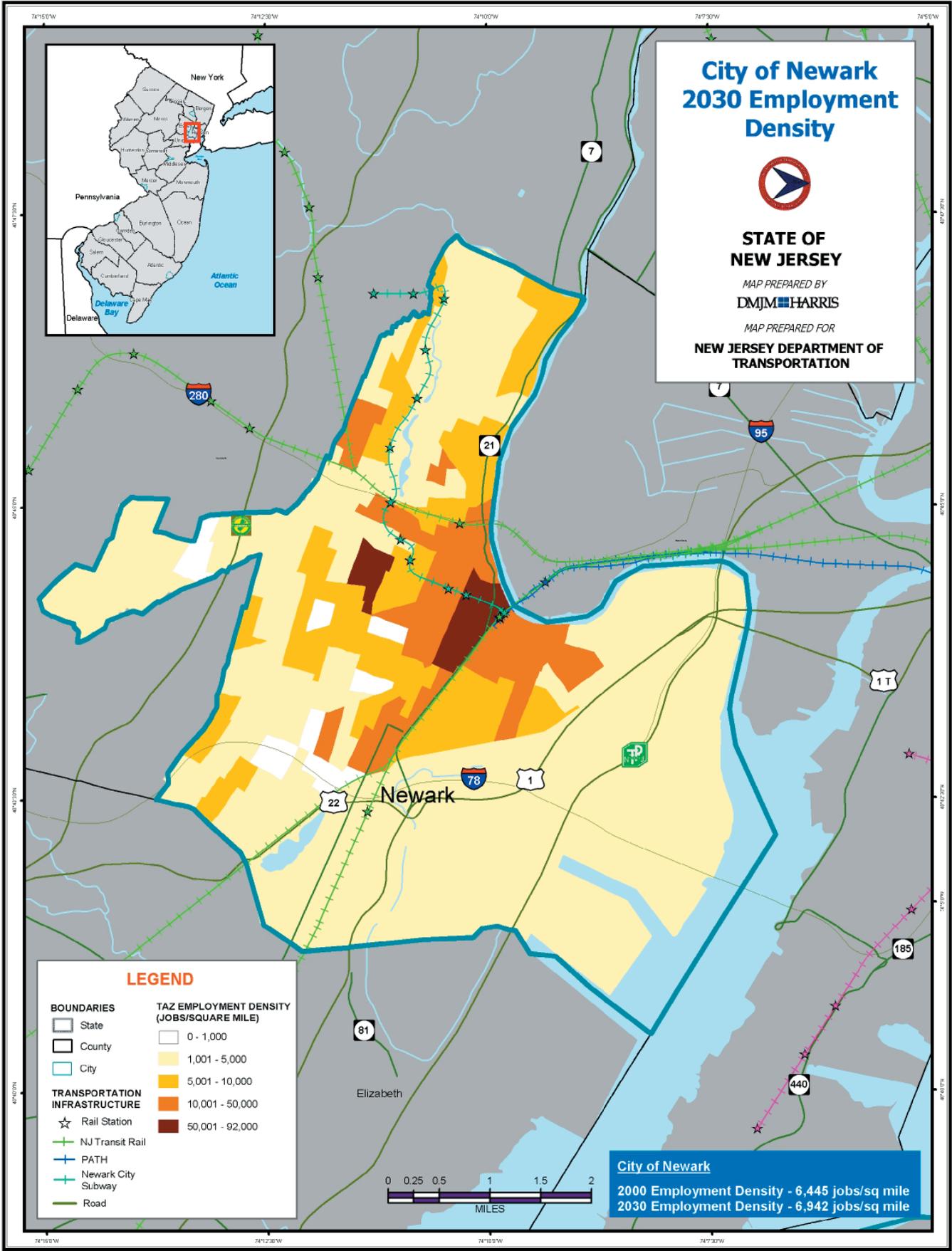
Map 5: 2030 Population Density



Map 6: 2000 Employment Density



Map 7: 2030 Employment Density



2. Transportation Conditions

Regional transportation models enable analysis of current and future travel conditions based upon various assumptions about land use and transportation system capacity. The model output can be used to prepare “travel time contour” maps, which show how far a motorist could travel between a specific point (e.g., the center of a city) and other points on the surrounding roadway system within given time frames. These maps reflect the impact of roadway congestion upon travel time.

The work on the New Jersey Long-Range Transportation Plan included analyzing and preparing travel time contour maps for existing conditions (2005) and the 2030 Plan. The appropriate Urban Supplement reports contain maps for each city. These maps cover the surrounding roadway network that lies within the NJTPA region. The calculations are based upon evening peak hour traffic volumes, and they are based upon traffic heading both to and from the central point.

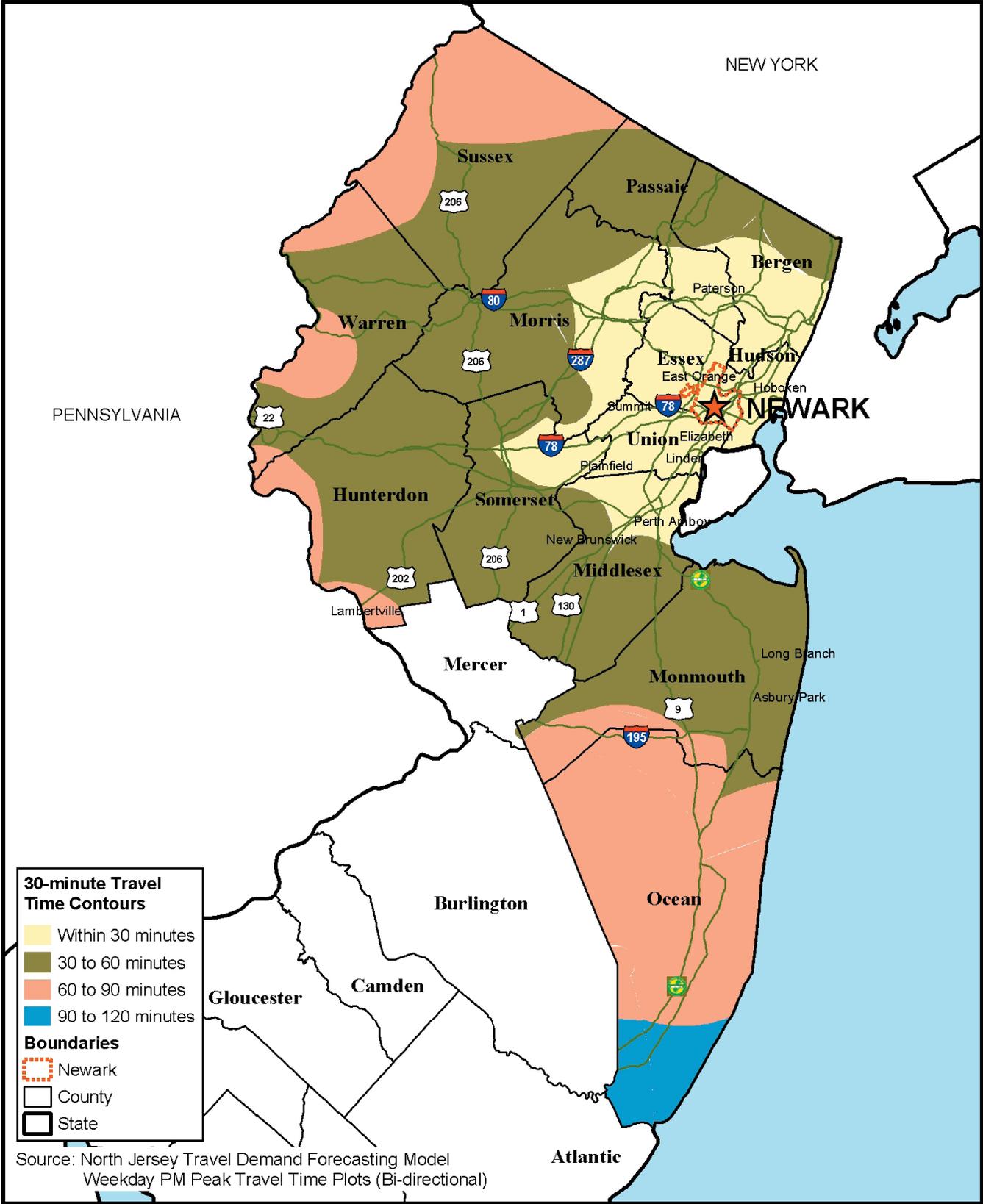
The 2005 existing condition map shows the current travel time limits (see Map 8).

The 2030 Plan map illustrates travel time with the package of transportation system investments contained in the 2030 Plan (see Map 9). The statewide long-range transportation plan, Transportation Choices 2030, contains specific information on these investments, and the plan is available on the internet at www.njchoices.com. The 2030 Plan recognizes the importance of completing key transit projects, and it envisions a significant infusion of additional funds for transit-related projects and bringing transportation infrastructure to a state of good repair. The 2030 Plan also assumes reducing some auto trips by more aggressive travel demand management measures and adopting smart growth measures for new development and redevelopment.

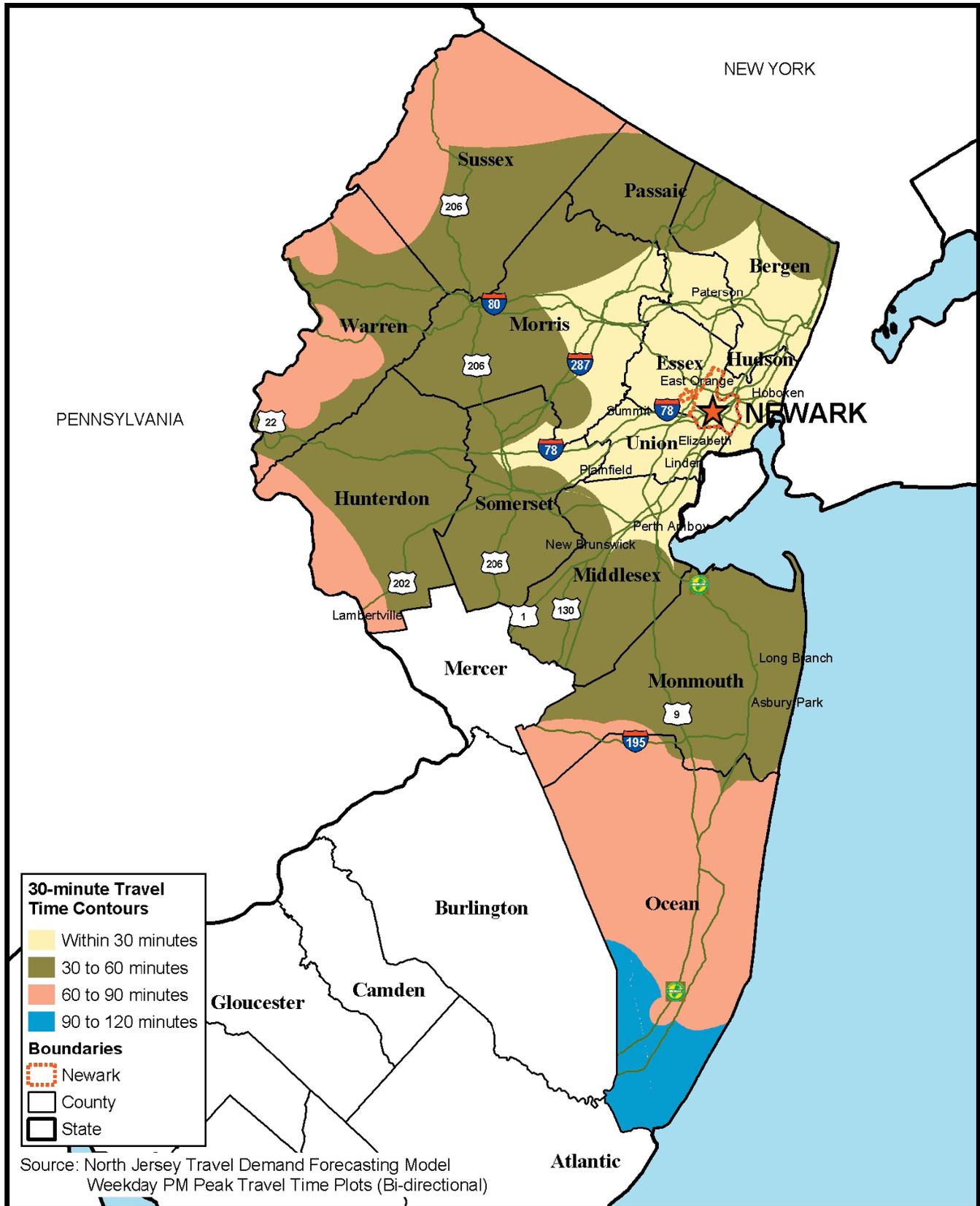
As a contrast, Map 10 shows anticipated travel time limits in 2030 without the level of investments that are identified in the 2030 Plan.

It is important to understand that these maps do not reflect public transit travel times. Public transit provides significant levels of access and mobility for the state's largest cities, and increases in transit service would be expected to increase these levels of access and mobility.

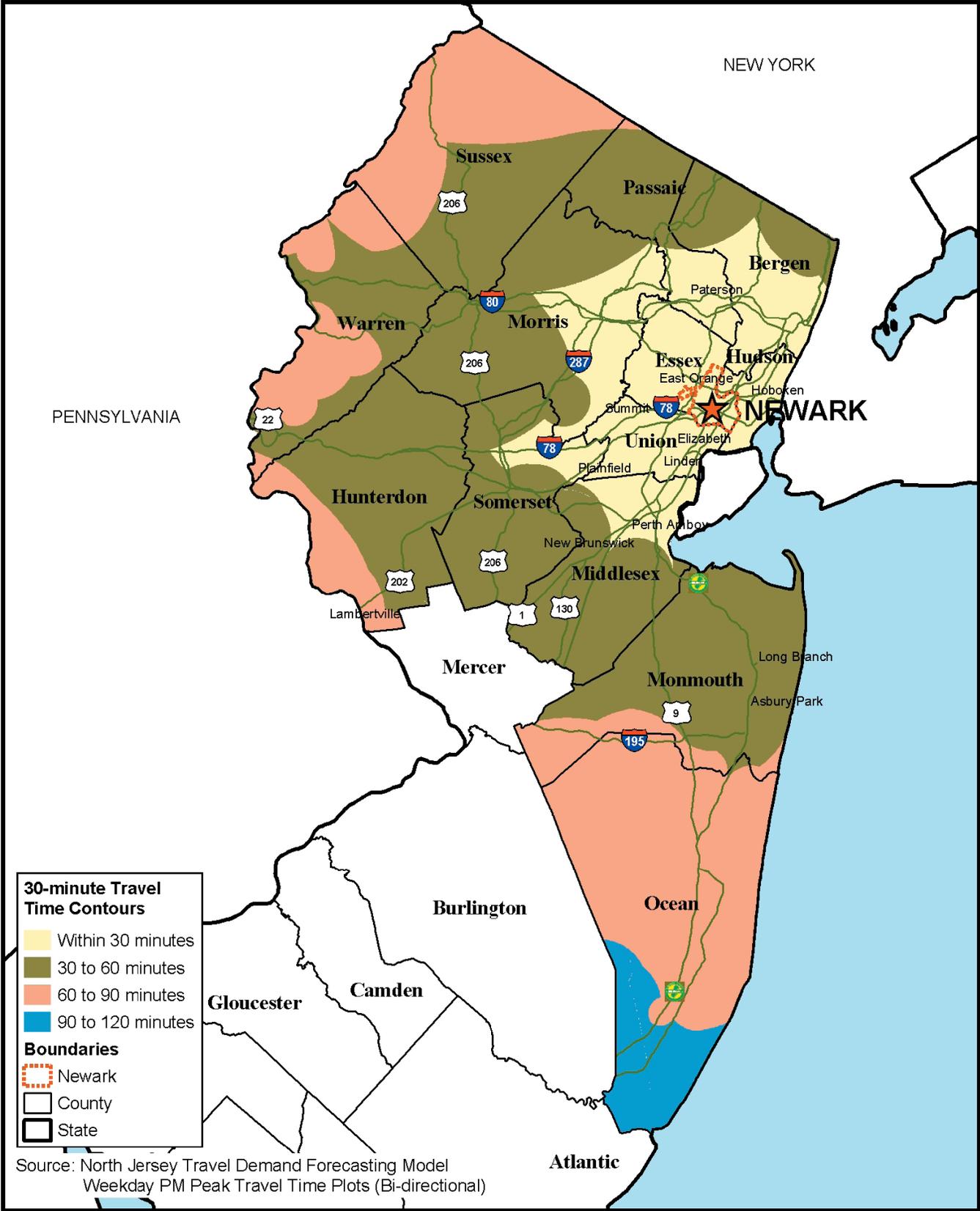
Map 8: Travel Time Contours, Newark – 2005



Map 9: 2030 Travel Time Contours, Newark, 2030 - Plan



Map 10: 2030 Travel Time Contours, Newark, 2030 – without Plan



E. CURRENT AND FUTURE DEVELOPMENT

This section presents a summary of current and future development potential in Newark and the surrounding area, focusing on non-residential development.

1. City

Existing Development

Central Business District

The city has about 12 million square feet of office space, most of which is located in the central business district (CBD). The major office complex is Gateway Center, which has about 2.3 million square feet of Class A office space and 80,000 square feet of retail space, along with a 250-room Hilton Hotel. Skywalks link Gateway Center to Penn Station and the Newark Legal Center (420,000 square feet) across Raymond Boulevard. Also across Raymond Boulevard are One Newark Center (429,000 square feet) and the PSE&G building. Just north of the Newark Legal Center is Claremont Tower, the first building constructed as part the waterfront master plan. It is a 12-story building with ground floor retail, four parking levels, and seven stories occupied by the Newark office of the Federal Bureau of Investigation (FBI). On the east side of Penn Station is Penn Plaza East, which includes the NJ TRANSIT and Blue Cross/Blue Shield office buildings.

The Broad Street/Washington Park area at the northern end of the CBD includes a concentration of office buildings and cultural institutions. Key employers in this area include Wachovia, Bell Atlantic, Mutual Benefit Life, IDT, and Verizon. Cultural and entertainment facilities in this area include the Newark Public Library, Newark Museum, New Jersey Performing Arts Center (NJPAC), and the Bears and Eagles Riverfront Stadium.

The Broad Street corridor below Central Avenue includes office buildings, retail stores, and government buildings. Key office buildings in this area include the Prudential headquarters, the National Newark building, and the State Office Building. Market and Broad Streets are the major retail corridors in the city, serving as a regional discount shopping areas which largely serves city residents.

Farther south along Broad Street, below Market Street, are several government uses, including City Hall, police headquarters, and the federal building complex.

University Heights

This area has four institutions of higher education: Rutgers University – Newark, the New Jersey Institute for Technology, the University of Medicine and Dentistry of New Jersey (UMDNJ) and Essex County College. Over the past few years, these institutions have been expanding their presence in the area and currently have a total of about 26,000 students and over 11,800 employees.

Rutgers University – Newark has a 37-acre campus, with 30 buildings and over 1,100 faculty and staff. The total enrollment is over 9,300, most of whom are commuters. The New Jersey Institute for Technology has a total enrollment of over 8,800, UMDNJ (which employs 7,400 persons) has about 2,200 students in Newark, and Essex County College has a total enrollment of over 8,800.

The University Heights Science Park (UHSP) is a 50-acre mixed use science and technology park including the International Center for Public Health, administrative offices, industrial laboratories, technology start-ups and a child daycare center.

The University Heights area also includes the University Hospital and St. Michael's Medical Center. The University Hospital has over 500 beds and over 3,000 full-time employees. Saint Michaels is part of the Cathedral Healthcare System, which operates two other hospitals in Newark and a long-term care facility in Orange. These facilities together employ over 3,800 persons. The other hospitals in the system are Columbus in the North Ward and Saint James in the East Ward. In addition, Newark Beth Israel Medical Center, located in the southern part of the city, has 671 beds and employs over 3,200 persons.

The Essex County administration and court buildings are located near the intersection of West Market Street and MLK Boulevard. The main buildings include the Historic Courthouse, the Hall of Records, and the new Courts Building. The Wilentz Court Complex is located on Washington Street.

Airport and Port

Newark Liberty International Airport and Port Newark/Elizabeth are the leading generators of economic activity and employment in Newark. According to Port Authority data, in 2004, 18,352 persons were employed at the airport, and over 100,000 other jobs are derived from airport activity. The airport has been experiencing increases in both passenger and cargo traffic, increasing the demand for related businesses such as air cargo and freight handling, flight and kitchen services, parking, storage and distribution, warehousing, and hospitality services such as hotels. Land to the north and west of the airport is rapidly developing into a hotel district; twelve hotels are located in and around the airport, and the Marriott is located on the airport grounds.

A later portion of this section provides more details on the port operations. Port Newark/Elizabeth has 1,850 jobs in the Newark portion, and another 2,300 jobs in the Elizabeth portion.

Industrial/Manufacturing

The city has an estimated five million square feet of industrial space. The main industrial district is located in the eastern section just above the airport and port facilities. Among the largest industrial locations are the Ironbound Industrial Park and 601 Doremus Avenue, each with over one million square feet of floor space. Other industrial districts include the South Ironbound area and the South Ward Industrial Park.

Ironbound

The city has several neighborhoods, many of which include commercial and retail activity. One of the most prominent neighborhoods is the Ironbound district, just east of the CBD. This area has a concentration of retail stores and restaurants, and it is a significant visitor and tourist destination.

Future Development

The new Land Use Element of the city's Master Plan states that much new office, commercial, educational, and arts-related development has been proposed for the city over the next two decades. The city has a substantial amount of vacant land, and the city has about 70 redevelopment areas and 150 redevelopment plans. The majority of proposed development is concentrated in the CBD, in the industrial Ironbound and Lower Clinton Hill neighborhoods, and to the north and west of the airport. The plan states that the city can reasonably expect another three million square feet of office space. Furthermore, the new NEDLUT report identifies five "engines of growth" and seven future development "nodes" in the city. This section synthesizes information from these reports and other sources to provide a picture of key development and redevelopment areas and projects.

Newark Downtown Core Redevelopment District

This major downtown redevelopment plan features an arena/entertainment complex for the New Jersey Devils professional ice hockey team. The project area covers 40 acres between Clinton Street, Green Street, Newark Penn Station and Broad Street. The city estimates that the proposed development will create over 13,000 new jobs. Phase I of the project includes the following key elements:

- ◆ New 250,000 square foot headquarters building for the Newark Public Schools.
- ◆ New 300-room hotel.
- ◆ 18,000-seat arena for the New Jersey Devils.
- ◆ A 50,000 square-foot office building to house the offices of the Devils team. This building will include retail stores.
- ◆ 1600-space parking garage.

Groundbreaking for the arena occurred in October 2005. Phase II of the project involves an additional \$1 billion in housing, retail stores and commercial offices in the rest of the area.

Mulberry Street Redevelopment Area

The city has designated a 13-acre Mulberry Street redevelopment area adjacent to the Downtown Core Redevelopment District. This area will include 2,000 condominiums and parking for 2,000 cars, along with street-level retail and streetscaping improvements.

Gateway Center Area

Economic growth is anticipated for this area due to its excellent accessibility for regional employment. The Gateway One building currently has about 150,000 square feet of available space, largely because the FBI offices moved from this location to the new Claremont Towers.

NJ TRANSIT has a station area plan for Penn Station. Possible new projects in the area include the following:

- ◆ 22-story 350,000 square foot office tower next to Penn Station.
- ◆ 10-story 300,000 square foot office tower (Penn Plaza III) next to the river.
- ◆ 578,000 square foot building - Two Newark Center.

Riverfront Center

The Matrix Development Group has announced plans for a \$400 million, mixed-use project situated on approximately seven acres along the river. The project comprises 430,000 square feet of class A office space in a 14-story tower, approximately 500 residential units in four towers, retail space, potentially a 150-room hotel adjacent to Penn Station, and a parking structure for 1,100 cars. The developer estimates that the project will generate approximately 300 full-time construction jobs and 1,000 new permanent jobs.

Riverfront Area

The city has a Passaic Riverfront Revitalization Plan, which provides a vision for future development along the waterfront. The master plan calls for the integration of recreation and mixed-use development activities to redevelop the waterfront. Suggested development includes new office buildings, a hotel, housing, retail and an amphitheater.

The city has viewed NJPAC as a catalyst for waterfront development, and it has designated three other sites owned by NJPAC as part of redevelopment zones. NJPAC currently is planning a

large mixed-use development on a site next to the Robert Treat Hotel, across the street from the arts center. The proposed project would be a high-rise building with market-rate housing, artists' studios, and retail uses such as shops, galleries, and cafes.

Also, as part of the riverfront redevelopment, the US Army Corps of Engineers is administering the Joseph G. Minish Passaic River Waterfront Park and Historic Area project, which will address erosion and environmental degradation as well as providing park area and a riverfront walkway (see Section II.C for more details).

Broad Street Corridor

New commercial development in the Broad Street corridor may occur, particularly by companies moving into available floor space. For example, IDT has plans to expand into other nearby buildings as the company adds more staff. Also, One Washington Park, the old Verizon building, has 400,000 square feet of available space. The proposed new state budget includes funding for Rutgers-Newark to acquire 11 floors of this building to use for a business school. 570 Broad Street has over 150,000 square feet of available space, and the National Newark Bank has about 120,000 square feet of available space.

James Street Redevelopment District

NJ TRANSIT has prepared a Broad Street Station Area Vision Plan which proposes that the heart of the emerging district be a newly revitalized plaza north of the station that will function as a town square for the area. Also, this area is one of NEDLUT's seven nodes. The key project for this area is redeveloping the old Westinghouse building and constructing a new 400,000 square-foot mixed-use development on this site. The plan also proposes new retail uses along Orange Street and residential infill in the James Street Commons Historic District.

Nearby, NEDLUT also proposes a node for the Orange Street/First Street area. Proposed development includes renovating and re-using three old industrial/warehouse buildings and providing residential infill. The city envisions a transit village centering on the Orange Street subway station. NJ TRANSIT is initiating a joint planning effort with the city to explore redevelopment opportunities in the station area.

University Heights

The Master Plan notes the attractiveness of the cluster of educational facilities, and NEDLUT identifies this area as an "engine of growth." Rutgers-Newark has significant expansion plans; its Master Plan proposes an increase of 300,000 square feet of building space by 2012. In addition, the University is planning to build a substantial amount of student housing. The university is currently building a new 13-story housing complex for 600 students. Most recently, the university announced the following proposed projects:

- ◆ Graduate student apartments and/or a hotel at 15 Washington Street, the old law school building.
- ◆ A major parking structure with retail on the street level on the Essex Street parking lot behind 15 Washington Street.
- ◆ Development of the parking lot across from the Center for Law and Justice as graduate student and possibly faculty/staff apartments, parking and retail space.

UMDNJ is in the midst of a substantial expansion program. The major project in Newark is a new cancer center on Orange Street, scheduled to open in 2006. Another key project is the university's first student housing development. This project, which will also include retail and parking, is scheduled to open in August 2006.

At build-out, the University Heights Science Park will include one million square feet of technology laboratories and offices, 75,000 square feet of technology, incubator space, up to 20,000 square feet of ancillary support retail, an 800-student technology high school, two blocks of new and rehabilitated housing, and a day care center.

Airport/Port

Local officials expect activity at Newark International Airport to increase and to continue to be a major influence on land use and development in the city. The area immediately adjacent to the airport will continue to include related activities such as hotels, conference centers and entertainment. Goods movement activities such as cargo assembling and distribution, trucking and warehousing are likely to be accommodated in the next ring outside of the airport. Finally, the heavily industrial district of eastern Newark near the Turnpike is expected to remain. Four new hotels are proposed near the airport. These include two hotels along US 1&9 north of the Marriott Courtyard, a hotel/conference center at Waverly Yards next to the airport rail station, and another hotel near this station. Also, the city is working with the Port Authority to move non-airport activities off site and create an "Airport Support Zone" along Route 27 (Frelinghuysen Avenue) between Haynes Avenue and Virginia Street. This zone would cover about 100 acres and generate about 500 jobs.

Similarly, the city expects increased development related to Port Newark/Port Elizabeth activities. The Port Authority is investing in dredging, port facility improvements and rail improvements which will increase the volume of cargo that the Port handles (see Section II.D for more details).

The city estimates that over 500,000 square feet of light industrial space is available near the Port. Similar to the airport support zone, the city has proposed a Seaport Support Zone covering about 150 acres. Also, NEDLUT proposes an "R-121" development node in this area. It proposes up to 700,000 square feet of new industrial, light industrial, warehouse and distribution activity on newly-created development parcels, created by re-organizing and re-configuring the internal street system. In addition, the Port Authority has identified four "Portfield" sites (potential warehouse/distribution centers) in Newark: DuPont, Englehard, MOTIVA and Newark Industrial Group.

Coca-Cola is proposing to build a bottling plant and regional marketing center, which would create about 200 jobs, on Delancey Street just east of US 1&9.

Other Industrial

The city has other locations for potential industrial development/redevelopment. NEDLUT identifies two nodes that would contain industrial development. It proposes renovating and re-using the 200,000 square foot Kremenz building as a center of airport-oriented service and commercial activity. Further south, it proposes new light industrial warehouse uses in the area of the South Ward Industrial Park. The city is planning to expand the South Ward Industrial Park by adding about 90,000 square feet of industrial/warehouse space in two buildings.

Also, Cohen's Frozen Food, Inc., is undertaking a multi-million dollar expansion and renovation of its existing plant on Frelinghuysen Avenue. Additionally, Cohen's has acquired land to build a cheese manufacturing plant on Dayton Street.

Residential

In addition to the above projects, the city has several other planned and proposed residential development projects, especially for market-rate and student housing. For example, in the downtown area, work was recently completed on 1180 Raymond Boulevard, which now provides 300 market rate rental units, with ground floor retail, in a former office building.

Nearby, residential development also will occur in the former Hahnes and Griffith buildings, and another proposed project is Branford Place, a condominium development. It is estimated that up to 3,000 new residential units may be built in this area over the next ten years.

Some new housing will occur as part of larger mixed-use projects. One example is the Springfield Marketplace, which will include 300 dwelling units with 150,000 square feet of retail space. Also, the Symphony Hall West redevelopment project will provide 400 dwelling units, along with a museum and related arts uses.

Two private student housing projects are Titan College Housing, which will include 220 dwelling units and ground floor retail, and the Village at Newark.

Public Schools

The Newark Public School system has plans for about 40 new schools and 30 school renovations/additions covering 24 new sites and 25 expanded sites. Two schools are currently under construction (Central and Science Park high schools), and 16 schools are in the design phase.

2. Suburbs/Region

Section C.10 identifies the leading employment destinations outside the city for city residents: Manhattan, East Orange, Irvington, Elizabeth, Jersey City and Union. These locations are not conventional suburban “reverse commute” locations; rather, they are other urbanized areas in the region. The following is a summary of key employment centers and future employment prospects in these areas. Available information suggests that these areas are likely to remain important employment areas for Newark residents (see Table 21).

Manhattan

Manhattan is the major New York City metropolitan employment center with over 350 million square feet of office space, including over 90 million in Lower Manhattan. Manhattan is expecting continued employment growth as several major new projects will reinforce and expand New York’s prominence. Projections indicate that employment in Manhattan will increase by over 500,000 between 2000 and 2030.

East Orange

East Orange is an inner suburb which has experienced substantial redevelopment. One key commercial district is the Brick Church area. Recent redevelopment has produced the Dr. King Plaza and Brick Church Commons mixed-use retail and residential projects in this area. Central Avenue Mall is another commercial district. The city has several other redevelopment initiatives including in the Evergreen Place area, which has two large vacant office buildings.

Irvington

This town is another inner suburb with two key commercial areas: downtown and the Mill Road area. The downtown area has a cluster of professional offices; the Mill Road area has a commercial node located along Stuyvesant Avenue at the Mill Road and Chancellor Avenue intersections, near the Union border. The Coit Street industrial area, which borders I-78 and Newark, has a mix of storage, light manufacturing and heavy manufacturing uses. The Port Authority views this area as having excellent redevelopment potential, particularly for airport-related warehouse and commercial businesses.

Elizabeth

The main job locations in Elizabeth are in the area around the airport and port, including the Jersey Gardens Mall. Also, the downtown area has a mix of office and retail activity. Both areas are anticipated to be centers of employment growth in coming years; NJTPA projects that the

city will gain over 9,000 jobs between 2000 and 2030.

Union

Route 82 (Morris Avenue) in Union is a key employment corridor. Kean University has 13,000 students and 376 full-time faculty. Schering Plough, a major pharmaceutical company, employs over 7,000 at facilities along Morris Avenue in Union and in Kenilworth. Union Hospital is located along Galloping Hill Road in Union.

Jersey City

The main job locations in Jersey City are in the waterfront area. The NJTPA projects that the city will gain 47,000 jobs between 2000 and 2030, although current conditions suggest that the actual employment increase may not be that high.

Table 21: Current and Projected Employment

	2000	2030	Change	
			Number	Percent
Manhattan	2,682,200	3,189,400	507,200	19%
East Orange	18,900	22,190	3,290	17%
Irvington	10,950	12,910	1,960	18%
Elizabeth	42,020	51,640	9,620	23%
Union	29,550	32,550	3,000	10%
Jersey City	108,270	155,570	47,300	44%
Totals	2,891,890	3,464,260	572,370	20%

Sources: NJTPA, NYMTC.

One other area that may be a key future employment destination for city residents is the Meadowlands area. Secaucus currently provides a variety of warehousing, retail, hotel and office jobs. A major employment center in Secaucus is the Harmon Cove mixed-use community, which has 12 million square feet of office and warehouse space, retail outlets and hotels. The Harmon Meadow area includes the Plaza at Harmon Meadow (office, hotels and retail) and Mill Creek Mall (office and retail).

A major redevelopment project has been proposed for the area around the Secaucus Transfer rail station. This project could generate up to 750,000 square feet of office and entertainment space, a 500-room hotel and conference center and 1,850 residential units.

A few other large development projects are currently under construction or in the planning phase within the Meadowlands area. The Xanadu project, near the existing Arena site, includes nearly 5 million square feet of entertainment and leisure, commercial, and retail activities, along with four 14-story office buildings and a hotel.

Another new project is the Meadowlands Golf Village, a large mixed-use project in Lyndhurst and North Arlington. Featuring two golf courses, it will include a first-class hotel and a luxury resort, 750,000 square feet of office space, 100,000 square feet of retail space and nearly 2,000 residential units. The project is estimated to generate 2,400 full-time jobs.

F. TRANSPORTATION SYSTEM ISSUES

This section assesses the operations and performance of existing transportation system facilities and services. The objective is to identify critical transportation system issues and needs to support the city's land use and development objectives.

1. Roads

Access to Regional Road Network

Despite improvements in recent years, an important concern is incomplete access between the city and the regional road network. One highway with access limitations is I-280. For example, the interchange between I-280 and Route 21 is incomplete; northbound Route 21 traffic cannot access westbound I-280. Previous studies have identified the need for improved access between I-280 and the central business district via First Street. The lack of a direct connection has created several problems including local congestion, through traffic on residential streets, and safety hazards.

I-78 is another major road with access constraints, including the need for improved connections between I-78 eastbound, NJ Turnpike Exit 14, local streets, and the ports. Another problem area is at the off-ramps from Exit 56 to West Peddie Street; the current configuration does not provide a direct connection with Elizabeth Avenue leading to the CBD. This situation has presented concerns because of the impacts of traffic on the surrounding neighborhood, including an elementary school.

Traffic Volumes/Congestion

A related issue is large traffic volumes and congestion on the major roads serving the city. Section B.1 shows congested segments along I-280, I-78, US 1&9, and Route 21.

I-280 through Newark experiences chronic congestion due to its substandard design and limited width. Traffic analysis indicates that this road will reach capacity by 2012.

I-78 has peak hour congestion for most of its length between Route 27 and Jersey City. Congestion on the Turnpike Extension/Newark Bay Bridge is reportedly partly attributable to re-striping the bridge from six lanes with no shoulders to four lanes with shoulders.

The main congestion point along US 1&9 is near Exit 15E of the New Jersey Turnpike. Another point of delay is the interchange of US 1&9 and Delancey Street where the partial diamond interchange provides only minimal storage between ramps. Significant queuing occurs from the intersection of the US 1&9 northbound off-ramp with Delancey Street, and large vehicles often gridlock the interchange for short periods.

Major traffic delays are common along Route 21 (McCarter Highway) in the city. The traffic volumes along this road are complicated by the fact that it runs through the city at-grade and therefore has many signalized intersections. In addition, a bottleneck occurs between Green and Murray Streets where the road narrows from six to four lanes. Local officials term this section the missing link of Route 21.

Pavement and Bridge Conditions

Aging roadway infrastructure is a general concern to local officials. NJDOT data, as presented in Section B.2 indicates some problems with poor pavement conditions and substandard bridges. One specific concern is the condition of the I-280 Passaic River bridge (Stickel Bridge). The bridge has severe deterioration of the superstructure, mechanical and electrical systems, and

deck elements. This issue is a function, to a large extent, of heavy traffic volumes, particularly heavy trucks. Another concern is the condition of the Pulaski Skyway (US 1&9). The overall condition of the individual structures ranges from fair to poor, and the bridge decks require major rehabilitation.

Roadway Safety Issues

Section B.4 provides data on high-crash locations, showing that the state road segments in Newark with the highest crash rates are I-280 near the Stickel Bridge and Route 21. NJDOT has identified operational and safety issues along I-280 due to the roadway configuration, including many ingress/egress points in a short distance, lack of acceleration and deceleration lanes, and lack of shoulders.

Local Congestion/Circulation Needs

Section B.1 indicates that Orange Avenue experiences peak hour congestion. The NEDLUT report identifies several other areas of peak hour congestion along the local roadway network, including the following:

- ◆ Intersections with McCarter Highway (Route 21).
- ◆ Broad Street between Bridge Street and Bloomfield Avenue.
- ◆ Market Street near Broad Street and near Jackson Street Bridge.
- ◆ Ferry Street.
- ◆ First Street/Bergen Street.

Also, studies of the Penn Station area have indicated the need for localized circulation improvements.

Local Pavement and Bridge Conditions

Many local streets have poor pavement conditions and substandard bridges. Maintenance is a continual challenge for the city due to the wide extent of the municipal street system, high volumes of passenger and freight traffic, and funding constraints. Although Newark has received substantial funding from the NJDOT Local Aid program over the last several years for local street improvements, the city has not yet completed all projects for which it has received funding. It is estimated that the city has considerably more roadway improvement needs than the funding it has received will pay for.

Freight Traffic Impacts/Needs

The city experiences a heavy volume of truck traffic on local roads as trucks carry goods between Port Newark/Elizabeth and the regional roadway network. Capacity and access limitations in the rail freight network contribute to high truck volumes. The system has very limited capacity for rail freight crossings of the Hudson River, and the region is running out of rail terminal capacity.

As noted above, the extent of heavy truck traffic affects the local street network, particularly by accelerating pavement deterioration, as well as contributing to congestion. On the other hand, several factors affect efficient truck movements on local streets. These issues include low clearances under railroad bridges, inadequate street and intersection geometry, poor pavement conditions, and drainage problems. Specific problem areas include locations along Wilson Avenue, Delancey Street, Avenue P, Haynes Avenue and McClellan Street. Local officials believe public investment is needed in the infrastructure of the Newark side of the port to strengthen its locational advantage.

Parking

Parking is an important issue in the CBD and other areas of the city, including University Heights and the Ironbound district. On-street parking is almost totally utilized, which leads to illegal parking and motorists driving around looking for spaces. The latter issue contributes to congestion and safety concerns. Analysis has found that downtown parking demand will exceed supply by 2012.

2. Public Transit

Commuter Rail

Station Conditions

NJ TRANSIT has identified some improvement needs for both Penn Station and Broad Street Station. As described in the FY 2006-08 Statewide Transportation Improvement Program, Penn Station has the need for structural rehabilitation and lighting improvements, customer facility improvements, and pedestrian and traffic circulation improvements. The Broad Street station currently is not fully compliant with the requirements of the Americans with Disabilities Act (ADA), and the current station configuration limits train capacity.

Multi-Modal Connections

Commuter rail stations need improved multi-modal connections with cars, buses, bicycles, and pedestrians. The Penn Station Area Vision Plan identifies the need to improve traffic circulation in the surrounding area. The Broad Street Station Area Vision Plan identifies the need to provide pedestrian-friendly walkways, improve access to parking, and provide passenger drop-off and pick-up areas.

Service to Key Regional Employment Locations

For most of the main regional employment locations identified in Section C.10, commuter rail service provides a possible commute option for city residents. The Northeast Corridor serves Manhattan and Elizabeth; PATH serves Jersey City and Manhattan; the Morris & Essex Line serves East Orange; and the Raritan Valley Line serves Union. For city residents to utilize these lines, however, they also require access to the commuter rail stations. For example, a recent study by Rutgers University identifies the need for early morning bus service to Penn Station to enable commuters to use PATH.

Frequency of Service

The greatest bottleneck on NJ TRANSIT's commuter rail network is between Newark and New York City. Five lines converge on this section, which narrows to two tracks for the Hudson River tunnel crossing. While demand for service to Manhattan has been increasing, NJ TRANSIT is limited to the number of trains it can run along the Northeast Corridor, Morris & Essex, and other lines. This limits the ability of commuter rail service to accommodate demand, and it causes some degree of overcrowding on existing trains. Also, capacity on the Raritan Valley Line is constrained by sharing the Lehigh line with rail freight service and by an at-grade connection with the Northeast Corridor, which has capacity limitations due to the combined level of NJ TRANSIT and Amtrak service.

Condition of PATH Infrastructure

The PATH system requires substantial capital investment. The system currently has the oldest rolling stock of any heavy rail line in the country; the average fleet age is 33 years and some cars are 40 years old.

Local Bus

Service to Key Regional Employment Locations

Two key characteristics of the ability of local bus service to meet the demand for service to outlying job locations are the availability of late night service and the availability of weekend service. The following is a review of existing bus service to and from the main regional employment locations identified in Section C.10.

- ◆ Manhattan - Two routes, #107 and #108, provide weekday and weekend service between Newark and the Port Authority Bus Terminal, and both routes provide late evening/early morning service. The last weekday run of Route #107 leaves for Newark at 1:30 AM, and the last run for Route #108 leaves at 1:10 AM.
- ◆ East Orange - Considerable local bus service (ten routes) connects Newark with East Orange. Most routes run on weekdays and weekends, and most provide late evening service to Newark, as late as 12:43 AM on the #21 route.
- ◆ Irvington - Much local bus service (twelve routes) also runs between Newark and Irvington. Most routes run on weekdays and weekends, and most provide late night service, as late as 1:00 AM on the #13 route.
- ◆ Elizabeth - Route 24 provides daily local service between Newark and Elizabeth. The last evening run to Newark (from Jersey Gardens Mall) leaves at 12:23 AM. Three local NJ TRANSIT bus routes provide daily service between Newark and Elizabeth, and they all provide late evening service; the time of their last runs to Newark ranges from 11:29 PM to 12:02 AM.
- ◆ Union - One route, #94, provides regular service between Newark and Union. This route operates on weekdays and weekends, and the last evening run to Newark is at 10:45 PM.
- ◆ Jersey City - The main service between Newark and Jersey City is Route #1, which operates on weekdays and weekends. The last daily run from Exchange Place to Newark leaves at 11:05 PM, and the last run from Journal Square leaves at 3:18 AM. A few other routes, #43, #67 and #319, provide very limited service between Newark and Jersey City.

Access to the Airport

A Rutgers study found “significant unmet needs for the transit-dependent population” and called for more detailed planning and analysis to identify and provide necessary services. It identifies issues including the need to improve access to jobs at the airport and to provide additional early morning service to connect with service on Route #62, which provides 24-hour service between Penn Station and Terminal A of the airport. The Essex Night Owl service links residential neighborhoods with Penn Station, but the demand for the Night Owl service is so great that the county has a waiting list.

Access to Suburban Job Locations

The Rutgers study also identified the need for better bus service to jobs in suburban locations such as Fairfield/West Caldwell in West Essex, Livingston/Hanover and the Meadowlands. The following is a summary of existing service to these areas.

Existing service between Newark and the West Essex area includes bus service along the #29 and #71 routes, which do not reach all employment locations, and the new shuttle service which operates during peak hours. Both employers and workers have identified a demand for a loop service during off-peak hours, particularly during mid-day shift-change hours.

For the Livingston/Hanover area, particularly along the Route 10 corridor, NJ TRANSIT bus routes #71 and #73 provide limited service. The bus trip is long and does not necessarily meet

various work schedule needs. The JARC-funded Route 10 shuttle has addressed some of this demand by providing demand-responsive service during peak hours, late night, and at other times that accommodate the workforce. An assessment of this service has identified additional demand for service between Route 10 and Route 46 in the Parsippany area in Morris County.

Routes #76 and #78 provide service between Newark and the Meadowlands area. Route #76 stops at the Rutherford train station where a shuttle service sponsored by the Meadowlink TMA provides weekday peak-hour connections to job sites. During off-peak hours and weekends, the shuttle runs directly between residential areas of Newark and job locations in the Meadowlands area. As job growth continues in this area, particularly with the Xanadu project, demand for transit service likely will increase.

Need to Improve Bus Circulation

The NEDLUT report identified issues relating to the efficiency of bus circulation which may detract from the attractiveness of buses as a commute option. The key issues are traffic congestion, illegal parking, and roadway and intersection geometry which create difficult turning movements, especially in neighborhoods such as the Ironbound.

Need for Improved Amenities and Information

The NEDLUT report also found the need to improve bus stops, shelters, benches, lighting, service and route information, and schedules, in order to make transit a more attractive alternative. The Rutgers study also identified the need for a better information system to match needs with available services.

3. Bicycle and Pedestrian

Need for Trails/Greenway Network

The city has an overall need for more parks and open space, and it does not have a network of bicycle and pedestrian trails or greenways. The city does not have a continuous trail along the Passaic River waterfront, and no direct pedestrian access connects downtown with the riverfront. A recent study termed the river as a “woefully underused resource” and cited its potential as the focal point for an expanded park system.

Need to Improve Bicycle Facilities

The city has no designated bicycle lanes or routes along the local roadway network. In many places, bicycle accommodations may be difficult because of narrow streets and on-street parking. Also, the city has limited bicycle storage and parking facilities, and NJ TRANSIT does not allow bicycles on its buses in North Jersey.

Downtown Pedestrian Access and Safety Concerns

Several pedestrian access and safety concerns exist in the downtown area. Previous analysis has identified the intersection of Broad Street & Market Street as a major pedestrian safety concern. Pedestrian crossings of Route 21 are difficult because of the wide roadway and high traffic volumes and speeds.

The NEDLUT report identified the need for improvements for several important downtown pedestrian routes linking key destinations such as Penn Station, NJPAC, the Ironbound, the waterfront, Broad Street, Broad Street Station, the library and museum, and University Heights. The planned downtown arena will further highlight the need to provide pedestrian access and safety in the downtown area, especially between the arena and Penn Station.

Neighborhood Pedestrian Issues

In addition to the downtown area, several neighborhoods have the need for pedestrian safety enhancements. In the Lower Broadway area, pedestrian crossings of Bloomfield Avenue and Mount Prospect Avenue are inhibited by traffic flows.

In the Lower Roseville neighborhood, two pedestrian bridges over the Morris & Essex Line, connecting 7th Avenue with Orange Street between North 9th Street and 14th Street, are structurally and aesthetically deficient.

Other “hot spots” include the intersections of MLK Boulevard & Spruce Avenue, Broad Street & South Street, and Elizabeth Avenue & Meeker Avenue.

Another need is to provide adequate circulation within the University Heights area and between this area and surrounding neighborhoods. Local officials have identified the need to better connect and integrate the schools with the downtown area.

G. ASSESSMENT OF PROGRESS

The 2001 Urban Supplement recommended transportation improvements in several categories. This section presents an assessment of the progress in implementing these recommendations.

1. Roads

- ◆ Initiate studies and implement recommended improvements to relieve congestion on major roadways.
 - NJDOT completed the final phase of a new Route 21 viaduct over I-78 and the rail yards; this project has improved connections between I-78, US 1&9, and US 22. NJDOT has also completed the Doremus Avenue bridge and roadway reconstruction projects. Currently, NJDOT is working on improvements to Route 21 between Passaic and Green Streets (see Chapter II).
- ◆ Undertake bridge upgrades and replacements and improve pavement conditions.
 - Two projects involved structural and mechanical repairs to the US 1&9 Truck bridge over the Passaic River and replacing the 1st and 2nd Street Bridges over the Morris & Essex Line.
 - NJDOT completed two projects to upgrade Doremus Avenue as part of the Portway initiative.
- ◆ Address and implement safety improvements at high-accident locations.
 - NJDOT has initiated a project to re-align the I-78/West Peddie Street ramps. The project will re-align the ramps directly to Runyon Street and upgrade Runyon Street to Elizabeth Avenue, among other ramp improvements.
 - NJDOT has designated US 22 as a “Safe Corridor,” giving it priority for safety improvements.
 - The city completed an intersection improvement project at Market Street and Littleton Avenue/4th Street.
 - The city has installed 50 flashing warning signs in safety zones near 24 schools.

2. Public Transit

- ◆ Provide 24-hour-a-day, 7-day-a-week bus service to destinations like Newark Airport.
 - NJ TRANSIT is now providing 24-hour service between downtown and the airport via Route #62, which runs between Penn Station and Terminal A.
- ◆ Add late evening and/or early morning bus service to accommodate employees who work the second and third shifts on Routes #11/28/29, #26, #37/107, #42, #71, #73, and #79. Coordinate transportation services with shift times at employment sites in the Meadowlands.
 - Several routes have later night/early morning last runs to Newark ranging from 9:30 PM (Route #73) to 1:30 AM (Route #107).
- ◆ Add Saturday and Sunday service to some bus routes, including Routes #5, #11/28/29, #26, #37/107, #65/66, #72, #78, #79, and #92.
 - All these routes but two (#78 and #79) have Saturday service, and all but #26, #78, and #79 offer Sunday service.
- ◆ Increase the frequency of some bus routes, especially on Routes #43 and #73.
 - In January 2006, NJ TRANSIT added service to Routes #72, #73, and #99. Route #73 now provides 42 trips daily from Penn Station. Route #43 provides only three daily trips.
- ◆ Offer more express bus service on Route #40 and Route #71 at the Becker Farm, and in Roseland and Fairfield.
 - NJ TRANSIT has expanded service on Route #40 between Newark and Jersey Gardens – it provides 21 round trips daily, but no express service. The Route #71 service, between Newark and the Essex Mall, does not provide express service.
- ◆ Consider offering bus service in new locations, particularly along Routes 10 and 46 to Fairfield and in the Meadowlands.
 - Essex County currently sponsors the Route 10 Shuttle and has proposed to expand this shuttle to connect with Route 46. The county also has proposed a new shuttle service in the Fairfield/West Essex area (see Chapter II).
- ◆ Improve transit and pedestrian facilities in the Route 22 corridor.
 - As noted, NJDOT has designated US 22 as a Safe Corridor.
 - NJ TRANSIT is continuing to study issues relating to bus service, stop location and design, and pedestrian access along the US 22 corridor.
- ◆ Enhance rail access to suburban locations. Intermodal connections should be improved to increase the likelihood of using the train to reverse commute, as well as the frequency of train service for riders commuting from Newark to work.
 - NJ TRANSIT is conducting station improvement projects at Penn Station and Broad Street Station.
 - NJ TRANSIT has implemented a new signaling system to improve the flow of commuter trains between Newark and New York City.
 - NJ TRANSIT opened the new downtown extension of the Newark City Subway, connecting the Broad Street commuter rail station with Newark Penn Station, in July 2006. This will greatly enhance connectivity for commuter rail riders coming to Newark.

II. TRANSPORTATION PROJECTS

This section provides information on currently planned or proposed transportation improvement projects for the Newark area. Programming and funding sources include the NJDOT/NJ TRANSIT Transportation Capital Program, the NJDOT Local Aid program, the New Jersey Turnpike Authority, the Port Authority of New York and New Jersey, Essex County, and the city.

A. ROADS

1. Regional/State Roads

The city has several roadway improvement projects in NJDOT's capital programming pipeline (see Table 22). The following section describes the projects on DOT's current Transportation Capital Program.

- ◆ I-280 Passaic River Bridge (Stickel Bridge) - This project provides funding for the bridge to undergo a major rehabilitation, including the superstructure, electrical and mechanical systems, and deck elements. NJDOT awarded the construction contract for this project in March 2006.
- ◆ I-78 Rehabilitation - This project extends from the interchange with US 1&9 west to Springfield Avenue in Union. It includes reconstruction, safety improvements and preventive maintenance. The project is in the preliminary design phase. NJDOT plans to advertise for bids for construction in 2006, and it plans to use its new "Smart Solutions" process for this project.
- ◆ Route 21 - NJDOT has started work on the first phase of a major project to reconstruct and improve Route 21 (McCarter Highway) between Passaic Street and Lafayette Street. The project, comprising three main phases, involves providing three travel lanes in each direction, auxiliary turning lanes, crosswalks at all signalized intersections, and other pedestrian safety and streetscaping improvements. The first phase covers the section of Route 21 between Passaic Street and I-280; the NJDOT estimates that it will be complete in February 2007.

The next two phases of the Route 21 project would extend from I-280 to Raymond Boulevard and then to Lafayette Street. Another phase, currently on NJDOT's Study and Development Program, addresses the Route 21 "missing link," i.e., it proposes to widen the road from four to six lanes between Green and Murray Streets.

- ◆ University Heights Connector - This project involves creating a boulevard along First Street between Sussex Avenue and West Market Street. The project will provide substantial landscape and streetscape amenities to make the street an attractive gateway to the downtown area from I-280.
- ◆ Circulation Improvements - The key component of this project is to make Mulberry Street four lanes between Lafayette Street and Route 21. The project also includes improving and realigning Lafayette Street and making various improvements to Broad Street.
- ◆ Bridge Replacement - This project entails replacing the Clifton Avenue and Nesbitt Street bridges over the Morris & Essex rail line. It also includes sidewalks and bicycle-compatible elements, as well as improving roadway turning radii for access to the I-280 eastbound ramp. This project is currently in preliminary design.
- ◆ Bloomfield Avenue bridge over Branch Brook Park Road - This project involves preparing the design for rehabilitating and replacing this bridge. The study is now complete, and the county is proceeding with selecting a consultant for final design.

In addition to the projects on the capital program, the current NJDOT transportation improvement program (TIP) includes the following projects:

- ◆ Replace bridges over the Morris & Essex Line - These bridges include Roseville Avenue and 3rd, 5th, 6th, and 7th Streets. This project is in the preliminary design phase.
- ◆ Improve southern access roadway to the airport - This project would include reconstructing the McClellan Street bridge and constructing new ramps at the McClellan Street exit of US 1&9. This project is in the preliminary design phase.
- ◆ Haynes Avenue bridges - This project involves replacing the current viaduct over Waverly Yards and the overpass of US 1&9, along with improved access to the airport. This project is currently in the phase of acquiring right-of-way.
- ◆ Resurface and improve Central Avenue between MLK Boulevard in Newark and Valley Road in West Orange.

Table 22: Summary of Roadway Projects in NJDOT Pipeline

	Capital Program	TIP	Study and Development
Route 21 I-280 to Passaic St	●	●	
University Heights Connector	●	●	
Downtown circulation improvements	●	●	
I-280, Passaic River bridge	●	●	
Clifton Ave./Nesbitt St. bridges over Morristown Line	●	●	
Bloomfield Ave. bridge over Branch Brook Park Rd.	●	●	
I-78 rehabilitation	●	●	
EWR Southern Access Roadway		●	
Newark, NJT Morristown Line bridges		●	
US 1&9 Haynes Avenue bridges		●	
Central Avenue improvements		●	
I-280, Nesbitt Street to Harrison Avenue			●
Pulaski Skyway Painting			●
Pulaski Skyway Deck Rehabilitation			●
Passaic River Crossing			●
Route 21 Southbound viaduct – Chester Avenue			●
Route 21 VMS/ITS for Arena Events			●
US 22 East of Hilldale Place			●
US 22 Weequahic Park drainage improvements			●
Delancey Street, Avenue I to Avenue P			●
McClellan Street Underpass			●
Mulberry Street Long-Term Intersection Improvements			●

Source: NJDOT website, Capital Program Documents, January 2006.

NJDOT's Study and Development program includes the following proposed projects:

- ◆ I-280, Nesbitt Street to Harrison Avenue - This project will consider concepts for operational improvements, including revising ramps, adding auxiliary lanes, or adding shoulders to the road west of the Stickel Bridge. NJDOT previously conducted a feasibility assessment for improving interchanges and ramps west of Stickel Bridge.
- ◆ Pulaski Skyway Painting and Deck Rehabilitation - These two projects will provide necessary repairs and upgrades to the bridge structures.
- ◆ Passaic River Crossing - This project will study alternatives for replacing the existing US 1&9 Truck bridge and/or providing a dual structure. The objectives are to improve the connection between the NJ Turnpike Exit 15E and US 1&9 Truck and to improve access between Doremus Avenue and the Turnpike while reducing truck traffic on US 1&9.
- ◆ Route 21 Southbound Viaduct, Chester Avenue - The proposed project would replace the existing viaduct with an at-grade roadway crossing.
- ◆ Route 21 VMS/ITS for Arena Events - This project would prepare a plan for using variable message signs (VMS) and intelligent transportation systems (ITS) to manage traffic flow during events at the new downtown arena.
- ◆ US 22 East of Hillsdale Place/Broad Street; CSX to Meeker Avenue - This study would develop alternatives to improve safety and access and address geometric deficiencies.
- ◆ US 22 Weequahic Park drainage improvements - This project involves re-sizing three existing drainage systems and installing soil erosion control matting.
- ◆ Delancey Street, Avenue I to Avenue P - This project would address peak hour congestion and flooding problems along this corridor.
- ◆ McClellan Street Underpass - This project would investigate alternatives to addressing clearance limitations related to the railroad bridge and to reducing flooding problems.
- ◆ Mulberry Street Long-term Intersection Improvements - This study would consider long-term intersection improvements necessary to accommodate two-way traffic as planned by the city.

In addition, NJDOT's Portway initiative is a series of eleven different projects designed to improve access between the airport and port, intermodal rail facilities, trucking and warehousing/transfer facilities, and the regional roadway network. NJDOT has completed two projects in Newark along Doremus Avenue; the plan also includes the following proposed projects, which the Passaic River Crossing study (described above) also encompasses:

- ◆ New NJ Turnpike interchange (15E).
- ◆ Doremus Avenue interchange with US 1&9 Truck.
- ◆ New Passaic River bridge.

Furthermore, the NJDOT Portway Extension study identifies the following additional improvement needs and concepts:

- ◆ US 1&9 & Delancey Street - The improvement concept involves widening the northbound off-ramp and providing greater separation between the signalized intersections of the ramps with Delancey Street. Also, a dedicated flyover would allow vehicles exiting US 1&9 northbound to directly access South Street without affecting the two signalized intersections.

- ◆ NJ Turnpike Newark Bay Bridge - In the short-term, implementation of a movable center median would provide one extra lane in the peak flow direction.
- ◆ NJ Turnpike Exit 14 - Conceptual improvements would facilitate movements from I-78 eastbound and the NJ Turnpike exit plaza to Brewster Road, Port Street and ports.
- ◆ Hackensack River Bridge, Central Avenue to Route 440 - This bridge would supplement the Passaic River crossing, providing an alternative route between Port Newark/Elizabeth and Jersey City/Bayonne, thereby alleviating congestion on the Newark Bay Bridge and the Exit 14 area.

Previous studies have identified additional improvement concepts for I-280 through the city. The NEDLUT report proposes a complete interchange between I-280 and Route 21, a new ramp from Martin Luther King, Jr. Boulevard to I-280 westbound, and relocating the westbound off-ramp at Exit 14A to Clifton Avenue. Another proposed project is for an I-280 Downtown Connector, which would provide a new road to link the First Street ramps of I-280 with Raymond Boulevard and the downtown area. Some right-of-way for the proposed route has been lost, however.

2. Local Roads

In addition to the state-initiated projects and proposals, the city has many planned and proposed roadway improvement projects. The city received \$1.6 million in municipal aid from the NJDOT Local Aid program in FY 2006, and it has also received federal funding and state Urban Enterprise Zone (UEZ) program funding for local projects. Major planned and proposed projects include the following:

- ◆ Raymond Boulevard - Using federal funding, the city started a comprehensive reconstruction project in 2005 to improve traffic flow and safety, improve pedestrian safety, and provide streetscaping improvements.
- ◆ Broad Street - The city recently received a \$3.9 million award from the state Urban Enterprise Zone program for streetscaping improvements, including resurfacing and traffic calming, along with a landscaped median between Pennington Street and New Street.
- ◆ Irvine Turner Boulevard/Jones Street/Norfolk Street/Clifton Avenue - A project to provide a traffic-calmed boulevard is under final design. This reconstruction project will include new curbs, sidewalks, signals, lighting and a bikeway.
- ◆ Wilson Avenue - This project involves reconstructing the street between Paris Street and Newark Bay to provide reinforced "super pavement" to support heavy trucks. A portion of the project is under construction.
- ◆ Ferry Street - The city and the Ironbound Business Improvement District have been preparing a streetscaping project, including resurfacing, sidewalks, and lighting for this commercial corridor between Penn Station and Christie Street.
- ◆ Avenue P Railroad Bridge - This project involves replacing the existing bridge over Avenue P, increasing the vertical clearance, removing the center piers, and improving drainage.

The NEDLUT report proposes several improvements to the local roadway network including the following:

- ◆ A new service road around Penn Station, connecting Center Street to the north with Raymond Boulevard to the south.
- ◆ Streetscaping improvements in the Broad Street Station area.

- ◆ Reorganizing and reconfiguring the street system in the port area to create and provide access to new developable lots.
- ◆ Riverfront area improvements including a gateway plaza at Market Street and Raymond Boulevard, a new ramp from the Jackson Street bridge southbound to Raymond Boulevard westbound, and extending Jefferson and Congress streets across Market Street and Raymond Boulevard.
- ◆ City-wide bridge enhancements and gateway treatments.

The city has received funding for a project to prepare a “Right-of-Way Management, Assessment, and Priority System.” This system will be a management tool for collecting data on existing and projected roadway conditions, assessing and prioritizing improvement needs and evaluating improvement alternatives. This system will assist the city in its capital programming process, helping it to select projects that provide the greatest benefits for the roadway system and economic development.

In addition, the city is working to implement a new traffic control system, utilizing new technology, including fiber optic and video sensors. The new system will have computerized, interconnected traffic signals, which will help to expedite traffic flow along local streets.

The city has studied and revised its local truck routing program, and NEDLUT proposes to remove St. Charles Street and add Christie Street to the network.

The city has proposed to work with surrounding towns on corridor studies, which would identify roadway improvements and economic development opportunities.

Parking

NEDLUT contains several recommendations regarding parking. In general, it proposes adding more off-street parking areas to complement streetscaping projects and to facilitate bus circulation. A few specific proposals include a new parking deck near Broad Street Station, a park-and-ride lot at the Orange Street subway station, and 300 new off-street spaces in the Lower Broadway area. Regarding on-street parking in the downtown area, the city is in the process of deploying new electronic parking meters. The city’s Master Plan suggests exploring opportunities for underground parking.

The Rutgers University Master Plan proposes a long-term parking plan that adds resources and emphasizes shared parking. The plan calls for adding 700 new spaces by 2012, and it proposes a parking deck at the corner of Central and University Avenues, which would also serve the St. Michaels Medical Center and Newark Museum.

B. PUBLIC TRANSIT

1. Commuter Rail

Access to the Region’s Core (ARC)

NJ TRANSIT is working to address the trans-Hudson capacity constraints. This project has proposed a new trans-Hudson River tunnel, added tracks along the Northeast Corridor (NEC) and connecting the NEC with the Main Line. These improvements would increase capacity serving New York, increase service on existing lines and accommodate potential service on new lines.

Penn Station

NJ TRANSIT is currently conducting a project for facility improvements including rehabilitating platforms and roof structures, upgrading passenger communications, renovating and modernizing escalators, and providing passenger circulation improvements. Also, the Penn Station Area Vision Plan proposes improvements to vehicular, bus, and pedestrian access and circulation. NJ TRANSIT also is currently conducting a business planning process aimed at improving the customer experience within Penn Station.

Broad Street Station

NJ TRANSIT has started a project to make the station compliant with ADA, thereby making it fully accessible to all passengers with disabilities, construct new center island high-level platform and shelters, construct a new eastbound high-level platform, reconstruct nearby bridges, install new elevators and stairs, install new restrooms, and rehabilitate the main station building and passenger infrastructure. The project also will allow more train capacity by improving the station configuration.

In addition, the station area vision plan proposes passenger drop-off and pick-up areas, improved bus stops and bus routes, improved access to parking, and pedestrian-friendly bridges and walkways. This plan, along with NEDLUT's proposal for the James Street Redevelopment District, provides concepts for transit-oriented development in the area around the station. Also, the city has proposed the College Station Transit Village, which would link the I-280 ramps, Orange Street subway stops, and the university community buses.

South Street Station

NEDLUT suggests considering the possibility of re-activating the South Street Station along the Northeast Corridor line.

Union County Rail (Newark Rail Link, MOS-3)

This proposed project would run from Parking Lot D at the airport into Elizabeth.

Smart Card

NJ TRANSIT is working to develop a "smart card" for all its commuter rail, light rail, and bus services. This card would work much like E-ZPass, facilitating transfers among services and enabling users to add value to the card.

PATH System Improvements

The Port Authority is planning to replace its entire 340-car fleet. It recently unveiled the design for the new cars and announced that the cars would enter service between 2008 and 2011. The Port Authority also is planning to introduce a "SmartLink" fare card. This card will help to provide seamless transfers between PATH and other systems, including NJ TRANSIT, and it will complement new vending machines and turnstiles.

The Port Authority of New York and New Jersey has proposed to extend PATH service from Newark Penn Station to the Newark Liberty International Airport (EWR). This extension would provide a one seat ride between the airport and points east of Newark including Jersey City and New York City.

2. Local Bus

Newark and Elizabeth Bus Study

NJ TRANSIT is moving forward with a major effort to evaluate local bus service in Newark, Elizabeth and Essex County. This study will assess how current services meet customer demand and will consider changes to route structure, scheduling, stop location, and priority treatments. The initial focus will be on improving bus service to the Newark CBD.

Service to Airport

NJTPA's 2006 Job Access/Reverse Commute (JARC) program will continue the Essex Night Owl service, which is very popular for residents who work in the airport area. The county has proposed adding two new vans to accommodate demand for service.

Enhanced Local Service

NJ TRANSIT is working with some colleges and universities on a partnership program that could lead to service improvements for institutions that choose to participate. This program could lead to NJ TRANSIT providing increased service to complement initiatives on the part of the colleges or universities.

Service to Suburban Job Locations

The 2006 JARC program also includes the following services:

- ◆ Route 10 Shuttle - The approved program will continue this service. The county has proposed extending this service to connect with Route 46 and serve additional employment locations in the Parsippany area.
- ◆ Meadowlands Shuttle - The approved program provides funding for the Meadowlink TMA to continue and expand this service. Meadowlink is exploring possibilities for expanding service between Newark and businesses in the Meadowlands area.
- ◆ Fairfield/West Essex Mall Loop - The approved program includes a new service that will provide demand-responsive service between the intersection of Bloomfield and Passaic avenues in West Caldwell and employment locations in Fairfield and West Caldwell. The county, however, has yet to secure the necessary local match to fund this service.

Improved Bus Circulation

The NEDLUT report proposed bus lanes, timed transfers, and/or other enhanced bus treatments along Broad Street and Market Street, as well as bus lanes along Clinton, South Orange, and Springfield avenues. NEDLUT also suggests the possibility of new routes to provide service along the First and Bergen avenue and Turner Boulevard corridors.

Improved Amenities

The city has initiated a project to replace its existing bus shelters with new shelters. An advertising agency will pay to install and maintain the shelters in return for advertising space on the shelters. The city replaced 42 shelters in fall 2005 and plans to replace the rest.

Bus Rapid Transit

NJ TRANSIT is exploring the possibility of implementing bus rapid transit (BRT) on key bus corridors in the city to improve service and enhance access to downtown and surrounding neighborhoods. NJ TRANSIT is conducting this work in conjunction with the Newark and Elizabeth bus study.

3. Aviation

The Port Authority is planning substantial investments to Newark Liberty International Airport. The new Port Authority Strategic Plan includes approved funding to modernize both Terminal A and Terminal B, as well as to expand Terminal A and increase parking. It also proposes funding for major airport expansion, as well as for multi-tenant cargo facilities near the airport.

The Strategic Plan also proposes improving transit connections to the airport, including extending PATH from Newark Penn Station to the airport and enhancing rail connections between the airport and JFK and LaGuardia.

C. BICYCLE AND PEDESTRIAN FACILITIES

1. Trails/Greenways

The city has developed a plan for a Newark Greenway Network, which would comprise 18.5 miles of dedicated paved trails including signs, lighting, and landscaping. The plan involves five phases, and the network would link key destinations and activity centers including downtown, University Heights, and parks. The first phase, in final design, is a three-mile link between Branch Brook Park and Weequahic Park.

In addition to the greenway network, the city's waterfront master plan proposes a continuous public park and riverwalk to extend along the Passaic River from the Belleville border to the US 1&9 bridge. Newark's waterfront redevelopment is seen as the catalyst for creating a state Passaic River park system that will extend from Newark to Paterson. As part of the riverfront redevelopment, the US Army Corps of Engineers is administering the Joseph G. Minish Passaic River Waterfront Park and Historic Area project. The first phase of this project will address erosion and environmental degradation, and the second and third phases will develop 25 acres of park land including a 9,200-foot riverfront walkway and park amenities such as plazas, landscaping and lighting.

The city has planned these trails to complement the East Coast Greenway project, which seeks to provide a continuous off-road trail between Maine and Florida. Within Newark, the proposed path would utilize a combination of off-road and on-road trails. It would enter the city from the east via the Jackson Street bridge, follow the riverfront trail to the NJPAC, track west to Irvine Turner Boulevard, and then head southwest to Weequahic Park where it would leave the city.

Another regional trail is the Liberty – Water Gap trail, which would run between Liberty State Park in Jersey City and the Delaware Water Gap in northwest New Jersey. NJDOT's Study and Development Program includes a project for US 1&9 Truck pedestrian improvements, which would provide continuity in this trail.

NJDOT's current Transportation Capital Program includes the Newark Waterfront Community Access Study, which will consider a preliminary design for a pedestrian bridge over Route 21, possibly integrated with a building, linking the downtown area with the Passaic River waterfront.

2. Bicycle Routes

The proposed greenway network will include some on-road facilities. The city's various boulevard and streetscaping projects provide the opportunity to incorporate bicycle accommodations, including possible bicycle lanes. The NJDOT plans for the University Heights Connector include a bikeway.

3. Downtown Pedestrian Enhancements

NEDLUT recommends intersection improvements at Broad Street & Market Street and at Bloomfield Avenue & Mount Prospect Avenue, as well as at other appropriate locations. The Broad Street & Market Street project is under design, and the Bloomfield Avenue & Mount Prospect Avenue project is under construction. NEDLUT also recommends that the Route 21 reconstruction project(s) include a program of access management and pedestrian safety measures including medians/refuge islands, crosswalks, and pedestrian signals. NJDOT's Study and Development Program includes a project to study the feasibility of converting an existing bridge over Route 21 near Hamilton Street, which currently serves to connect parking lots, to a public pedestrian path that would provide access between Penn Station and the new downtown arena.

The city has proposed a downtown core "triangle park access project," designed to improve access between Penn Station and the central business district. Also, as described in Section II.A, the city has planned or proposed various street improvement and boulevard projects, which typically include pedestrian enhancements. These projects include Raymond Boulevard, Broad Street, Ferry Street, Springfield Avenue, and Bloomfield Avenue.

Local officials hope to better integrate the universities into the downtown area. The Rutgers Master Plan calls for creating distinct gateways and pedestrian connections to link the university campus with downtown and surrounding neighborhoods. NJIT has a new campus landscape master plan, which includes proposals to improve pedestrian circulation and to provide gateway signage on all four sides of the campus. It also proposes converting sections of Summit and Bleeker Streets into pedestrian paths.

4. Neighborhood Pedestrian Enhancements

NEDLUT proposes various traffic circulation and pedestrian safety improvements for the various development nodes that it recommends. Also, the city has received two recent grants from the NJDOT Safe Routes to Schools program. One award was for a project (recently completed) for flashing signals near schools with high accident rates, and another award was to upgrade intersections with islands or bump-outs, along with signs and signals.

D. GOODS MOVEMENT

The Port Authority and others have undertaken several initiatives and projects that will increase Port activity. Among these projects are the following:

1. Dredging

One major project is to dredge the channels. The Port Authority is conducting a channel dredging project to allow larger ships to use Port Newark/Elizabeth. Recent projects deepened the Kill Van Kull and Newark Bay to 45 feet, and work began in 2005 to deepen them to 50 feet. It is estimated that the 50-foot depth will enable ships to double the loads that they can carry to and from the port.

2. Port/Terminal Expansions

In addition, the Port Authority is managing a port facility redevelopment project which includes reconfiguring the two major terminals. Also, the Comprehensive Port Improvement Program (CPIP) proposes improvements to the Port Newark intermodal terminal, including an on-dock rail facility, equipment, and rail car storage facility.

The NJDOT Transportation Capital Program includes a pilot program, using federal funding to test “Cargomate,” an ITS application for tracking containers, truck chasses, generators, drayage tractors, and other items used in shipping operations.

3. Rail Freight Improvements

Recent studies have proposed many improvements to the regional rail freight network. The Port Authority is working with the Norfolk Southern and CSX railroads to improve the regional rail network and the port’s access to this network.

One major proposed project is for a Cross Harbor Freight Tunnel which would link the Greenville Yards in Jersey City with Brooklyn. A draft Environment Impact Statement (EIS), released in May 2004, recommended a tunnel as the preferred alternative for improving regional goods movement. This proposal has received much criticism, however, by local officials, and NJTPA has recommended closer study of revitalizing and modernizing the existing float operation with a train ferry system. Such an operation could meet goods movement objectives without the impacts of a tunnel. Federal review of the EIS and comments is ongoing.

Other proposed projects include the following:

- ◆ Expand Oak Island Yard.
- ◆ Double-track 1.5 miles of Greenville Branch between Chemical Coast Line and outside of Oak Island receiving tracks.
- ◆ Construct new connection between Chemical Coast Line and P&H Branch.

Also, a private developer has proposed an intermodal facility at Brill’s Yard.

III. RECOMMENDATIONS

Based upon the analysis and findings of this report, the following section presents recommendations for strategies and actions for transportation improvements.

A. ROADS

Improve the Interface between Newark and the Regional Road Network

- ◆ NJDOT should advance the University Heights Connector project and continue to investigate and advance other concepts for improving traffic flow along and access to and from I-280. In particular, NJDOT should advance the proposed project to provide a complete interchange between I-280 and Route 21.
- ◆ NJDOT, in conjunction with other state and local agencies, should continue to evaluate the proposed portway projects and expedite planned projects to improve roadway access to and from the airport/port area. These projects include revising connections at Turnpike Exit 14, improving the Passaic River crossing, and building a new Hackensack River crossing.
- ◆ NJDOT should work with the city to design and implement appropriate “gateway” treatments along major corridors entering the city.
- ◆ Pursue strategies and projects to reduce congestion along key regional roads
- ◆ NJDOT should expedite completing Route 21 improvements through the city. NJDOT should complete the plans for the “missing link” section and advance this project, and it should incorporate access management and safety improvement measures into the projects.
- ◆ In the short term, the NJ Turnpike Authority should consider implementing a movable center median on the I-78 Newark Bay Bridge to allow an extra travel lane in peak direction. In the long term, the Turnpike Authority should consider other options for expanding capacity on the bridge.
- ◆ NJDOT and the Turnpike Authority should consider the possible benefits of using intelligent transportation system (ITS) technology on key regional roads.
- ◆ NJDOT should advance the proposed project to improve the US 1&9 and Delancey Street interchange and, in conjunction with the Turnpike Authority, consider revising connections with Turnpike Exit 15E.

Address Sub-standard Pavement and Bridge Conditions

- ◆ NJDOT should expedite the planned or proposed rehabilitation projects for the Stickel Bridge, I-78, the Pulaski Skyway, and US 22.
- ◆ NJDOT should identify and prioritize additional bridge repair and pavement improvements along state roads in the city.

Provide Safety Improvements at High-Accident Locations

- ◆ NJDOT should advance proposed I-280 and Route 21 improvements.
- ◆ NJDOT should identify and prioritize other high-accident locations and alternatives for improving safety at these locations.

Improve Circulation on Local Roads

- ◆ The city should expedite and pursue the various street improvement and boulevard projects that it has planned or proposed.

- ◆ The city, in coordination with NJ TRANSIT, should advance proposed Penn Station area circulation improvements.
- ◆ The city should continue to develop and implement a centralized traffic management system.
- ◆ The city should continue to expand and improve the integrated wayfinding system.
- ◆ The city should identify possible opportunities for corridor improvement projects with adjacent towns.

Address Local Pavement and Bridge Conditions

- ◆ The city should advance design and bid documents for projects that have won NJDOT Local Aid funding awards.
- ◆ The city should complete the project for a right-of-way management system and use this system to prioritize and program necessary repairs along city streets.
- ◆ The city should identify potential applications for “super pavement.”
- ◆ The city should develop preferred truck routes and install appropriate signage and directions.

Address Parking Needs

- ◆ The city should identify new off-street parking areas to augment on-street parking supply and serve business demand. The city should ensure that parking areas have good design.
- ◆ At the same time, the city should consider opportunities for redevelopment on surface lots.
- ◆ The city should explore opportunities for underground parking.

B. PUBLIC TRANSIT

Enhance Commuter Rail Service

NJ TRANSIT should assess the potential benefits of expanding passenger rail service and determine whether to allocate limited public funding for such service.

- ◆ NJ TRANSIT should continue planning to increase the level of commuter rail service serving Newark by increasing trans-Hudson capacity.
- ◆ NJ TRANSIT, in coordination with local agencies, should conduct planning to enhance multi-modal connections with the city’s rail stations. This planning should seek to ensure efficient and safe circulation among rail, bus, and pedestrian and bicycle users, including continued efficient connections between the rail service and local bus service; completion of planned pedestrian paths between the station and downtown; and linkages between proposed redevelopment areas.
- ◆ NJ TRANSIT should advance proposed improvements from the Penn Station Area Access Plan.
- ◆ The Port Authority of New York and New Jersey should advance its planned and proposed improvements for the PATH system, including new rail cars and a new “SmartLink” fare card. The Port Authority also should complete its study of the feasibility of extending PATH from Newark Penn Station to the Newark Liberty International Airport.
- ◆ NJ TRANSIT should work with local agencies to evaluate the need for expanding connecting bus or shuttle service between residential neighborhoods and commuter rail stations, as well as between stations and nearby work sites.
- ◆ The city should work, in coordination with NJ TRANSIT, to advance potential transit-oriented development opportunities around rail stations. These efforts should maintain

and strengthen existing initiatives to use rail stations to enhance residential and business opportunities in the areas surrounding the stations. The planning should ensure that stations are integrated functionally and visually and serve as catalysts for economic development, and it should include plans for expanded or new transit service and amenities to complement new development.

- ◆ The city should advance concepts for transit-oriented development in the area around the Broad Street Station, as the NEDLUT study proposes.
- ◆ NJ TRANSIT should consider conducting a preliminary feasibility study for re-activating service at the South Street Station, as the NEDLUT study proposes.

Maintain and Expand Local Bus Service

NJ TRANSIT should advance its planned analysis of the Newark and Elizabeth bus routes and assess the feasibility of expanded or new service. Based upon this study, NJ TRANSIT should consider available resources and whether to allocate additional resources for increased bus service.

- ◆ NJ TRANSIT and the city should evaluate the feasibility of bus lanes and timed transfers along Broad and Market Streets, as well as bus lanes along other key corridors, as the NEDLUT study proposes. NJ TRANSIT and the city also should explore other means of improving bus circulation.
- ◆ NJ TRANSIT and the city should continue efforts to upgrade system facilities and amenities including but not limited to bus stops, shelters, sidewalks, bicycle racks, schedules, and route and fare information.
- ◆ NJ TRANSIT should promote and enhance rail-bus commute options, particularly through scheduling, fares, and transfers. NJ TRANSIT and local agencies should promote the NJ TRANSIT policy that allows holders of monthly rail passes to ride local buses for free.
- ◆ The county should expand its Night Owl service to accommodate demand. The county and other local agencies should explore other opportunities for increasing paratransit services, including shuttles, vanpools and jitneys. This effort should seek to obtain greater employer participation in and sponsorship of such services. Local agencies should pursue funding to support existing and proposed employee shuttle services.
- ◆ NJ TRANSIT should continue to develop its new partnership program with colleges and universities. NJ TRANSIT and the city's colleges and universities should work together to identify means of collaborating to provide increased transit service and improve circulation in the University Heights and downtown areas.

C. BICYCLE AND PEDESTRIAN

- ◆ The city should work with other agencies to expedite planning, designing, and constructing the Newark Greenway Network, in particular, advancing the final design of Phase I.
- ◆ The city should coordinate with other public agencies to improve on-road bicycle facilities and develop a connected network of on-road and off-road facilities. Provide adequate bicycle parking and other amenities at key destinations and improve public information and education, e.g., maps of routes and facilities.
- ◆ NJDOT should include the planned bikeway in the final design and construction of University Heights Connector.
- ◆ The city should incorporate bicycle lanes/routes into its various corridor and boulevard projects.
- ◆ NJ TRANSIT should provide accommodations for bicycles on all buses and provide bicycle storage and parking at key stations and stops.

- ◆ The city should work to implement pedestrian enhancements to downtown streets including sidewalks, curb ramps, and crosswalks.
- ◆ The city should implement planned or proposed streetscaping projects along major arterials and incorporate streetscaping improvements into redevelopment efforts along other corridors.
- ◆ The city should expand traffic calming measures to residential neighborhoods and utilize as part of developing Safe Routes to Schools plans.
- ◆ The city should advance school crossing safety projects.
- ◆ The city should require pedestrian and bicycle accommodations as part of all new development and redevelopment projects.

D. GOODS MOVEMENT

- ◆ The Port Authority of New York and New Jersey and other public and private agencies should advance projects to support goods movement and related economic development. These projects include channel dredging, port facility improvements, and rail network expansion and improvement.
- ◆ The Port Authority and other agencies should carefully address the impacts of expanded goods movement and related economic development and work with the city and local stakeholders to mitigate the impacts upon the local transportation network and land use.

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