

Atlantic County Master Plan



October 2000

Inside Front Cover

Color County Seal

Dennis Levinson

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Atlantic County Board of Freeholders

Special Acknowledgment

Atlantic County Planning Advisory Board Members

ATLANTIC COUNTY MASTER PLAN

PREPARED BY:

**Atlantic County Department of Regional Planning and Economic Development
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The Atlantic County Department of Regional Planning and Economic Development has completed the Atlantic County Master Plan, October 2000. The Atlantic County Planning Advisory Board recommended adoption of the Master Plan by passing Resolution 2000-3 on August 16, 2000. A public hearing was held regarding the Master Plan on Friday September 22, 2000 whereby comments were heard and recorded from the public. Changes recommended by the public agencies and the general public have been incorporated into the Master Plan.

As the Department Head of the Atlantic County Department of Regional Planning and Economic Development, Office of Policy and Planning, I hereby declare that this letter serves as notice that the Atlantic County Office of Policy and Planning, effective October 2, 2000, adopts the Atlantic County Master Plan, to serve as the county master plan pursuant to Atlantic County Code Chapter 4, Section 52.3 B (9).

Dated: _____

Joseph M. Maher, PP, AICP
Department Head

The original of this Master Plan was signed and sealed in accordance with the requirements of N.J.A.C. 13:41, State Board of Professional Planners

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CHAPTER I: INTRODUCTION

Statutory Authority
Intent of the Master Plan
Regional Setting
Historical Background
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STATUTORY AUTHORITY

A prime responsibility of the Atlantic County Department of Regional Planning and Economic Development is to prepare and adopt a Master Plan to guide the physical development of the County. Pursuant to the requirements in the County Planning Act, N.J.S.A. 40:27-2 et seq.:

"The county planning board (Atlantic County Planning Advisory Board) shall make and adopt a master plan for the physical development of the county. The master plan of the county, with the accompanying maps, plans, charts, and descriptive and explanatory matter, shall show the county planning board's (Atlantic County Planning Advisory Board) recommendations for the development of the territory covered by the plan, and may include, among other things, the general location, character, and extent of streets or roads, viaducts, bridges, waterway and waterfront developments, parkways, playgrounds, forests, reservations, parks, airports and other public ways, grounds, places and spaces; the general location and extent of forests, agricultural areas, and open-development areas for purposes of conservation, food and water supply, sanitary and drainage facilities, or the protection of urban development, and such other features as may be important to the development of the county. The county planning board (Atlantic County Planning Advisory Board) shall encourage the cooperation of local municipalities within the county in any matters whatsoever which may concern the integrity of the county master plan and to advise the board of chosen freeholders with respect to the formulation of development programs and budgets for capital expenditures."

INTENT OF THE MASTER PLAN

Atlantic County's economy and population continue to grow led by a continued expansion of the casino gaming industry. This growth has in turn resulted in the diversification and strengthening of the County's economy to include a broad array of residential development (single and multifamily, assisted living, and age restricted), retail centers, first class golf courses, and other industries which cater not only to the needs of the casino industry but to all of those people drawn to Atlantic County in search of employment opportunities.

The Atlantic County Master Plan is a comprehensive policy document providing goals and policy statements to guide growth and development of the County. Since Atlantic County covers 561 square miles, contains twenty three municipalities and represents the collective views of the public, many of the initiatives of the Plan were written with a regional perspective. The Master Plan also recognizes that the County's development is the result of both market forces and regulatory oversight by a variety of agencies such as the New Jersey Department of Environmental Protection (CAFRA), the State Planning Commission (State Development and Redevelopment Plan), the Pinelands Commission (the Comprehensive Management Plan), and the New Jersey Department of Transportation, among others. As a result, this County Master Plan acknowledges the importance of working cooperatively with these agencies in addressing concerns which have regional impacts.

These concerns can range from sophisticated transportation and stormwater management systems to comprehensive open space and recreation facilities.

This Plan recognizes the importance of economic development while at the same time maintaining the quality of life Atlantic County residents and visitors have grown to cherish and expect. Within this plan the County will address several statewide programs which significantly affect County growth rates and development patterns. For example, CAFRA, the Pinelands Comprehensive Management Plan, and the State Development and Redevelopment Plan affect the development patterns within Atlantic County by encouraging growth in some areas while discouraging growth in others. These land use patterns in turn determine, to a large extent, the required infrastructure as well as the social service and recreational needs of the County's growing population.

The primary authority regulating land use in New Jersey is the local municipality. The New Jersey Legislature granted direct powers to regulate land use to local governments through master planning, zoning, and development review. The enabling legislation granting these powers are the Zoning Enabling Act of 1928, the Planning Enabling Act of 1953 and the Municipal Land Use Law of 1975. However, the 1986 State Planning Act also provides guidelines for counties and municipalities to reach agreements with the State Planning Commission on land use and other planning issues through the cross-acceptance process. The County Master Plan facilitates the cross-acceptance process by establishing an integrated planning strategy that incorporates State, County, and local objectives.

The role of planning in the County is primarily the responsibility of the Atlantic County Planning Advisory Board. The Planning Advisory Board was created in lieu of the County Planning Board, pursuant to N.J.S.A. 40:27-1. Land use planning by county government has as its basis three key New Jersey statutes. These statutes are as follows:

- N.J.S.A 40:27-6.2 - *Review and approval of all subdivisions of land; procedures; engineering and planning, and*
- N.J.S.A. 40:26-6.6 - *Review and approval of site plans for land development along county roads and drainage, and*
- N.J.S.A. 40:27-6.8 - *Resolution vesting power to review and approve subdivisions and site plans with director.*

These three statutes provide that most land development by subdivisions and site plans require County approval. A major subcommittee of the Planning Advisory Board is the Atlantic County Development Review Committee, created pursuant to N.J.S.A 40:27-6.8. The Development Review Committee is primarily responsible for review of subdivisions and site plans in accordance with the other aforementioned statutes.

Also, this Master Plan is being developed to fulfill the statutory requirements of the Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq. The Pinelands Comprehensive Management Plan provides land use and development standards that the County Master Plan and County Land Development Standards must include, and this Master Plan must have certification by the

Pinelands Commission for Atlantic County to maintain compliance with the Pinelands Protection Act.

REGIONAL SETTING¹

As shown in Figure 1.1, New York City is approximately 100 miles to the North and Philadelphia is located 60 miles to the West. The close proximity to urban areas has had a profound effect on the County's past and will no doubt influence its future.

Located on the outer coastal plain of New Jersey, Atlantic County has significant natural amenities. The coastal plain dips gently from west to east, so that most of the hills and highest elevations occur in the western part of the County. The soil of Atlantic County is sandy, with low clay content. As a result, it is low in natural fertility, buffering and filtering ability. It is also extremely permeable, being well to excessively drained in upland locations. The sand, along with layers of clay, forms a wedge a mile thick at the shore. Within this wedge are two aquifers: the Cohansey and Kirkwood Formations. These contain great quantities of pure, readily available groundwater. Water from the Cohansey provides the base flow for all of the streams and rivers in the County.

On the East, the County borders the Atlantic Ocean and three narrow, flat, barrier beach islands: Little Beach, Brigantine and Absecon. The northern boundary is the Mullica River with the Great Egg Harbor and Tuckahoe Rivers forming the southern border. The estuaries of these rivers and the bays behind the barrier islands encompass wide areas of salt marsh. The western boundary is a man-made line separating Atlantic from Gloucester and Camden Counties, roughly halfway between the Delaware River and the Atlantic Ocean. Most of the interior of the County is part of the Pine Barrens region, a unique ecological area whose vegetation responds to soil and water conditions, and which has a history of forest fires. Upland is typically oak-pine forest on droughty soils, while lowland is often hardwood swamp, pitch pine or white cedar on saturated soil. Some lowland areas provide prime conditions for growing blueberries. Around the Boro of Buena, Buena Vista Township, Egg Harbor City, Hammonton and Galloway Township prime agricultural land is abundant supporting a significant area of upland agriculture including both row crops and orchards.

HISTORICAL BACKGROUND

Before being settled by Europeans, Atlantic County, along with the rest of New Jersey and adjacent parts of Delaware, Pennsylvania and New York, was inhabited by the Lenape Indians ("Original People"), or Delaware Indians, as they later became known. The Lenape were Algonkin speakers, and were organized into three groups; the Minsi, who occupied the extreme north; the Unami, who lived in the center; and the Unalachtigo ("People Near the Ocean"), who lived across what is now South Jersey.

Most of the Unalachtigo lived on the inner coastal plain along the Delaware River where hunting and fishing were easier and where the soil was more fertile. Because the Lenape were a water-oriented people, most of their settlements were near major rivers or streams. In the Atlantic County region most settlements were at the north of the rivers and near the back bays where shellfish were plentiful. It is generally believed that large groups of Lenape migrated to the shore region during the summer for shellfishing.

The Indian population declined quickly once Europeans settled in New Jersey. The Europeans found the areas where the Lenape were concentrated to be the most attractive to them. Consequently, most of the first European settlements were along the Delaware River.

The first Europeans to settle in Atlantic County were whalers from Long Island and New England, who settled along the coastal inlets around 1695. About 50 years later, a larger more significant group came.

Figure 1.1: Atlantic County Regional Map



Map Legend

Major Roadways

- Interstate Highways
- United States Routes
- State Routes
- AC Expressway / GS Parkway
- State Boundary
- Atlantic County Boundary

Map Prepared by the Atlantic County
Department of Regional Planning & Development
Office of Geographic Information Systems
Joseph Maher - Department Head
JUNE 2008

The information depicted on this graphic is
from a variety of sources, each having
considerations relating to accuracy, verification,
and subsequent use. The responsibility for use
of this map is considered by the user/producer
in Appendix A of the report.



Figure 1.1
*Atlantic County
Regional Map*

These were mostly second and third generation Quakers from along the Delaware River, and they settled along the Mullica and Great Egg Harbor Rivers. These few settlements were generally dependent on the sea, and practically no settlement took place in the interior of the county.

In the early 1800s, however, the bog iron industry grew in importance. Furnaces were established at Gloucester (Egg Harbor City) on the Mullica, Weymouth on the Great Egg Harbor, Etna on the Tuckahoe and Walker's on the South River.

The bog iron industry flourished and grew until 1830, then stagnated until the 1850s when competition from the Pennsylvania iron industry forced South Jersey's iron furnaces out of business. In these years, a number of paper and cotton mills were started, as were a number of glass houses, but these tended only to pick up the slack of the declining iron industry.

Atlantic County was part of Old Gloucester County which included all of what is now Atlantic, Camden and Gloucester Counties. The three Townships of Egg Harbor, Galloway, and Weymouth made up the Atlantic County portion, and the county seat was in Woodbury. In 1837, Atlantic County was chartered as a separate county and Mays Landing was established as the county seat.

In 1854, a railroad was built between the Atlantic Ocean and Camden. It was initially planned to assist the iron industry and other industries of Atlantic County's interior. However, one of the railroads organizers, Dr. Jonathan Pitney, also hoped to start a seashore resort town on Absecon Island. The railroad never did save the iron industry, but Atlantic City developed and became an overnight success as a resort. By 1885, as many people lived in Atlantic City as in all the rest of the County combined. By 1910, two-thirds of the County's population lived in Atlantic City.

The railroads also affected the interior of the County; farming communities grew along the tracks in Hammonton, Egg Harbor City, Pomona and later in Buena, Richland, and Dorothy, helping to diversify the region's economy. The 1920s marked Atlantic County's period of greatest growth, which was brought on by the nation's economic prosperity. It was during these years that Atlantic City enjoyed its greatest popularity, reaching its largest population of 66,000 people. It was also during these years that the first major suburban development took place on the mainland, primarily in Pleasantville.

During the Depression and war years, growth slowed to a standstill in the County. After World War II and into the 1950s, Atlantic City retained its popularity as a resort and remained relatively prosperous. However, its population began to decrease while the rest of the County's population was increasing, reflecting the national trend of suburban growth and urban decline.

In marked contrast to Atlantic City, the rest of Atlantic County continued to grow and prosper as its economy diversified and became less dependent on the resort/convention industry in the city. During the 1970s, suburban growth moved out of the bay communities and into Egg Harbor and Galloway Townships.

The City's remaining population was largely poor, black and elderly, and it began to take on the appearance of a declining urban area. New super highways, such as the Garden State Parkway and the Atlantic City Expressway, increased accessibility to other New Jersey seashore resorts, and inexpensive jet service increased travel to points south and west. In comparison, Atlantic City's attractiveness as a resort dropped tremendously. During Atlantic City's declining years in the 1960s and early 1970s, the city was virtually dependent on the convention trade to sustain itself. But as each large hotel closed its doors and more and more of the necessary amenities of a resort city disappeared, it became apparent that the convention trade was dying out.

In the general election of November 2, 1976, the residents of New Jersey authorized the State Legislature to allow for casino gambling in Atlantic City. On April 18, 1977, the Casino Control Act was adopted by the legislature to revitalize Atlantic City without using public funds; to reduce unemployment in the area; and to allocate a percentage of the casino revenue in the form of aid to the elderly. It is important to recognize that this legislation was endorsed by every jurisdiction within Atlantic County.

Initial analysis of the casino industry potential indicated a moderate growth rate (one casino per year through 1990), and minimal negative impacts. Following the opening of the first casino, Resorts International, rapid success and many announced plans led to revised projections of a more rapid rate of growth and a greater total number of casinos. In conjunction, there was a growing concern over impacts that this "boom" would have and would continue to generate.

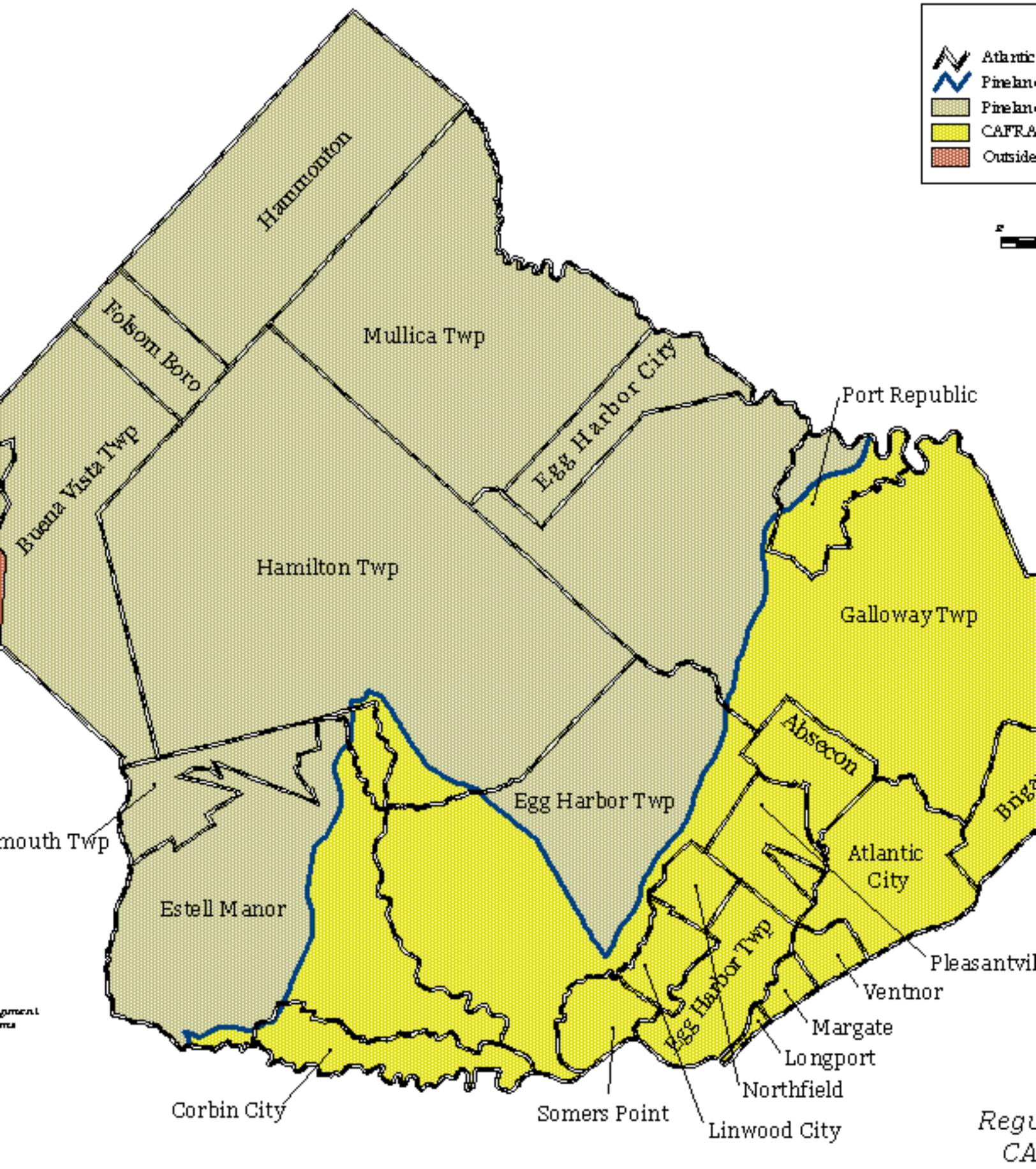
Concurrently, as pressures were mounting for the economic revitalization of Atlantic City, strict environmental legislation was being enacted by both State and Federal governments to protect the quality of the County's beaches, coastal wetlands, and forests. The intent of this legislation was, through land use controls: to protect vital ecosystems from degradation; minimize damage from natural disasters, such as flood and fire, by preserving natural defense systems; and preserve the few remaining rural areas in the most urban state in the nation.

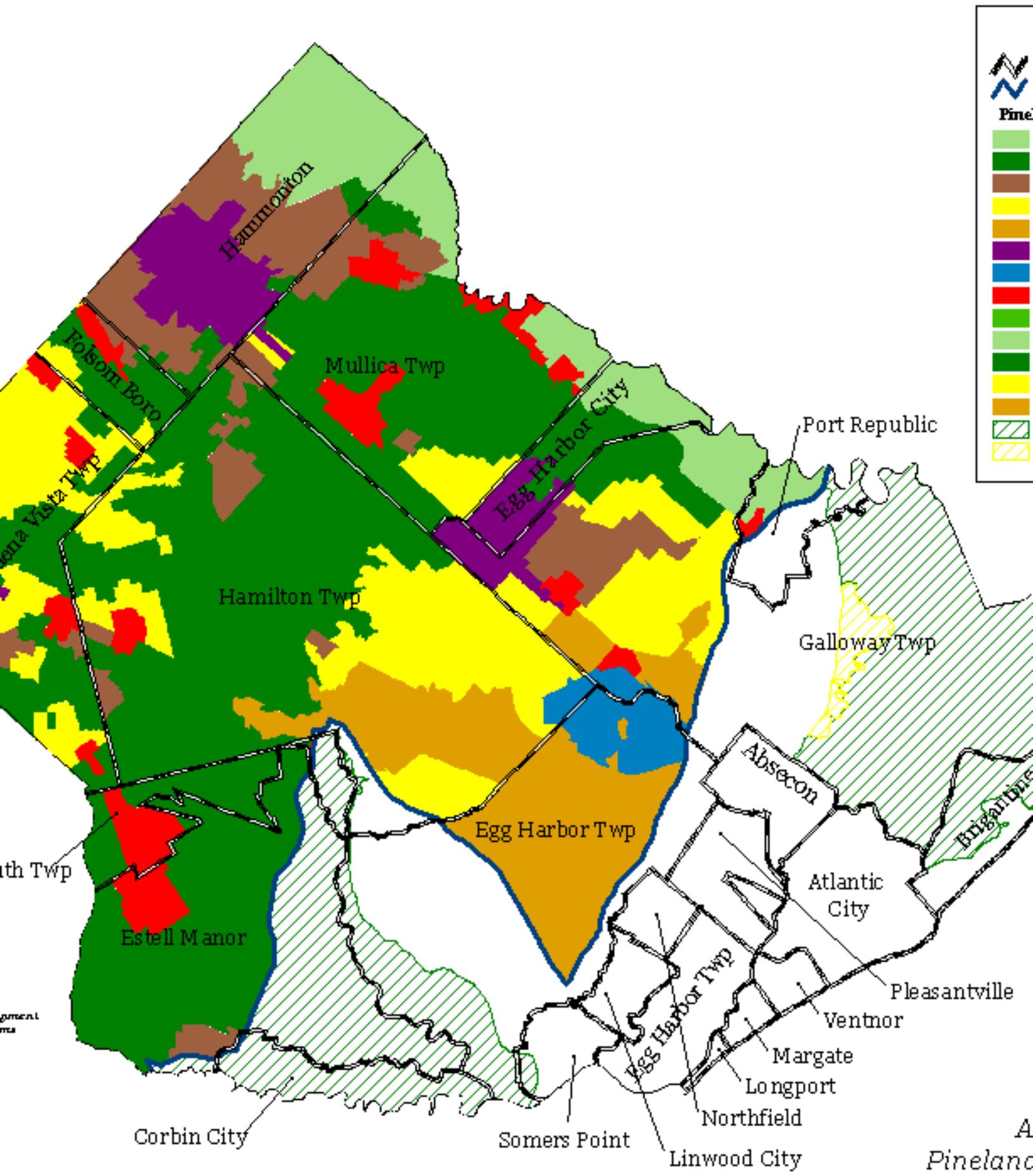
Most of the environmental actions taken were first initiated at the federal level. The passage of the New Jersey Coastal Area Facilities Review Act (CAFRA) in 1973, for example, was prompted by the enactment of Federal Coastal Zone Management policies. The CAFRA legislation provided that a permit must be obtained from the State Division of Coastal Resources before the construction of virtually all large-scale residential, industrial or public facilities and most commercial facilities within the borders shown on Figure 1.2.

The first legislative action taken to preserve New Jersey's Pine Barrens, included within the National Parks and Recreation Act of 1978, was also at the federal level. Subsequently, in February 1978 a moratorium was enforced in the Pine Barrens which required any construction needing a State permit to obtain approval from the Pinelands Commission. As almost all projects require at least one State permit, construction in the Pinelands was significantly affected.

In June 1979, the State Legislature adopted the Pinelands Protection Act. The Act required that the Pinelands Commission adopt and implement a comprehensive plan for the Pinelands Area. The New Jersey Pinelands Comprehensive Management Plan (CMP) was adopted on November 21, 1980 and took effect on January 14, 1981. The CMP establishes a series of management areas specifying overall development intensity and permitted uses for the portions of the County indicated in Figure 1.2A.

Even with this regulatory framework in place, the County continued to grow substantially during the 1980s. Substantial retail, warehousing, office, hotel, and residential development on the mainland bolstered the regional economy. In Atlantic City, ongoing casino industry expansion was augmented by condominium, hotel, and housing development.





1990s PERSPECTIVE

Change marched ahead in the 1990s with the continued renaissance of Atlantic City's Casinos adding hotel rooms as well as the construction improvements to their existing facilities. The 1990s also saw the planning and construction of the new Atlantic City Convention Center, New Jersey Transit Bus Terminal, and the Renaissance Plaza -- a modern shopping center located in the heart of Atlantic City. Growth also continued outside Atlantic City with many municipalities adding regional shopping centers such as: Somers Point, Absecon, Brigantine, Hammonton, and Hamilton Township. The construction of the Galloway National, Blue Heron Pines, and Harbor Pines Golf Courses has witnessed a surge in the popularity of golf in Atlantic County. The County also experienced explosive population growth from 1980 to 1990 as a direct result of the maturation of the casino industry. The 1990s saw moderation in population growth. The 1980 to 1990 pace was 1.6 percent per year. The 1990 to 1999 rate was almost half this rate at 0.8 percent per year.

The ever increasing demand and construction of traditional single-family developments is replacing the 1980s multi-family development. Age restricted units (those limited to persons age 55 and above for instance) and assisted living facilities for those needing varying degrees of medical assistance have also been on the rise as the nation's population ages. These housing developments have been predominately located in the Pinelands Regional Growth Areas of the County: Egg Harbor, Galloway, and Hamilton Townships. Over time, it appears residential and commercial growth will continue to move farther west while the Island and Bay communities will demonstrate slower growth because of their already developed condition. Presently, Atlantic County is in the midst of what is commonly referred to as the "second wave" of development spurred by a relatively strong economy, low inflation, and unyielding demographic trends.

¹ *The text for Regional Setting and Historical Background are reprinted in their entirety from the 1988 Atlantic County Master Plan.*

CHAPTER II

**POPULATION TRENDS
AND
CHARACTERISTICS**

POPULATION TRENDS AND CHARACTERISTICS

INTRODUCTION

It is essential for any planning effort to analyze demographic and socio-economic characteristics in order to identify possible trends. These trends can lead to a better understanding of a community's needs. Once needs are identified appropriate policies and implementation strategies can be developed to accommodate those needs and then incorporated into the County's Master Plan. As we will see later in this chapter, population, housing, household characteristics, and employment have far reaching impacts on the development of the County, and all elements of the Master Plan.

Atlantic City has always been a major driving force in the overall development of the County. Historically, Atlantic City served as a seaside destination while today it is world renowned as a casino resort. While the introduction and then maturation of the casino industry has had a tremendous impact on the development of Atlantic County, regulatory legislation at the State level has also significantly affected County development trends in the past two decades.

REGULATORY IMPACTS

Both the Coastal Area Facilities Review Act of 1973 (CAFRA) and the Pinelands Protection Act of 1979 influence development within Atlantic County. CAFRA attempts to steer growth to designated Coastal Centers throughout the CAFRA area, while enactment of the Pinelands Comprehensive Management Plan concentrates growth, based on zoning, into regional growth areas. Within Atlantic County this has resulted in significant growth in CAFRA Coastal Centers and Pinelands Regional Growth Areas such as Egg Harbor, Galloway, and Hamilton Townships.

One must also consider the New Jersey State Development and Redevelopment Plan's (SDRP) impact on all communities throughout the State. The SDRP was adopted on June 12, 1992, by the State Planning Commission with the goal of revitalizing urban areas and reducing suburban sprawl.

HISTORICAL POPULATION CHANGE, RACE & HISPANIC ORIGIN

HISTORICAL POPULATION CHANGE

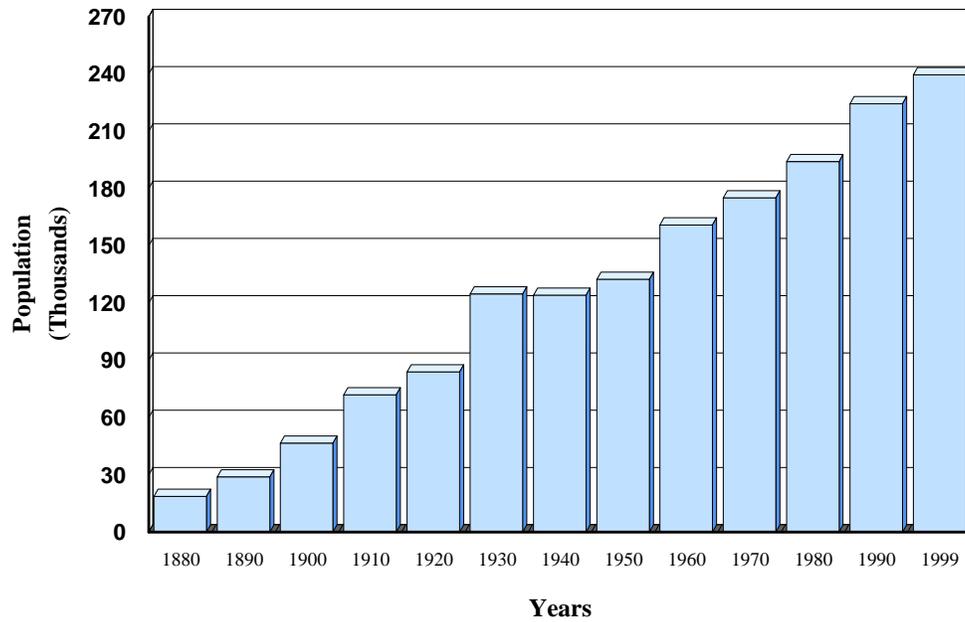
Over the past 100 years, Atlantic County experienced the most dramatic increase in population from 1880 to 1930 registering, generally, double digit percentage increases. This trend mirrored the height of Atlantic City's popularity as an entertainment and resort community. As Atlantic City's popularity waned, so did County growth with relatively little growth from 1940 to 1970. An exception was a rather strong spurt from 1950 to 1960. With the arrival of casino gaming and the resurgence of Atlantic City as a resort and entertainment destination in the late 1970s, Atlantic County's population began to increase rapidly from 1980 to 1990. Most recently, County population estimates indicate that although Atlantic County's population is still growing, it is growing at a slower rate than that experienced in the 1980s. Atlantic County's population changes are shown in percentages in Table 2.1 and graphically in Figure 2.1.

Table 2.1: Atlantic County And New Jersey Population Trends: 1880-2010

<u>Year</u>	<u>Atlantic County</u>	<u>Percent Change</u>	<u>New Jersey</u>	<u>Percent Change</u>
1880	18,704		1,131,116	
1890	28,836	54.2	1,444,933	27.7
1900	46,402	60.9	1,883,669	30.4
1910	71,894	54.9	2,537,167	34.7
1920	83,914	16.7	3,155,900	24.4
1930	124,823	48.8	4,041,334	28.1
1940	124,066	-0.6	4,160,165	2.9
1950	132,399	6.7	4,835,329	16.2
1960	160,880	21.5	6,066,782	25.5
1970	175,043	8.8	7,171,112	18.2
1980	194,119	10.9	7,365,011	2.7
1990	224,327	15.6	7,730,188	5.0
1999	239,626	6.8	8,143,412	5.3
2000	244,900	2.2	8,191,300	0.6
2006	260,800	6.5	8,436,600	3.0
2010	270,100	3.6	8,601,500	2.0

Source: N.J. Department of Labor, Division of Labor Market & Demographic Research
U.S. Bureau of the Census, Population Division, 3/00

Figure 2.1: Atlantic County Population Trends: 1880-1999



Source: N.J. Department of Labor, Division of Labor Market & Demographic Research
U.S. Bureau of the Census, Population Division, 3/00

RACIAL CHARACTERISTICS

Following National and Statewide wide trends, Atlantic County’s racial composition is also expected to become more diverse as we move into the future. As detailed in Table 2.2 below, whites are projected to decline as a percentage of the entire population while blacks and other races are expected to increase as a percentage of the total population between the year 2000 and 2010.

Table 2.2: Atlantic County Racial Composition: 1990-2010

Component	Population			
	1990	2000	2006	2010
Total	224,327	244,900	260,800	270,100
White	79.6%	75.0%	71.9%	69.7%
Black	17.9%	20.5%	21.8%	22.6%
Other Races*	2.5%	4.4%	6.3%	7.7%

* Other Races: This includes American Indian, Alaska Native, Aleut, Asian or Pacific Islander

Source: New Jersey Department of Labor, Division of Labor Market & Demographic Research, 7/99.
1990 Census Modified Age-Race-Sex (MARS) data.

Note: Percentages may not equal 100 because of rounding.

Since the labor force is a reflection of the general population, it too will become more diverse as we move into the 21st century. Although absolute numbers of whites in the labor force are projected to still account for the greatest number of people in the labor force, their share as a percentage of the total labor force is expected to decline as shown in Table 2.3. In contrast, blacks and other races are projected to account for a greater percentage of the entire labor force as we move into the future. Today, there are still more men than women in the labor force, however, the percentage of women in the labor force is projected to increase while the percentage of men is expected to decline as shown in Table 2.3.

Table 2.3: Atlantic County Labor Force By Race And Sex: 1990-2010

Component	Labor Force			
	1990	2000	2006	2010
Total	120,500	126,500	138,300	145,300
Male	53.7%	52.3%	51.0%	50.6%
Female	46.3%	47.7%	49.0%	49.4%
White	80.7%	77.7%	75.0%	73.0%
Black	16.8%	17.9%	18.6%	19.3%
Other Races*	2.6%	4.4%	6.4%	7.6%

* Other Races: This includes American Indian, Alaska Native, Aleut, Asian or Pacific Islander

Source: New Jersey Department of Labor, Division of Labor Market & Demographic Research, 7/99.

Note: The 1990 Census labor force data were modified to be consistent with the modified population by the Age-Race-Sex (MARS) data.

Note: Percentages may not equal 100 because of rounding.

HISPANIC ORIGIN

Another component of the County's population recently analyzed by the New Jersey Department of Labor is Hispanic origin. Persons of Hispanic origin may be any race and generally divided into two categories of white and non-white. The non-white portion of persons of Hispanic origin includes Black, American Indian, Alaska Native, Asian, and Pacific Islander.

Of the 224,327 persons counted by the U.S. Census, 208,210 or 92.8 percent identified themselves to be not of Hispanic origin. The breakout of the remaining 16,117 persons or 7.2 percent which did indicate they were of Hispanic origin is highlighted in Table 2.4: Persons Of Hispanic Origin In Atlantic County (1990).

As indicated, most of the Hispanic persons identified themselves to be Puerto Rican at 10,844 persons or 4.8 percent of the total population and 67 percent of the Hispanic population.

Table 2.4: Persons of Hispanic Origin In Atlantic County (1990)

	Number	Percent of County Population
Total	224,327	100.0
Not of Hispanic Origin	208,210	92.8
Hispanic Origin	16,117	7.2
Mexican	991	0.4
Puerto Rican	10,844	4.8
Cuban	464	0.2
Other Hispanic	3,818	1.7

Source: U.S. Census Bureau (1990 Summary Tape File 1)

Within Atlantic County, the Hispanic population is concentrated in the four municipalities of Atlantic City, Pleasantville, Hammonton, and Egg Harbor City as shown in Table 2.5: Atlantic County Hispanic Origin By Municipality (1990). In total, these four municipalities accounted for roughly 59 percent of the County's total Hispanic population in 1990 or 9,507 persons.

By the year 2006, the New Jersey Department of Labor projects Atlantic County's Hispanic population to be 36,000 persons or 13.8 percent of the total projected population, an increase of nearly 20,000 people over 1990s Census count (Table 2.4.1).

Table 2.4.1: Persons of Hispanic Origin in Atlantic County: 1990-2010

Component	Hispanic Origin			
	1990	2000	2006	2010
Total	16,117	26,500	36,000	43,100

Source: New Jersey Department of Labor, Division of Labor Market & Demographic Research, 7/99.
1990 Census Modified Age-Race-Sex (MARS) data.

Table 2.5: Atlantic County Hispanic Origin By Municipality (1990)

Municipality	Hispanic Origin	Percent of Total Hispanic Origin
Atlantic County	16,117	100.0
Absecon	154	1.0
Atlantic City	5,813	36.1
Brigantine	506	3.1
Buena Borough	905	5.6
Buena Vista Township	649	4.0
Corbin City	0	0.0
Egg Harbor Township	747	4.6
Egg Harbor City	959	6.0
Estell Manor	15	0.1
Folsom	42	0.3
Galloway Township	861	5.3
Hamilton Township	759	4.7
Hammonton	1,045	6.5
Linwood	91	0.6
Longport	6	0.0
Margate	118	0.7
Mullica	735	4.6
Northfield	87	0.5
Pleasantville	1,690	10.5
Port Republic	4	0.0
Somers Point	313	1.9
Ventnor	580	3.6
Weymouth	38	0.2
Total	16,117	100.0

Source: U.S. Census Bureau (1990 Summary Tape File 1)

Note: Percentages may not equal 100 due to rounding.

CONTEMPORARY POPULATION CHANGES: 1970 - PRESENT

Analyses of past and future population, labor force, and housing trends provide the framework planners and decision makers at all levels can use in formulating policies. A brief summary of historical trends of the County's demographics follows, with an examination of existing conditions and a look into the future.

Table 2.6: Atlantic County Population Change: 1970 - 1980

YEAR	1970	1980	Absolute Change	Percent Change	Annual
POPULATION	175,043	194,119	19,076	10.9	1.1

Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998.

The County population increased from 175,043 persons in 1970 to 194,119 persons in 1980, representing a 10.9 percent rise as shown in Table 2.6. While Atlantic City and Margate experienced double digit decreases, several other communities in the County had double digit increases. Egg Harbor Township is most notable, nearly doubling its total population from 9,882 persons in 1970 to 19,381 persons in 1980, a 96 percent increase. Besides significant increases in the County's regional growth areas, many of the County's rural communities such as Buena Vista and Mullica Townships experienced significant population increases during the 1970s (Table 2.6.1).

In 1970, prior to the Pinelands and CAFRA Acts approximately 68 percent of the County population lived in the Island and Bay Areas of Atlantic City, Brigantine, Longport, Margate, Ventnor, Absecon, Linwood, Northfield, Pleasantville, and Somers Point. The population in the regional growth areas of Egg Harbor, Galloway, and Hamilton Townships was only 14 percent of the County's total population. However, by 1980 those living in the Island and Bay communities had declined to 59 percent while those living in the regional growth areas increased to 21 percent. These shifting populations were due in large part to the effects of the Pinelands and CAFRA legislation directing growth into the mainland regional growth communities.

Table 2.6.1: Atlantic County Municipal Population Change: 1970-1980

Municipality	1970	1980	Absolute Change	Percent Change
Absecon	6,094	6,859	765	12.6
Atlantic City	47,859	40,199	-7,660	-16.0
Brigantine	6,741	8,318	1,577	23.4
Buena Boro	3,283	3,642	359	10.9
Buena Vista Twp.	4,239	6,959	2,720	64.2
Corbin City	258	254	-4	-1.6
Egg Harbor City	4,304	4,618	314	7.3
Egg Harbor Twp.	9,882	19,381	9,499	96.1
Estell Manor	539	848	309	57.3
Folsom	1,767	1,892	125	7.1
Galloway Twp.	8,276	12,176	3,900	47.1
Hamilton Twp.	6,445	9,499	3,054	47.4
Hammonton	11,464	12,298	834	7.3
Linwood	6,159	6,144	-15	-0.2
Longport	1,225	1,249	24	2.0
Margate	10,576	9,179	-1,397	-13.2
Mullica Twp.	3,391	5,243	1,852	54.6
Northfield	8,646	7,795	-851	-9.8
Pleasantville	14,007	13,435	-572	-4.1
Port Republic	586	837	251	42.8
Somers Point	7,919	10,330	2,411	30.5
Ventnor	10,385	11,704	1,319	12.7
Weymouth Twp.	998	1,260	262	26.3
TOTAL	175,043	194,119	19,076	10.9

Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998.

Table 2.7: Atlantic County Population Change: 1980 - 1990

YEAR	1980	1990	Absolute Change	Percent Change	Annual
POPULATION	194,119	224,327	30,208	15.6	1.6

Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998.

From 1980 to 1990 the County's population increased from 194,119 persons to 224,327 persons, representing an increase of 15.6 percent as shown in Table 2.7. Seventy-five percent of Atlantic County's population increase, or 22,830 persons, can be attributed to growth in three municipalities: Egg Harbor, Galloway, and Hamilton Townships. Including population increases in Brigantine and Pleasantville, 94 percent of all population growth from 1980 to 1990 occurred in just five municipalities. As noted before, from 1970 to 1980 Egg Harbor Township had a dramatic population increase. During the 1980s, Galloway Township experienced the greatest growth from 12,176 persons in 1980 to 23,330 persons in 1990, representing a 92 percent increase. The trend of declining or stable populations continued in the Island and Bay communities with the mainland growth areas displaying dramatic population increases, shown in Table 2.7.1.

Table 2.7.1: Atlantic County Municipal Population Change: 1980-1990

Municipality	1980	1990	Absolute Change	Percent Change
Absecon	6,859	7,298	439	6.4
Atlantic City	40,199	37,986	-2,213	-5.5
Brigantine	8,318	11,354	3,036	36.5
Buena Boro	3,642	4,441	799	21.9
Buena Vista Twp.	6,959	7,655	696	10.0
Corbin City	254	412	158	62.2
Egg Harbor City	4,618	4,583	-35	-0.8
Egg Harbor Twp.	19,381	24,544	5,163	26.6
Estell Manor	848	1,404	556	65.6
Folsom	1,892	2,181	289	15.3
Galloway Twp.	12,176	23,330	11,154	91.6
Hamilton Twp.	9,499	16,012	6,513	68.6
Hammonton	12,298	12,208	-90	-0.7
Linwood	6,144	6,866	722	11.8
Longport	1,249	1,224	-25	-2.0
Margate	9,179	8,431	-748	-8.2
Mullica Twp.	5,243	5,896	653	12.5
Northfield	7,795	7,305	-490	-6.3
Pleasantville	13,435	16,027	2,592	19.3
Port Republic	837	992	155	18.5
Somers Point	10,330	11,216	886	8.6
Ventnor	11,704	11,005	-699	-6.0
Weymouth Twp.	1,260	1,957	697	55.3
TOTAL	194,119	224,327	30,208	15.6

Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998.

Table 2.8: Atlantic County Population Change: 1990 - 1999

YEAR	1990	1999	Absolute Change	Percent Change	Annual
POPULATION	224,327	239,626	15,299	6.8	.8

Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998.

Between 1990 and 1999, Atlantic County's population grew by 15,299 persons or 6.8 percent (Table 2.8). A review of residential construction permits shows that from 1990 to 1999 Egg Harbor, Galloway, and Hamilton Townships comprised 59 percent of the new residential development in the County. Their primary attributes include the availability of centralized sanitary sewer and water systems along with sufficient developable land to accommodate growth. However, in the 1990s these Pinelands designated Regional Growth Areas (RGAs) have shown a slower growth rate as compared to previous decades (Table 2.8.1).

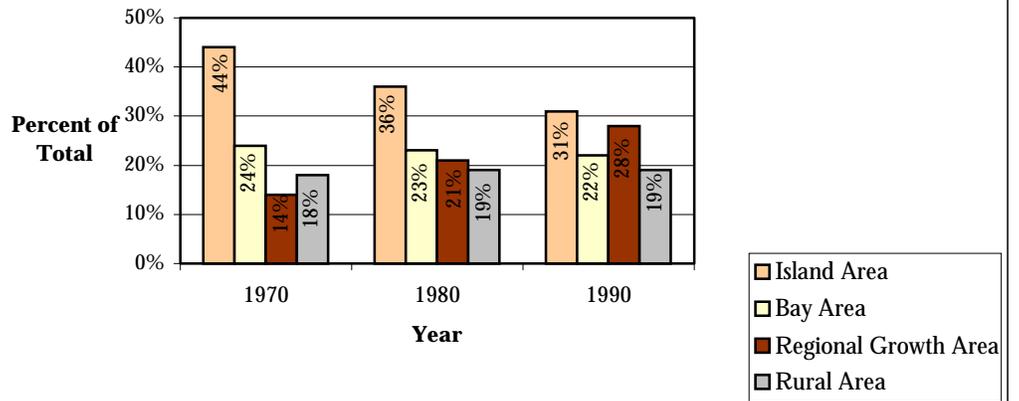
Within the Pinelands jurisdiction, lands not situated within the RGAs will continue to undergo significantly less development pressure because of their Pinelands Management Area designations as rural, agricultural, forest, and preservation. CAFRA regulations may also limit development location and density if certain thresholds are met. These trends are likely to continue recognizing that the Island and Bay areas are older settled communities with limited remaining developable land. The following Figures 2.2 and 2.3 graphically depict the historical and projected population shifts in Atlantic County.

Table 2.8.1: Atlantic County Municipal Population Change: 1990-1998

Municipality	1990	1998	Absolute Change	Percent Change
Absecon	7,298	7,817	519	7.1
Atlantic City	37,986	38,063	77	0.2
Brigantine	11,354	11,599	245	2.2
Buena Boro	4,441	4,596	155	3.5
Buena Vista Twp.	7,655	8,118	463	6.1
Corbin City	412	472	60	14.6
Egg Harbor City	4,583	4,502	-81	-1.8
Egg Harbor Twp.	24,544	27,675	3,131	12.8
Estell Manor	1,404	1,612	208	14.8
Folsom	2,181	2,242	61	2.8
Galloway Twp.	23,330	28,224	4,896	21.0
Hamilton Twp.	16,012	18,243	2,231	13.9
Hammonton	12,208	12,447	239	2.0
Linwood	6,866	7,109	243	3.5
Longport	1,224	1,265	41	3.4
Margate	8,431	8,542	111	1.3
Mullica Twp.	5,896	6,214	318	5.4
Northfield	7,305	7,434	129	1.8
Pleasantville	16,027	16,619	592	3.7
Port Republic	992	1,055	63	6.4
Somers Point	11,216	11,159	-57	-0.5
Ventnor	11,005	10,857	-148	-1.3
Weymouth Twp.	1,957	2,183	226	11.6
TOTAL	224,327	238,047	13,720	6.1

Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998.

Figure 2.2
Percentage Of Atlantic County Population By Area:
1970 - 1990



Source: U.S. Department of Commerce, Bureau of the Census and Growth Trends, Atlantic County, NJ 1998

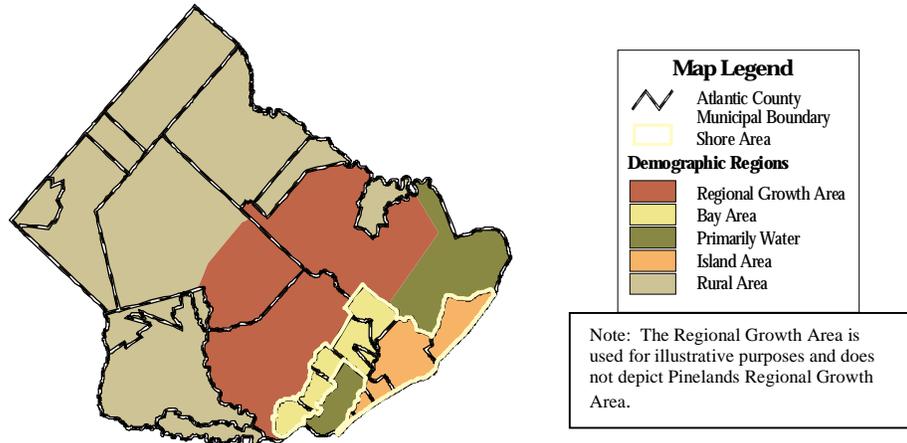
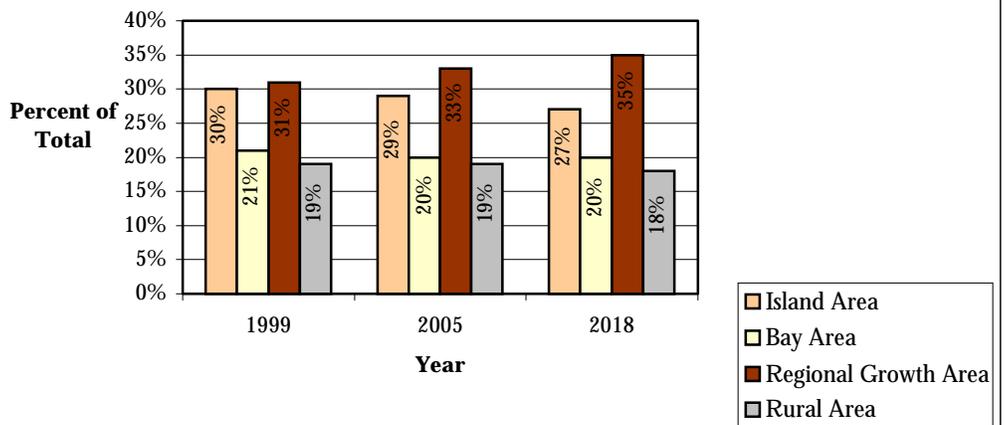


Figure 2.3
Percentage Of Atlantic County Population By Area:
1999 - 2018



Source: South Jersey Transportation Planning Organization

FUTURE ATLANTIC COUNTY POPULATION BY AGE COHORTS: 1996-2006

The number of preschoolers, school age children, working age persons, and the elderly are important components of the County's population which affect a community in a variety of ways from the level of community services including education, community health and welfare, and the available labor force. The distribution of age groups (cohorts) in the County population are shown in Table 2.9 entitled "Atlantic County Population By Age Cohort: 1996-2006" and graphically represented in Figures 2.4 and 2.5. The analysis which follows is based on estimated age cohort figures which were then projected to the year 2006 by the New Jersey Department of Labor, Division of Labor Market & Demographic Research as shown in Figure 2.6.

Preschoolers (ages 0-4)

The number of preschoolers (ages 0-4) is showing a modest increase of 970 persons by the year 2006. This could be attributed to the decline in the number of females of child bearing age (ages 14-44) as a percentage of the total County population. Projections show that the percentage of females of child bearing age in Atlantic County is to decline from 25 percent in 1990 to 21 percent by the year 2010. A decline in fertility rates and societal choice to have fewer children directly affects the number of individuals in this age group.

School age (ages 5-19)

The school age population (ages 5-19) is projected to increase to 12,108 persons by the year 2006, representing a 26 percent increase in this age cohort. This cohort is particularly important at the municipal level in planning for new schools, where the cohort component technique is widely used as a predictive population model.

Labor force (ages 20-64)

Those individuals which make up the majority of the overall labor market are projected to increase by 12,942 persons or 9 percent between 1996 and 2006. Within this segment of the population, those persons falling within the 25-39 age cohort will decrease by 8,086 persons. Losses within this age group are expected to be offset by strong double-digit increases in the 40-64 age cohorts resulting in the net increase of those persons ages 20-64 for the period.

Aging population (65+)

Atlantic County's aging population is projected to show a slight decline of 342 persons from 1996 to 2006, declining from 33,842 persons in 1996 to 33,500 persons in 2006. Within the broad cohort defined as elderly (65+), the sharpest decline is projected to be within the 70-74 age cohort, declining by 1,121 persons, followed by the 65-69 age cohort falling by 797 persons, and lastly the 75-79 age cohort falling by 310 persons.

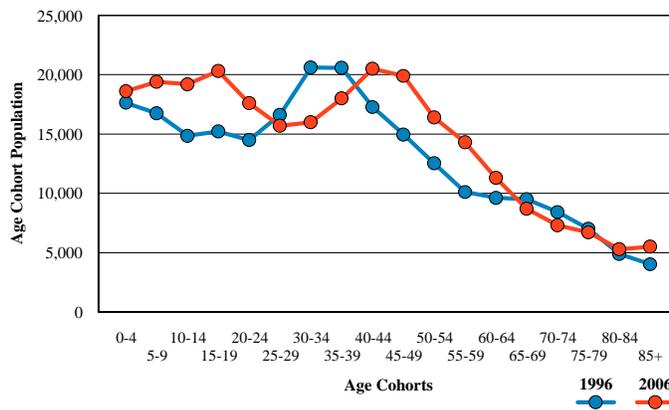
ting these projected declines, however, are strong increases in the 85+ cohort with an increase of 1,485 persons, followed by the 80-84 cohort with a projected increase of 401 persons by the year 2006. In other words, strong gains in the number of the “oldest” elderly will nearly offset losses in the “youngest” elderly so that Atlantic County’s elderly population will remain nearly constant to the year 2006.

Table 2.9: Atlantic County Population By Age Cohort: 1996-2006

Age Cohort	1996	2006	Absolute Change	Percent Change
0-4	17,630	18,600	970	5.5
5-9	16,740	19,400	2,660	15.9
10-14	14,851	19,200	4,349	29.3
15-19	15,201	20,300	5,099	33.5
20-24	14,499	17,600	3,101	21.4
25-29	16,621	15,700	(921)	-5.5
30-34	20,597	16,000	(4,597)	-22.3
35-39	20,568	18,000	(2,568)	-12.5
40-44	17,272	20,500	3,228	18.7
45-49	14,950	19,900	4,950	33.1
50-54	12,521	16,400	3,879	31.0
55-59	10,112	14,300	4,188	41.4
60-64	9,618	11,300	1,682	17.5
65-69	9,497	8,700	(797)	-8.4
70-74	8,421	7,300	(1,121)	-13.3
75-79	7,010	6,700	(310)	-4.4
80-84	4,899	5,300	401	8.2
85+	4,015	5,500	1,485	37.0
TOTAL	235,022	260,700	25,678	10.9

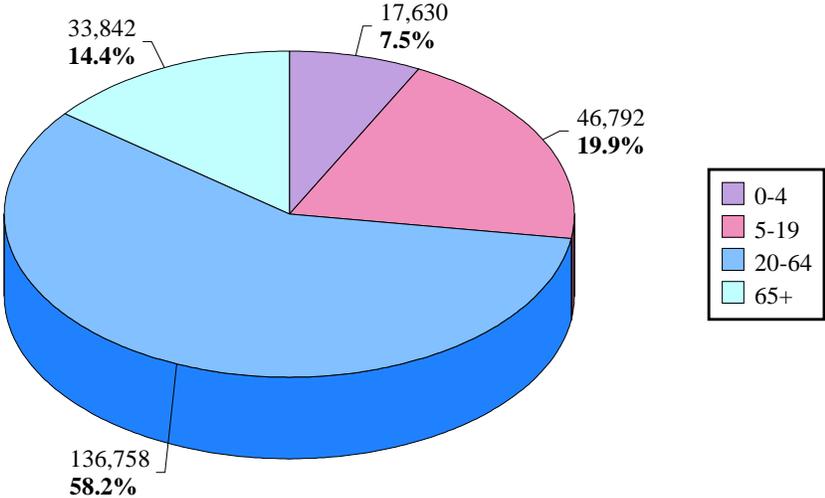
Source: N.J. Department of Labor Division of Labor Market & Demographic Research.

Figure 2.4: Atlantic County Population By Age Cohorts: 1996 - 2006



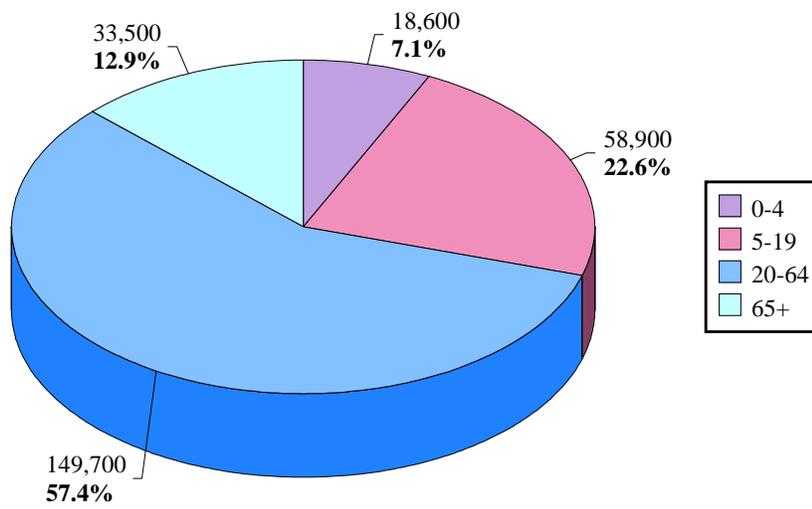
Source: N.J. Department of Labor, Division of Labor Market & Demographic Research

Figure 2.5: Atlantic County Estimated Age Cohorts For 1996
Total Estimated Population: 235,022



N.J. Department of Labor, Division of Labor Market & Demographic Research

Figure 2.6: Atlantic County Projected Age Cohorts For 2006
Total Projected Population: 260,700



Source: N.J. Department of Labor, Division of Labor Market & Demographic Research

CONCLUSIONS

Development patterns have shifted over time. Since the 1970s, the older, already developed Island and Bay communities have shown little if any growth. Conversely, the regional growth areas of Egg Harbor, Galloway, and Hamilton Townships have experienced tremendous growth in some part due to the impacts of the Pinelands Comprehensive Management Plan and Coastal Area Facilities Review Act (CAFRA).

In the most recent decade for which census data is available, Atlantic County's population grew from 194,119 persons in 1980 to 224,327 persons in 1990, an increase of 30,208 persons or 15.6 percent. Annualized this growth rate amounted to 1.6 percent growth per year. Since 1990, it has been estimated that Atlantic County's population has grown from 224,327 persons in 1990 to 239,626 persons in 1999, an increase of 15,299 persons or 6.8 percent. Annualizing this rate of growth leads to a .8 percent per year increase half the rate of growth experienced in the 1980s.

Based on the data collected from the 1990 Census, Atlantic County's racial composition was predominantly white at 79.6 percent, followed by black at 17.9 percent. The "other" race category amounted to 2.5 percent of the County's 1990 population. By the year 2010, Atlantic County's population is projected to become more racially diverse. For instance, the percentage of whites will be reduced to 69.7 percent of the population while blacks and other races percentages will increase to 22.6 percent and 7.7 percent, respectively. Atlantic County's labor force is also projected to become more racially diverse as we move into the 21st Century. This trend is not surprising given the fact that the labor force is a reflection of the overall population.

Looking into the future it also appears as though Atlantic County will experience a significant increase in its Hispanic population from its 1990 level of 16,117 persons or 7 percent of the total population. Projections by the New Jersey Department of Labor show this population increasing to 36,000 persons or 14 percent of the total population by the year 2006 and 43,100 persons or 16 percent of the total population by the year 2010.

An analysis of the County's projected age cohorts reveals some interesting trends. By 2006, the number of preschoolers (ages 0 - 4) are projected to increase slightly, however, the number of school aged children (ages 5-19) are projected to rise by 12,108 persons. That component of the County's population which constitutes the majority of the labor force participants (ages 20 - 64) is on balance projected to increase by 12,942 persons after accounting for losses in the 25 - 29 age cohort and strong double-digit increases in the 40 - 64 age cohort. Atlantic County's aging population (ages 65 +) is to show a slight net decline of 342 persons by the year 2006. However, increases in the 80 - 84 age cohort and the 85 + age cohort are projected to offset declines in the 65 - 79 age cohorts.

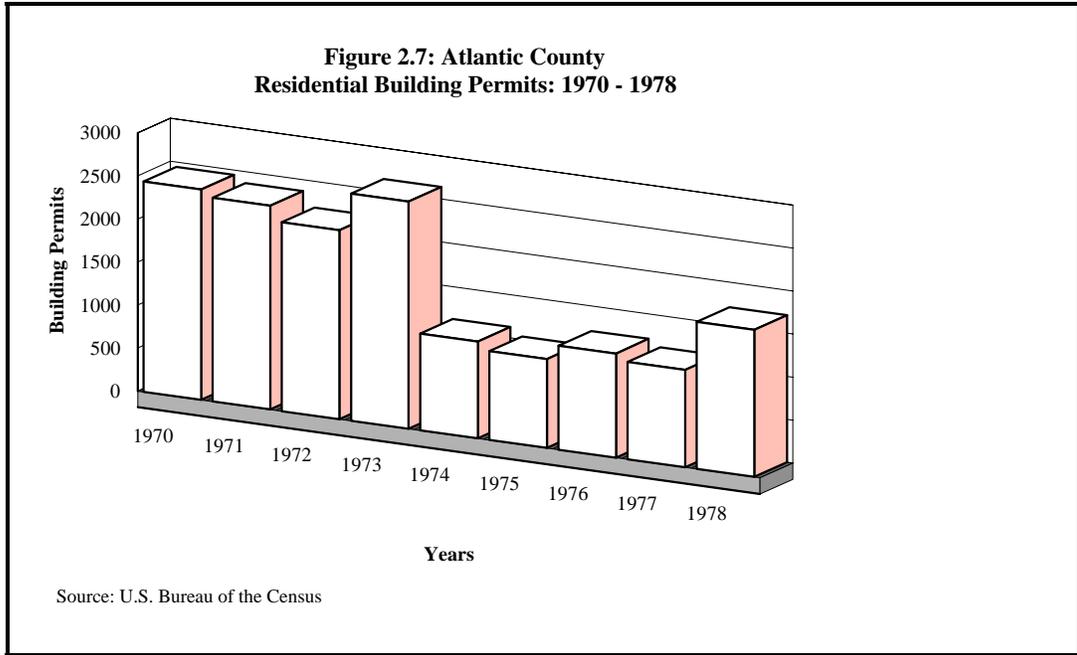
Undoubtedly, these demographic trends will have significant impacts on not only the physical infrastructure of the County such as roads, sewer, open space and recreation but also on the provision of a broad array of social services to meet the needs of Atlantic County's changing population.

HOUSING

Undoubtedly, the casino gaming industry has and continues to have a tremendous impact on the level of residential development in Atlantic County. For purposes of analysis, three distinct time periods have been chosen to illustrate the impact of casino gaming on Atlantic County's residential market: 1970 - 1978, 1980 - 1988, and 1990 -1998. These intervals were chosen to coincide with development activity before casino gaming, during the initial build out phase of casino gaming and during the period which we are now in sometimes referred to as the "second wave" of casino led business expansion. One further note, data collected prior to 1980 contained the base Census Bureau data gathered from municipal construction code officials and data collected by the New Jersey Department of Labor in follow-up discussions with those non-response municipalities. Since 1980, the New Jersey Department of Labor has used only the data gathered by the U.S. Census Bureau from municipal construction code officials. The Census Bureau determines building permit data for non-response municipalities using historical measures as a guide.

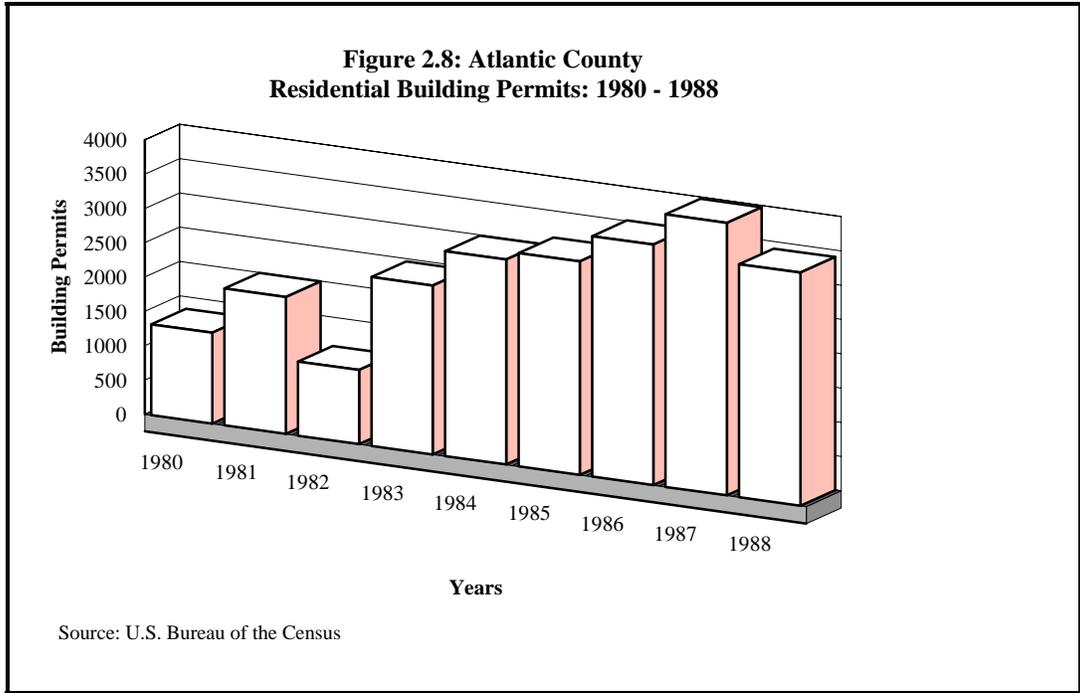
Atlantic County Building Permits: 1970 - 1978

Atlantic County issued 15,855 total residential building permits from 1970 through 1978. Within this period, Countywide activity steadily rose from 1970 peaking in 1973 and then slowed to an average of 1,242 units from 1974 through 1978 (Figure 2.7). During this period, Egg Harbor Township led the way with 2,757 permits being issued followed by Atlantic City with 2,190 permits, then Hamilton Township with 1,559 permits, Somers Point with 1,270 permits, and Ventnor with 1,093 permits being issued. It is interesting to note that two of the three regional growth areas were beginning to exhibit signs of strong growth in addition to strong showings by Somers Point (defined as a Bay Area community) and Brigantine and Ventnor (defined as Island communities). Today, these communities are showing little if any growth and in some cases are declining. Atlantic City's first casino - Resorts International opened its doors in 1978.



Atlantic County Building Permits: 1980 - 1988

In the eight years from 1980 to 1988 there were a total of 23,834 residential building permits issued in Atlantic County. These building permit figures represent a 50 percent increase over those permits issued through most of the 1970s. Throughout this period, the number of building permits issued rose steadily peaking in 1987 at 3,971 permits being issued as illustrated in Figure 2.8. The average number of building permits issued for this period was 2,979 permits per year. Within the County, residential development accelerated in the regional growth areas of Egg Harbor, Galloway, and Hamilton Townships with these three municipalities accounting for 39 percent of the total permits issued for this period. Other notable trends included the construction of large scale multifamily residential developments within Atlantic City and a mix of single- and multi-family dwelling units in Brigantine and Pleasantville.

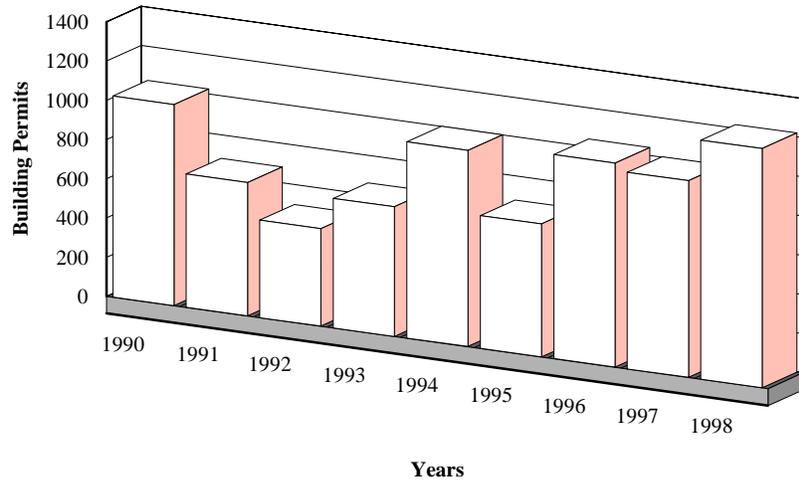


Atlantic County Building Permits: 1990 - 1998

With most of Atlantic City's 12 casinos constructed or near completion by 1990, Atlantic County's torrid pace of residential development slowed from those levels reached in the 1980s. In total, the County recorded 7,809 building permits from 1990 through 1998, a decline of 16,025 permits or 67 percent when compared to activity levels of the 1980s (Figure 2.9). This decline, however, has to be taken in the context of the rapid pace of residential growth experienced during the 1980s. During the 1990s, Galloway, Egg Harbor, and Hamilton Townships, continued to experience a high level of residential activity. Combined these municipalities accounted for 60 percent of the total number of residential building permits for this period.

Recently, the majority of new housing in Atlantic County has been single-family construction. In 1990, the ratio between single-family dwellings to multi-family dwellings was 65 percent to 35 percent. However, by 1998 this ratio changed significantly to 94 percent single-family dwellings to only 6 percent multi-family dwellings. Another recent trend has been the construction of many age-restricted and assisted living developments throughout the County.

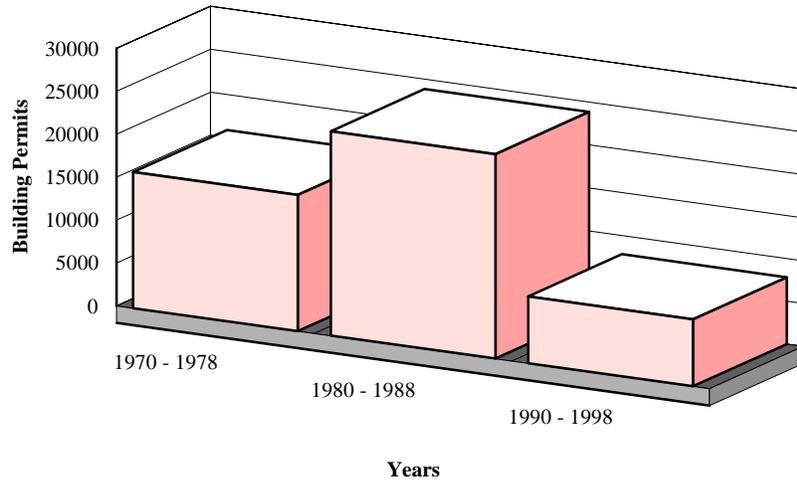
**Figure 2.9: Atlantic County
Residential Building Permits: 1990 - 1998**



Source: U.S. Bureau of the Census

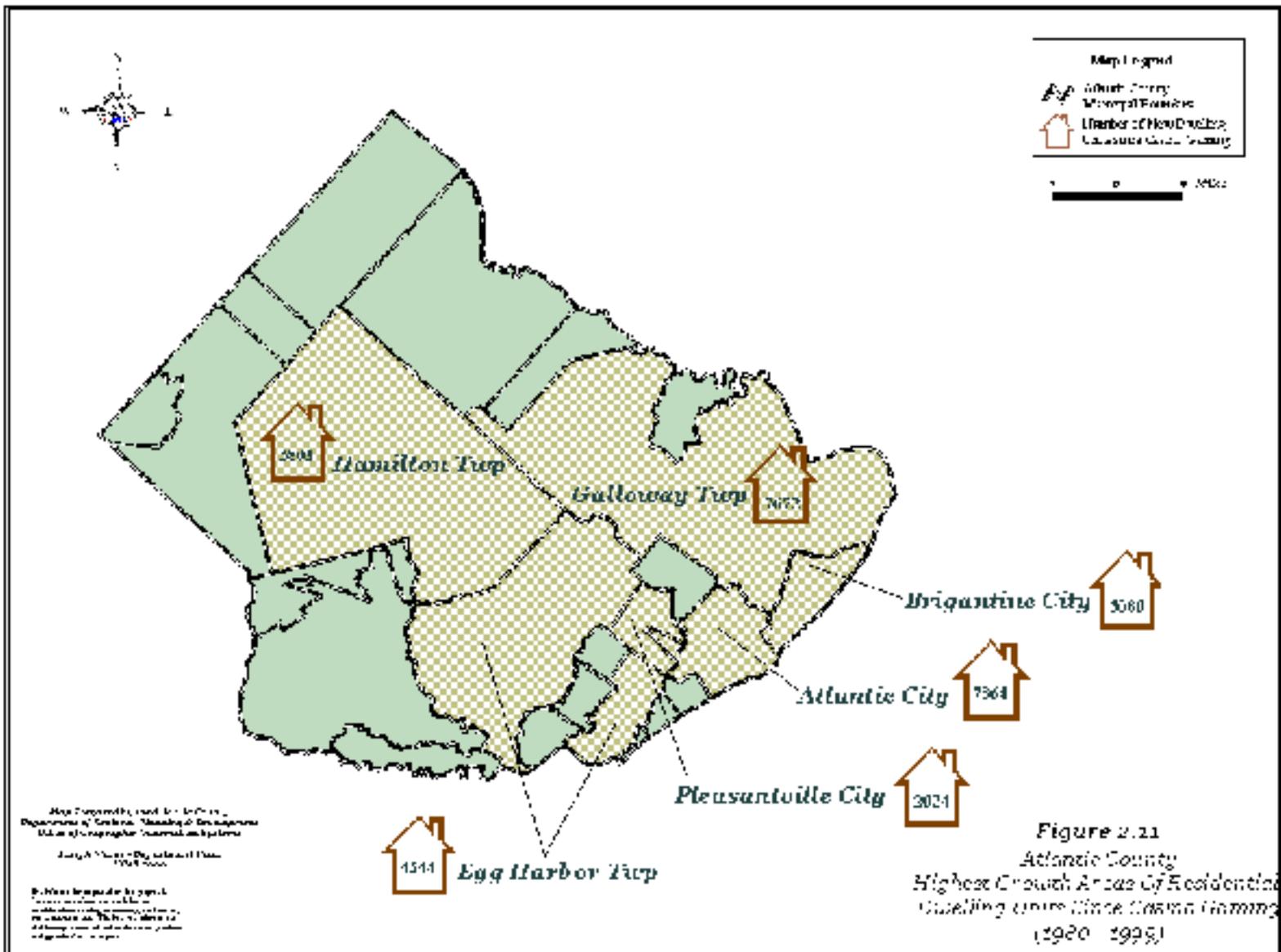
As indicated in Figure 2.10, levels of residential growth have been dependent, to a large degree, on the level of casino development. Over the last thirty years, the bulk of residential development occurred in the 1980s. Although growth has slowed in the 1990s, the second wave of casino development appears to be accelerating residential growth, especially, in the County's regional growth areas of Egg Harbor, Galloway and Hamilton Townships. Final building permit data for 1999 seems to support this with 55 percent of residential growth coming from these three municipalities.

**Figure 2.10: Atlantic County
Residential Building Permits: 1970 - 1998**



Source: U.S. Bureau of the Census

Since 1980, significant residential growth has occurred in not only the traditional regional growth areas of Egg Harbor, Galloway, and Hamilton Townships but also the municipalities of Brigantine, Atlantic City, and Pleasantville as shown in Figure 2.11.



HOUSEHOLD CHARACTERISTICS

Household characteristics are important because they serve as descriptive indicators of a jurisdiction's population. Human service providers and others, such as builders, often look to this data in order to gauge the human service needs of a community or housing demand. Household composition could be used to indicate potential open space or recreation needs, sewer and water infrastructure, child care demand, or the need for assisted living facilities.

Of the total households counted by the Census Bureau in 1990, 73.4 percent were 2 or more person households while 26.6 percent were 1 person households as shown in Table 2.10: Atlantic County Household Size And Household Type (1990). The majority of households in Atlantic County were family households at 56,576 or 66 percent of the total households counted in 1990. Non family households accounted for the remaining 34 percent of the total households counted in 1990. A family household is one in which the householder is living with one or more persons related to him or her by birth, marriage, or adoption. A non family householder is a householder living alone or with non relatives only.

Table 2.10: Atlantic County Household Size And Household Type (1990)

Type of Household	Number of Households	Percent of Households
Households	85,123	100.0
1 Person	22,666	26.6
Male householder	9,113	
Female householder	13,553	
2 or more persons:	62,457	73.4
Family households:	56,576	100.0
Married-couple family:	41,202	72.8
With related children	18,828	
No related children	22,374	
Other family:	15,374	27.2
Male householder, no wife present:	3,727	
With related children	1,762	
No related children	1,965	
Female householder, no husband present:	11,647	
With related children	7,021	
No related children	4,626	
Nonfamily households:	28,547	100.0
Male householder	12,698	44.5
Female householder	15,849	55.5

Source: U.S. Bureau of the Census, STF 1 (1990)

In 1990, Atlantic County’s average household size was 2.56 persons as compared to the State’s average of 2.70 persons per household. Over the past thirty years, Atlantic County households having been becoming smaller with 2.84 persons per household in 1970, 2.66 persons per household in 1980, and 2.56 persons per household being recorded in 1990. A household includes all persons living together related or not who may occupy a particular housing unit. Therefore, a household could consist of one person or more than one family living together.

Given the availability of the 1990 Census data, projections for Atlantic County households characteristics in 2000 is difficult. Since the data collected from the 2000 Census is not available, we estimated Atlantic County’s current number of households and their configuration using existing historical census data. The Census Bureau collects household data through the Current Population Survey (CPS). However, they do not collect county- level household data through this survey, only state and national data.

Since the CPS does not contain data for Atlantic County, one must assume a rate of growth in order to estimate the current number of households in Atlantic County. Between 1970 and 1990, Atlantic County households grew from 60,716 in 1970 to 85,123 in 1990, an increase of 24,407 households or 40.2 percent. Growth between decades within this twenty-year period is remarkably similar. The number of households rose 18.3 percent in the decade of the 1970s and 18.5 percent in the decade of the 1980s. Annualizing the absolute growth for this twenty-year period would project an increase in households of 2 percent per year. Applying this 20 year average rate of growth to 1990s total households yields a figure of 102,147 for the year 2000.

Now that a total household figure has been determined for the year 2000, the various household types must be distributed to arrive at figures for the various household configurations. Once again an assumption has to be made, namely, that the ratios of household configurations for Atlantic County in 1990 will remain constant for the year 2000. Based on this assumption, the number of households by household type can then be projected for the year 2000 as shown below in Table 2.11: Atlantic County Households By Household Type: 1990 And 2000.

Table 2.11: Atlantic County Households By Household Type: 1990 And 2000

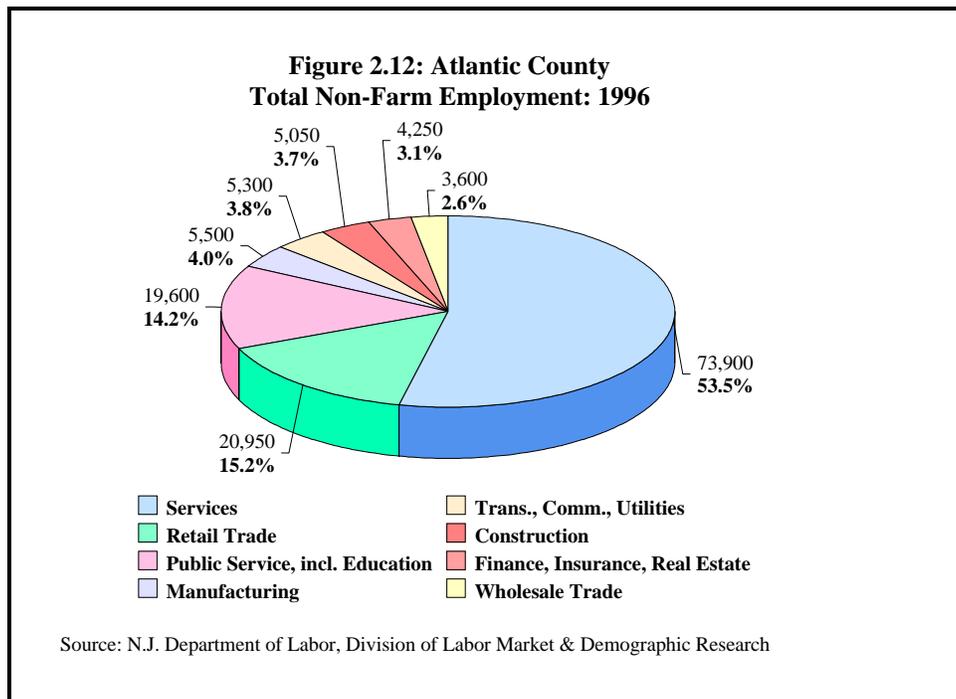
Household Type	1990 Number	1990 Percent	2000 Number (Estimate)
Total Households	85,123	100	102,147
Married Couple Family	41,202	48.4	49,439
Female Householder	11,647	13.7	13,994
Male Householder	3,727	4.4	4,494
Non-Family Households	28,547	33.5	34,219

Source: U.S. Bureau of the Census, STF 1 (1990)

Year 2000 household estimates created by Atlantic County Department of Regional Planning and Economic Development

EMPLOYMENT

As of 1996, Atlantic County's total non-farm employment stood at 138,150 jobs. As indicated below in Figure 2.12, Atlantic County's economy is dominated by the service sector accounting for 53.5 percent of the total non-farm jobs, then retail trade with 15.2 percent of the jobs, followed by the public service sector which includes education with 14.2 percent of the total non-farm employment. Other sectors such as manufacturing; transportation, communication, utilities; construction; finance, insurance, real estate; and wholesale trade account for the remaining 17.1 percent of non-farm employment.



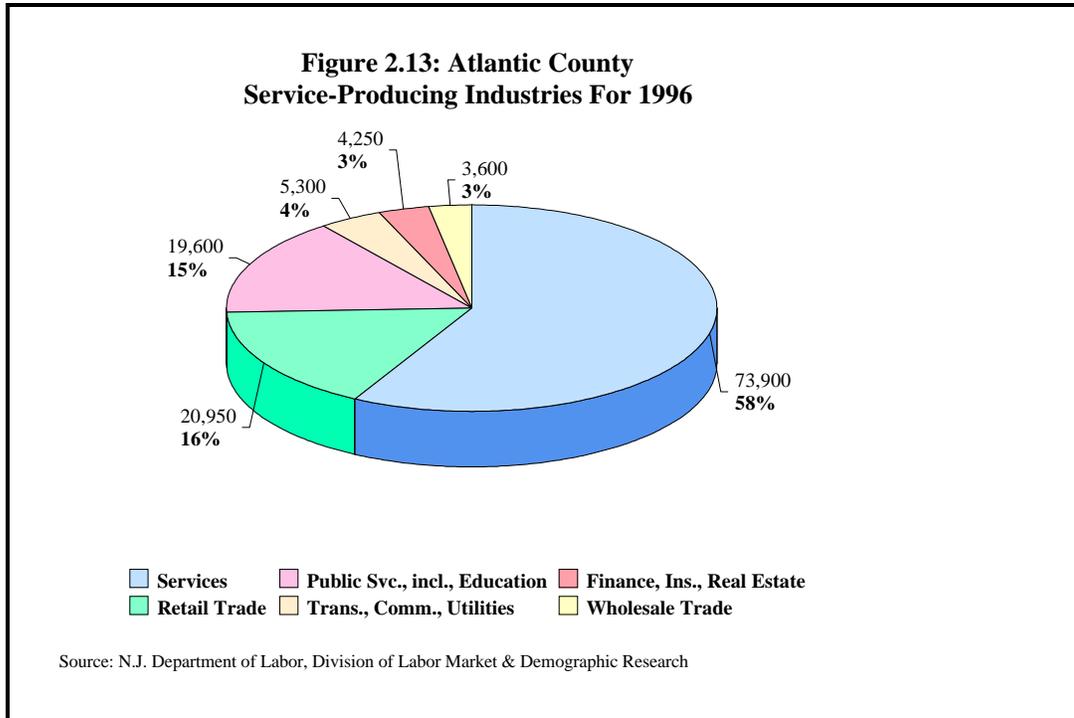
As these figures indicate, Atlantic County's employment is dominated by the service-producing industries. Within this industry there are a number of employment divisions such as: transportation, communication, utilities; wholesale trade; retail trade; finance, insurance, real estate; services; and public service, including education. As noted earlier, the other side of the County's economy deals with the goods-producing industries such as mining, construction, and manufacturing. An analysis of these two major divisions will follow.

SERVICE-PRODUCING SECTOR

The services division totaled 73,900 jobs in 1996, or 58 percent of the 127,600 service-producing jobs. As highlighted below, the broad services category constitutes the largest number of jobs

taking 58 percent of the total service-producing jobs, followed by retail trade at 16 percent, and then public sector, with public education at 15 percent of jobs.

The other divisions of transportation, communication, utilities; wholesale trade; and finance, insurance, real estate round out the services-producing industries with a total of 10 percent of jobs as shown below in Figure 2.13.



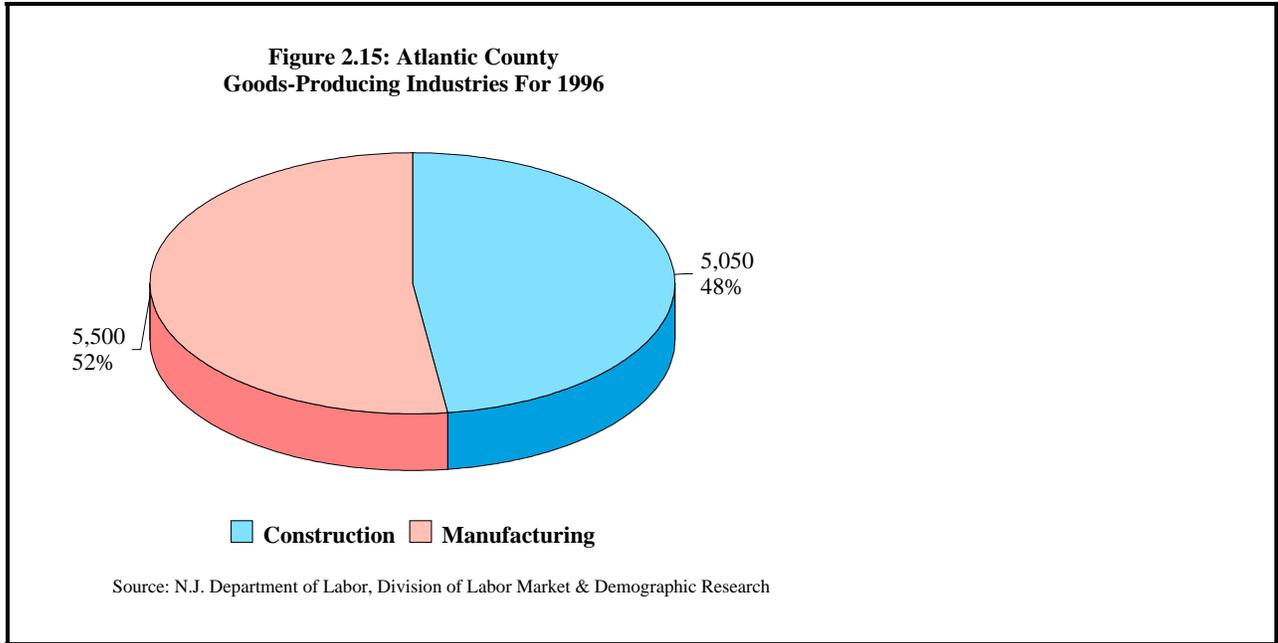
Within the services division, the hotels and other lodging places category is by far the largest accounting for 48,550 of the total 73,900 service sector jobs in 1996, or 66 percent of the services category. Widely cited multiplier effects ranging from 1.4 to 2.0 times the number of direct jobs further enhance the effect of the casino industry on Atlantic County's economy. Employment projections published by the New Jersey Department of Labor show the hotels and other lodging places category to increase from their 1996 level of 48,550 to 68,350 by the year 2006, an increase of 19,800 jobs. Assuming a 1.4 multiplier would yield the creation of another 7,920 indirect casino jobs bringing the total direct and indirect job total to 27,720. Besides the hotels and other lodging places category, the health and business services industries are expected to increase by 3,250 and 1,700 jobs respectively, by the year 2006.

As shown above in Figures 2.12 and 2.13, retail trade and the public service, including education contribute significantly to Atlantic County's employment. In 1996, these industries accounted for 20,950 and 19,600 jobs respectively, in Atlantic County. Within the retail trade industry, eating and drinking places had 7,100 jobs while food stores accounted for 3,600 jobs. As shown above, employment within the eating and drinking places and food store industries is projected to increase by 850 and 450 jobs respectively, by the year 2006 as shown in Figure 2.14.

In 1996, the third largest industry within the service-producing component of Atlantic County's economy was public service, including education with 19,600 jobs. The primary industries within this category are state & local government, except education (8,900 persons), and state & local government education (8,150 persons). The remaining balance is comprised of post office and other federal government employees. New Jersey Department of Labor projections indicate that the public sector, including education will increase by 600 jobs or 0.3 percent per year to 2006.

GOODS -PRODUCING SECTOR

As mentioned earlier, the goods-producing industries within Atlantic County's economy account for a relatively small percentage of overall jobs. In 1996, the goods-producing sector of the economy accounted for 10,500 jobs, or 7.6 percent of the total non-farm employment. There are three major divisions within the goods-producing sector, namely, mining, construction, and manufacturing. Because there are so few employers within mining, data for this division is generally suppressed to protect confidentiality. Consequently, mining is not shown in any graphic representation of the goods-producing sector.



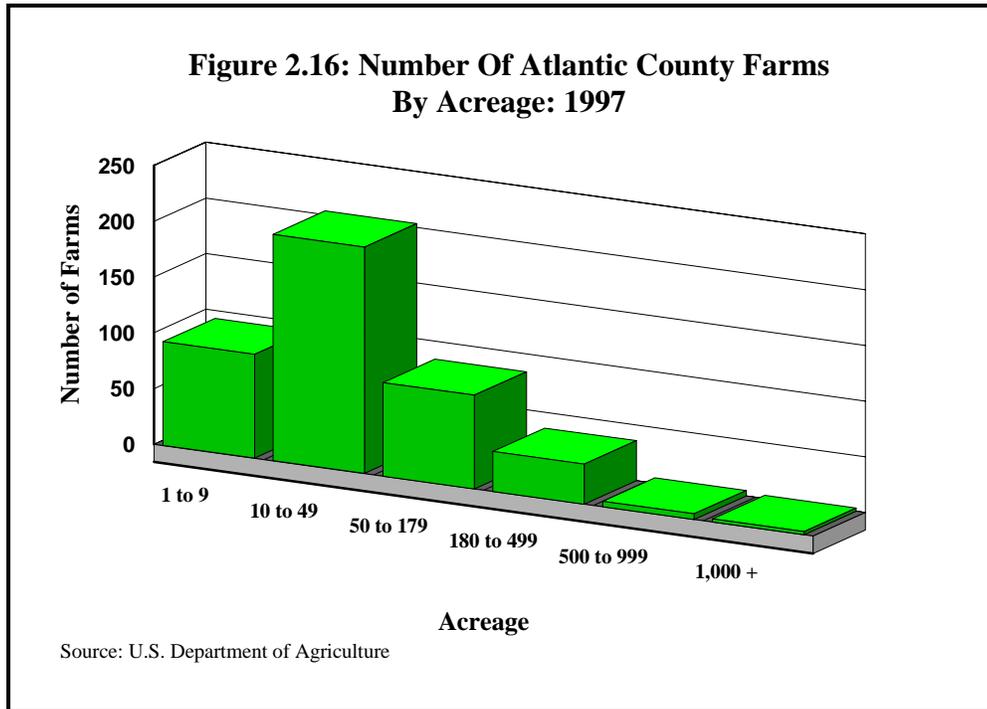
As shown above in Figure 2.15, manufacturing and construction are roughly equal with manufacturing taking a slight edge in the number of jobs. There are two major industries within manufacturing and they are: stone, clay, and glass products with 1,550 jobs and rubber & misc. plastics products consisting of 1,100 jobs. The remaining 2,850 persons are employed in smaller manufacturing industries. The four industries with at least 300 employees comprising the balance of jobs include: printing and publishing (550 jobs), chemicals and allied products (450 jobs), transportation equipment (350 jobs), and food & kindred products (300 jobs). By 2006, the New Jersey Department of Labor projects a decline of 250 manufacturing jobs in Atlantic County.

In 1996, the construction component of the goods-producing industries contained 5,050 jobs. Within the construction industry there are special trade contractors (3,200 jobs), general building contractors (1,050 jobs), and heavy construction excluding building (800 jobs). By the year 2006, the construction industry is projected to increase by 750 jobs or 1.4 percent per year.

AGRICULTURE

The annual average agricultural employment for Atlantic County in 1997 was 1,704 jobs and the industry generated 63.4 million dollars in agricultural products sold. Altogether there were 424 farms reported in the latest Census of Agriculture performed in 1997 by the U.S. Department of Agriculture, up from 391 farms in 1992. In sum, there were 31,050 acres of farmland reported, up 1,444 acres from 1992s total of 29,606 acres.

The average farm size has been relatively consistent from 1987 to 1997 with 77 acres being recorded in 1987, 76 acres being recorded in 1992, and 73 acres being recorded in 1997. The actual distribution of the number of farms by size in Atlantic County for 1997 is shown below in Figure 2.16.



Most farms fall within the 10 to 49 acre size (203 farms), followed by the 1 to 9 acre size (93 farms), then the 50 to 179 acre size (84 farms), and then the 180 to 499 acre size (36 farms). As shown above, the largest acreage farms account for the fewest number of farms in the County. One disturbing trend is the number of orchard farms and acreage in orchards. Since 1992, the number of orchard farms has declined from 62 to 42 in 1997 and from 1,769 acres to 840 acres in 1997.

ATLANTIC COUNTY'S ECONOMY

As discussed above, Atlantic County's employment is dominated by the service sector, of which casino employment is the primary division, accounting for roughly 48,000 employees. For years, Atlantic County, and, in particular, Atlantic City was renowned as "The World's Playground" known for its oceanside boardwalk, salt water taffy, and clean ocean air.

However, by the late 1960s and early 1970s Atlantic City was experiencing urban decline. This changed in 1976 when New Jersey voters approved gaming in Atlantic City. With the opening of the first Atlantic City casino - Resorts International in 1978, Atlantic City and more generally Atlantic County entered a new era of economic prosperity.

THE REGIONAL CASINO IMPACT

Although Atlantic County's economy is more than just the casino industry, unquestionably, the introduction of casino gaming has had a tremendous impact on not only Atlantic City and Atlantic County but the region as well. Since the inception of casino gaming in 1978, the industry has expanded from one hotel and casino to twelve employing approximately 48,000 casino and hotel employees. Over the last decade, many of the casino hotels have constructed new additions to their hotel and casino operations to meet the demands of a growing industry.

With the advent of casino gaming came the Casino Reinvestment Development Authority (CRDA). The CRDA serves as the development arm of the casino industry with the mission of using casino funds to revitalize not only Atlantic City but other urban areas within the State. Since 1985, the casino industry has contributed over 1.5 billion dollars with more than 370 million dollars in funding used to revitalize Atlantic City and other urban areas throughout the State.

The regional impacts of casino gaming are evident within Atlantic County. The introduction and maturation of the casino industry in Atlantic City resulted in explosive population growth. As discussed in great detail earlier in the Master Plan, Atlantic County's population rose from 194,119 in 1980 to 224,327 in 1990 an increase of 30,208 persons of 15.6 percent or 1.6 percent per year. Within this same period, growth within the County's regional growth areas of Egg Harbor, Galloway, and Hamilton Townships accelerated in order to meet the housing demand of the casino employees and others employed as a result of the casino industry.

In order to meet the needs of a growing population, retail centers such as the Hamilton Mall and English Creek Shopping Center began to surface. This level of development, in turn, led to the development of retail centers in Brigantine, Somers Point, Hammonton, Atlantic City, and Absecon. More recently, National chain centers such as; Home Depot, Lowes, Wal-Mart, Best Buy, and Circuit City, have opened or plan to open facilities in the area.

Smaller retail pharmacies have been replaced by the large box conglomerates such as: Rite Aid, Eckerd, and CVS. Demographics have also driven the development of age-restricted developments similar to recent K. Hovnanian developments in Galloway Township. Assisted living facilities for those needing varying degrees of medical care and attention have also been on the rise.

An increasing population has also resulted in the need for expanded recreational facilities. In 1998, the Atlantic City Surf introduced minor league baseball with the opening of the 5,900 seat Sandcastle Stadium in Atlantic City. Minor league basketball was also introduced with the Atlantic City Seagulls. Historic Gardner's Basin in Atlantic City is receiving \$4 million of improvements, including an Ocean Life Center consisting of a new sea wall, bulkhead, 42 boat slips, and associated landscaping. Near to Gardner's Basin is the Oscar E. McClinton Jr. Waterfront Park which provides passive recreation featuring waterfront themes. The Park's centerpiece is an expansive lawn area encircled with a decorative walkway. The Park also includes an observatory pavilion overlooking the Absecon Inlet providing shelter for sightseers and a stage for concerts.

Golfing opportunities within Atlantic County have expanded tremendously over the last decade. Atlantic County purchased the John F. Gaffney Green Tree Golf Course and opened in September of 1992. Over the two-year period 1998-1999, Greentree has averaged approximately 57,000 Rounds of Play per year which has resulted in annual average revenue of about \$950,000. On the private side, newly constructed courses such as Blue Heron Pines in Galloway Township and Harbor Pines in Egg Harbor Township have contributed significantly to the County's recreational opportunities. Currently, there are a number of courses under construction or proposed such as: Twisted Dunes, Hidden Creek, and Ballamor Golf Courses in Egg Harbor Township. Egg Harbor Township is also planning to construct an 18-hole golf course on top of a closed and capped landfill.

TOURISM

Atlantic County's miles of beautiful beaches and clean ocean water combined with the excitement generated by casino gaming have resulted in Atlantic City and Atlantic County being a top choice for visitors and conventioners alike. With more than 30 million visitors and 300,000 conventioners annually, it is easy to see why such attention is paid to the quality of visitors and conventioners stays in Atlantic County. The new Atlantic City Visitors Welcome Center located east of the Pleasantville Toll Plaza on the Atlantic City Expressway is a good example of this philosophy. This facility offers a positive first impression as well as visitor assistance to those entering Atlantic City.

A number of initiatives have been implemented to ensure that Atlantic County continues to provide quality accommodations to those visiting our area. In 1993, the Atlantic City Special Improvement District (SID) was created to beautify a large portion of Atlantic City's commercial district. The idea was to levy a small tax on businesses within the SID and use that money not only to enhance this commercial district with lighting, decorative fencing, and benches but also to promote a friendly and courteous presence to those visiting the area.

Further recognizing the importance of appearance, Atlantic County Government recently proposed the Atlantic County Beautification Partnership Program. Under this program, a business may "adopt" a section of County roadway which they agree to maintain at a specified level. In return, Atlantic County will provide promotional signage for the particular business to erect within the adopted segment of road right-of-way.

THE CONVENTION INDUSTRY

Located at the foot of the Atlantic City Expressway, the new Atlantic City Convention Center opened in May of 1997. The \$268 million dollar facility has 500,000 square feet of exhibit space incorporating the most advanced audio and video technologies. It also provides 109,100 square feet of meeting room space, 29 covered loading docks, and 2,000 parking spaces.

The new Convention Center is a documented success. Substantial gains in the County's economy have been realized from delegate spending, new jobs, revenues generated from income, sales and luxury taxes. The new Atlantic City Convention Center has scheduled more than 300 conventions and trade shows through the year 2010 with an estimated economic impact of approximately \$1.6 billion. The Convention Hall on the Atlantic City Boardwalk is still being used for special events, concerts, family, and sporting events.

ATLANTIC CITY INTERNATIONAL AIRPORT EXPANSION

A critical link in the region's success as a tourist and convention destination is the enhancement of the Atlantic City International Airport. Located within the William J. Hughes Technical Center in Egg Harbor Township, the airport provided air transportation to more than one million passengers in 1999. Completion of recent improvements has added a second story to the existing terminal and covered gates which enable passengers to board and exit their planes without being exposed to the weather.

Complete renovation of the primary runway 13-31 is underway at a cost of \$11.8 million dollars. Additional electrical work on the runway and taxiway system is under design with an estimated construction cost of \$2.0 million dollars. Also, design is complete for renovating taxiway B estimated to cost \$5.5 million dollars. A new vehicle parking garage and parking lot upgrades are under construction with a new airport hotel-motel in the final planning stages.

THE SECOND WAVE

Atlantic County currently finds itself within what is commonly referred to as the “second wave” of casino development. The centerpiece of this phenomenon is the development of the Marina District a large parcel adjoining U.S. Route 30, Huron Avenue, and Brigantine Boulevard in Atlantic City. In light of the recent acquisition of Mirage Resorts by MGM Grand, the magnitude of the “second wave” is in a state of flux. Despite this turn of events, it appears as though the construction of at least one casino hotel will occur. Boyd Gaming is planning to construct the Borgata, a 1,200 room casino hotel at a cost of \$750 million dollars. It is estimated that this project will result in the creation of approximately 4,000 direct and indirect jobs. Key to the development of the Marina District is the construction of the Atlantic City-Brigantine Connector a.k.a. the “Tunnel” project at a cost of \$330 million dollars. This roadway will provide a link from the Atlantic City Expressway to the Marina District as well as improve citywide access to the new Atlantic City Convention Center.

ATLANTIC COUNTY’S FUTURE

POPULATION

Atlantic County’s future will depend on the continued expansion of the Atlantic City casino industry. As discussed at great length earlier in the Master Plan, Atlantic County, and in particular, the regional growth areas of Egg Harbor, Galloway, and Hamilton Townships have experienced tremendous growth as a result of legislative mandates as well as the increased employment opportunities brought on by the continued maturation of the casino industry.

Population projections published by the New Jersey Department of Labor (NJDOLE) suggest that Atlantic County’s population is to increase from 244,900 in the year 2000 to 260,800 by 2006, an increase of 15,900 persons, or 6.5 percent as shown in Table 2.12. The annualized percentage increase amounts to growth of 1 percent, slower than our 1.6 percent growth per year between 1980 and 1990 but faster than the 1990 - 1999 period of .8 percent growth per year. By the year 2010, it is projected that the County’s population will have grown to 270,100 persons.

Table 2.12: Atlantic County Population And Labor Force Projections: 1990 - 2010

Year	1990	2000	2006	2010
Total Population	224,327	244,900	260,800	270,100
Sex:				
Male	107,832	118,700	126,800	131,300
Female	116,495	126,200	134,100	138,800
Race:				
White	178,604	183,600	187,500	188,300
Black	40,150	50,300	56,900	61,100
Other	5,573	10,800	16,400	20,700
Hispanic Origin	16,117	26,500	36,000	43,100
Population				
Age 0-4	16,518	18,900	18,600	18,600
Age 5-9	13,895	18,000	19,400	19,400
Age 10-14	13,192	17,100	19,200	20,400
Age 15-19	14,909	16,600	20,300	21,300
Age 20-24	17,055	15,200	17,600	19,700
Age 25-29	20,680	14,700	15,700	17,200
Age 30-34	20,821	18,400	16,000	16,500
Age 35-39	17,404	20,800	18,000	16,700
Age 40-44	15,134	19,900	20,500	18,400
Age 45-49	11,737	16,400	19,900	20,000
Age 50-54	10,147	14,200	16,400	19,000
Age 55-59	9,724	11,500	14,300	15,200
Age 60-64	10,827	9,500	11,300	12,800
Age 65+	32,284	33,700	33,500	34,900
Labor Force	120,500	126,500	138,300	145,300
Sex:				
Male	64,700	66,100	70,500	73,500
Female	55,800	60,400	67,800	71,800
Race:				
White	97,200	98,300	103,800	106,200
Black	20,200	22,600	25,700	28,100
Other	3,100	5,600	8,800	11,100
Hispanic Origin	8,200	12,800	18,100	21,600

Note: Table contains MARS data. Race statistics were modified to be consistent with the classification used in data sets other than the census, while age data were adjusted to correspond with the April 1, 1990 census date. Numbers may not add due to rounding.

Source: New Jersey Department of Labor, Division of Labor Market & Demographic Research, 7/99.

Another population and employment source referenced by the Atlantic County Department of Regional Planning and Economic Development is the South Jersey Transportation Planning Organization (SJTPO). The SJTPO is the Metropolitan Planning Organization (MPO) for the region which includes Atlantic, Cape May, Cumberland, and Salem Counties. This agency provides long range transportation planning which guides investment in transportation improvements. As part of their long-range planning activities, the SJTPO publishes a Regional Transportation Plan (RTP), the last of which was published in 1999. In this report, the SJTPO publishes municipal population and employment forecasts for their regions to the year 2018.

The NJDOL County population projections run from 2000, 2006, and 2010. Unfortunately, the RTP forecasts run from 1999, 2005, and 2018 making an identical comparison of the numbers unfeasible. However, it is still useful to compare the two sets of numbers to determine their general comparability with one another. In other words, do the two agencies believe that Atlantic County will grow at a similar rate? The RTP forecasts have Atlantic County's population growing from 243,618 persons in 1999 to 256,620 persons by the year 2005. This growth results in an absolute increase of 13,002 persons or 5.3 percent. Annualized this growth rate amounts to .9 percent per year between 1999 and 2005. Compared with one another, the numbers in the RTP show the County growing at a slightly slower rate .9 percent per year versus 1 percent per year for the NJDOL population projections. All of the Atlantic County population and employment forecasts found in the RTP are shown in Table 2.13 and graphically depicted in Figure 2.17. A map illustrating the municipal population projections is provided in Figure 2.18. As discussed in great detail earlier in the Master Plan, Atlantic County's population is to become racially more diverse with the percentages of whites as a percent of the total population decreasing and the blacks and other races categories increasing as percentages of the entire population.

Table 2.13: Atlantic County Population And Employment Forecasts: 1990 - 2018

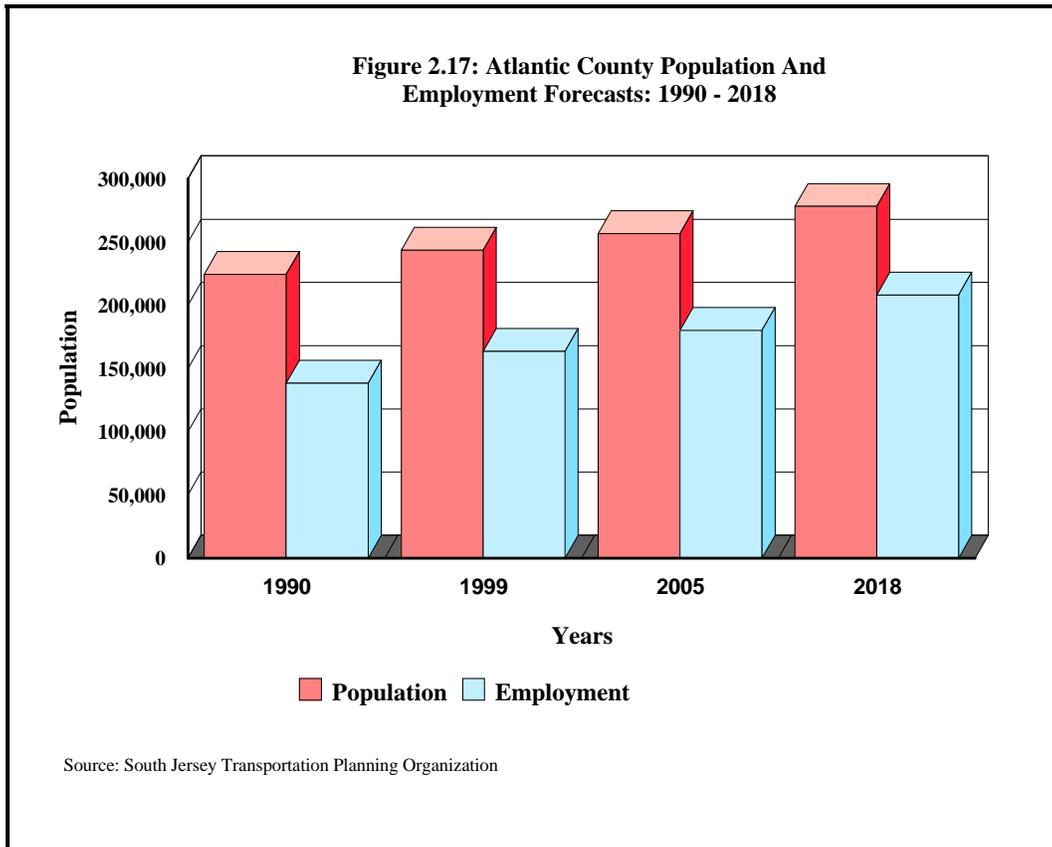
Municipality	Population				Employment			
	1990	1999	2005	2018	1990	1999	2005	2018
Absecon	7,298	7,385	7,443	7,540	3,254	3,844	4,237	4,892
Atlantic City	37,986	40,185	41,696	44,173	74,652	88,179	97,196	112,225
Brigantine	11,354	12,317	12,988	14,077	1,607	1,898	2,092	2,416
Buena Borough	4,441	4,817	5,080	5,506	1,708	2,017	2,224	2,568
Buena Vista Twp.	7,655	8,304	8,757	9,492	1,321	1,561	1,720	1,986
Corbin City	412	407	404	399	30	36	39	45
Egg Harbor City	4,583	4,972	5,243	5,683	1,870	2,209	2,435	2,811
Egg Harbor Twp.	24,544	29,358	32,889	38,469	6,746	7,969	8,784	10,142
Estell Manor	1,404	1,523	1,606	1,741	153	180	199	230
Folsom	2,181	2,366	2,495	2,704	927	1,095	1,207	1,394
Galloway Twp.	23,330	27,864	30,312	34,967	6,415	7,578	8,353	9,645
Hamilton Twp.	16,012	18,570	20,417	23,354	6,806	8,039	8,862	10,233
Hammonton	12,208	13,244	13,965	15,136	8,364	9,879	10,890	12,574
Linwood	6,866	7,252	7,517	7,951	3,559	4,204	4,634	5,351
Longport	1,224	1,139	1,084	991	298	352	389	449
Margate	8,431	7,831	7,447	6,791	1,620	1,914	2,110	2,436
Mullica	5,896	6,259	6,510	6,919	953	1,126	1,241	1,433
Northfield	7,305	7,043	6,872	6,583	3,732	4,408	4,859	5,611
Pleasantville	16,027	17,387	18,334	19,875	7,398	8,739	9,632	11,122
Port Republic	992	1,068	1,121	1,207	161	190	210	242
Somers Point	11,216	11,558	11,790	12,173	4,708	5,561	6,130	7,078
Ventnor	11,005	10,646	10,411	10,015	1,916	2,264	2,495	2,881
Weymouth	1,957	2,123	2,239	2,427	165	195	215	248
Atlantic County	224,327	243,618	256,620	278,170	138,363	163,437	180,153	208,012

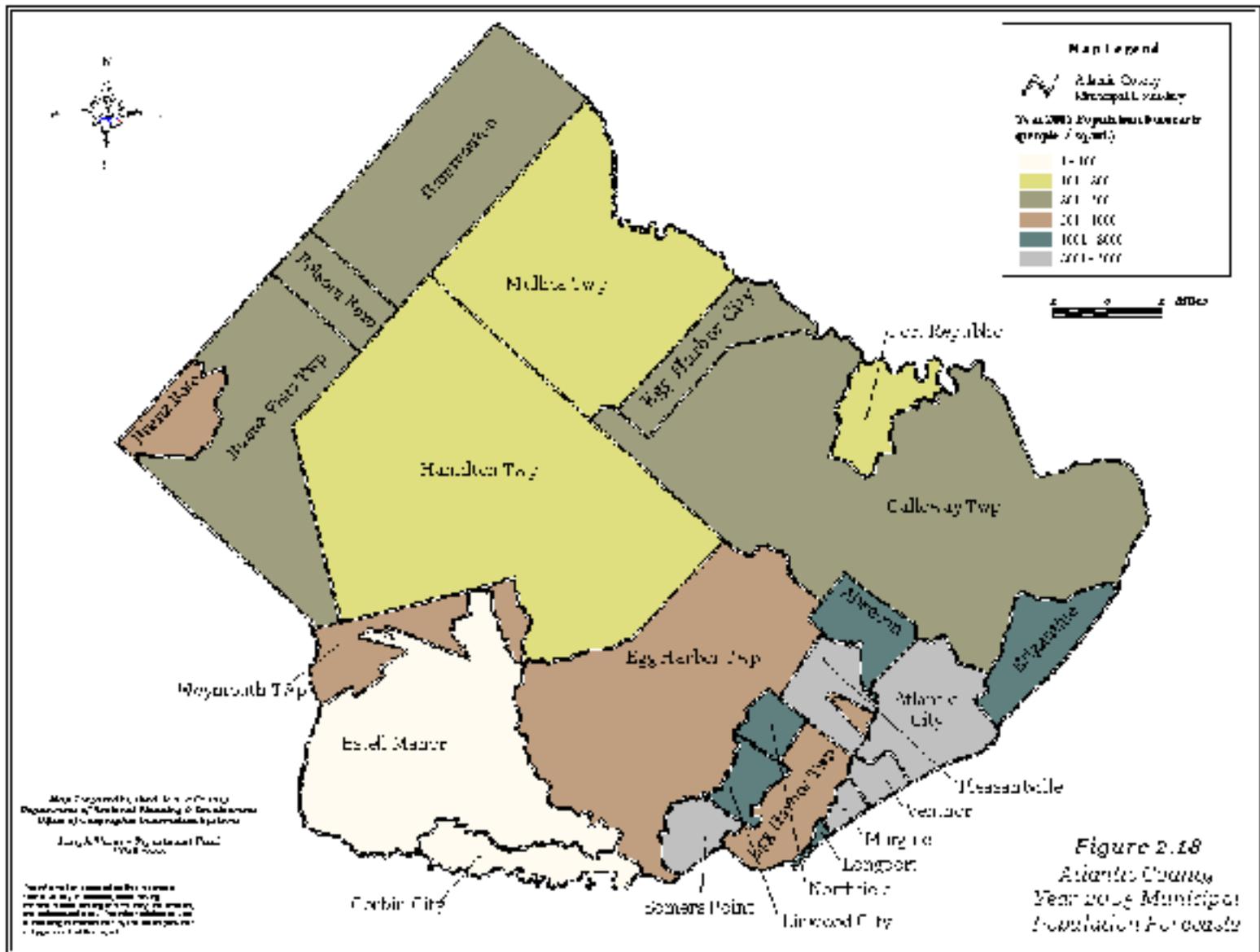
Source: South Jersey Transportation Planning Organization

LABOR FORCE

A highly trained and motivated labor force is crucial to the success of a region because of employers needs for workers. In general, the civilian labor force is defined as all those persons age 16 and over who are either employed or looking for employment. In 1990 the Census Bureau counted Atlantic County's labor force at 120,582 persons. NJDOL projections shown Atlantic County's labor force increasing from 1990s level to 126,500 by 2000, 138,300 by 2006 and 145,300 by 2010. The change in labor force between 1990 and 2000 resulted in an increase of 5,918 persons or 5 percent. Between this decade the County's labor force grew by .5 percent per year.

Between 2000 and 2010, Atlantic County's labor force is projected to grow by 18,800 persons or nearly 15 percent. Compared to the last decade, Atlantic County's labor force is projected to grow 3 times as fast between 2000 and 2010. Since the labor force is a reflection of the overall population, it is no surprise that the labor force is to become more racially diverse as we move into the future.

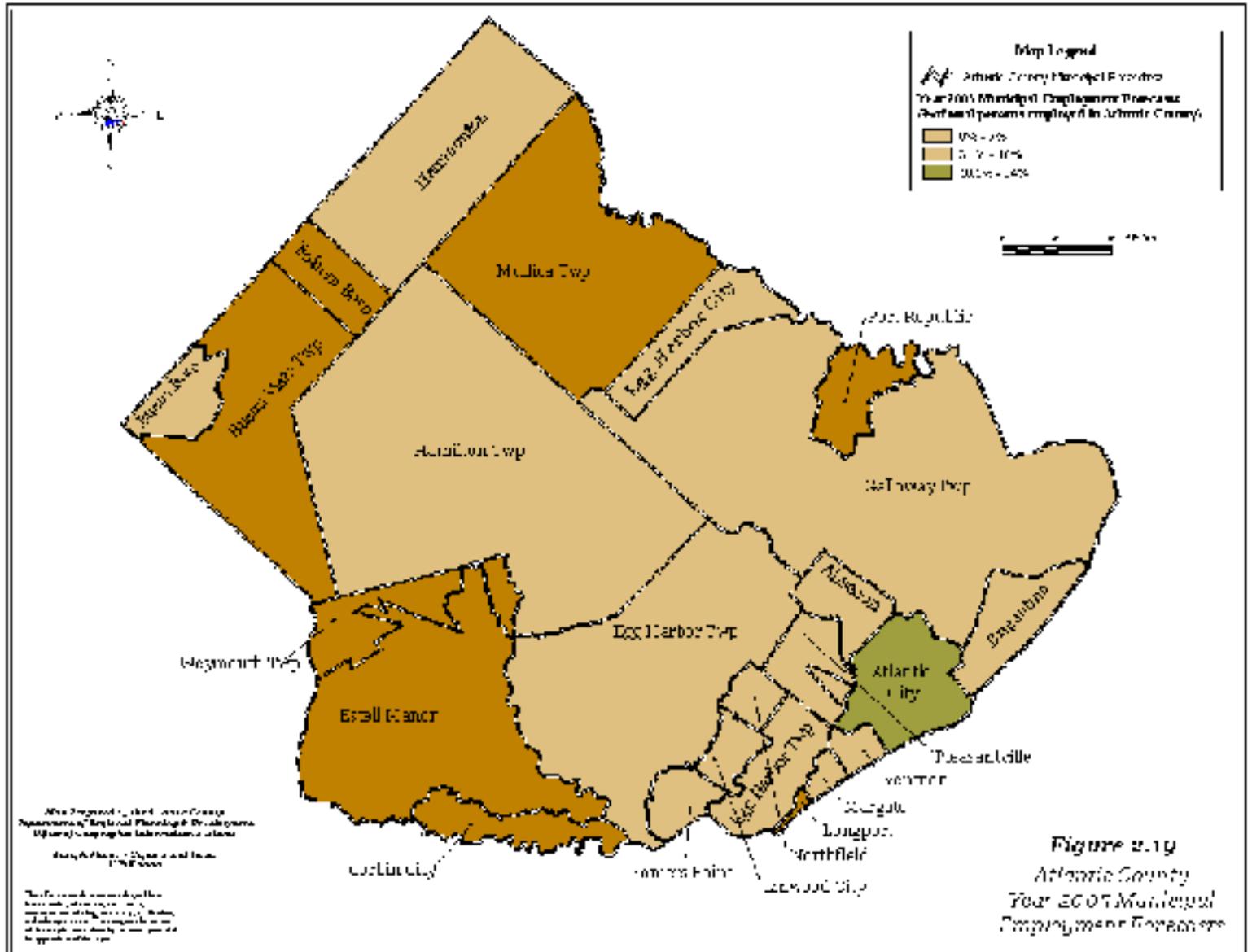




EMPLOYMENT

Like population, future employment will depend, in large part, on the magnitude of the second wave of casino development i.e., the development of Atlantic City's Marina District. As noted earlier, the NJDOL established a set of employment projections for the State's 21 counties for the period 1996 - 2006. Municipal employment projections were not included in the NJDOL data set. To summarize these projections which were discussed at length earlier in the Master Plan, the NJDOL projects Atlantic County's non-farm employment to grow by 30,200 jobs or nearly 22 percent between 1996 and 2006. Annualized, this employment growth amounts to 2 percent per year. Job growth is expected to be the strongest within the services sector.

The SJTPO also created, in their RTP, municipal employment forecasts for Atlantic County's twenty-three municipalities. Looking ahead the SJTPO forecasts Atlantic County employment to grow from 138,363 jobs in 1990 to 180,153 jobs by 2005 and 208,012 jobs by 2018. Within the County, employment is forecast to grow substantially in Atlantic City accounting for significant growth in the casino industry. A map of the projected municipal employment for the year 2005 is provided in Figure 2.19 and major County employers are in Figure 2.20.



CHAPTER III
EXISTING CONDITIONS

LAND USE

A multitude of historic, environmental, economic, and regulatory factors have influenced current land use patterns and contributed to the development of the County's 561 square miles. Notably today, the natural environment contributes both opportunities and constraints to the intensity of land development in the County. The proximity to wetlands and requirements of maintaining wetland buffers, as well as, soil suitability all have a profound affect on the ability of the land to support new development. This is particularly critical in Atlantic County due to three major river systems and associated inland and coastal wetlands limiting development potential. In fact, approximately 40 percent of the County's land mass is inundated with wetlands soils, as noted by the Atlantic County Soil Survey. The past land use patterns of agricultural, manufacturing, and tourism industries that portrayed many older communities are now being replaced by service industries, as well as residential development. Also, sophisticated transportation networks and legislative actions have forever left their impact on the County's landscape.

The two most significant legislative measures impacting regional land use patterns in the County are the Coastal Area Facilities Review Act (CAFRA) and the Pinelands Protection Act. It is important to note that land use in New Jersey is primarily a function of local government through their respective zoning powers. The Pinelands legislative mandate, however, requires consistency of the local land development ordinances and Master Plans with the development provisions of the Pinelands Comprehensive Management Plan. The current proposal to link all development requiring a CAFRA permit to the development intensity provisions of the State Development and Redevelopment Plan may well accomplish the same result of integrating local land use decisions to a regional plan. Therefore, the County's role in affecting land use patterns is based primarily on regional issues and facilities. This is particularly evident in the County's responsibility to provide and maintain effective transportation facilities that support local land use planning. Also, open space and recreation planning are other areas where the County plays an important role in shaping land use patterns.

The CAFRA boundary in Atlantic County generally includes areas east of the Garden State Parkway and between Route 50 and Ocean Heights Avenue. The Pinelands jurisdictional limits encompass the remaining areas of the County, except for a small portion of land in Buena Vista Township that is outside both the CAFRA and Pinelands boundaries. Therefore, it is apparent that due to their jurisdictional limits both CAFRA and Pinelands regulatory impacts have dominated land use trends and the intensity of development in the County. In addition, as noted previously the New Jersey State Development and Redevelopment Plan (SDRP) shall also have an impact on land use patterns in the County.

As previously noted, decisions that shape the land use patterns within the County are primarily made at the local government level through the municipal planning process. Therefore, utilizing Geographic Information Systems (GIS) technology, local municipal zoning was an integral component in updating the existing land use element of the County Master Plan.

Also, in reviewing general County demographics and land use trends it was determined beneficial to categorize the County into three (3) areas: The Shore Area, comprised of Barrier Island and Beach Bay communities; The Regional Growth Area; and the Rural Area. Attention to these areas as depicted in Figure 3.1 forms the basis of evaluating existing and future land use patterns in the County.

SHORE AREA

The designated Shore Area consists of the barrier islands and back bay communities. Generally, these communities can be characterized as older settled regions of the County. Much of the land within the Shore Area is substantially developed and contains significant percentages of the County's residential and commercial development. The County's zoning map, Figure 3.2A more clearly depicts countywide zoning while figure 3.2B depicts the existing high residential density and commercial development patterns within this area of the County.

Atlantic City has naturally been the focal point of the County's land use trends both in years past, presently and in years to come. Historically, as a tourist attraction and seasonal destination, Atlantic City is now and has been for sometime, a year round influence on the County's land development patterns. The casino industry has spurred new development not only within the borders of Atlantic City but has also significantly affected new development within the bay communities. However, as available land in the barrier island and bay communities becomes increasingly scarce, the mainland Regional Growth Area is taking the lead and experiencing the most development pressure in the County.

REGIONAL GROWTH AREA

The Regional Growth Area is a Pinelands Management Area designation and contains portions of three municipalities in Atlantic County: Egg Harbor Township, Galloway Township, and Hamilton Township. The Pinelands Comprehensive Management Plan describes a Regional Growth Area as "areas of existing growth or lands immediately adjacent thereto which are capable of accommodating regional growth influences while protecting the essential character and environment of the Pinelands". These communities have experienced an overwhelming amount of residential and commercial development necessitating the extension of available development infrastructure as well as residential services. The availability of large contiguous tracts within delineated sanitary sewer service areas absent environmental constraints has made the Regional Growth Areas of these communities, the new growth centers within Atlantic County. Review of Chapter II, Atlantic County Characteristics and Trends clearly demonstrated the impacts of the Pinelands Regional Growth Area designation in Atlantic County. Population estimates and projections unequivocally depict the shift of development in the County away from the Shore Area and Rural Area into the Regional Growth Area. The greatest demand for land shall be within the Regional Growth Area, whether it is for residential, commercial or open space and recreation.

RURAL AREA

The Rural Area of the County consists of the remaining municipalities that comprise the western two-thirds of the County. The most significant features of the Rural Area are the forest corridors, cultivated lands and compact growth nodes that have been designated Pinelands Towns and/or Villages. This is clearly depicted in Figure 3.2B, where the western communities are segregated from the high density areas in the County by the Pinelands Management Area designations of Forest Areas, Agricultural Production Areas, and Special Agricultural Production Areas.

As the Regional Growth Areas are for accommodating development, the Forest, Agricultural Production, and Special Agricultural Production Areas are for preserving and maintaining the historic and undeveloped Pinelands environment.

SUMMARY

As Atlantic City enters the new millennium with completion of the Atlantic City Expressway tunnel project, an ever increasing awareness and need to plan for the associated impacts of this unfolding development shall be required. Increases in employment opportunities correspondingly increase the demand for housing and service establishments. In the alternative, new development pressure also decreases the amount of land previously held as agricultural, woodlands, and open space. In consideration of the Shore area approaching built-out conditions and the low density regulatory control within the Rural Area, expeditious attention shall be needed for the Regional Growth Area. Many of the settled areas of the County within the Shore Area and Rural Area will continue to develop infill properties. However, the overwhelming majority of development activity will continue to occur within the Regional Growth Areas of Egg Harbor, Galloway, and Hamilton Townships. Figures 3.2A and 3.2B illustrate the various residential and non-residential zoning categories for the entire county. The actual acreage for each of the zoning categories are found in Tables 3.1 and 3.2.

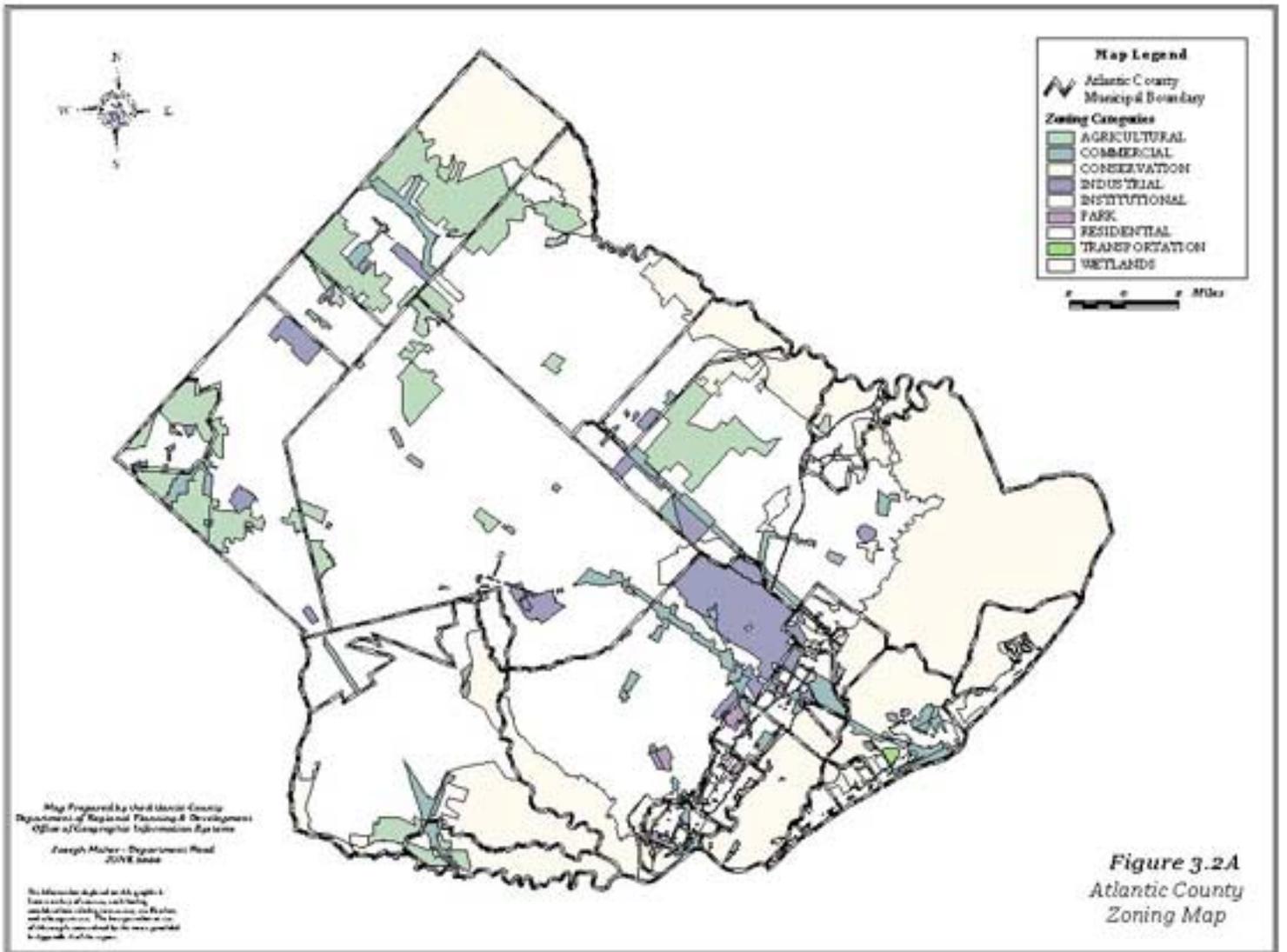


Figure 3.2A
Atlantic County
Zoning Map

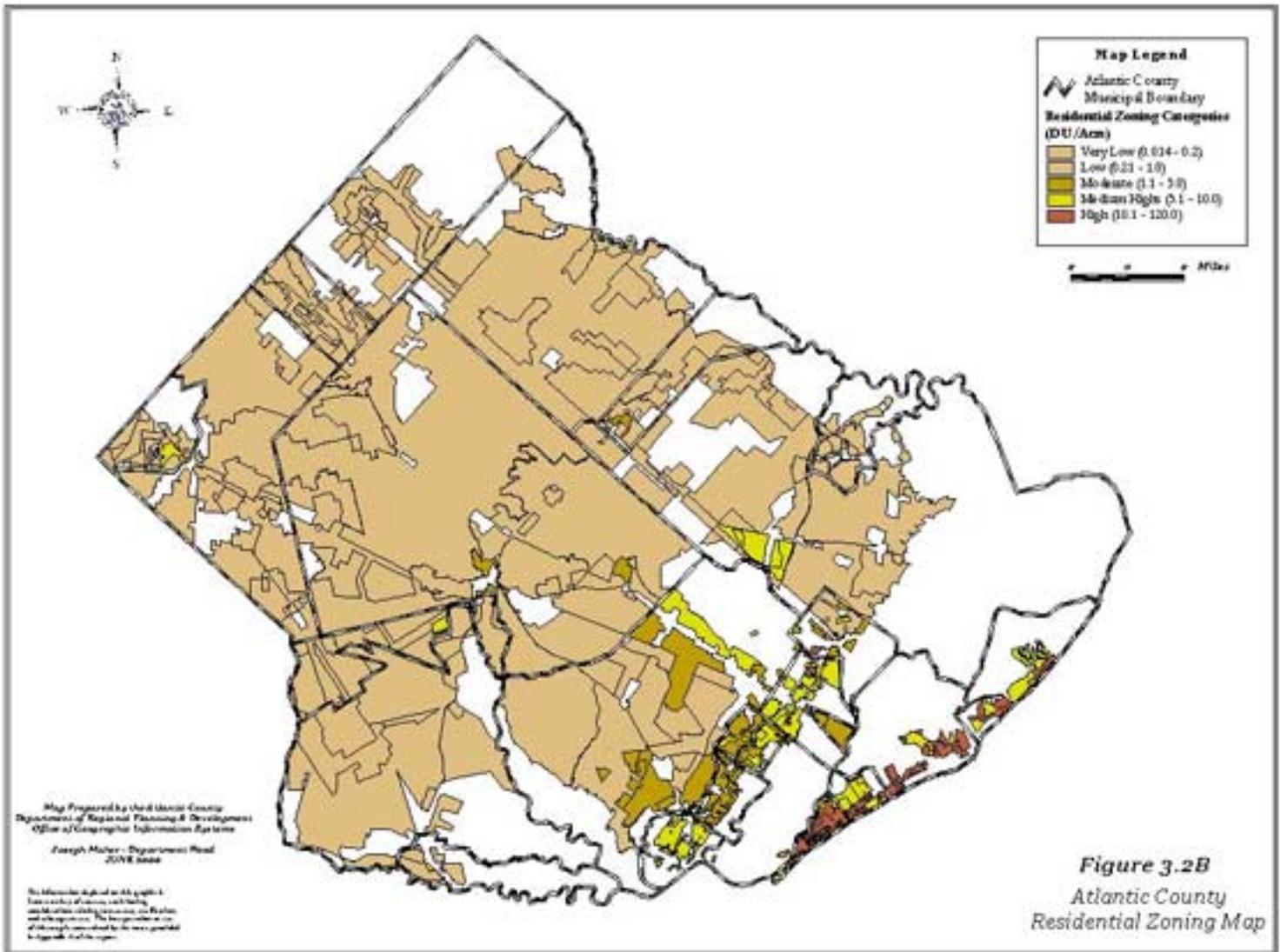


Figure 3.2B
Atlantic County
Residential Zoning Map

Table 3.1 - Acreage of Zoning Categories by Municipality

MUNICIPALITY	AGRICULTURAL	COMMERCIAL	CONSERVATION	INDUSTRIAL	INSTITUTIONAL	PARK	TRANSPORTATION	WETLANDS	RESIDENTIAL	TOTAL
Absecon City	0	349	2,323	287	133	37	0	0	1,510	4,639
Atlantic City	0	1,697	0	63	38	0	148	6,835	1,286	10,066
Brigantine City	0	127	5,147	0	0	0	0	0	1,409	6,683
Buena Boro	2,101	143	0	144	0	0	0	0	2,458	4,847
Buena Vista	3,861	826	0	1,424	0	0	0	0	20,534	26,644
Corbin City	757	429	4,055	0	0	67	0	0	409	5,716
Egg Harbor City	0	269	2,893	273	0	0	0	0	4,193	7,627
Egg Harbor Twp	0	2,055	0	7,219	0	198	0	13,232	25,779	48,483
Estell Manor	852	849	10,036	0	0	0	0	0	23,592	35,328
Folsom Boro	329	112	0	111	0	0	0	0	4,842	5,394
Galloway Twp	4,573	2,387	35,432	1,359	1,264	0	0	1,275	25,159	71,447
Hamilton Twp	3,028	1,045	0	968	748	0	0	0	66,489	72,279
Hammonton	8,745	1,483	9,228	471	0	0	0	0	6,525	26,452
Linwood	0	107	1,061	32	117	173	0	0	1,130	2,619
Longport Boro	0	4	143	0	8	0	0	0	216	372
Margate	0	31	177	0	0	0	0	0	843	1,051
Mullica Twp	3,390	0	5,067	0	0	0	0	0	28,038	36,494
Northfield	0	506	58	0	12	274	0	0	1,467	2,317
Pleasantville	0	1,114	0	673	0	68	0	1,037	1,776	4,669
Port Republic	192	118	2,988	0	0	69	38	0	2,078	5,483
Somers Point	0	490	8	14	0	214	123	1,261	1,073	3,181
Ventnor City	0	63	787	0	0	0	0	0	776	1,626
Weymouth Twp	0	305	0	0	0	0	0	0	7,542	7,847
Atlantic County	28,483	15,412	91,375	19,082	2,320	1,100	309	23,640	229,124	391,264

The information depicted in this table is from a variety of sources, each having considerations relating to accuracy, verification, and subsequent use. The interpretation or use of this data is constrained by the notes provided in Appendix A of the report.

Table 3.2 - Acreage of Residential Zoning Categories by Municipality

MUNICIPALITY						Total	
	VERY LOW 0.14-0.2 DU/Acre	LOW 0.21-1.0 DU/Acre	MODERATE 1.1-5.0 DU/Acre	MEDIUM HIGH 5.1-10.0 DU/Acre	HIGH 10.1-120.0 DU/Acre	RESIDENTIAL	TOTAL AREA
Absecon City	0	895	501	53	61	1,510	4,639
Atlantic City	0	0	0	270	1,016	1,286	10,066
Brigantine City	0	0	0	884	525	1,409	6,683
Buena Boro	603	1,537	0	318	0	2,458	4,847
Buena Vista	7,916	12,618	0	0	0	20,534	26,644
Corbin City	181	203	0	25	0	409	5,716
Egg Harbor City	2,726	1,289	178	0	0	4,193	7,627
Egg Harbor Twp	0	18,554	5,919	1,306	0	25,779	48,483
Estell Manor	23,244	348	0	0	0	23,592	35,328
Folsom Boro	4,325	517	455	0	0	4,842	5,394
Galloway Twp	10,921	13,040	0	1,197	0	25,159	71,447
Hamilton Twp	54,410	11,426	653	0	0	66,489	72,279
Hammonton	1,352	5,173	0	0	0	6,525	26,452
Linwood	0	0	1,130	0	0	1,130	2,619
Longport Boro	0	0	0	80	136	216	372
Margate	0	0	0	139	704	843	1,051
Mullica Twp	22,770	5,268	0	0	0	28,038	36,494
Northfield	0	0	808	636	23	1,467	2,317
Pleasantville	0	0	0	1,598	178	1,776	4,669
Port Republic	1,104	974	0	0	0	2,078	5,483
Somers Point	0	85	0	988	0	1,073	3,181
Ventnor City	0	0	0	446	330	776	1,626
Weymouth Twp	7,239	144	0	159	0	7,542	7,847
Atlantic County	137,989	69,953	11,307	6,902	2,973	229,124	391,264

The information depicted in this table is from a variety of sources, each having considerations relating to accuracy, verification, and subsequent use. The interpretation or use of this data is constrained by the notes provided in Appendix A of the report.

TRANSPORTATION

A. County Transportation System - Overview

The primary concern of the Atlantic County Transportation Plan is the maintenance and improvement of a transportation system that provides for the safe and efficient movement of vehicles and people. The emphasis of the Plan is for facilities under County jurisdiction, but it is also concerned with the total system of county roads, mass transit, and pedestrian facilities. The Plan also recognizes the need to support economic development and provide service to transit dependents and other residents.

The transportation planning and implementation process is a cooperative effort, bringing together the plans and studies of the County, the County's regional transportation planning agency (the South Jersey Transportation Planning Organization), New Jersey Department of Transportation, New Jersey Transit, South Jersey Transportation Authority, and other agencies that are concerned with the maintenance and improvement of the transportation system within the County. Of particular interest are the efforts of the South Jersey Transportation Planning Organization (SJTPO), which is currently updating the Regional Transportation Plan for the four County organization. This 1995 Plan, which identifies traffic capacity problem areas along major corridors, is referenced throughout this Plan. SJTPO is also responsible for developing an annual transportation improvement program of federally funded transportation projects which, in part, serves to implement the County's Transportation Plan.

The advent of the casino industry in Atlantic City and the resulting growth in tourism and development throughout the County has resulted in a dynamic growth for the County. The industry's success has created problems along State highways, county arterials and local roads not designed for the increased traffic volumes.

County Road Network

As can be seen in Figure 1.1 of Chapter 1, the County is well situated with respect to a regional transportation system. Major inter-county and interstate routes serving the County include the following:

- The Garden State Parkway is a limited access toll road that follows a north-south route along the entire east coast of the State, linking Atlantic County with northern New Jersey and New York, and Cape May and Delaware (via the Cape May Ferry) to the south. Approximately 31 miles of Parkway, including 8 full or partial interchanges, are located within the County.
- The Atlantic City Expressway, owned and operated by the South Jersey Transportation Authority, is a limited access, east-west toll road that extends from Atlantic City to another freeway (NJ42) in Camden County (which in turn links with I-295 and to bridge crossings to

Philadelphia). Approximately 30 miles of the Expressway, including 9 full or partial interchanges are located within the County.

- The Black Horse Pike (US Route 40/322) and White Horse Pike (US Route 30) also serve east-west travel, although their function as regional routes has largely been taken over by the Expressway. At one time they were the primary routes providing access to the Atlantic City Shore area. These State routes now serve as commercial corridors in many of the municipalities through which they pass.
- US Route 40 is a two lane (for most of its length) highway linking the County with the bridge to Wilmington, Delaware and with Salem and Cumberland Counties.
- US Route 9 is a north-south road that parallels the Parkway and provides local access to the bay communities.
- A network of Municipal, County, State, and Federal routes serve local and inter-county travel. The chart below lists the total route mileage by jurisdiction within Atlantic County –

<u>Jurisdiction</u>	<u>Mileage</u>	<u>Percent of Total Mileage</u>
Municipal	1615	72.9 %
County	371	16.8 %
State	167	7.6 %
Parkway	31	1.4 %
Expressway	29	1.3 %
Total:	2213	100.0 %

As noted above, the casino industry in combination with the continued growth of other shore-related recreation areas have had a major impact on the County and its transportation system. Since the first casinos opened in 1978, the increase in tourism, population, employment and traffic volumes on major County roads and highways have increased dramatically in the County.

As can be seen in Table 3.3, average daily traffic volumes on the Expressway increased by 26,791,000 vehicles between 1978 and 1994 (a 380 percent increase in 16 years). In fact, the Expressway's wide seasonal traffic volume variation of the 1960s and 1970s has been replaced with a steady growth in year-round traffic volume. Visitor trips by auto and by charter bus (see Table 3.4) have increased by 16,578,000 and 9,811,000 trips respectively between 1978 and 1996.

The SJTPO Regional Transportation Plan (utilizing a travel demand computer model) provides volume forecasts for the year 2015 based on current traffic volumes and regional population and employment projections.

By comparing current and projected traffic volumes with information on existing road capacity and anticipated improvements, existing and future problem areas along the County's road network can be evaluated. Based on this evaluation, projected problem areas include the intersection of the Expressway and the Parkway, the Parkway south of the Expressway, and segments of the Expressway and US 30 and US 40/322 approaching Atlantic City. Tables 3.5 and 3.6 show capacity based problem intersections identified by the SJTPO Highway model and other sources (e.g., input received during public meetings on the Regional Plan).

Table 3.3
Average Annual Daily Traffic
(Thousands)

YEAR	ATLANTIC CITY EXPRESSWAY	WHITE HORSE PIKE ROUTE 30	BLACK HORSE PIKE ROUTE 40/322	TOTAL
1994	33,843		12,769	46,612
1993	32,416	24,966	14,400	71,782
1992	31,099	25,475	14,043	70,617
1991	29,663	26,130	13,667	69,460
1990	31,539	27,326	13,003	71,868
1989	30,574	26,819	12,397	69,790
1988	29,145	25,507	13,680	68,332
1987	27,811	23,915	14,696	66,422
1986	26,339	23,008	13,750	63,097
1985	26,147	20,725	13,693	60,565
1984	26,647	17,793	13,800	58,240
1983	22,397	18,315	13,375	54,087
1982	19,395	17,734	12,500	4,629
1981	17,024	17,924	12,600	47,548
1980	13,571	15,721	11,575	40,867
1979	10,079	12,903	11,675	34,657
1978	7,052	12,327	11,150	30,529

NOTE: Expressway data are from the Pleasantville toll plaza. White Horse Pike (Route 30) are from an NJDOT counter located on the Atlantic City side of Route 30 near Delilah Road. Data for the Black Horse Pike (Route 40/322) for 1982 to 1985 are from an NJDOT counter located in West Atlantic City near Chester Avenue. Figures for years 1978 to 1981 and after 1985 are estimates based on an NJDOT counter located on Route 40 in the City of Pleasantville and factored to correspond to the Chester Avenue location. About 20 % of the Expressway traffic recorded at the Pleasantville toll plaza shifts over to the Black Horse Pike via Exit 2 to enter Atlantic City. Route 30 counts for 1992 and 1993 are estimates. Due to construction the NJDOT counters was not in operation.

Source: South Jersey Transportation Authority and Growth Trends, Atlantic County, NJ 1998.

Table 3.4

**Annual Number Of Visitor Trips To Atlantic City By Mode
(Thousands)**

YEAR	AUTO	CHARTER BUS	FRANCHISE BUS	AIR	RAIL	TOTAL
1996	23,023	10,011	515	395	98	34,042
1995	23,162	9,079	517	386	128	33,272
1994	21,803	8,352	518	433	215	31,342
1993	20,303	8,728	513	462	219	30,225
1992	19,734	9,768	512	496	195	30,705
1991	19,281	10,286	494	483	244	30,788
1990	19,310	11,201	528	573	230	31,842
1989	18,257	12,447	685	523	90	32,002
1988	17,769	14,184	745	440		33,138
1987	17,218	13,495	754	378		31,845
1986	16,360	12,453	748	371		29,932
1985	15,702	12,589	758	277		29,326
1984	15,448	12,041	720	257		28,466
1983	14,347	11,036	643	335		26,361
1982	13,086	9,051	595	223		22,955
1981	11,475	6,770	658	181		19,084
1980	9,891	3,298	613	20		13,822
1979	7,909	1,000	536	20		9,465
1978	6,445	200	353	10		7,008

Source: South Jersey Transportation Authority and Growth Trends, Atlantic County, NJ 1998

**Table 3.5
Capacity-Based Problem Intersections Identified By The SJHM**

ROADWAY	G S P	U S 9	N J 50	N J 157	C R 552	C R 559	C R 563	C R 575	C R 585	C R 608	C R 646	C R 651	C R 655
ACE	X												
US 30		X		X				X	X			X	
US 40/322			X		X	X	X		X	X	X		X
NJ 152									X				
CR 662							X						
CR 646		X							X				
CR 559 ALT.		X											
CR 585							X						
CORRIDORS													
Atlantic City Expressway corridor (ACE, US 30, US 40/322)													
US 9 from Laurel Drive to US 30													
NJ 54 between US 322 and US 30													
NJ 50 between ACE and Moss Mill Road (CR 561 ALT.)													
Weymouth-Malaga Road (CR 690)													

Source: South Jersey Transportation Planning Organization 2015 Regional Transportation Plan.

**Table 3.6
Problem Area Intersections Identified External To The SJHM**

ROADWAY	G S P	U S 9	N J 50	C R 563	C R 575 Wrangleboro Rd.	C R 575 English Creek Rd.	C R 585	C R 651
US 322			X					
US 40/322					X	X		
NJ 52							X	
CR 561	X							
CR 563		X			X			X
CR 608							X	X
CR 646				X				
CORRIDORS								
Garden State Parkway from Atlantic City Expressway to south end of County								
Wrangleboro Road from US 40/322 to US 30								

Source: South Jersey Transportation Planning Organization 2015 Regional Transportation Plan.

Other transportation problems identified by the County or SJTPO include the following:

- Increasing use of the Parkway by local traffic presents severe traffic congestion on the roads adjacent to Parkway exits.
- The Atlantic City Expressway is experiencing congestion from the Pleasantville toll plaza to its exit in Atlantic City. The County and local road system is also experiencing congestion from the traffic channeled off of the Expressway and other regional routes (e.g., US 30 & 322).
- Development in the Atlantic City International Airport area is resulting in an increase in traffic (generated by commercial development and users and employees to and from the FAA), creating a need for improved connections between the airport and major road and transit systems.
- New and anticipated development in the designated growth areas of Egg Harbor, Hamilton, and Galloway Townships is resulting in an increase in north-south travel and a need for improved road and transit connections (e.g., a better north-south road system and a link to US 40/322 in Egg Harbor and Hamilton Townships).
- Regional east-west travel on US 40 (from the Cumberland/Salem area) results in congestion in the vicinity of Mays Landing.

The County is fortunate that it does have a good transportation framework that can deal effectively with these problems. The Parkway and Expressway channel the heavy volumes of shore-bound and through traffic off County arterial and local roads. Its transit services, including the Atlantic City Rail Line (which connects with Atlantic City's new convention center), New Jersey Transit bus system (with some of the most successful lines in the State), have an appreciable impact on reducing commuter traffic to and from Atlantic City and other areas of the County.

Anticipated and programmed major capital projects in the County that should help to mitigate the problems mentioned above include:

- Construction of full interchanges on the Expressway at Route 9 in Pleasantville and Route 50 in Hamilton Township.
- Potential widening of the Expressway east of Pleasantville.
- Reconstruction (elimination) of the Cardiff Circle on US 40/322.
- Construction of the Brigantine Connector to ease traffic congestion in the resort area.
- Potential widening of Route 575 (Wrangleboro Road) between US 30 and south of the Atlantic City Expressway intersection.

The County continues to provide bonding, as well as Federal and State funding to complete projects identified in the County's Highway Improvement Plan and to coordinate with the SJTPO Transportation Improvement Plan (TIP) development process.

BUS SERVICE

Although rural parts of the County have minimal service provided to transit dependents, mass transit in Atlantic County has proven to be a highly successful mode of travel for day-visitors, work commuters and others. This is particularly true on Absecon Island communities of Atlantic City, Ventnor, Margate, Longport and the island of Brigantine. Given the high volume of ridership in these areas, it does have an impact on reducing traffic volume and vehicular pollution. However, with the increasing population densities in the Pinelands and CAFRA growth areas it is time to assess new service to meet the increasing needs.

Local and regional routes serving Atlantic County are shown in Figures 3.3, 3.3A and Table 3.7. New Jersey Transit provides fifteen fixed routes throughout Atlantic County with a total monthly ridership of 660,000 commuters. There are high ridership volumes on all of the intra-county routes providing service between Atlantic City and the island communities, and the 553 route providing service between Cumberland County and Atlantic City has proven to be one of the most successful regional routes in the State.

New Jersey Transit figures for June 1998 show that ridership for local and commuter trips are as follows:

	<u>Ridership</u>			<u>Average Riders per Trip</u>		
	<u>Weekday</u>	<u>Saturday</u>	<u>Sunday</u>	<u>Weekday</u>	<u>Saturday</u>	<u>Sunday</u>
Local	15,000	12,300	10,000	34.5	32.5	32
Commuter	12,500	12,300	10,700	38	37	32

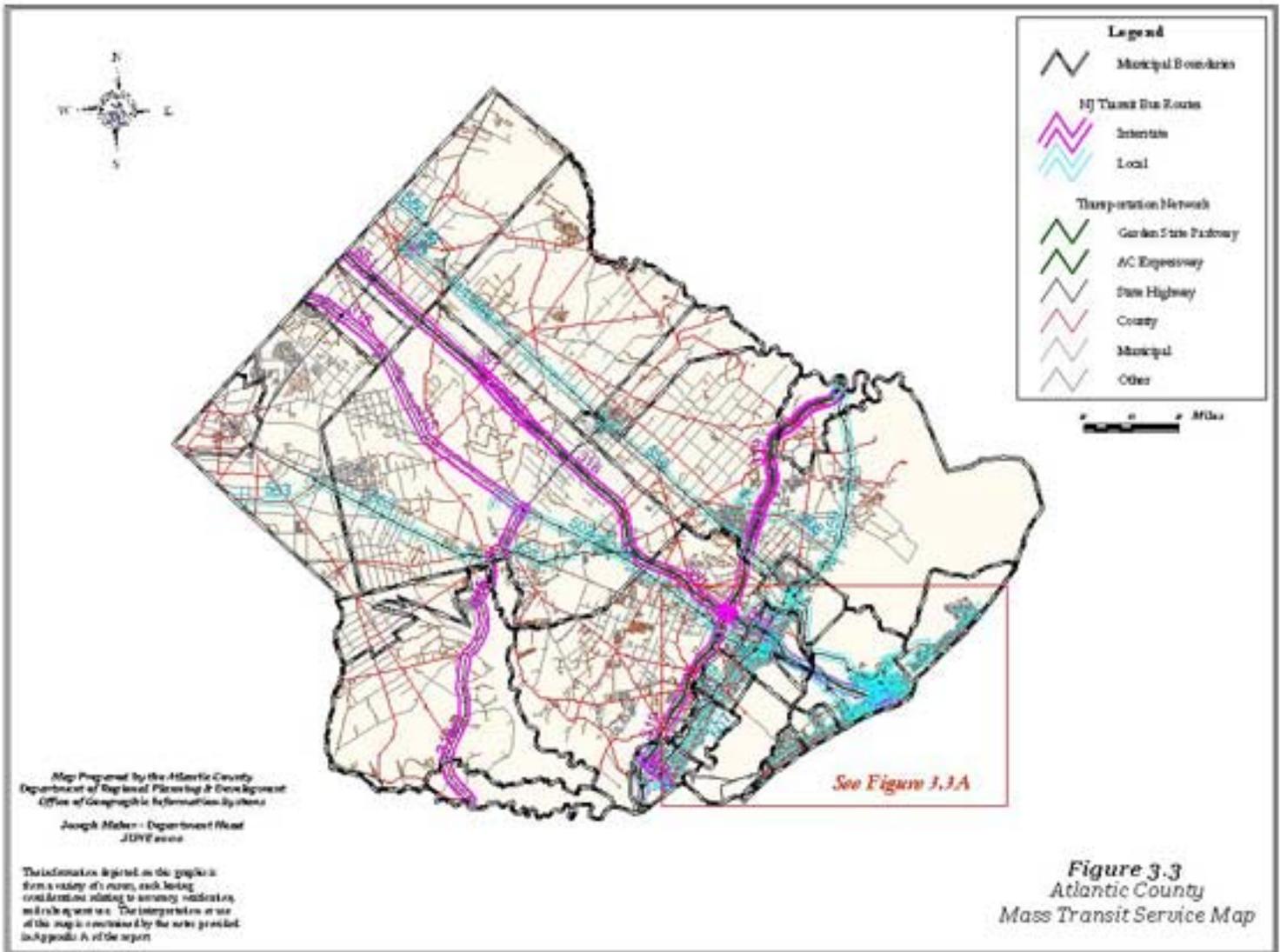
Franchise bus service to Atlantic City peaked in 1986/1987 and has gradually leveled off at approximately 515,000 visitors per year. Rail travel also followed this trend during this period (while auto travel trips continued to increase). Air Travel has recently seen a marked increase at Atlantic City International Airport. This increase has been driven primarily by expansion of service by Spirit airlines and increased charter activity.

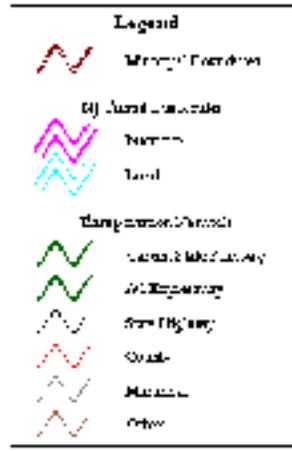
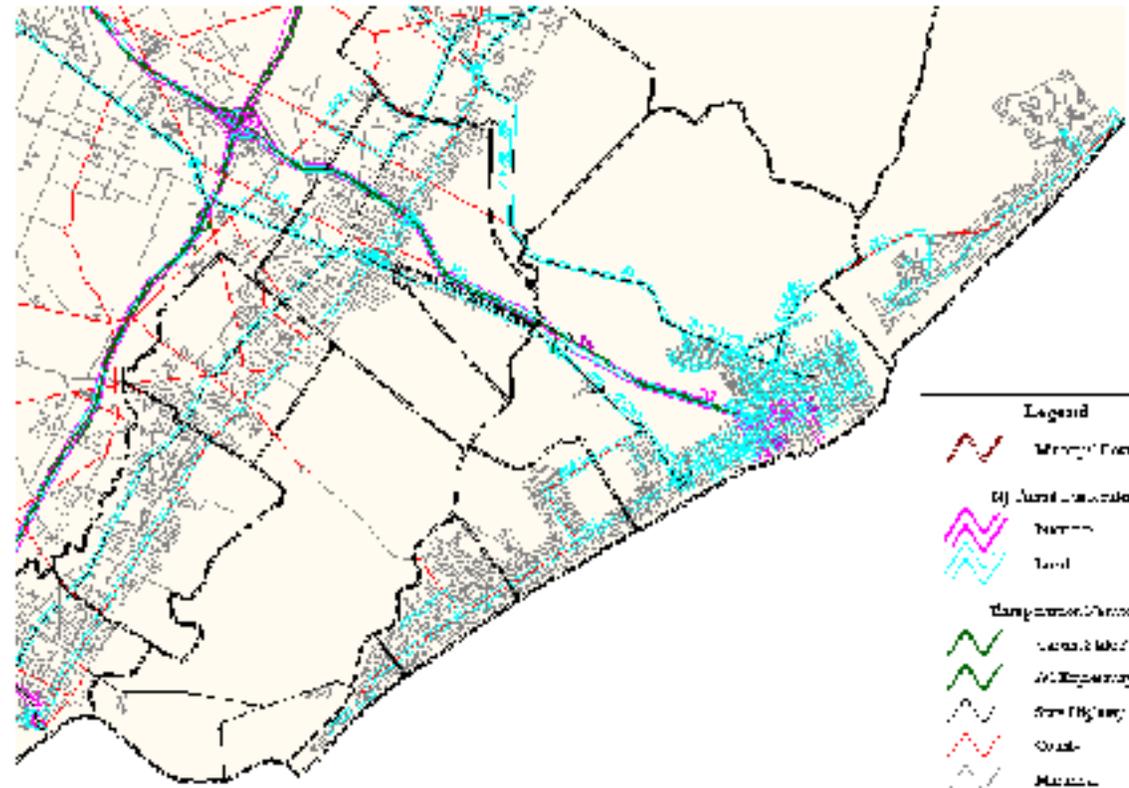
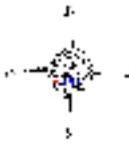
PARATRANSIT SERVICES

New Jersey Transit (NJT) provides an "Access Link" program that is a paratransit service for passengers qualified under the Americans with Disabilities Act. NJT also provides shuttle service for casino employees from the Atlantic City Expressway parking area.

The Atlantic County Department of Administration, Division of Intergenerational Services - Transportation Unit provides a number of transportation services (primarily demand responsive and subscription services). The Atlantic County Rural Transportation System (CARTS) provides these services for the area west of the Garden State Parkway and is typically on a first-come first serve basis. The percentages of services are currently 90% subscription and 10% demand responsive. The bus services provided include those to nutrition service and employment placement centers, hospitals and clinics.

Atlantic City is also served by more than 190 jitneys providing transportation throughout Atlantic City, with ridership increasing steadily to more than 8 million passengers per year. This demand prompted the Atlantic City Jitneyman's Association to request and receive Federal funding for a new, alternative fuel Jitney Fleet. All 190 propane vehicles are now on the street resulting in better-running vehicles and reduced emissions.





Atlantic County, New Jersey
 Department of Transportation
 Division of Transportation Planning
 Joseph P. DeStefano, Director
 2014

This document is intended to provide
 information on the proposed
 and future state of the
 transportation system
 in the county. It is not intended
 to be used as a basis for
 legal or other actions.

Figure 2.1
 Atlantic County,
 Mass Transit Service Area

**Table 3.7
New Jersey Transit Bus Lines**

SERVICE BETWEEN ATLANTIC CITY AND OTHER COUNTY LOCATIONS		
LINE	LOCATION	PASSENGERS – ONE WAY (11/99 – typical day)
501	Brigantine	1,109
502	Atlantic County Community College, Cardiff Shopping Center, and the Hamilton Mall	2,551
504	Bungalow Park, Ventnor	913
505	Ventnor, Margate, and Longport	4,695
507	Pleasantville and Northfield	2,512
508	Richard Stockton College of New Jersey	1,752
509	Linwood and Somers Point	999
SERVICE BETWEEN ATLANTIC CITY AND REGION		
551	Philadelphia	2,081
552	Cape May County	1,174
553	Cumberland County	3,809
554	Lindenwold, Camden County	2,200
559	Lakewood, Ocean County	2,040

Source: New Jersey Transit.

RAIL SERVICE

Passenger Service: New Jersey Transit is the primary rail service provider of commuter service in Atlantic County (AMTRAK discontinued its Philadelphia to Atlantic City service in 1995). The Atlantic City Rail Line runs between 30th Street Station in Philadelphia and the New Atlantic City Rail Terminal. Along its route it connects with commuter service providers such as SEPTA, AMTRAK and the PATCO Hi-speed line in Lindenwold. The stops along the mainline are in Cherry Hill, Lindenwold, Atco, Hammonton, Egg Harbor City, and Absecon. The rail line experienced a 26.7 percent increase (a total of 123,893 passengers) in 1997, which can partially be attributed to the fact that the rail terminal is adjacent to the new Atlantic City Convention Center.

Freight Service: CONRAIL and the Southern Railroad Company of New Jersey provide most of the freight services in Atlantic County. The Cape May Line, the main Conrail freight line in the County, follows a north-south route from Hammonton to Corbin City. The County's other major freight carrier, Southern Railroad Company of New Jersey, operates approximately 75 miles of track with three branches (Swedesboro to Salem, and Winslow to Vineland and Pleasantville). The Winslow Junction to Atlantic City line that branches off in Pleasantville services the Pleasantville Urban Enterprise Zone (the line experienced a 60% increase in freight business in the 1996-1997 period).

Rail freight should become more competitive with other modes of freight transportation since ownership of the CONRAIL line at Winslow has been split between Norfolk Southern and CSX.

AVIATION

Atlantic City International Airport is located in Egg Harbor, Hamilton and Galloway Townships in the vicinity of Wrangleboro and Tilton Roads. It is bordered on the south by the Atlantic City Expressway, on the north by US Route 30 and on the west by County Route 575. The airport consists of 5,143 acres owned by the Federal Aviation Administration (FAA) and 84 acres owned by the South Jersey Transportation Agency (SJTA). On the 84 acres owned by SJTA is a civil passenger terminal and civil aviation support facilities.

The Airport provides commercial airline services to cities throughout the U.S.. Also available are charter and general aviation services. The Airport is fully equipped to handle all weather commercial aviation operations. The Airport has three carriers providing service to more than 75 cities worldwide and also provides a nominal amount of air freight service (the majority of the region's air cargo transactions take place at the Philadelphia International Airport).

It recently completed a \$17.7 million dollar expansion project that doubled the airport terminal (to 78,000 square feet) and the runway apron. As mentioned, a complete renovation of the primary runway is presently underway at a cost of \$11.8 million dollars. Additional electrical and taxiway work is in final design with an estimated construction cost of \$7.5 million dollars with a start in the fall of 2000. A new automobile parking garage is also due to start in the fall of 2000 together with renovation of the vehicle parking lots. Final plans are also in process for an airport hotel-motel to be built in 2001. The customer parking area was expanded to accommodate 600 more parking spaces, and a restaurant and several other amenities were added. In 1992, SJTA purchased Atlantic City's Civil Air operation that includes the runways, primary aviation buildings and grounds. In 1998, SJTA acquired full control and maintenance of the runways.

Activity at the Airport involves more than commercial aviation. Most of the 5,143 acre site is owned by the William J. Hughes Technical Center, a major facility for aviation safety research and development. The New Jersey Air National Guard is located at the Technical Center and the SJTA leases 2,100 acres from the Technical Center.

The SJTA leases approximately 2,500 acres of the Airport from the FAA that includes all the runway-taxiway systems and several aviation support facilities. On the remaining FAA owned acres the FAA has its national aviation research, test, and evaluation facility which employs over 2,000 federal and contractor personnel.

The New Jersey Air National Guard (NJANG) leases approximately 267 acres from the FAA. The NJANG has a Wing of F-16 fighter aircraft that support U.S. Air Force missions.

Bader Field, located on US 40/322 in Atlantic City and the Hammonton Municipal Airport on Columbia Road (CR 693), provides additional general aviation facilities for the County. These airports also provide charter, instructional, and recreational flying.

AIR QUALITY

The problems of increasing traffic volumes extend beyond congestion and accidents. Vehicle emissions can create ozone smog, carbon monoxide (CO), and other pollutants that can negatively affect health and the quality of life. Ozone is created when hydrocarbons and nitrogen oxides from emissions react in sunlight and carbon monoxide is formed by incomplete vehicular fuel consumption.

The transportation planning process is required to address the vehicular emission/pollution problem. The Federal Environmental Protection Agency has established standards for pollution such as CO and ozone (as well as the emission pollutants that create ozone). The SJTPO Regional Transportation Plan must demonstrate conformity with EPA Clean Air standards or risk losing State and Federal funding for transportation projects.

Atlantic County, which is included in the Atlantic/Cape May air quality region, is in attainment for CO and currently is in attainment for ozone. Air quality regions that exceed these standards will have difficulty in securing approval for any projects that could result in a significant increase in vehicular emissions (such as new roads or construction of additional travel lanes).

There are currently four air quality monitoring stations in Atlantic County (one each in Nacote Creek and Somers Point, and two in Atlantic City). Table 3.8 references the Atlantic County monitoring locations and pollutants monitored.

Table 3.8
Atlantic County Air Quality Monitoring Locations

LOCATION	ADDRESS	PARAMETERS
Atlantic City	2100 Pacific Avenue	CO
Atlantic City	Missouri and Baltic Avenues	PB,TSP,IP,TM, and S&N
Nacote Creek	Brigantine Wildlife Refuge	SO ₂ and O ₃
Somers Point	Marina, Woodlawn Avenue	SO ₂
DEFINITIONS		
CO:	Carbon Monoxide - A colorless, odorless gas resulting from the incomplete oxidation of carbon; found, for example, in mines and automobile exhaust; poisonous to animals.	
IP:	Inhalable Particulates.	
O ₃ :	Ozone: - An unstable blue gas with a pungent odor.	
PB:	Lead - A chemical element.	
S&N:	Sulfates and nitrates - Salts of sulfuric and nitric acid.	
SO ₂ :	Sulfuric Dioxide - A toxic, irritating, colorless gas soluble in water, alcohol and ether.	
TM:	Trace Metals - the other metals reported, include Cd - Cadmium, Cr - Chromium, Cu - Copper, Fe - Iron, Mg - Magnesium, Mn - Manganese, Ni - Nickel, and Zn - Zinc.	
TSP:	Total Suspended Particulates.	

Source: 1996 Air Quality Report, New Jersey Department of Environmental Protection, Bureau of Air Monitoring and McGraw - Hill Dictionary of Terms.

B. County Transportation Plan

The County Transportation Plan contained in this section is, in part, an update of the Transportation element of the 1987 Atlantic County Master Plan. It is based on various studies undertaken or commissioned by the County and other plans and studies, as follows:

- SJTPO Regional Transportation Plan (1987)
- New Jersey State Development and Redevelopment Plan (1992)
- Atlantic County Suburban Initiatives Project (1993)
- Atlantic County Bicycle Element (1995) – See Open Space Recreation Plan
- Atlantic City International Airport Highway Needs Study

The County Transportation Plan element includes Plan Goals and Policies, and the County Circulation Plan. The County Circulation Plan agrees with the Transportation Plan Goals and Policies located in Chapter IV of the Master Plan.

THE COUNTY CIRCULATION PLAN

The County Circulation Plan map includes the functional classification of the County road system, and all proposed new roads and major improvements (as discussed in the T-Policy section). The roadway design standards and regulations (e.g., relating to proposed minimum road lane, shoulder and right-of-way widths, and requirements for sight distance easements and deceleration lanes) generally refer to the Circulation Plan. Even without any proposed new roads, the future functional classification system represents a circulation plan element for the County road system that specifies the ideal or design travelway and road right-of-way for each road classification. This system is implemented through the County development review process and various County capital improvement programs.

The Circulation Plan and future functional classification system can be seen in Figure 3.4 and Figures 3.4A- 3.4E. The levels of classification are:

- Atlantic City Expressway/Garden State Parkway Tollroads – Limited access highways managed by Authorities.
- Other State/US Routes – (US 30, US 40, US 206, and NJ 50)- Unlimited or semi-limited access regional routes.

- County:
- Arterial Roads - are intended for mobility (i.e., moving traffic at relatively high speeds over long distances) and serve to connect the collector system with County collector routes.
- Collector Roads – connect the arterial system with the County minor collector and local municipal roads.
- Minor Collector Roads - Provide access to land uses and serve as connectors between the collector and municipal road system.

Major Road improvements included on the Circulation Plan and are depicted in Figure 3.5.:

- The Buena-Weymouth Connector (Policy 2).
- West Jersey Avenue – Route 40/322 Connector (Policy 3 – proposed new road).
- Improved Route 575 Corridor (Policy 4).
- New or Completed interchanges on the Garden State Parkway (Policy 5).
- New road link connecting the Expressway with the Atlantic City International Airport (Policy 6).

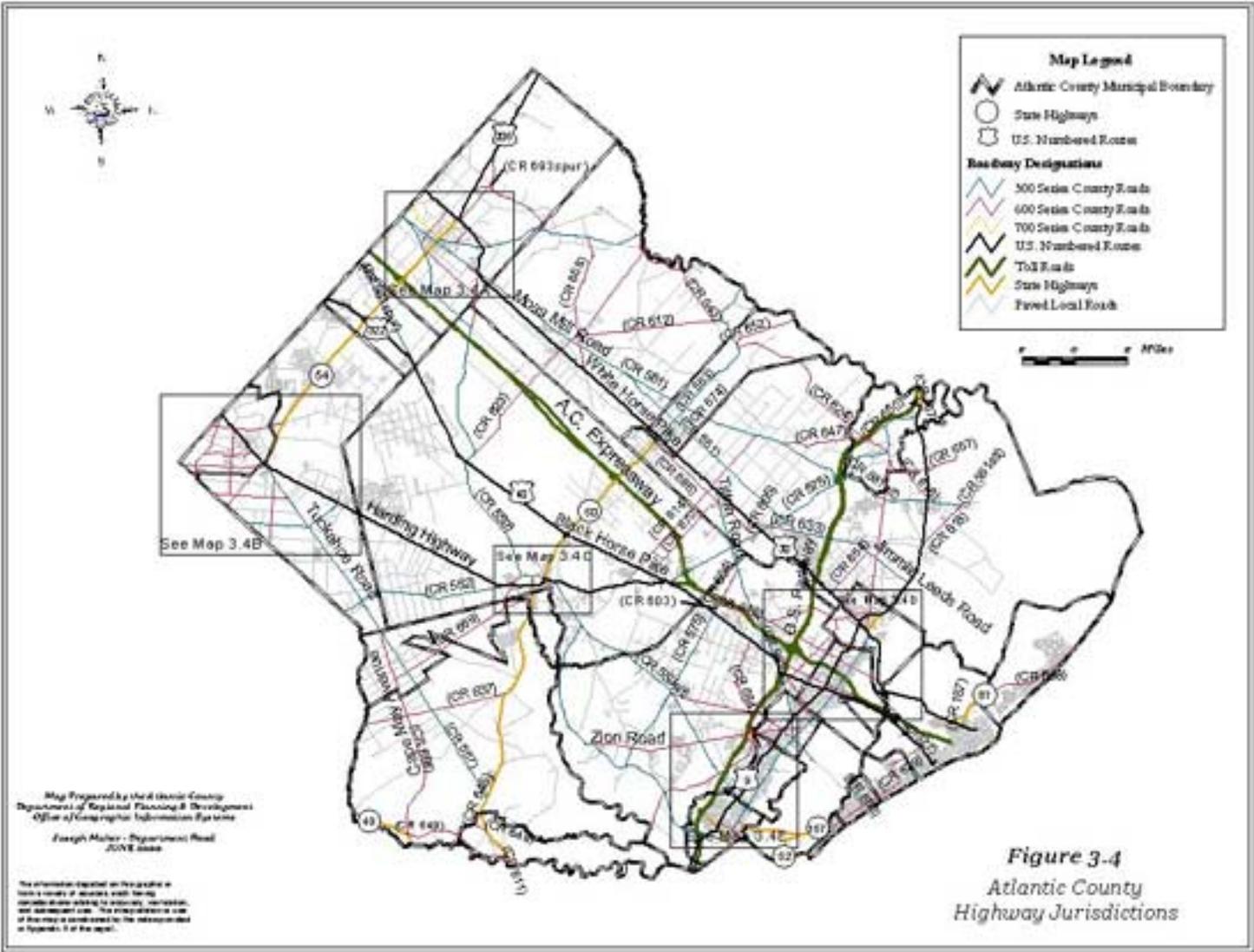


Figure 3-4
Atlantic County
Highway Jurisdictions

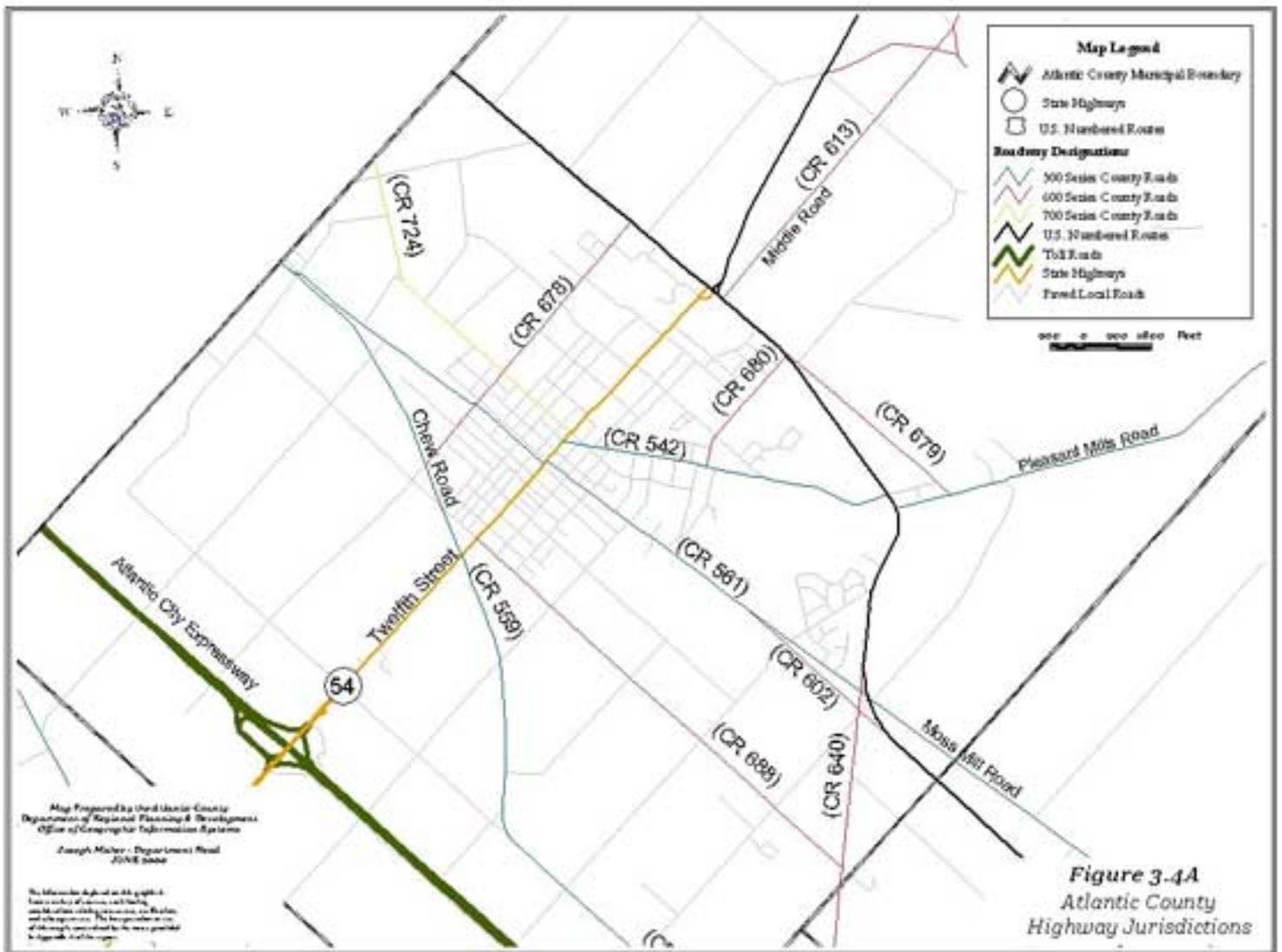
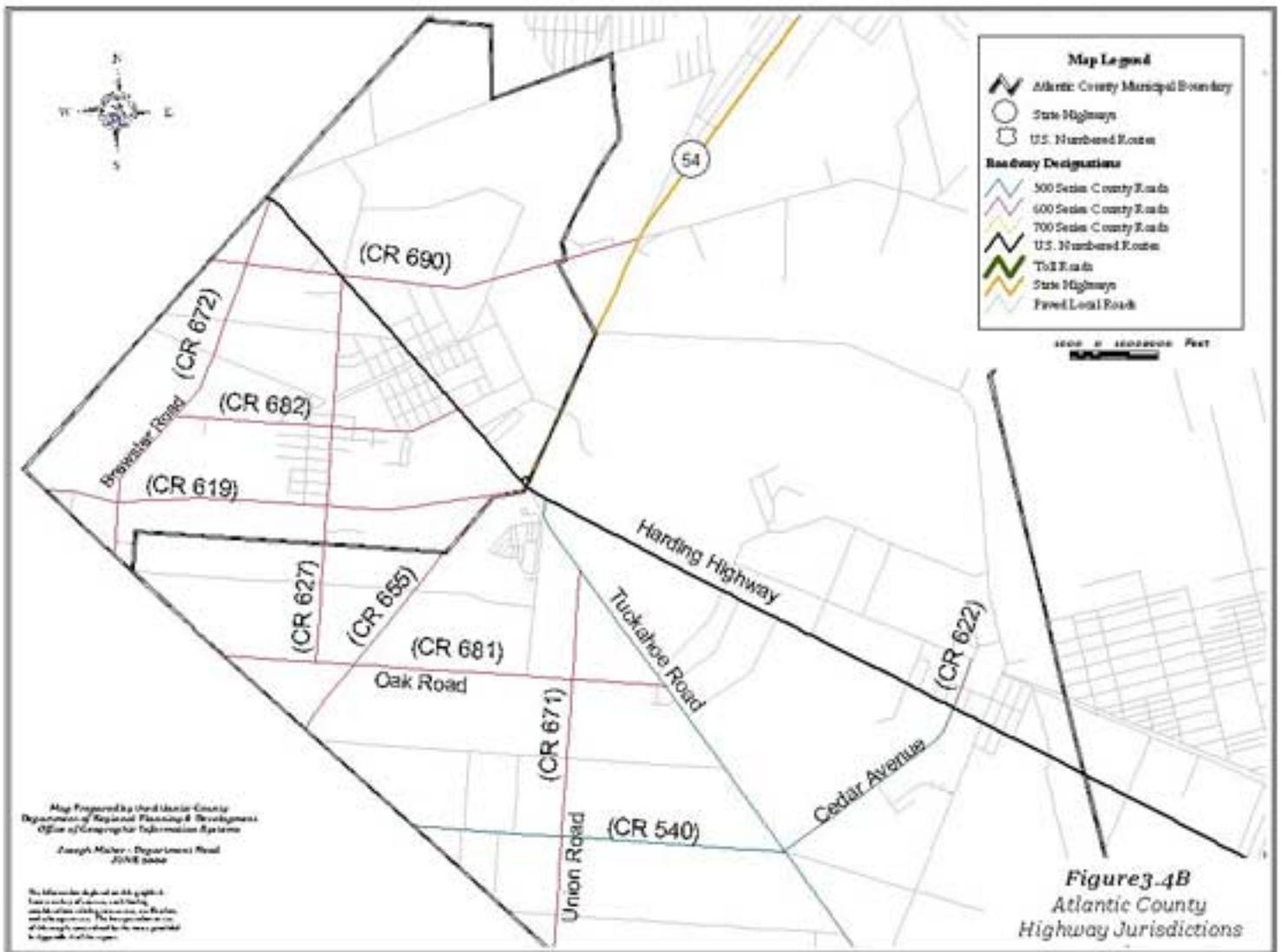


Figure 3.4A
Atlantic County
Highway Jurisdictions



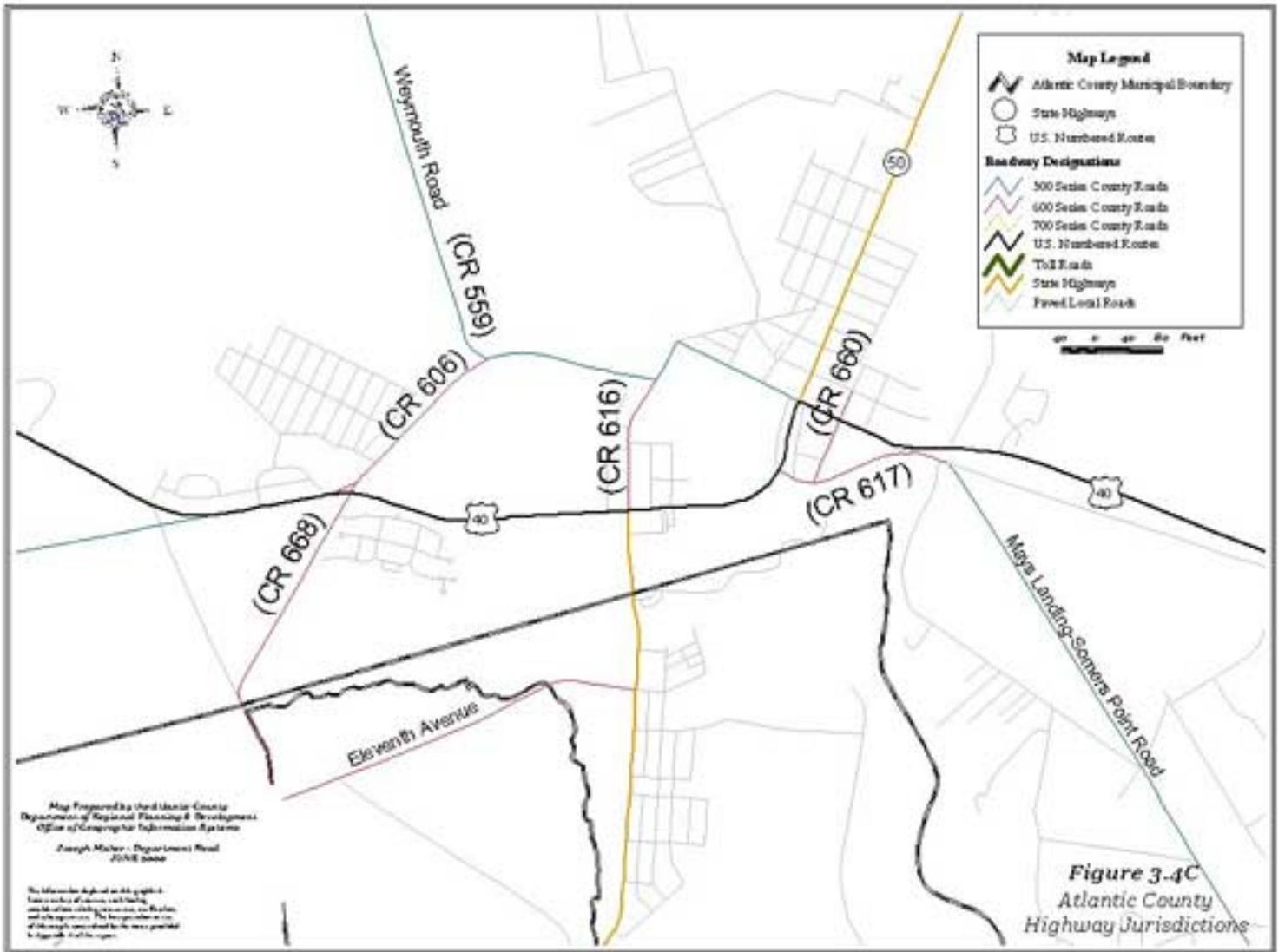
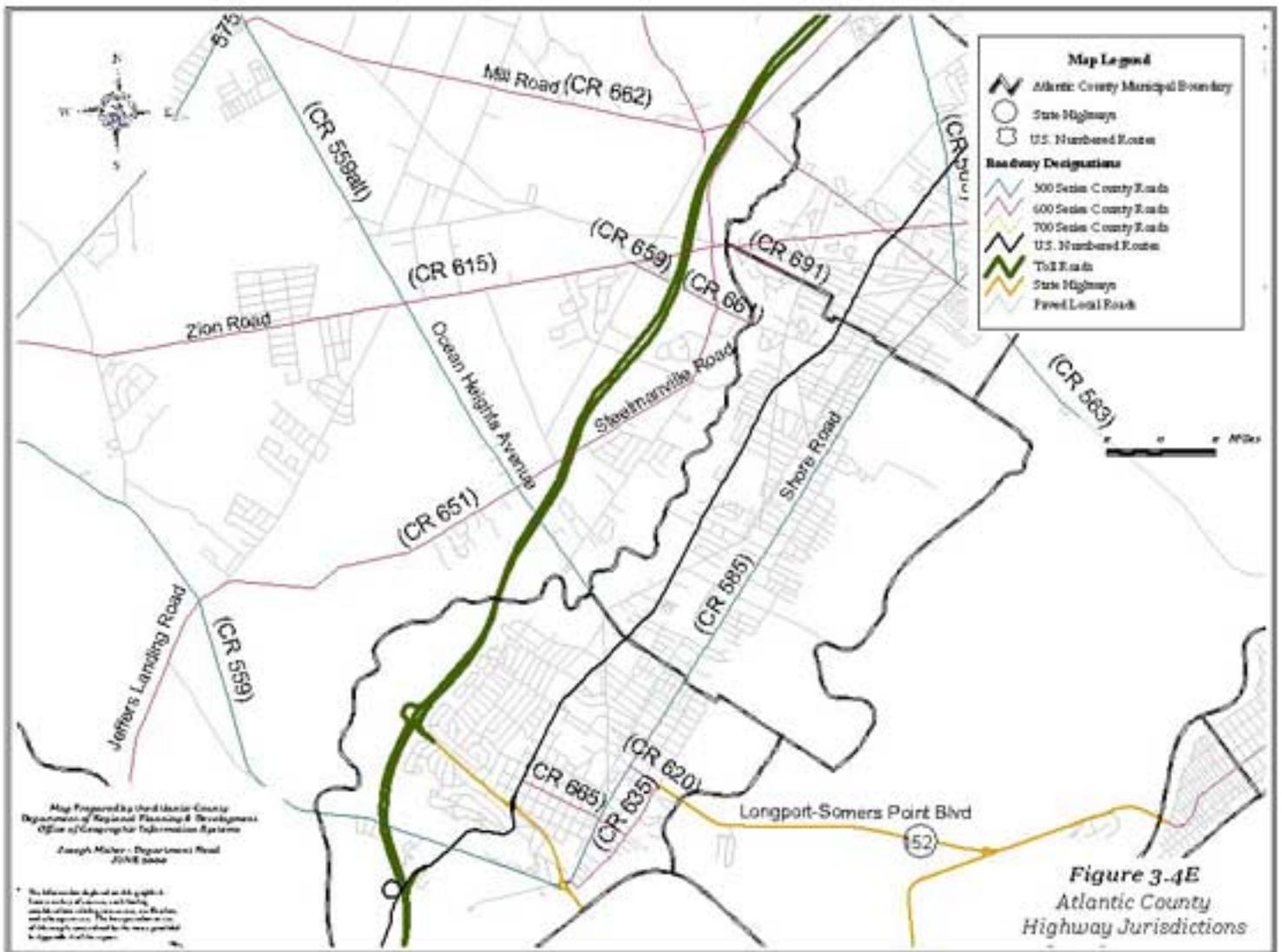




Figure 3.4D
Atlantic County
Highway Jurisdictions



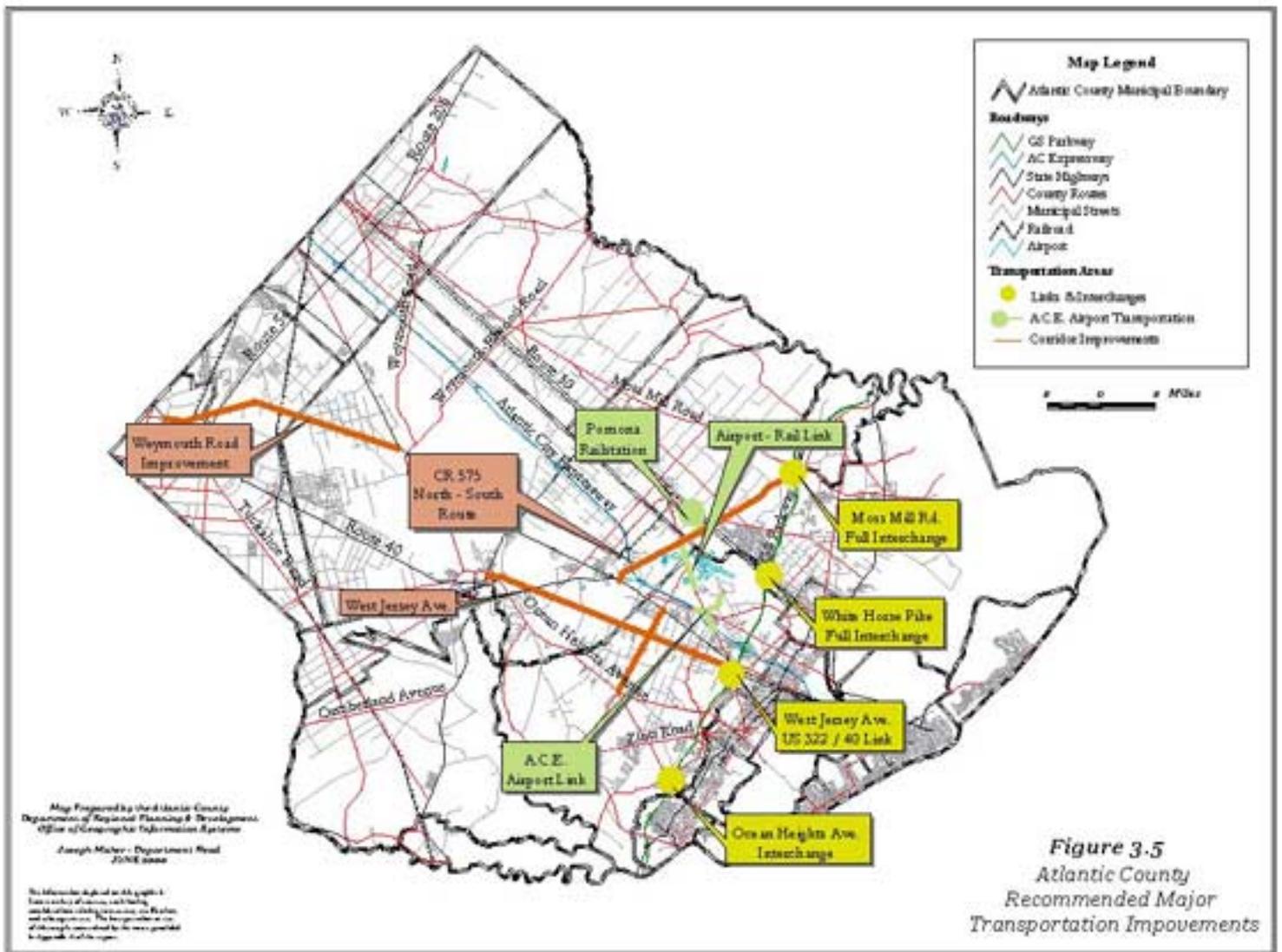


Figure 3.5
Atlantic County
Recommended Major
Transportation Improvements

WASTEWATER MANAGEMENT

In 1979, the County's Department of Planning and Economic Development prepared the Atlantic County Water Quality Management Plan (WQMP). This was in response to section 208 of the Federal Water Pollution Control Act and the New Jersey Water Quality Planning Act. In 1989, Atlantic County was designated as the Water Quality Management Planning Agency for the area in accordance with the regulatory framework adopted by the New Jersey Department of Environmental Protection.

The responsibility for treatment was established under the Atlantic County Sewerage Authority. This agency developed the Coastal area wastewater collection system and built the City Island Sewage Treatment Plant. This regional sewage treatment plant was a major event in the improvement of water quality in the ocean and bays of Atlantic County.

In the subsequent development of the casino industry, Atlantic County was prepared to handle the tremendous increase in wastewater flows generated by the visitors and employees brought to Atlantic City. The capacity of the City Island Treatment Plant is still a key element in the future development of Atlantic County.

Population projections place 82 percent of the existing and future populations living east of New Jersey Route 50. This places the burden of planning to accommodate the wastewater generated from this future growth on the Atlantic County Utility Authority's City (ACUA) Island Treatment Plant.

The City Island Treatment Plant has increased average flows from 25 million gallons per day (MGD) in 1988 to 31 MGD in 1998. The highest daily average flow was 36 MGD in May, 1998.

Table 3.9 records the daily average flows at the City Island Treatment Plant. Since the monthly flows exceed 80 percent of the rated capacity, a capacity assurance study is being proposed by the ACUA to determine if additional wastewater could be treated without a major capital expansion.

The distribution and intensity of development throughout the County are both dependent on the capacity of the existing wastewater management systems, proposed upgrades, and service areas. This has been particularly evident in the Pineland's Regional Growth Areas of the County. Residential, commercial and/or industrial development have interrelated effects on a variety of public issues. Therefore, it is imperative that the County properly plan its sewer collection systems. The following sections briefly describe the three (3) sewer planning regions in the County. These regions are graphically depicted in Figure 3.6.

Several factors were considered in designating the County sewer service areas. Some of these factors include existing infrastructure locations, population densities, land use, municipal zoning and problem areas as identified by the Atlantic County Board of Health and various municipal WMP's. The Pinelands Commission and the State's Coastal Management Program, including

Coastal Area Facilities Review Act (CAFRA), Waterfront Development Law, and the Wetlands Act of 1970 as administered by the NJDEP all have a significant influence on the development of land within the County. These agencies guide the intensity of development throughout most of the County. However, land use regulations within the sewer service areas do allow the development of at least 2 dwelling units per acre, commercial, and industrial uses. The County WMP should be reviewed for a complete analysis of the County's sewer service areas.

Table 3.9
Atlantic County Utilities Authority
City Island Treatment Plant
(Average Daily Flows in Million Gallons)

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
JAN	24	22	24	26	25	28	28	26	30	28	31	29
FEB	25	23	24	23	24	27	30	25	28	29	35	29
MAR	23	27	24	26	25	31	24	25	28	29	35	29
APR	24	27	26	27	24	29	29	25	30	29	31	29
MAY	25	28	26	26	26	28	28	27	29	28	36	27
JUN	26	28	28	27	27	28	28	28	30	30	32	28
JUL	28	31	30	29	29	31	31	31	32	33	32	31
AUG	28	32	30	30	32	32	31	32	33	35	32	32
SEP	26	30	27	27	30	28	29	29	33	30	29	
OCT	24	28	25	27	27	27	27	29	31	28	28	
NOV	24	26	24	26	27	26	25	29	27	30	26	
DEC	22	24	23	25	31	28	26	27	31	27	25	
total	25	27	26	27	27	29	29	28	30	30	31	

Source: Atlantic County Utilities Authority

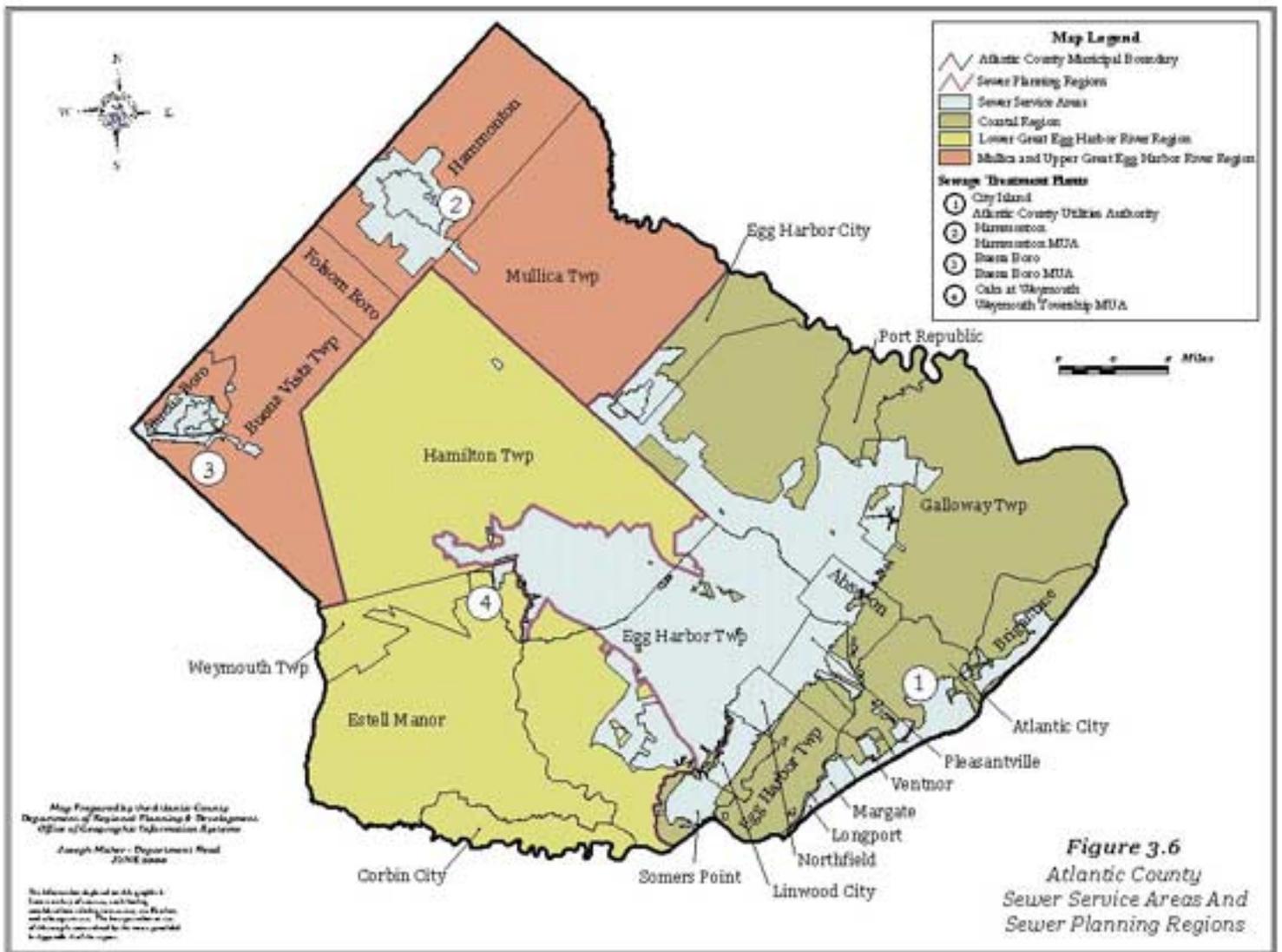
COASTAL REGION

The Coastal Region's sewer service area includes Absecon and Brigantine Islands, the bay communities and the Pineland's Regional Growth Areas of the County. This region is subdivided into the following service areas as referenced in Table 3.10.

Table 3.10
Coastal Region Sewer Service Areas

Service Area	Municipalities
Island Service Area	Atlantic City, Brigantine, Margate, Longport, and Ventnor
Mainland Service Area	Linwood, Northfield, Pleasantville, and Somers Point
Pomona Service Area	Eastern Absecon, Egg Harbor City, South Egg Harbor Township, Germania Gardens, Pinehurst and Pomona in Galloway Township
Smithville Service Area	Eastern Galloway Township
Coastal Interceptor Area	Atlantic City International Airport and FAA Technical Center, Atlantic City Expressway Farley Plaza, Belcoville in Weymouth Township and the Regional Growth Areas of Egg Harbor and Hamilton Townships

Source: Atlantic County Master Plan 1988



This region consists of an integrated network of interceptors, force mains, and pump stations that direct all flows to the City Island Sewage Treatment Plant. The Atlantic County Utilities Authority, owns and operates this sewage treatment plant. Constructed in 1978 at a design capacity of 40 MGD, this facility provides secondary wastewater treatment that discharges into the Atlantic Ocean, approximately 8,000 feet offshore from Raleigh Avenue.

The Coastal Interceptor Service Area was a major project of approximately fifteen (15) miles of force mains and five (5) pump stations serving the regional growth areas of Hamilton and Egg Harbor Townships. This line is an essential segment of the County WQMP and shall be the primary influencing factor in the development of the County within this area.

Efforts are also being advanced to reduce the amount of potable water used in Atlantic City for landscaping by using the treated effluent from the City Island STP.

LOWER GREAT EGG HARBOR RIVER REGION

The Lower Egg Harbor River Region includes the areas within Hamilton and Egg Harbor Townships that are excluded from the Pinelands Regional Growth Areas and the communities of Corbin City, Estell Manor, and Weymouth Township which are primarily served by individual septic systems. The siting of these individual septic systems must comply with Pinelands Commission requirements except the Belcoville section of Weymouth Township. Belcoville accesses the ACUA regional treatment facility through the Hamilton Township Municipal Utility Authority (MUA) infrastructure and the Coastal Interceptor.

MULLICA AND UPPER GREAT EGG HARBOR RIVER REGION

The Mullica and Upper Great Egg Harbor River Region provide centralized sewer service to the western section of the County through the Hammonton STP and the Buena Boro STP. These service areas are limited to urbanized portions of Buena Borough and the Town of Hammonton. The balance of development within the region uses individual on-site disposal systems.

Historically, the Hammonton STP provided secondary treatment that discharged into the Hammonton Creek. This facility was replaced with a new advanced wastewater treatment plant designed at a capacity of 2.5 MGD with a temporary approval to discharge into the Hammonton Creek. This discharge is limited however, to the originally designed and approved 1.6 MGD capacity. A condition of the Pinelands approval for the new plant required advance treatment of the effluent and elimination of the discharge into Pinelands surface waters by implementation of a land application system.

The Buena Boro STP is a new facility which opened in 1992 replacing the previous facility that discharged effluent into the Deep Run, a tributary of the Great Egg Harbor River. The new STP relocates the treated discharge into the Blackwater Branch, a tributary of the Maurice River. This point discharge into the Maurice River watershed is outside of the Pinelands and was a requirement of NJDEP to meet applicable surface water quality standards. The present permitted flows are 0.4 MGD with a design capacity of 0.5 MGD and a capability to expand to 1.0 MGD.

WATER SUPPLY

South Jersey communities rely on both surface and subsurface water supply sources for their water needs. Surface water supplies are derived from various reservoirs, lakes and streams situated throughout the County; while subsurface sources are obtained from the unconfined Kirkwood-Cohansey and the underlying Atlantic City 800-foot Sands aquifer systems. These two aquifers yield the majority of all water supplied throughout the County.

However, as the County population continues to grow, there is an increasing concern regarding the quality and quantity of water obtained from these sources. The influx of year round and seasonal visitors also adds substantially to the water supply demand. Such concerns include saltwater intrusion, aquifer contamination and reductions in stream flows as a result of excessive pumping from these aquifers. Surficial water surface elevations also fluctuate in response to changes in the Kirkwood-Cohansey's groundwater table. Such impacts can negatively affect water quality by reducing the amount of water available to dilute dissolved solids and sustain biological components within the ecosystem. Water supply issues will be discussed within the Natural Resources Element of this report.

To properly assess these concerns, these systems need to be studied in detail to identify and quantify potential problems, and develop long term planning strategies to effectively manage these systems.

WATER SOURCES

The Kirkwood-Cohansey and Atlantic City 800-Foot Sand aquifers are the major water supply sources for the County.

The Kirkwood-Cohansey aquifer is a shallow, unconfined formation consisting of sands and gravel that quickly respond to recharge influxes from surface precipitation. This response in conjunction with the hydraulics of the formation greatly impacts the Great Egg Harbor River and Mullica River watersheds that overlay this aquifer. Within the County, the thickness of the Kirkwood-Cohansey is greatest along the shoreline and thins out as you approach the western portion of the state.

The Atlantic City 800-Foot Sands underlie the Kirkwood-Cohansey formation but is separated by a massive confining clay layer that can be as thick as 400 feet below parts of the Atlantic City area. This aquifer is composed of sands, gravel and fragmented shell materials. It is also the predominant source of water for public wells pumping more than 1.0 MGD along the barrier island communities, while lower yielding wells are found within municipal wells situated within western portions of the County.

There are other minor aquifer formations (such as the confined Rio Grande and Piney Point aquifers) that underlie Atlantic County. The Rio Grande is a primary supply source for Cape May County while the Piney Point Aquifer is a significant source within Buena Boro, several barrier island communities in Ocean County, and Dover, Delaware. However, within Atlantic County these formations generally do not yield sufficient amounts of potable water necessary to sustain a public water system.

Surface water withdrawals within the County are primarily obtained from two reservoirs operated by the Atlantic City Municipal Utilities Authority (ACMUA). These facilities are identified as Kuehne Pond and Doughty Pond, both of which are located along branches of the Absecon Creek. Water from the Mullica River and its tributaries are also significant irrigation supply sources for agricultural operations.

Withdrawals during summer demand months must also be closely studied to monitor potential impacts resulting from reduced stream flows. During the summer and fall seasons, evapotranspiration significantly reduces the water surface elevations of water bodies. Estimates have shown that an average of 634 Million Gallons per Day (MGD) recharge into the Mullica River watershed, while 311 MGD recharge into the Great Egg Harbor River watershed. Groundwater withdrawals from the Kirkwood-Cohansey are primarily domestic and agricultural wells. Agricultural use can raise the withdrawal rate from the aquifer by a factor of 300 percent over the domestic use.

WATER USE

During 1990 the average water demand in the County area was approximately 33 MGD. Of this amount, approximately 21 MGD was derived from the Kirkwood-Cohansey aquifer, 9 MGD from the Atlantic City 800-Foot Sand, and 3 MGD from the ACMUA reservoirs. In addition, public and private purveyors constituted approximately 27 MGD of the overall usage.

Average daily water usage in 1990 within the Great Egg Harbor River Watershed was estimated at 21 MGD, with the average peak summer demand being approximately 24 MGD above the average daily demand.

The average daily water usage in 1990 for the Mullica River Watershed was approximately 130 MGD in 1990, which increased to 386 MGD during peak summer demand months due to agricultural irrigation. It should be noted that the Mullica River Watershed has an extensive region located outside of Atlantic County. The County's withdrawal was approximately 15 MGD, with 3 MGD of surface water being obtained from the Mullica River and Absecon Creek.

NJDEP estimates indicate that based on a projected population of 250,000 for the year 2040, the water supply demand should increase by 58 percent to at least 52 MGD. Based on this projection, 33 MGD would be withdrawn from the Kirkwood-Cohansey Sands, 14 MGD from the Atlantic City 800-Foot sands, and 5 MGD from the ACMUA reservoirs.

The NJDEP has also estimated that in 1990 withdrawals from the Atlantic City 800-Foot Sands totaled approximately 9 MGD, and they project a total yield of 12 MGD (or a 23 percent increase) by the year 2040. However, it should be noted that these estimates do not account for any regulatory restrictions imposed by the Pinelands Commission which potentially could restrict surface water withdrawals from within Pinelands regions of the County. It can be concluded that withdrawals from the Atlantic City 800-Foot Sands will significantly increase over the next 40 years.

EFFECT OF WITHDRAWALS AND WATER QUALITY

The primary effects to surface waters attributable to withdrawals from the Kirkwood-Cohansey aquifer are reductions to stream flows and the ability to manage the amount of dissolved solids. This reduction concurrently affects the water quality of the streams and aquatic habitat. Another consequence may be the reduction in wetland habitat due to the lowering of groundwater tables, and saltwater intrusion resulting from increased pumpage and decreased recharge into the aquifer.

The combination of increased development activities (and subsequent increase amounts of impervious surface area), installation of sewers, and an increase in agricultural uses has a cumulative effect of reducing stream flows. Pumpage from the water table reduces groundwater elevations which in turn reduces surface water elevation and flow rates.

The primary concern pertaining to the Atlantic City 800-Foot Sands is the potential for the saltwater front to progress further inland and adversely impact the potable water supply. Excessive pumpage from this aquifer has created a regional cone of depression that extends from Ocean County to Cape May County, and is centered near Absecon Island. The cone is a representation of water pressures within the regional area. The pressure levels are greatest near Absecon Island, being approximately 110 feet below sea level. They gradually rise concentrically to sea level midway within the County. Prior to development within the County, groundwater flows were directed seaward; however flows have now been redirected inland due to reductions in the freshwater pressure head, which in turn advances the saltwater front.

Groundwater models prepared by the United States Geological Survey (USGS) show the potential exists for the continued decline of water pressures in the Atlantic County region. Over the long term, these declining pressure levels will advance the saltwater front into the aquifer. According to information obtained from wells located on Absecon Island, the saltwater front is presently situated 10 miles offshore. However, mainland wells should not be immediately impacted through the study year of 2040. Although saltwater intrusion is a slow process, demand and lower water pressures are evidence that the aquifer is not adequately recharging itself to maintain an equilibrium to offset the advancement of the saltwater front.

Groundwater withdrawals within the County can be characterized as mining, especially within the 800-Foot sand formation. Alternative means of providing potable water supplies beyond the Atlantic City 800-Foot Sands must be planned to satisfy the demand and growth in the Atlantic City area.

Three primary factors affect the groundwater quality in a shallow unconfined aquifer such as the Kirkwood-Cohansey Sands. These are the mixing of groundwater from streams that are losing water into the water table due to low pressure levels, the actual geological materials that comprise the water bearing material, and land use. The groundwater within this aquifer has a low pH diminishing the capacity of the water table to guard against land use effects. Concentrations of lead along roadways have been observed, as well as, organic compounds in the vicinity of landfills and naturally occurring elements such as iron and manganese. The Atlantic County region has many hazardous waste sites that also have the potential to degrade the water quality within the shallow Kirkwood-Cohansey Sands. This has already been witnessed by the abandonment of several wells by the ACMUA that were in the vicinity of Price's Pit Landfill as reported in the 1988 Atlantic County Master Plan.

Even with all these obstacles, the groundwater within the Kirkwood-Cohansey aquifer is of good quality. However, because of the close relationship between the Kirkwood-Cohansey aquifer, land use, and the potential for increased demand, measures need to be implemented to ensure the long term quality of the groundwater within this unconfined aquifer.

Instances of individual potable well contamination have surfaced in the late 1980s and early 1990s. The Atlantic County Health Department has responded to the health needs of the residents while assisting in obtaining alternate water supply or in home treatment facilities.

Continued instances of contaminated individual wells reveal the need for a study of the Kirkwood- Cohansey aquifer. Excessive levels of mercury and volatile organic compounds continue to occur as residents test their wells. Extension of the public water systems will be an important factor in determining future growth.

The Atlantic City 800-Foot Sands are a confined aquifer not readily affected by conditions of land use. The demand on the water supply from this acquirer is centered on development within the Atlantic City area. This development pressure has already raised a concern of the potential for saltwater intrusion into the potable water supply.

NATURAL RESOURCES

Atlantic County is on the Atlantic Coastal Plain, bounded on the North by Burlington County on the South by Cape May and Cumberland County on the West by Comedian and Gloucester Counties and on the East by the Atlantic Ocean. It is approximately between latitudes 39 degrees 15 minutes and 39 degrees 45 minutes north and longitudes 74 degrees 15 minutes and 74 degrees 60 minutes west, comprising a total area of 561.2 square miles.

A major portion of the County is also within the New Jersey Pine Barrens. This is an environmentally sensitive area protected through the enactment of the Pinelands Protection Act of 1979. The Pinelands ecosystem is also of national importance. It is the nation's first designated National Reserve as promulgated by the National Parks and Recreation Act of 1978.

TOPOGRAPHY

The topography of the County is a function of its geographic location on the Atlantic Coastal Plain. The highest elevations of only one-hundred twenty (120) feet above sea level occur in Buena Borough and Hammonton. These areas encompass the ridges indicative of the watershed boundaries of the Great Egg Harbor River in Buena Borough and the Great Egg Harbor and Mullica Rivers in Hammonton. Consequently, three obvious topographic features are the Great Egg Harbor River, Mullica River and the Tuckahoe River and their associated watersheds. Atlantic County has an abundant variety of natural resources. However, of utmost importance are its surface waters that consist of both fresh and saline, associated wetlands and the ever present concern to maintain an optimum balance between man and nature. There are three major watersheds in the County as referenced in Figure 3.7.

SURFACE HYDROLOGY

The following river descriptions are provided for a better understanding of their important roles in the environmental stability of the County as well as issues of public health. Figure 3.8 illustrates the surface water hydrology of Atlantic County.

Great Egg Harbor River

The head waters of the Great Egg Harbor River are in Winslow Township in Camden County. Thence, the river meanders in a southeasterly direction into the Great Egg Harbor Bay and eventually empties into the Atlantic Ocean. There are many tributaries of the Great Egg Harbor River, as well as, lakes and ponds that share in the 304 square mile watershed that comprises a major portion of the County. The largest of the lakes is the County owned Lake Lenape at 344 acres. The major tributaries within this watershed and approximate locations are in Table 3.11.

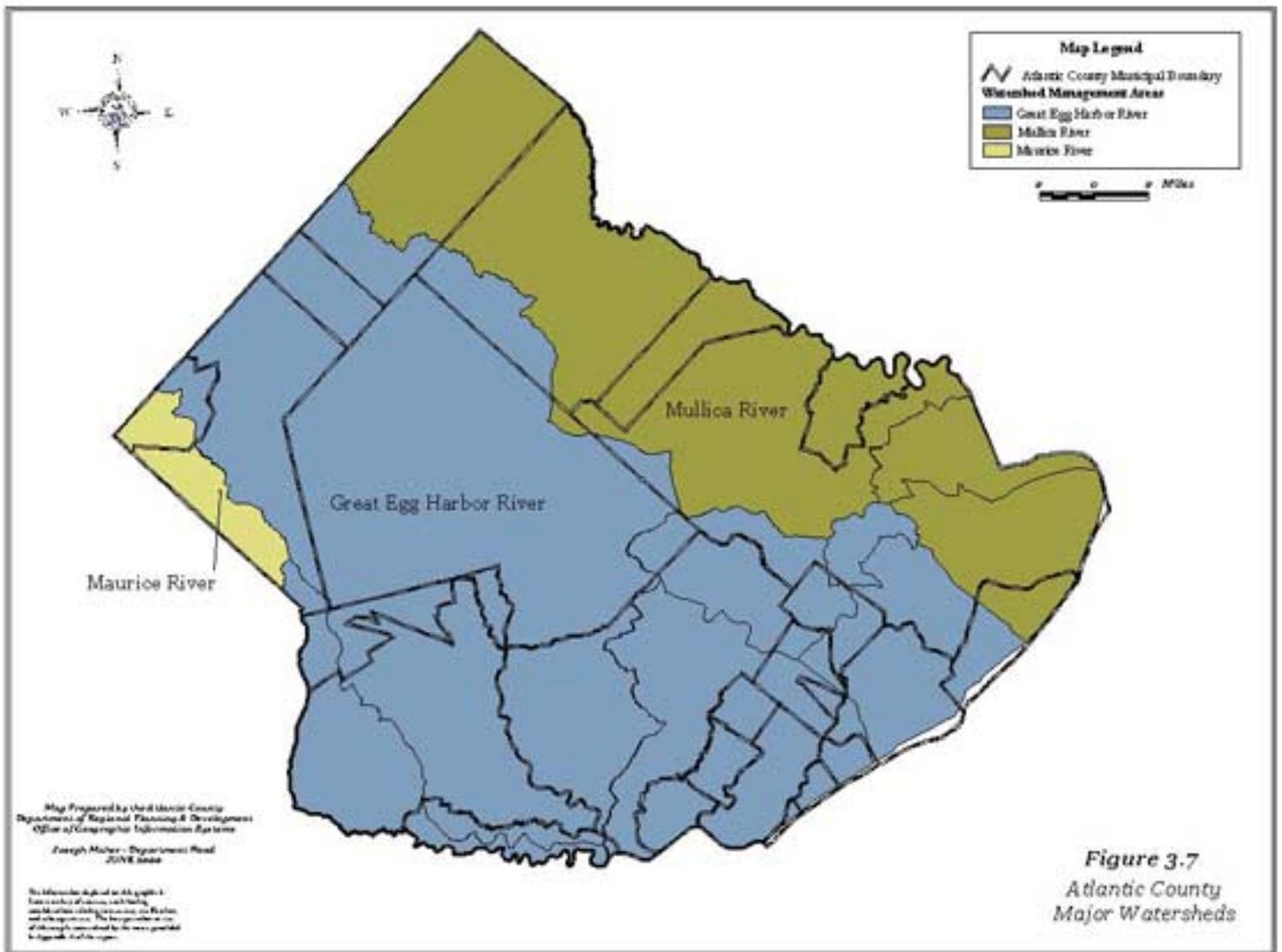
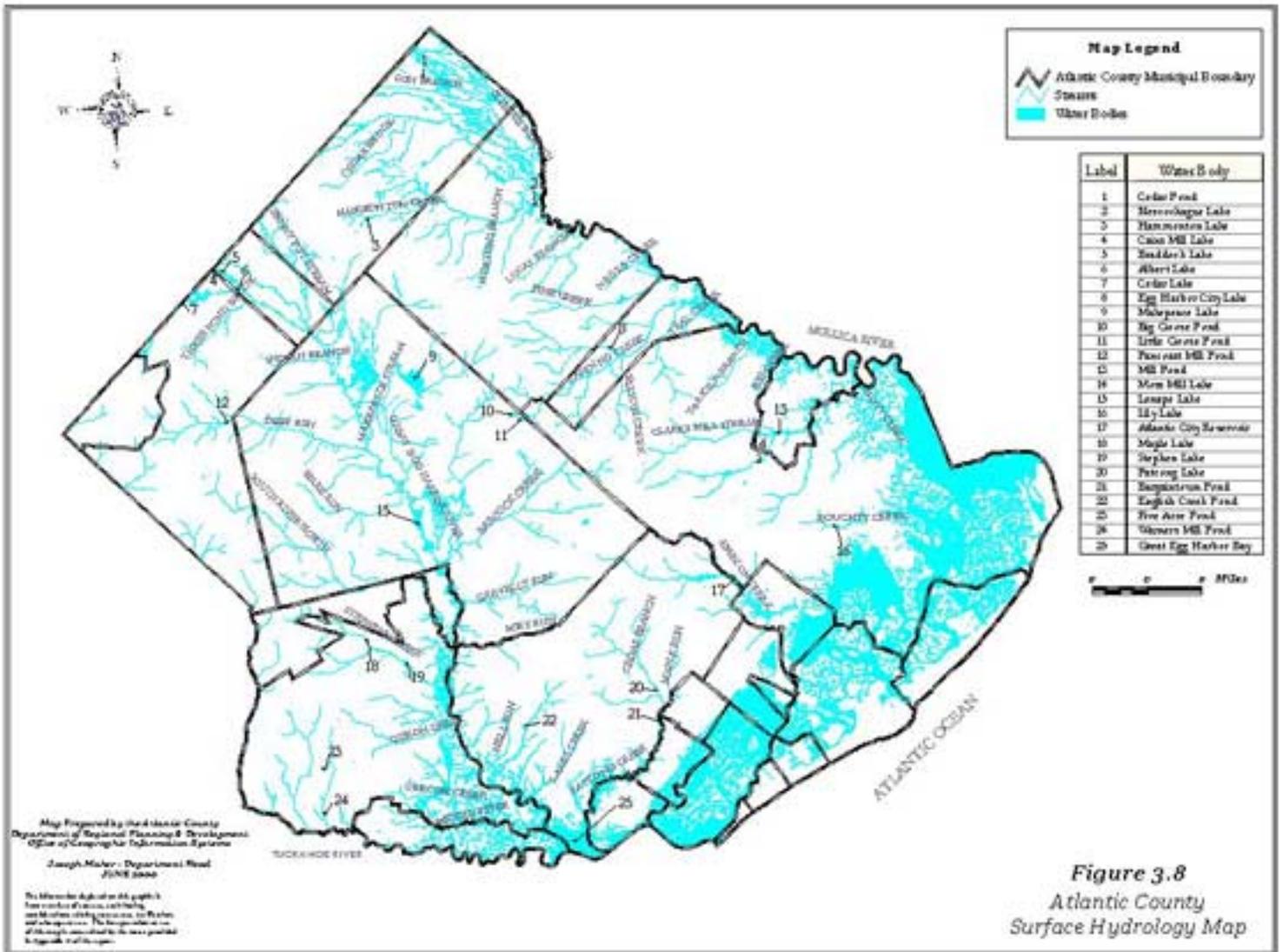


Figure 3.7
*Atlantic County
Major Watersheds*



In October 1992 a total of 129 miles of the Great Egg Harbor River and its tributaries were designated as a “National Scenic and Recreational River” by President Bush through the National Park Services Wild and Scenic River Systems (see Figure 3.9). The Great Egg Harbor River drains approximately 20 percent of the Pinelands National Reserve’s 1.1 million acres. It also has been designated by the U.S. Environmental Protection Agency as “Outstanding National Resource Waters”.

Table 3.11
Tributaries Of The Great Egg Harbor River

Name	Origin	Description
Penny Pot Stream	Hammonton	S through Hammonton , thence into Folsom - confluence @ vicinity of Penny Pot County Park
Hospitality Creek	Folsom	S from Hospitality Lakes, thence into Penny Pot Lake - confluence @ Penny Pot Lake
Deep Run	Buena Borough	SE to Pancoast Lake, thence SE - confluence @ Weymouth Rd. Hamilton Twp. S of Black Horse Pike
Little Mill Stream	Mullica	SW through Hamilton Twp. - confluence @ Weymouth Rd. south of Black Horse Pike
South River	Buena Vista	SE through Hamilton Twp., Weymouth and Estell Manor - confluence @ Estell Manor County Park
Watering Race	Mullica	SW through Hamilton Twp. - confluence @ US Route 40 in Mays Landing
Babcock Creek	Hamilton Twp.	SW through Hamilton Twp. - confluence @ US Route 40 in Mays Landing
OTHER TRIBUTARIES: Hamilton Twp.: John’s Branch, Big Ditch (Makepeace Wildlife Management Area), Gravelly Run, and Mirey Run; Egg Harbor Twp.: English Creek, Lakes Creek, and Powell Creek; Buena Vista Twp.: Mare Run; Estell Manor: Stephen’s Creek, Gibson Creek and Middle River.		

Source: United States Geological Survey

Mullica River

The Mullica River has its origins in Berlin and Waterford Townships and is the common boundary between Burlington, Atlantic, and Camden Counties. It flows in a southeasterly direction for approximately 35 miles through the Wharton State Forest into Atsion Lake, thence, to the Great Bay that empties into the Atlantic Ocean. The watershed of the Mullica River comprises approximately 561 square miles and includes extensive State Forests to the North. These are as follows: Wharton State Forest, Bass River State Forest, Wharton State Forest (Green Bank Section), the northern section of the Edwin B. Forsythe National Wildlife Refuge, and the Swan Bay Wildlife Management Area. The Mullica River has also received State designation as a Wild and Scenic River. The tributaries within the Mullica River watershed are in Table 3.12.

**Table 3.12
Tributaries Of The Mullica River**

Name	Origin	Description
Batsto River	Tabernacle	SW through Tabernacle, Shamong, and Washington Township - confluence @ 1 mile S of Nesco-Batsto Rd.
Wading River	Washington	SE through Washington Township - confluence @ 1 mile west of Garden State Parkway Bridge
Bass River	Bass River	SW through Bass River - confluence @ 1 ½ miles east of Garden State Parkway Bridge
Nescochague Creek	Hammonton	SE to Forge Pond - confluence @ Nescochague Lake
Nacote Creek	Port Republic	NE through Port Republic - confluence @ Edwin B. Forsythe National Wildlife Refuge
Landing Creek	Egg Harbor City	NE through Egg Harbor City - confluence @ N of Hog Island
OTHER TRIBUTARIES: Hammonton: Mochescatauxin Branch, Great Branch, Gun branch; Mullica Township: Hammonton (Jackson) Creek, Pine Creek, and Indian Cabin Creek; Galloway Township: Clarks Mill Stream, and Horses Mill Stream.		

Source: United States Geological Survey

Tuckahoe River

The Tuckahoe River originates in Cumberland County and is the common boundary between Atlantic, Cumberland and Cape May Counties. It flows southerly between Atlantic and Cumberland Counties, thence easterly between Atlantic and Cape May Counties where it meanders for approximately 20 miles into the Great Egg Harbor Bay that empties into the Atlantic Ocean. The Tuckahoe River watershed comprises approximately 40 square miles of State Parks and forested areas. These include the Peaslee Wildlife Management Area in Cumberland and Atlantic Counties and the Lester G. McNamara Wildlife Management Area in Atlantic and Cape May Counties. The tributaries within the Tuckahoe River watershed are in Table 3.13.

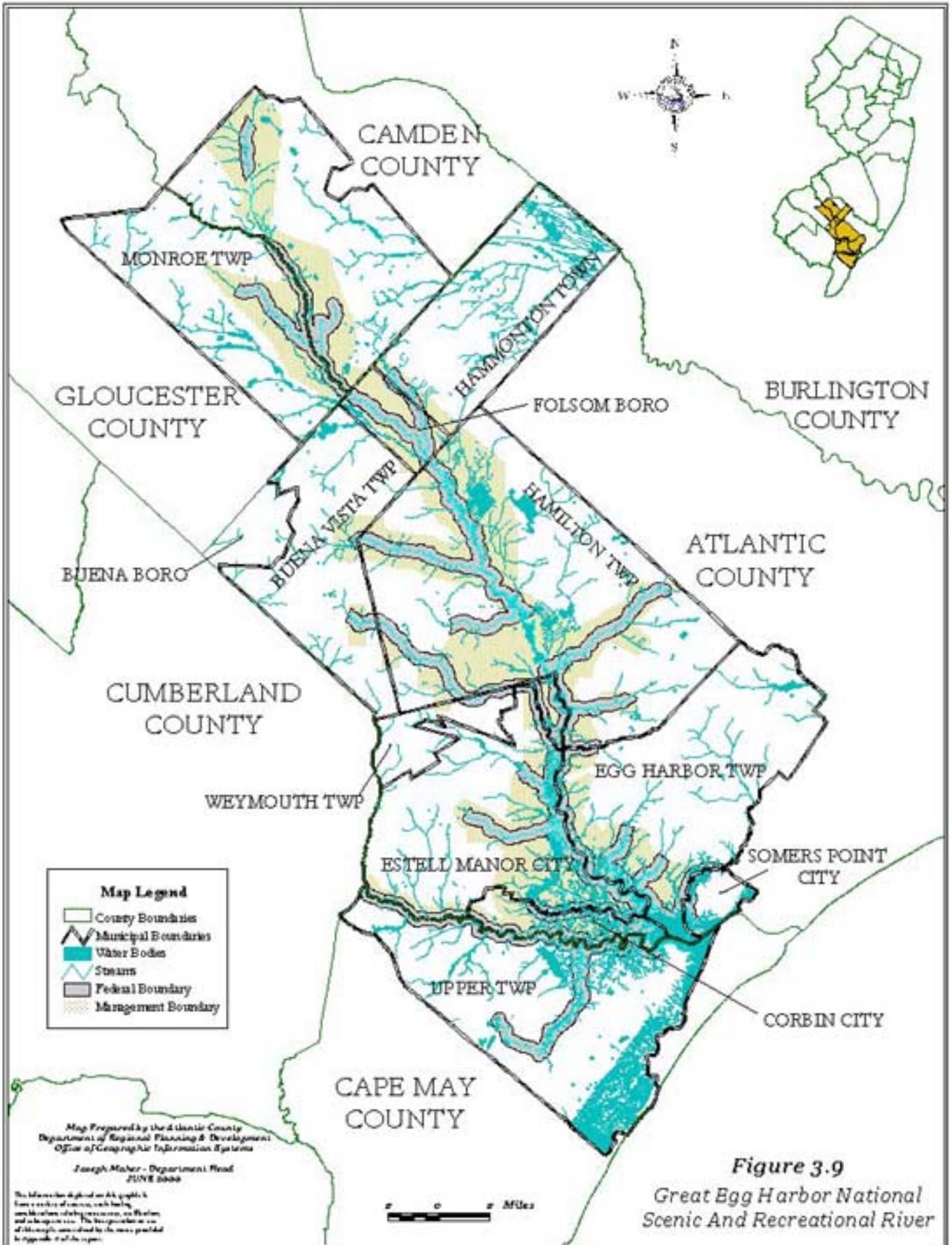
Table 3.13
Tributaries Of The Tuckahoe River

Name	Origin	Description
Mc Neals Branch	Maurice River Township	SE through Peaslee Wildlife Management Area W of Cape May Ave. - confluence @ ½ mile S of Aetna Dr.
Warners Mill Stream	Maurice River Township	SE through Peaslee Wildlife Management Area E of Cape May Ave. - confluence @ ½ mile S of Aetna Dr.
Sharps Branch	Maurice River Township	SE through Maurice River Twp. and the Peaslee Wildlife Management area - confluence @ 2 miles S of Rte. 552
Cedar Swamp Creek	Upper Township	NE through the Lester G. MacNamara Wildlife Management Area - confluence @ 2 miles downstream from Rtes. 49 and 50

Source: United States Geological Survey

WATER QUALITY

There are many factors that affect the quality of our natural resources of surface, ground, ocean and estuarine waters. The components of land use intensity, climate, point and non-point pollution sources are the typical deciding factors in determining the overall health of the County's water systems. There are many variables studied in determining water quality. The following factors and a brief description are the most common: concentration of dissolved solids such as, calcium, magnesium, total nitrite + nitrate-nitrogen, total ammonia-nitrogen, and total phosphorus; specific conductance; ambient air temperatures; dissolved-oxygen, pH and total coliform bacteria.



The dilution of dissolved solids is a function of stream flow magnitude. The lower the stream flows the higher the concentration and conversely the higher the stream flow the more dilution of solids and lower concentrations. Specific conductance is the ability of the water to conduct an electric current. This is useful in approximating concentrations of dissolved solids due to the amount of ions in the water. The dilution of dissolved solids provides a thumbnail sketch of the overall water quality because other unfavorable components in the water would be similarly diluted.

The ambient air temperature which affects the temperature of water bodies and associated rainfalls from climatic conditions also have a bearing on stream flows. Dissolved-oxygen and temperature have an inverse relation with one another. Therefore, a high water temperature would mean lower levels of oxygen and lower temperatures would mean more oxygen. Consequently, photosynthesis in plants would be become a factor by affecting water clarity. The pH (potential of hydrogen) is a measure of the acidity and/or alkalinity of a solution, in this case water. A neutral solution has a pH value of seven, a lower value is more acidic and higher value is more alkaline.

Total coliform bacteria are a group of bacteria that are potential indicators of point source pollution from sewage. The common bacteria in this group are Fecal Coliform bacteria (indicator of sanitary water quality); Fecal Streptococcal bacteria (indicator of fecal pollution) and Enterococcus bacteria (indicator of fecal pollution and enteric pathogens).

Atlantic County

As previously discussed, Atlantic County is on the Atlantic Coastal Plain and the Kirkwood-Cohansey Aquifer is the primary source of groundwater responsible for most stream discharges. Considering the majority of the County is in the Pinelands, the pH of the water is an important measurement. Pineland's waters tend to be more acidic on the pH scale under natural conditions. Reports show there is a definite correlation between the built environment within the watershed boundaries and water quality.

Table 3.14 presents some of the various reported median characteristics for the Great Egg Harbor River and Mullica River. The Mullica River watershed consists of moderate urban development and agricultural activities without sewage discharges. The Great Egg Harbor River and Hammonton Creek watersheds have similar land intensities. However, sewage discharges have contributed to higher waste flows. The report shows the correlation between sections of these watersheds.

Table 3.14
Water Quality Characteristics Pinelands Streams

Land Use Intensity			
	<i>Moderate</i>	<i>Moderate-High</i>	<i>High</i>
Sewage Flow			
	<i>None</i>	<i>Low</i>	<i>Moderate - High</i>
Stream Groups			
<i>FACTOR</i> (median)	BAT, MUL	TOM, NRP, NRB, SBV, GHW	GHB, GHS, HAM
pH (su)	4.6 - 4.9	4.6 -5.9	6.2 -6.4
Specific Conductance (uS/cm)	42 – 44	47 - 75	79 - 136
Calcium, Dissolved (mg/l)	1.6 - 1.8	1.8 - 5.5	3.5 - 5.3
Magnesium, Dissolved (mg/l)	0.7 - 0.8	0.8 - 1.3	1.7 - 1.9
Ammonia-N, Total (mg/l)	< 0.10	< 0.10 - 0.12	0.10 - 1.29
Nitrite + Nitrate-N, Total (mg/l)	< 0.10 - 0.12	< 0.10 - 0.47	1.20 - 1.62
Phosphorus, Total (mg/l)	0.03	0.03 - 0.13	0.22 - 1.06

Station symbol: **BAT** - Batsto River @ Batsto; **MUL** - **Mullica River @ outlet of Atsion Lake**, **TOM** - Toms River near Toms River, **NRP** - North Branch Rancocas Creek @ Browns Mills, **NRB** - North Branch Rancocas Creek @ Pemberton; **SB** - South Branch Rancocas Creek @ Vincentown; **GHW** - **Great Egg Harbor River @ Weymouth**; **GHB** - **Great Egg Harbor River @ near Blue Anchor**; **GHS** - **Great Egg Harbor River near Sicklerville**; **HAM** - Hammonton Creek @ Westcoatville.

Source: Characterization Of Surface Water Quality Along A Watershed Disturbance Gradient, Robert A. Zampella.

The New Jersey State Water Quality Report of 1996 shows that the Great Egg Harbor and Tuckahoe Rivers have low to very low fecal coliform levels with substantial increases in water quality. The former problems of water quality along the Great Egg Harbor River have been from point source pollution in the upper portions of the watershed. The following former point source pollution areas have been eliminated from these waters. The Berlin Borough Sewage Treatment Plant (STP) has been converted to a pump station discharging into the Delaware River through the Camden County MUA. The Buena Borough STP was recently upgraded improving the total water quality of the Great Egg Harbor River watershed. The report also shows that the Mullica River had very low levels of fecal coliform bacteria. The current pH, specific conductance, and nutrient conditions are at 1986 levels. However, high summertime temperatures of the in-stream water have drawn a concern to aquatic life. Other concerns of the Mullica River are heavy metal concentrations of copper, lead, and zinc that exceeded both the acute and chronic criteria at several locations. Point source pollution was also reported at the Hammonton STP.

One hazardous waste site has been identified at the Woodland Chemical Dumps 1 and 2 in the

vicinity of Chatsworth. Aquatic life was either fully or partially supported with a classification of “severely impaired” only at a few locations.

POINT AND NON-POINT SOURCE POLLUTION

The main source of degradation of our waters is from point source and non-point source pollution. Point source pollution is a direct discharge into the water system. This is commonly from municipal sewage treatment plants and regulated through the New Jersey Pollutant Discharge Elimination System (NJPDES). The 1996 New Jersey State Water Quality Inventory Report shows that no facilities within the Great Egg Harbor River drainage area are under enforcement from NJDEP for environmental damage from their respective discharges.

Non-point sources of pollution also contribute to the quality of water. There are a variety of factors characterized as non-point sources of pollution. Stormwater runoff and suburban development may be the two largest pollution sources. Runoff from cropland, surface mining, animal holding areas, construction sites, and septic system leachate are also common land uses that affect the total water quality of a watershed.

HAZARDOUS WASTE

There have been nine (9) hazardous waste sites identified in Atlantic County. The effects of these sites are not always readily apparent. However, it is important that they be monitored for ground water quality. The hazardous waste sites are in Figure 3.10.

ESTUARINE AND OCEAN RESOURCES

The quality of our estuarine and ocean waters continues to be an important environmental concern from a tourism and commercial vantage. County health professionals continually monitor County recreational swimming areas including the Atlantic Ocean for total fecal coliform bacteria counts.

Surveys provided by the Bureau of Marine Water Monitoring are the basis for the reclassification of shellfish growing waters in the State. The Food and Drug Administration requires the State to provide annual tests of these waters. The annual rules governing shellfish classification are based on these scientific studies. Classifications of the monitored water are, as follows: “Approved”, “Seasonally Approved”, and “Special Restricted”. Atlantic County has a rich resource of areas for the harvesting of shellfish.

Areas within the County that have been classified Approved for shellfishing are, as follows: Great Bay, Little Bay, Little Egg Inlet, Perch Cove, Reeds Bay, Scull Bay, Great Egg Harbor Bay, Great Egg Harbor Inlet; and Seasonal: Absecon Bay and Lakes Bay. The types of shellfish that are native to New Jersey and that also have commercial significance are in Table 3.15 and Table 3.16 identifies the reclassification of shellfish areas in Atlantic County.

Table 3.15
Commercially Important Shellfish Native To New Jersey

Name	Scientific Name	Environment	Size
HARD CLAM	<i>Mercenaria mercenaria</i>	Estuarine: partially buried in sand or mud bottom.	3-5 in.
EASTERN OYSTER	<i>Crassostrea virginica</i>	Estuarine: attached to rocks, shells, pilings or any other hard object.	2-6 in.
BLUE MUSSEL	<i>Mettles eludes</i>	Exposed in clusters: attached to piles and rocks or in beds on hard bottom.	1-3 in.
SOFT SHELL CLAM	<i>Mya arenaria</i>	Estuarine: sandy or mud bottom.	1 ½-6 in.
SURF CLAM	<i>Spisula solidissima</i>	Marine: surf line to 25+ miles offshore mostly in < 100 ft. of water.	7 in.
OCEAN QUAHOG	<i>Arctic Icelandic</i>	Marine: 1 -25+ miles offshore in 85-160 ft. of water	5-5 in.

Source: State of New Jersey Shellfish Growing Water Classification Charts

Table 3.16
Reclassification Of Shellfish Harvesting Acreage In Atlantic County

Year	Location	Classification	Acres
1987	Great Bay - Cape Horn Area	Approved to Special Restricted	23
1987	Atlantic City - Black Hole Area	Prohibited to Seasonal	10
1989 - 1990	Reeds Bay	Seasonal to Special Restricted	10
1990 - 1990	Shelter Island Bay	Special Restricted to Seasonal	57
1997	Great Bay	Approved to Special Restricted	6
1998	Anchorage Point	Seasonal to Approved	215

Source: State of New Jersey Shellfish Growing Water Classification Charts

WETLANDS

Wetlands are exceptionally important ecosystems that perform various functions such as purification of surface and ground waters, flood protection, flora and fauna habitat, and maintenance of baseflow to surface waters. The wetlands in Atlantic County are both coastal and inland.

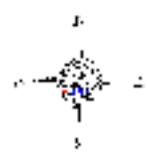
Considering the majority of Atlantic County is in the Pinelands, the applicable wetland definition from the Pinelands Comprehensive Management Plan (CMP) is, as follows:

“Wetlands are those lands which are inundated or saturated by water at a magnitude, duration and frequency sufficient to support the growth of hydrophytes. Wetlands include lands that are poorly drained or very poorly drained soils as designated by the National Cooperative Soils Survey of the Soil Conservation Service of the United States Department of the Agriculture. Wetlands include coastal wetlands and inland wetlands, including submerged lands.” (N.J.A.C. 7:50-6.3)

One can easily conclude that for identification purposes a wetland area must contain three basic attributes: wetland hydrology, hydrophytic vegetation, and hydric soil. A more thorough description is in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, the leading source for identification and the Pinelands Manual, a supplement to the Federal Manual. Wetland hydrology is characterized by permanent or periodic inundation or soil saturation. This causes anaerobic conditions in the soil. These conditions affect the plant species that would dominate. Hydrophytic vegetation, therefore, are plants that thrive where conditions are at least periodically oxygen deficient due to the hydric soils being poorly to very poorly drained.

Coastal wetlands are marshland, meadows, banks, and other low-lying areas that are subject to tidal flooding and have been delineated on official maps by the New Jersey Department of Environmental Protection. Inland wetlands, on the other hand, are commonly cedar and hardwood swamps, pitch pine lowlands, bogs, inland marshes, lakes, ponds, rivers and streams. Tables 3.17 – 3.20 list the more common plants and soils that occur in the respective coastal and inland wetland environments.

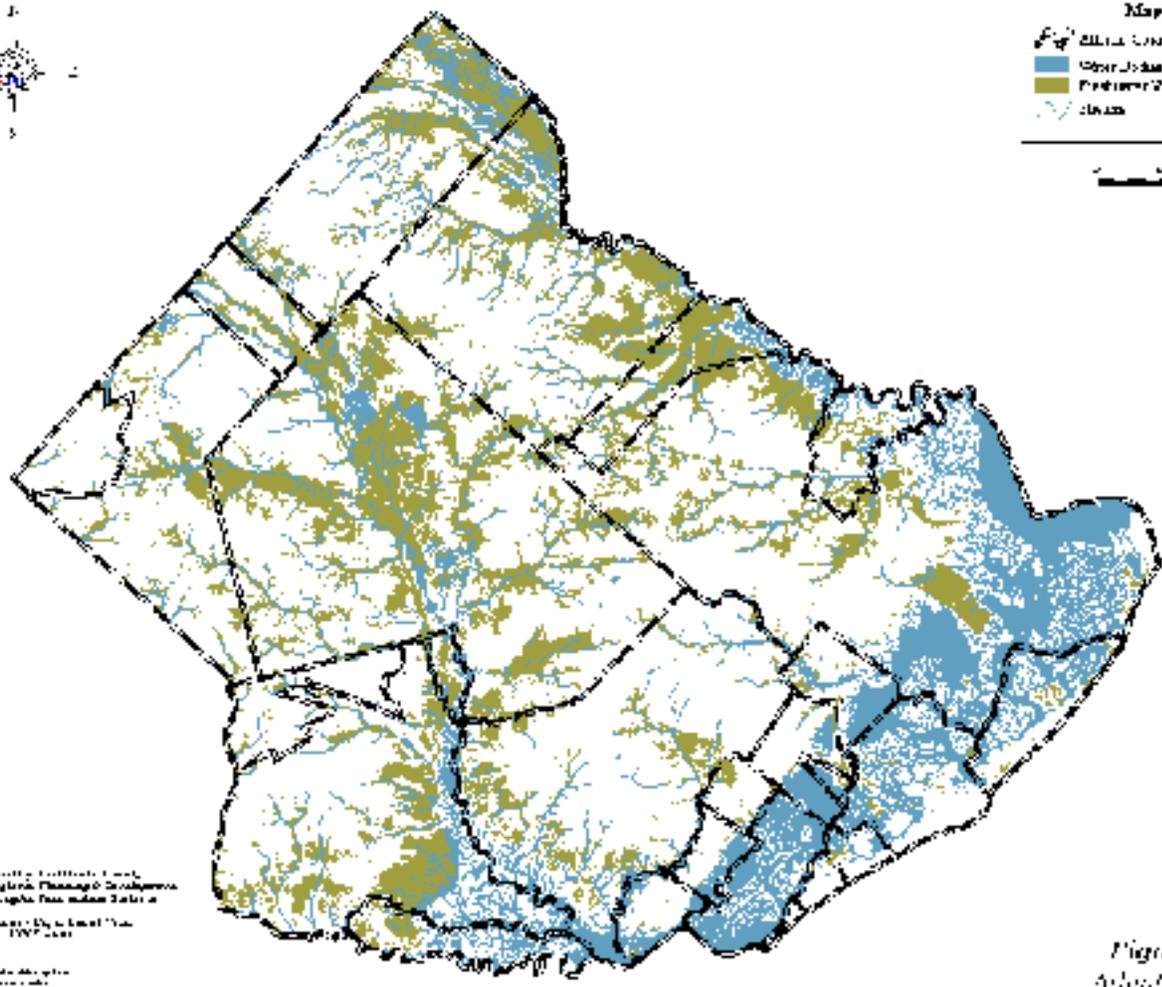
New Jersey’s wetlands outside of the Pinelands Area are under State regulation through the Wetlands Act of 1970, the Freshwater Wetlands Protection Act of 1987 and the Coastal Area Facility Review Act of 1973 (CAFRA) administered through the New Jersey Department of Environmental Protection. This is an important concern to the County. More than 40 percent of the County’s total land area is covered by wetlands as shown in Figure 3.11. Federal agencies also regulate wetlands, including the Army Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service, and Soil Conservation Service.



Map Legend

- Alluvial Valley Management Area
- Open Water
- Freshwater Wetlands
- Stream

0 1 2 Miles



Map prepared by the Florida Fish and Wildlife Conservation Commission
Map Date: 08/15/2011
Map Scale: 1:50,000

This map is a technical drawing
and should not be used for
navigation or other purposes
without the permission of
the Florida Fish and Wildlife
Conservation Commission

*Figure 3.11
Alluvial Valley
Freshwater Wetlands Map*

GROUNDWATER HYDROLOGY

Storage of groundwater occurs in extensive aquifers (water-bearing sands) beneath the earth's surface. The geological components of the Kirkwood formation and the Cohansey Sand form the Kirkwood-Cohansey Aquifer. This is the major freshwater aquifer system throughout southern New Jersey. The water table within the Cohansey Sand, the younger component from a geological perspective is generally less than ten feet from the surface. Consequently, it is the Cohansey Sand that drives the water table. The Kirkwood-Cohansey Aquifer stores an expansive amount of water, approximately 17 trillion gallons. However, it must be constantly recharged to maintain proper levels of the water table. This is necessary to provide protection of natural and manmade elements that depend on this vital resource such as, the ecosystem, agricultural industry and the forest from fires.

SOIL AND MINERAL RESOURCES

The major mineral resources of commercial significance continue to be sand and gravel mined from the various resource extraction facilities throughout the County. The Cape-Atlantic Soil Conservation District references a total of 23 resource extraction facilities in the County. These range from 5 acres to 300 acres and comprise a total land area of approximately 842 acres. The major soil associations in Atlantic County and a brief description are in Table 3.21 and depicted in Figure 3.12. The Soil Survey of Atlantic County should be reviewed for a complete description of the various soil types, mapped locations, and their respective attributes.

Table 3.17
Coastal Wetland Plants

Common Name	Scientific Name
1. Arrowheads	<i>Sagittaria ssp.</i>
2. Atlantic white Cedar	<i>Chamaecyparis thyoides</i>
3. Black grass	<i>Juncus gerardi</i>
4. Bent grass	<i>Argostis palustris</i>
5. Cattails	<i>Typha angustifolia and Typhus iatifolia</i>
6. Chairmaker's rush	<i>Scirpus americanus</i>
7. Common reed grass	<i>Phragmites commonis</i>
8. Hightide bush	<i>Iva frutescens var, oraria</i>
9. Marsh mallow	<i>Hibiscus palustris</i>
10. Olney's threesquare	<i>Scirpus olneyi</i>
11. Pickerel grass	<i>Pontederia cordata</i>
12. Red maple	<i>Acer rubrum</i>
13. Saltmarsh bulrushes	<i>Scirpus robustus and Scirpus paludosus var, atlanticus</i>
14. Saltmarsh grass	<i>Spartina alterniflora</i>
15. Salt meadowgrass	<i>Spartina patens</i>
16. Salt reed grass	<i>Spartina cynosuroides</i>
17. Saltworts	<i>Salicornia europaea and Salicornia bigelovii</i>
18. Sand spurrey	<i>Spergularia marina</i>
19. Sea lavender	<i>Limonium carolinianum</i>
20. Spatterdock	<i>Nuphar variegatum</i>
21. Spike grass	<i>Distichlis spicata</i>
22. Spike rush	<i>Eleocharis rostellata</i>
23. Sweet grass	<i>Hierochloe odorata</i>
24. Switch grass	<i>Panicum virgatum</i>
25. Tall cordgrass	<i>Spartina pectinata</i>
26. Wild rice	<i>Zizania aquatica</i>

Source: Pinelands Comprehensive Management Plan (CMP) N.J.A.C. 7:50-6.4

**Table 3.18
Inland Wetland Plants**

Atlantic White Cedar Swamp			
Class	Common Name	Scientific Name	Pinelands Group
TREES	Atlantic white cedar	<i>Chamaecyparis thyoides</i>	OBL
	Red maple	<i>Acer rubrum</i>	FAC
	Sweetbay magnolia	<i>Magnolia virginiana</i>	FACW+
	Black gum	<i>Nyssa sylvatica</i>	FACW
SHRUBS	Swamp azalea	<i>Rhododendron viscosum</i>	OBL
	Highbush blueberry	<i>Vaccinium corymbosum</i>	FACW+
	Inkberry	<i>Ilex glabra</i>	FACW-
	Common greenbriar	<i>Smilax rotundifolia</i>	FACW-
HERBACEOUS PLANTS	Sundews	<i>Drosera spp.</i>	OBL
	Royal fern	<i>Osmunda regalis</i>	OBL
	Northern pitcher plant	<i>Sarracenia purpurea</i>	OBL
	Cinnamon fern	<i>Osmunda cinnamomea</i>	FACW
Hardwood Swamp			
TREES	Sweetbay magnolia	<i>Magnolia virginiana</i>	FACW+
	Black gum	<i>Nyssa sylvatica</i>	FACW
	Red maple	<i>Acer rubrum</i>	FAC
	Gray birch	<i>Betula populifolia</i>	FACW
	Sweet gum	<i>Liquidambar styraciflua</i>	FAC
	Pitch pine	<i>Pinus rigida</i>	FAC
SHRUBS	Swamp azalea	<i>Rhododendron viscosum</i>	OBL
	Highbush blueberry	<i>Vaccinium corymbosum</i>	OBL
	Fetterbush	<i>Leucothoe racemosa</i>	FACW
	Coast pepperbush	<i>Clethra alnifolia</i>	FACW-
HERBACEOUS PLANTS	Bayonet rush	<i>Juncus militaris</i>	OBL
	Virginia chainfern	<i>Woodwardia virginica</i>	OBL
	Cinnamon fern	<i>Osmunda cinnamomea</i>	FACW
Plant Frequency Of Occurrence			
<p>OBL: Obligate Wetlands Plants: almost always in <u>wetlands</u> - estimated probability: <u>≥ 99%</u>.</p> <p>FACW: Facultative Wetlands Plants: usually in <u>wetlands</u> and occasionally in nonwetlands - estimated probability: <u>67-99%</u>.</p> <p>FAC: Facultative Plants: equally in <u>wetlands and nonwetlands</u> - estimated probability: <u>34-66%</u>.</p> <p>FACU: Facultative Upland Plants: usually in nonwetlands and occasionally in <u>wetlands</u>: estimated probability: <u>1-33%</u>.</p> <p>UPL: Obligate Upland Plants: almost always in <u>nonwetlands</u> - estimated probability: <u>≥ 99%</u>.</p>			
NOTE: BOLDFACE TYPE: signifies dominant species.			

Source: Pinelands CMP (N.J.A.C. 7:50-6.4) & Pinelands Manual for Identifying and Delineating Pinelands Area Wetlands.

**Table 3.19 (continued)
Inland Wetland Plants**

Pitch Pine Lowlands			
TREES	Pitch pine	<i>Pinus rigida</i>	FAC
	Leatherleaf	<i>Chamaedaphne calyculata</i>	OBL
HERBACEOUS PLANTS	Dangleberry	<i>Gaylussacia frondosa</i>	FAC+
	Sheep laurel	<i>Kalmia angustifolia</i>	FAC
	Wintergreen	<i>Gaultheria procumbens</i>	FAC
Also, Red maple, Black gum, Gray birch, Highbush blueberry, and Sweet pepperbush			
Bogs			
SHRUBS	Cranberry	<i>Vaccinium macrocarpon</i>	OBL
	Staggerbush	<i>Lyonia mariana</i>	FAC-
Also, Leatherleaf, Sheep laurel, Highbush blueberry, Swamp azalea, Dangleberry, Staggerbush, Shagnum moss (<i>Sphagnum spp.</i>), sedges (<i>Carex spp.</i>) and other hydrophytes.			
Plant Frequency Of Occurrence			
<p>OBL: Obligate Wetlands Plants: almost always in <u>wetlands</u> - estimated probability: $\geq 99\%$. FACW: Facultative Wetlands Plants: usually in <u>wetlands</u> and occasionally in nonwetlands - estimated probability: <u>67-99%</u>. FAC: Facultative Plants: equally in <u>wetlands and nonwetlands</u> - estimated probability: <u>34-66%</u>. FACU: Facultative Upland Plants: usually in nonwetlands and occasionally in <u>wetlands</u>: estimated probability: <u>1-33%</u>. UPL: Obligate Upland Plants: almost always in <u>nonwetlands</u> - estimated probability: $\geq 99\%$.</p>			
NOTE: BOLDFACE TYPE: signifies dominant species.			

Source: Pinelands CMP (N.J.A.C. 7:50-6.5) & Pinelands Manual for Identifying and Delineating Pinelands Area Wetlands.

**Table 3.20
Atlantic County Hydric Soils**

Symbols	Name	Depth To Seasonal High Water Table	Acreage	Percent
Ac	Atsion	0-1 ft.	28,800	7.9
Bp, Bs	Berryland	0 ft.	13,730	3.7
Mu	Muck	0 ft.	25,200	6.9
Po	Pocomoke	0 ft.	22,700	6.2
TD	Tidal marsh, deep	0 ft.	36,700	10.1
TM	Tidal marsh, moderately deep	0 ft.	4,300	1.2
TS	Tidal marsh, shallow	0 ft.	1,490	0.4
TOTALS			132,920	36.4

Source: Soil Survey of Atlantic County, New Jersey.

**Table 3.21
Atlantic Soil Associations**

Soil Association	Description
DOWNER-HAMMONTON-SASSAFRAS	Nearly level or gently sloping, well drained to somewhat poorly drained soils that have a loamy subsoil.
SASSAFRAS-AURA-WOODSTOWN	Nearly level or gently sloping, well drained and moderately well drained soils that have a loamy subsoil.
KLEJ-LAKEHURST-EVESBORO	Nearly level to gently sloping, excessively drained to somewhat poorly drained soils that have a sandy subsoil.
ATSION-MUCK-POCOMOKE	Nearly level, poorly drained and very poorly drained soils that have a sandy or loamy subsoil, and organic soils underlain mainly by sand.
TIDAL MARSH-FIL LAND-COASTAL BEACH	Nearly level, poorly drained tidal flats; nearly level, excessively drained sandy Fill land; and nearly level or gently sloping, excessively drained coastal beaches.

Source: Soil Survey of Atlantic County

SOLID WASTE MANAGEMENT

NEW JERSEY HISTORICAL PERSPECTIVE

Prior to the 1970s, solid waste management in New Jersey was accomplished locally through the disposal of solid waste at private landfills. In many cases these locations were not initially planned from an environmental perspective. Consequently, increased public awareness of environmental quality and protection efforts combined with a recognition of past aimless solid waste management practices led toward the enactment of the New Jersey Solid Waste Management Act of 1970 (ACT). This legislation and subsequent amendments required each County, as well as, the Hackensack Meadowlands Development Commission to develop and implement a solid waste plan that included the financing and building of facilities. The 1975 Amendments designated 22 Solid Waste districts (21 Counties and the Hackensack Meadowlands Development Commission). The approved Districts' plans incorporate optimum resource recovery techniques such as recycling, composting, and incineration.

Many successful state-of-the-art disposal facilities have been developed. Solid waste management by the late 1980s, unfortunately reached crisis proportions in the State. This was due in large part from increased importation of waste from our neighboring States and the closure of many environmentally unsound landfills and dumpsites. This in-turn required the Districts to reverse roles and become exporters. This set the stage for establishing the Emergency Solid Waste Assessment Task Force through the signing of Executive Order No. 8 by then Governor Florio on April 06, 1990. The Task Force's basic assignment was to provide an audit on current policies and provide recommendations to mitigate and eventually resolve the on going solid waste crisis in the State.

In its final report of August 6, 1990, the Task Force determined the major issues to be resolved were the disposal capacity shortfall, the need to abolish out-of-state disposal and the over reliance on incineration technologies. The methods of waste disposal reduction were to be accomplished through the expansion of recycling of municipal wastes from 25 percent to 60 percent. This goal was subsequently refined to recycling of municipal wastes from 50 percent to 60 percent overall by year end 1995. This initiative is of such magnitude that it requires all parties from large commercial and industrial complexes to individuals to play a vital role in source reduction through proper recycling practices.

However, on May 16, 1994 the United States Supreme Court in the matter of C & A Carbone, Inc. v. Town of Clarktown, N.Y. decided that an adopted ordinance directing the flow of waste can not interfere with free trade of goods and services through interstate commerce. Consequently, it did not take long for the effects of this case to trickle down to New Jersey.

In the United States District Court case of Atlantic Coast Construction and Demolition and Recycling, Inc. v. Board of Chosen Freeholders of Atlantic County, et. al., it was decided that type 13C or more commonly known as construction and demolition debris could be transported to any properly licensed facility. On July 15, 1996, with the same parties involved the remainder of the waste flow was similarly deregulated. An appeal to the United States Court of Appeals upheld the United States District Court decision. The appeals process was eventually exhausted by denial of a request for a second appeal on October 1997. These decisions stating that interstate commerce of solid wastes can not be unfairly restricted became the debacle of the State's waste flow directives.

ATLANTIC COUNTY HISTORICAL BACKGROUND

The Atlantic County Solid Waste Management Plan of 1980 determined that recycling, resource recovery and landfill siting were the major issues to be resolved. The original plan recommended that six County Districts be established each with a landfill. The eventual closure of the remaining landfills would be combined with the expansion of the Pinelands Park Landfill. However, the Pinelands Park Landfill plans were subsequently unacceptable to the Chosen Board of Freeholders and ordered to close by 1985. At the same time, the Chosen Board of Freeholders designated the Atlantic County Utility Authority (ACUA) as the primary agency to establish a landfill siting study. The landfill siting reports prepared by the ACUA recommended approval of a site in the Pancoast area of Hamilton and Buena Townships. This however required a waiver of strict compliance from the Pinelands Commission and was denied in April 1986.

Amendments to the County Solid Waste Management Plan were consequently adopted in 1986 and 1988. This was to ensure there would be sufficient capacity for the County's solid wastes. The amendments also permitted expansion of the Pinelands Park Landfill conditioned upon a closure date of August 1990 as promulgated by the Pinelands Comprehensive Management Plan (CMP). This strategy was to facilitate the planning of the transfer station and landfill at the Haneman Environmental Park, as well as, the recycling center and compost site to manage the County's solid waste.

PRESENT CONDITIONS

The original County plan for solid waste management went through many changes. The eventual closure of the Pinelands Park Landfill in 1990 and operation of the Haneman Environmental Park beginning in the same year has the County's Solid Waste Management Plan successfully meeting current and anticipated demands.

The Haneman Environmental Park located on a former sand and gravel pit comprises approximately 360 Acres. It is seven miles west of Atlantic City within an expansive industrial area, see Figure 3.13. The ACUA is the lead agency responsible for the implementation of the County Solid Waste Management Plan. The Park consists of various facilities to manage the solid waste stream which are referenced in Table 3.22. The New Jersey Department of Environmental Protection (NJDEP) solid waste classifications are referenced in Table 3.23.

**Table 3.22
Haneman Environmental Park Facilities**

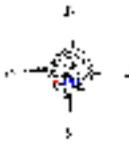
Facility Type	Area (Square Feet)	Description
Transfer Station	80,000	First facility to go online in August 1990 - operating a maximum of 1,950 tons per day @ 6 days per week
Bulky Waste Recycling Area	16,000	Inspection and source separation of comingled waste for disposal and recycling.
Landfill		Accepts type 13 and 27 wastes. Two year demonstration to accept municipal waste.
Recycling Center	58,000	Capacity of 160 tons per 7 hour shift - separation of materials for high market and has capacity to process imported waste.
Vegetative Composting	Within the landfill footprint	Composting of leaves, grass, brush, and trees.

Source: Atlantic County Solid Waste Management Plan

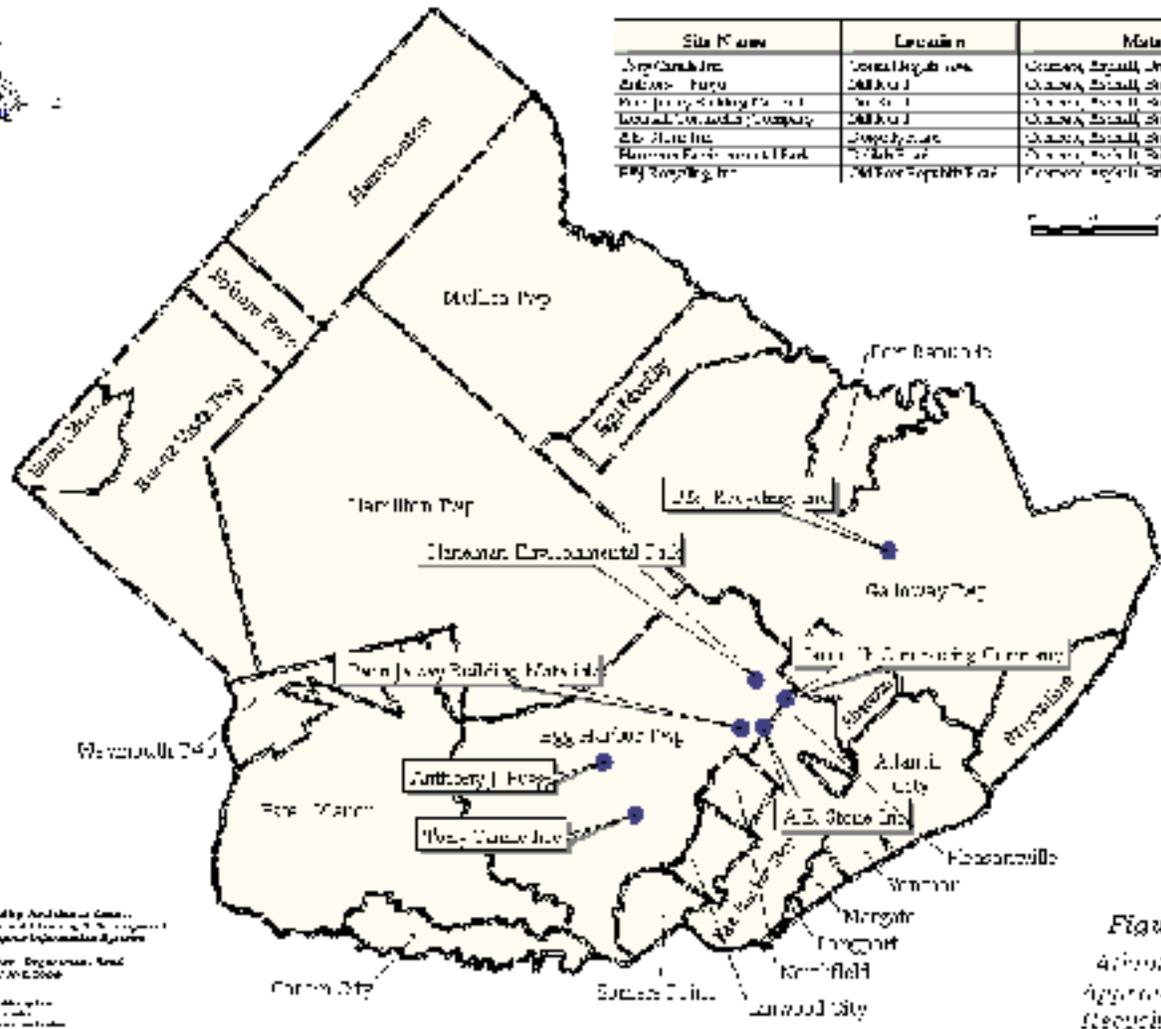
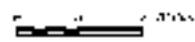
ACUA ACTIVITIES

The ACUA activities within Atlantic County include curbside recycling of mixed paper, cardboard, glass, plastic containers, plastic bags, aluminum, tin, bi-metal, steel cans, and household batteries. The ACUA also provides for the collection of household hazardous wastes at designated times and can manage “special materials” such as freon gas, sewage sludge and tires. The County’s Solid Waste Management Plan is additionally supplemented through municipal recycling of Class A Recyclables using drop-off centers. Class A Recyclables are paper, plastic, metal, and glass and are also collected by the ACUA. An invaluable component of any management plan including solid waste is the ongoing need to provide public education. The ACUA satisfactorily accomplishes this by providing educational opportunities on proper practices of solid waste management. These educational efforts are particularly, aimed at source reduction as a function of “buying habits, product selection and waste generation.” The ACUA also provides tours of all facilities, publishes a quarterly news letter, and attends community events to promote recycling. The quantities of municipal solid waste are in Table 3.24 and recyclables per municipality within the County are in Table 3.25.

There are several private “Class B” Recycling Centers within Atlantic County. A Class B material includes source separated concrete, brick, block, asphalt-based roofing scrap, wood, asphalt, trees and tires. These Class B Recycling Centers provide for the receipt, processing, transfer and storage of these materials subject to NJDEP approval and are shown in Figure 3.13.



Site Name	Location	Materials
Big Canada Inc.	Central Highway 104	Concrete, Bricks, Blocks, Blocks, Tiles
Autobryl - York	104/102	Concrete, Bricks, Blocks, Blocks
Woolpert Recycling Plant	104/101	Concrete, Bricks, Blocks, Blocks
Woodland Concrete Company	104/101	Concrete, Bricks, Blocks, Blocks
St. John Inc.	104/101	Concrete, Bricks, Blocks, Blocks
Hammerhead Concrete Ltd.	104/101	Concrete, Bricks, Blocks, Blocks
RFJ Recycling Inc.	104/101 Highway 104	Concrete, Bricks, Blocks, Blocks



Map Prepared by Andrew Green
 11/20/04
 Design Name: Department Road
 11/20/04

Figure 3.13
 Alameda County
 Approved Waste
 Recycling Centers

GENERAL COMMENTS

The ACUA by far is responsible for the majority of the County's solid waste activities. The County Solid Waste Management Plan however is also advanced through the recycling efforts of individual municipalities and private commercial, professional and industrial enterprises, as well as, various institutions. For example, regulated medical wastes that are generated by medical institutions are managed privately and disposed of outside the County. The Shore Memorial Hospital, however, incinerates its generated medical waste. Continued use of food remnants by swine farmers, collection of restaurant grease, and the recycling of antifreeze and motor oil all contribute to the management of the solid waste flow. Private recycling centers, automobile junk and salvage yards, as well as, the individual property owner all play a valuable role in managing solid waste.

It is recommended the following sources be consulted for a more detailed understanding of the County's solid waste initiatives. These sources include, the Atlantic County Solid Waste Management Plan, Atlantic County Recycling Plan and the 1997 Annual Bond Report and Certification for the ACUA.

**Table 3.23
NJDEP Solid Waste Classification**

Type	Name	Description
10	Municipal Solid Waste	Solid Wastes generated by Private residences, commercial sources (i.e. wholesale, retail, and service establishments), and institutions (i.e. schools, hospitals, and public buildings).
13	Bulky Waste	Large waste items including furniture, appliances, discarded automobiles, trucks and trailers, vehicle parts, and tires
13C	Construction and Demolition Waste	Treated and untreated wood scrap, tree stumps, parts, and brush; concrete; asphalt; brick; block; masonry; plaster and wallboard; roofing materials; corrugated cardboard and miscellaneous paper; ferrous and non-ferrous metal; non-asbestos insulation; plastic scrap; dirt; carpet and padding; and glass generated from construction or demolition operations.
23	Vegetative Waste	Waste materials generated by nurseries, farms, greenhouses produced from raising plants. Also, includes crop residues, tree wastes from chipper processing, leaves, grass clippings, tree parts, shrubs, and garden waste.
25	Animal and Food Processing Waste	Waste generated by canneries, slaughterhouses, and packing plants. Also, animal manure and dead animals.
27	Dry Industrial Waste	Waste materials resulting from manufacturing, industrial and research development that are non-hazardous. Also, included are oil spill cleanup, dry pesticides, dry chemical waste, and scrap metal shredding residue that are non-hazardous.
27A	Asbestos	Waste materials containing asbestos.

Source: N.J.A.C. 7:26-2.13(g)

**Table 3.24
Atlantic County Municipal Solid Wastes (Tons)**

Municipality	1991	1992	1993	1994	1995	1996	1997
Absecon	4,776	4,430	4,475	4,154	5,082	4,700	4,624
Atlantic City	78,794	82,585	82,665	83,304	85,257	84,719	81,277
Brigantine City	7,092	7,395	7,220	7,549	7,605	7,535	6,688
Buena Boro	2,700	2,216	2,367	2,482	2,296	2,356	2,193
Buena Vista Twp.	4,101	3,799	3,946	4,332	4,252	4,170	3,375
Corbin City	167	184	200	172	218	235	236
Egg Harbor City	2,262	2,144	2,337	3,010	3,116	3,043	3,054
Egg Harbor Twp.	18,303	17,246	18,589	19,293	17,728	16,416	16,370
Estell Manor	487	460	408	471	639	682	701
Folsom Borough	811	991	910	849	805	826	823
Galloway Twp.	12,272	11,005	11,470	12,499	12,528	12,672	11,287
Hamilton Twp.	11,889	11,918	11,975	11,648	11,345	11,938	10,984
Hammonton	7,115	8,652	8,760	9,087	9,067	9,366	8,419
Linwood City	3,637	3,880	4,073	4,434	3,528	3,767	3,644
Longport Borough	648	877	1,149	903	752	797	794
Margate City	5,076	5,177	6,299	5,917	5,112	5,309	4,877
Mullica Twp.	2,111	2,076	1,644	1,691	1,675	1,693	1,509
Northfield	5,415	5,869	6,302	7,157	5,685	5,022	4,679
Pleasantville City	10,157	11,754	12,324	12,604	11,622	12,009	10,528
Port Republic	274	250	284	302	304	328	424
Somers Point City	10,749	7,743	7,569	7,764	8,497	8,085	7,594
Ventnor City	5,700	5,741	6,120	6,421	6,071	6,494	6,227
Weymouth Twp.	442	511	676	677	671	737	637
Totals	195,433	196,901	201,763	206,721	203,856	202,897	190,944

Source: Atlantic County Utilities Authority (ACUA) - Municipal Solid Waste & Recycling report.

**Table 3.25
Atlantic County Municipal Recycling (Tons)**

Municipality	1991	1992	1993	1994	1995	1996	1997
Absecon	1,468	1,502	1,633	1,709	1,519	1,542	1,442
Atlantic City	3,604	6,954	7,751	6,438	5,325	4,820	4,719
Brigantine City	1,439	1,857	1,916	1,952	1,892	2,068	2,017
Buena Boro	354	423	474	505	442	432	442
Buena Vista Twp.	749	801	912	992	969	1,005	985
Corbin City	63	73	67	93	81	81	79
Egg Harbor City	594	768	770	698	654	688	650
Egg Harbor Twp.	4,158	5,386	5,675	5,114	4,527	4,395	4,694
Estell Manor	186	188	201	220	204	184	203
Folsom Borough	235	259	284	301	279	286	304
Galloway Twp.	3,207	3,810	4,254	4,480	4,422	4,478	4,315
Hamilton Twp.	2,714	2,680	3,122	2,852	2,694	2,712	2,749
Hammonton	1,696	1,951	2,129	2,208	2,067	2,146	2,146
Linwood City	1,088	1,279	1,274	1,309	1,290	1,292	1,264
Longport Borough	279	278	276	281	267	271	263
Margate City	1,516	1,803	1,838	1,945	1,894	1,875	1,908
Mullica Twp.	605	656	708	773	748	764	746
Northfield City	1,361	1,448	1,598	1,627	1,534	1,539	1,576
Pleasantville City	1,857	2,633	2,858	2,741	2,592	2,486	2,434
Port Republic	146	152	182	201	211	223	215
Somers Point City	1,978	2,308	2,489	2,576	2,438	2,445	2,382
Ventnor City	1,372	1,461	1,567	1,651	1,677	1,705	1,704
Weymouth Twp.	199	230	250	252	260	255	266
Totals	30,868	38,899	42,228	40,919	37,986	37,691	37,503

Source: Atlantic County Utilities Authority (ACUA) - Municipal Solid Waste & Recycling report.

AFFORDABLE HOUSING

Affordable housing in the State of New Jersey has its roots with a series of cases and legislation that date back to the 1960s as referenced in Table 3.26. However, the most notable of all these cases is the litigation involving the municipality of Mount Laurel.

In Mount Laurel I the Supreme Court determined every municipality has a constitutional obligation to provide a “realistic opportunity” for its fair share of a particular region’s need for low and moderate income housing. In the Case involving Oakwood at Madison v. Township of Madison the Court approved a builder’s remedy, however, it also applied a “numberless” system for determining fair share, thereby, removing the teeth for effective enforcement. The builder’s remedy is the zoning concessions and construction permits provided to a builder who successfully sues a municipality under the Mount Laurel doctrine (four market units for each low and moderate income unit). Also, in Pascack Association v. Township of Washington and Fobs Associates v. Demarest the Court would not require the aforementioned obligations in the more developed and older communities throughout the State. Consequently, noncompliance by municipalities followed without any affordable housing being developed.

This generated a new wave of litigation in 1983 involving again the Mount Laurel case, The Urban League and the Mahwah case and became commonly known as Mount Laurel II. The Supreme Court bolstered the Mount Laurel doctrine of a municipality’s affordable housing obligation. The Supreme Court mandated that a formula be developed for determining fair share. The Supreme Court also mandated use of the State Development Guide Plan for fair share allocations and permitted a more liberal use of the builders remedy. A substantial number of lawsuits subsequently filled the Courts with Bedminster Township being the first municipality to settle and pave the way for the construction of the Hills at Bedminster. This resurgence of the “builders remedy” and effective enforcement of Mount Laurel II became the relief of the builders affordable housing woes. The Legislature responded by enacting the Fair Housing Act of 1985 that created the Council on Affordable Housing (COAH). The Act also amended the Municipal Land Use Law (N.J.S.A. 40:55D-62 et. seq.) requiring that for a municipality to have the power to zone it must first adopt a land use element and a housing element within their Master Plan. The MLUL (N.J.S.A. 40:55D-28 et. seq.) considers the housing element technically optional in the master plan, however, as previously stated it is a prerequisite for the establishment of a zoning ordinance.

COAH is a quasi-judicial body that defines housing regions, reviews and approves Regional Contribution Agreements (RCA), development fees and spending plans. They also monitor the ongoing programs of low and moderate housing. The RCA’s are basically agreements whereby one municipality defers their fair share obligation to another municipality through funding of affordable housing construction and rehabilitation within the receiving municipality.

Table 3.26
Affordable Housing Cases And Legislation

Date	Event
1962	Vickers v. Township Committee of the Township of Gloucester
1970	DeSimone v. Greater Englewood Housing Corporation
1971	Oakwood at Madison v. Township of Madison
1975	Southern Burlington County, NAACP v. Township of Mt. Laurel (Mount Laurel 1)
1977	Pascack Association v. Township of Washington
	Fobs Associates v. Demarest
1983	Six (6) exclusionary zoning cases, Mount Laurel, Urban League, and Mahwah case (Mount Laurel II)
1984	AMG Realty Company v. Warren Township
1985	The Fair Housing Act
1986	Hills Development Corporation v. Bernards Township (Mount Laurel III)

Source: Council on Affordable Housing

COAH is the administrative arm that manages the regional planning of affordable housing. COAH certification is not mandatory, however, by having a municipal housing element and a fair share plan certified, a municipality essentially limits exposure from exclusionary zoning lawsuits. The certifications are valid for a six (6) year period. Therefore, it would be in the best interest of municipalities in Atlantic County who have a lot of development potential to receive COAH certification.

Various methods are available to municipalities in meeting their respective fair share obligation. These methods include rehabilitation and resale of existing units, zoning specific areas within a municipality for low and moderate housing, accessory apartments, buy-down programs, congregate living inclusive of group homes for the physically handicapped and mentally disabled and of course RCAs.

The three (3) most common funding sources available are the U.S. Department of Housing and Urban Development, the New Jersey Department of Community Affairs (DCA) and the New Jersey Housing and Mortgage Finance Agency (HMFA). According to COAH statistics as of June 30, 1997 there are 219 municipalities statewide that have participated in the certification process with an additional 67 providing required low and moderate housing through court orders. The report shows a total of 18,549 affordable units and 5,851 units transferred to urban areas in accordance with RCAs totaling over \$109 million dollars. The negotiated payment for an RCA to a receiving municipality presently stands at \$20,000 dollars per unit. Utilization of these funds may be for either the construction of new units or for the rehabilitation of existing units. The report also states there has been rehabilitation of 6,746 dwellings with an additional 14,285 units available through appropriate zoning ordinances.

Atlantic County is in Region 6 South Southwest and shares the area with Cape May, Cumberland and Salem Counties. It is not within the scope of this element to go into the details of COAH's formulas, as the process is rather voluminous and is substantially a municipal function. The precredited needs for Atlantic County municipalities for the second round are in Table 3.27. COAH defines precredited need as "the total need and the prior-cycle prospective need modified by secondary sources of supply and demand." These second round figures replace round one and are important for understanding the position of low and moderate housing in Atlantic County. A municipality may age restrict a portion of the new construction with the remainder for families. There is, however, a maximum amount of new construction that can be age restricted. Municipalities also have an obligation to provide opportunities for rental units. A map of the County's affordable housing need is provided in Figure 3.14.

Table 3.27
Precredited Affordable Housing Need In Atlantic County By Municipality

Municipality	Rehabilitation (Indigenous Need)	New Construction	Second Round (1993-1999)
Absecon	41	139	180
Atlantic City	343	2,456	2,799
Brigantine	32	118	150
Buena Boro	36	39	75
Buena Vista Township	56	17	73
Corbin City	4	11	15
Egg Harbor City	38	40	78
Egg Harbor Township	88	752	840
Estell Manor	10	19	29
Folsom Boro	12	18	30
Galloway Township	92	317	409
Hamilton Township	70	341	411
Hammonton Town	99	253	352
Linwood	28	133	161
Lonport Boro	7	57	64
Margate	64	91	155
Mullica Township	39	36	75
Northfield	42	186	228
Pleasantville	117	0	117
Port Republic	8	16	24
Somers Point	46	98	144
Ventnor	108	22	130
Weymouth	16	13	29
Atlantic County Total	1,396	5,172	6,568

Source: Atlantic County Master Plan 1988 and COAH

In Atlantic County, of the twenty-three (23) municipalities five (5) had submitted plans to COAH for certification during the first round (1987-1993). These are as follows: Buena Vista Township, Estell Manor, Galloway Township, Mullica Township, and Weymouth. The municipalities that have submitted plans for the second round (1987-1999) are Egg Harbor with a petition date of January 28, 1998 and Mullica Township receiving certification on March 4, 1998.

The Atlantic County Improvement Authority (ACIA) continues to be a driving force in the County for providing affordable housing for our residents. This has been achieved most recently by providing the necessary funding for rehabilitation, wells, and septic systems. These are the predominate use of funds. As of April 15, 1999, the ACIA has rehabilitated over 1,000 homes to qualify for credit. COAH has recently amended its definition of rehabilitation to include, weatherization as a major system, electrical, heating, load bearing walls, plumbing, and roofs. This amendment is important for a municipality in meeting an indigenous need, as well as, an RCA obligation, if applicable. A municipality's indigenous need is the existing deficient housing units occupied by households that qualify as low and moderate income. As previously mentioned, Atlantic County is within COAH's housing Region 6 along with the counties of Cape May, Cumberland and Salem. The regional income limits for 1998 are in Table 3.28. The ACIA administers housing programs for most of the municipalities in the County, however, Atlantic City, Margate and Pleasantville function independently.

The Atlantic City Housing Authority and Redevelopment Agency manages the largest amount of affordable housing in Atlantic County. However, COAH reports some communities have proposals other than Atlantic City for new construction of affordable housing units. These communities are Egg Harbor Township with a proposed construction of 762 new units, Mullica Township 39 new units and Galloway Township 122 new units.

Also, within Atlantic County the Casino Reinvestment Development Authority (CRDA) continues to implement the Inlet Redevelopment projects. This is a plan to develop a balanced community within a section of Atlantic City consisting of residential structures, commercial uses and open space. The CRDA administers the reinvestment of a portion of the gaming industry revenues in housing and economic development statewide. However, a casino's obligation for the first three (3) years is mandated to housing in Atlantic City. There has been a substantial commitment to the rehabilitation of Atlantic City neighborhoods. Presently over 325 new homes have been constructed and more than 100 rental units. The current projects that are part of the CRDA's commitment to the community that are either in the planning stages or under construction with a brief description are in Table 3.29.

Recent demographic and economic data for Atlantic County shows a steady increase in population. This is particularly evident in Egg Harbor Township and Galloway Township. Consequently, the need for affordable housing shall continue to be an important component of the community as the County continues to develop commercially and residentially.

Table 3.28
Council On Affordable Housing (COAH) 1998 Regional Income Limits (Adopted April 01, 1998)

CLASS	1 person	1.5 person	2 Person	3 Person	4 Person	4.5 Person	5 Person	6 Person	7 Per
Median	\$32,746	\$35,085	\$37,424	\$42,102	\$46,780	\$48,652	\$50,523	\$54,265	\$58,0
Moderate	\$26,197	\$28,068	\$29,939	\$33,682	\$37,424	\$38,921	\$40,418	\$43,412	\$46,4
Low	\$16,373	\$17,543	\$18,712	\$21,051	\$23,390	\$24,326	\$25,261	\$27,133	\$29,0

Source: Council on Affordable Housing (COAH)

Table 3.29
Overview Of CRDA Housing Projects In Atlantic City

Project Name	Description
Madison Landing	A community of 38 single-family and twin style homes.
Gardner's Landing	A community of 6 single-family homes and 1 duplex.
Oceanside	A waterside residential community of 150 homes with wide open porches and upstairs the water and an anticipated completion between 5 to 10 years.
Housing Technology Demonstration Park	In association with the New Jersey Institute of Technology, a community of 1 showcasing innovative building technologies.
Smuggler's Cove	A project consisting of site development and housing with 500 feet of frontage along waterway with scenic views of the Basin and Absecon Inlet.
Station Heights	A project of 20 to 26 twin style homes in the City's westside.
Vision 2000	A "faith-based" community project with a combined residential and retail theme. The shall be at street level with 12 dwelling units on the upper level within 2 apartment b style townhouses.

Source: Casino Reinvestment Development Authority (CRDA)

HISTORIC PRESERVATION

Historic preservation can take many forms and many times within our reach, however, how often do we take the time to notice. Lucy the Elephant for example, a National Landmark is right in our backyard along with many other historic sites throughout Atlantic County.

Historic preservation is an important national policy. This became apparent through the adoption of the National Historic Preservation Act of 1966 (the Act). Therefore, it should also be an important policy at the state, county, and especially at the local level of government.

The Act authorizes the Department of the Interior to establish and maintain the National Register of Historic Places (NRHP) which is maintained federally by the National Park Service (NPS). The NPS in-turn establishes the State Historic Preservation Officer (SHPO) who administers the programs at the state level. The Act also provides for the Certification of Local Governments (CLG) program that enables local governments eligibility for grant funding. It provides for the Advisory Council of Historic Preservation and also requires federal agencies to establish Agency Preservation Officers. The SHPO by far has one of the most important roles in preservation planning. Their office administers the preservation elements of the Act at the state level and consequently the SHPO is a key person to assist the county and municipalities in their respective historic preservation efforts, along with the New Jersey Historic Trust which provides funding for preservation capital projects. In the State of New Jersey the SHPO is the Commissioner of the Department of Environmental Protection.

The Atlantic County Office of Cultural & Heritage Affairs is also a valuable source of Atlantic County history. Their office is in the County's Mays Landing Library Branch overlooking the Great Egg Harbor River. It is also within Mays Landing's Historic District which listed in the New Jersey & National Register of Historic Places.

It is important to note, the New Jersey Municipal Land Use Law (MLUL) as amended in 1986 (N.J.S.A. 40:55D-107 et. seq.) permits municipalities to establish by ordinance Historic Preservation Commissions. These commissions are the grassroots organizations needed to maintain the integrity of local historic resources. They also serve as keystones to ensure Atlantic County's place in the safekeeping of our part of New Jersey's and the Nation's cultural heritage.

Many of the towns within Atlantic County have had the good fortune to be recipients of historic surveys. Atlantic County surveys conducted in the 1980s were the Survey of Cultural Resources of the Historic Era in the Watersheds of the Great Egg Harbor and Tuckahoe Rivers (1983) and the North Atlantic County Historic Preservation Survey (1986). Atlantic City was also surveyed in 1978. Figure 3.15 illustrates the historic places that have qualified for the historic register.

As the 1988 Master Plan states, the two regional surveys in the 1980s were conducted in large part to determine buildings and districts that were historically significant. Review of the survey methodology reveals that criterion "D" of the National Register was not specifically included.

This Criterion concerns properties that have “yielded, or may be likely to yield, information important in prehistory or history” and are primarily archeological sites or districts.

Nonetheless, the surveys confirmed that potentially there are at least seventeen (17) historic districts within the Atlantic County region. The 1988 Master Plan identifies the towns of “Absecon, Egg Harbor City, Hamilton Township, Pleasantville, and Somers Point as having the largest historic areas.”

It is not within the scope of this element to describe each municipality’s historic areas and sites within Atlantic County. However, should one travel to one of the aforementioned towns they would quickly take a step back in time. The following historic areas are of specific note: Absecon - North and South Shore Road; Egg Harbor City - most of downtown (Philadelphia Avenue) and cross streets. Also, of interest is Pleasantville - North and South Shore Road; Somers Point - Shore Road and the Bay Front Area, and in Hamilton Township the Mays Landing Sugar Hill, Main Street, and Mill Districts. Egg Harbor City, Port Republic, and Ventnor historic districts may warrant state, as well as, national significance.

A diverse amount of architectural styles are also present throughout the County. These range from the most common bungalow to fantasy, such as Lucy the Elephant. Within this range are one and two story cottages; Four-square; ell-shaped; Italianate, and the Georgian, Dutch, and Spanish - Colonial Revivals.

The survey completed in 1986 suggests that Pleasantville required a “reconnaissance” survey of all streets and Ventnor needs to be revisited. Of course, using the standard fifty (50) year time span to determine potential eligibility it becomes evident that much of the post World War II buildings are now within eligibility range. Considering the amount of development pressure within the last decade it becomes increasingly more urgent that local governments continue in their commitments towards preservation of their communities.

It is imperative that local governments take the initiative when it comes to historic preservation. Even though the state and federal government have a valuable role to play in preservation planning they are not in a position to regulate private property. It is the New Jersey Home Rule Act of 1917 (N.J.S.A. 40:48-1 et. seq.) that has brought forth a municipality’s general police power of which zoning is a derivative through the enactment of the Municipal Land Use Law (MLUL - N.J.S.A. 40:55D-1 et. seq.).

Therefore, municipalities should strive to incorporate historic preservation elements within their master plans. These elements should include historic surveys and establishment of historic preservation commissions as promulgated by the MLUL. This is the first step in the right direction towards flexible zoning ordinances that are sensitive to a home owner’s needs to maintain their historic property and the municipality’s need to preserve those structures. The most current list of the County’s historic resources is in Table 3.30 from the New Jersey and National Register of Historic Places.

Another aspect on the journey towards a total commitment of historic preservation is for municipalities to enter into the Certified Local Government (CLG) program. The CLG program enables a municipality to be eligible for funding through the State and to review nominations for NRHP status prior to submission of the applications to the SHPO.

The CLG also shall ensure the continuation of historic surveys in order to maintain an active inventory of historic places and maintain historic preservation as a dynamic element within the respective community. The historic areas of our towns are forever changing and the aforementioned surveys are now becoming dated. Therefore, it may be necessary to revisit specific communities and earmark areas to be surveyed. The lead role of our local governments is essential for the success of historic preservation within Atlantic County. Consequently, it is within our best interest that they receive encouragement and the necessary support in their preservation efforts.

Historic preservation is more than saving an old building from the wrecking ball. It is about stopping time for an instant, appreciation of architecture and respect for archeology. Most importantly, it's about reverence for life and the people whose footsteps we now trace.

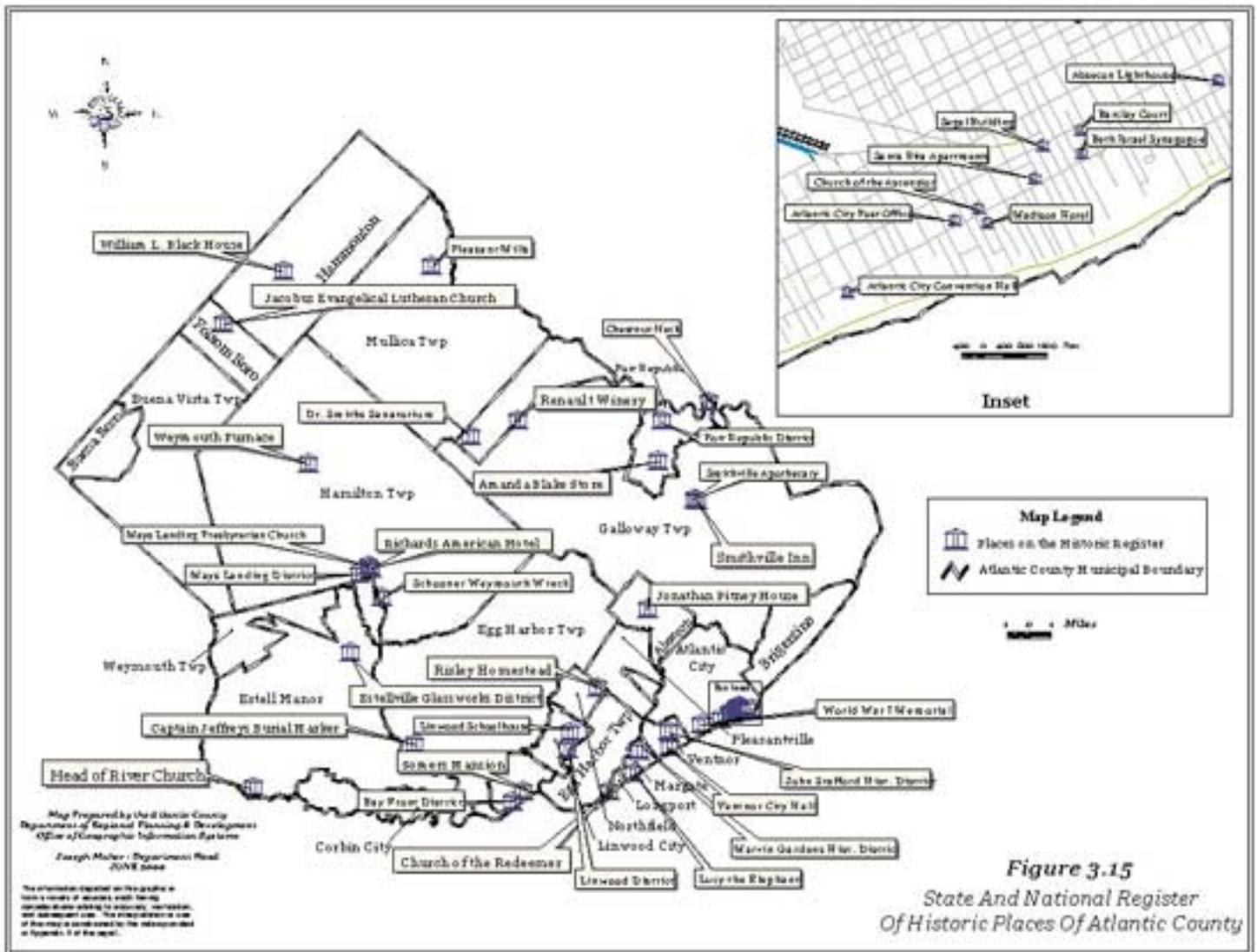


Figure 3.15
State and National Register
Of Historic Places Of Atlantic County

**Table 3.31
Agricultural Census For Atlantic County (Harvested Acres)**

Category	1987	1992	1997
Hogs and Pigs	632	484	742
Sheep and Lambs	80	127	166
Chickens	1001	1882	600
Cattle and Calves	133	169	62
Beef cows	60	58	29
Milk cows		(D)	
Corn for grain	176	180	527
Corn for silage or green chop		(D)	(D)
Soybeans	372	327	313
Hay - all	904	1192	1136
Orchards	2508	1769	840
Blackberries	(D)	10	1
Tame Blueberries	3979	4790	5413
Cranberries	(N)	66	(D)
Raspberries	8	13	6
Strawberries	16	28	19
Green lima beans	3	11	14
Snap Beans	174	920	174
Beets	12	6	14
Broccoli	25	29	20
Head cabbage	348	456	405
Cantaloupes	64	67	27

Category	1987	1992	1997
Collards	130	93	151
Cucumber & pickles	1026	556	715
Eggplant	117	105	79
Endive	102	22	71
Escarole	80	35	76
Herbs (fresh cut)	(N)	299	460
Kale	44	61	77
Lettuce and Romaine	440	285	371
Mustard greens	(N)	(N)	(N)
Green onions	(N)	(N)	(N)
Okra	(N)	(N)	(N)
Parsley	164	196	163
Green peas	30	92	58
Hot peppers	92	126	43
Sweet peppers	424	284	266
Pumpkins	42	125	141
Radishes	59	64	(D)
Spinach	186	101	206
Squash	619	460	612
Sweet corn	483	782	879
Tomatoes	421	348	216
Turnips	(D)	(D)	27
Turnip Greens	(N)	(N)	(N)
Mixed vegetables	(N)	23	40
Watermelons	70	73	67
Other vegetables	200	349	248

(D) Withheld to avoid disclosing data for individual farms.

(N) Not Available.

Source: Agricultural Census for Atlantic County, New Jersey, 1997

Table 3.32
Rank Of Atlantic County In New Jersey For Selected Crops (1996)

Crop	Rank	Acres/Pounds (harvested for fresh market)
Blueberries	1	4,400
Sweet Potatoes	1	450
Apples Com'l production	2	4 Million lbs.
Cabbage	2	200
Lettuce	2	200
Peppers	4	500
Peach production	4	7.4 Million lbs.
Tomatoes	5	unpublished
Nursery Stock	5	unpublished
Number of Nurseries	5	unpublished

Source: New Jersey Agriculture Annual Report Agricultural Statistics 1996

Farmland preservation in New Jersey has made a significant leap in 1997 with the permanent preservation of 53 farms and 8,184 acres of farmland. This is the most farmland ever preserved in a single year in the fourteen year farmland Preservation Program (FPP). The aforementioned number of farms and acreage are in excess of the combined 1995 and 1996 totals. The total is now 250 farms and approximately 37,200 acres of farmland permanently preserved in the State.

The State Agriculture Development Committee (SADC) in New Jersey administers the FPP in New Jersey. There are several programs available to New Jersey farmers. The Farmland Assessment Act of 1964 enables a landowner with five or more acres that produce at least \$500 annually to have a lower property tax assessment. In 1983 the adoption of the Right to Farm Act and the Agricultural Retention and Development Act (ARDA) was the beginning of the farmland preservation movement in the State.

The Right to Farm Act protects farmers from both public and private nuisance complaints and inappropriate government regulations. However, recent studies and court decisions have brought forth the need to reevaluate the act. This is to insure that farmers have additional safeguards from restrictive rezoning by municipalities, state wetlands regulations that limit farming operations, and the on going nuisance battles between the agricultural community and "exurbanites". The Department of Agricultural Economics & Marketing and The Ecopolicy Center for Agricultural, Environmental and Resource Issues of Cook College, Rutgers University, prepared a report dated April 12, 1996, of the Right to Farm Act. Table 3.33 references ten recommendations in the report in order to maintain the integrity and effectiveness of the act.

Table 3.33
Right To Farm Act - Recommended Revisions

1	A clearer definition in the Act of farms that will receive right to farm protection.
2	Provisions for more effective review and coordination of state government actions and regulations.
3	Stronger preemption language to protect farmers from inappropriate municipal actions.
4	Stronger protection from private nuisance complaints by redefining protected activities.
5	A clearer definition of the standards that a farmer must meet to receive the right to farm protection.
6	Elimination of confusing elements of the Agricultural Development and Retention Act and the New Jersey Right to Farm Act.
7	Clarification of the authority, organization, responsibilities, and roles of the SADC or other state agency responsible for Right to Farm.
8	Appropriate funding must be made for Right to Farm mandates.
9	Establishment of a workable and effective conflict resolution process.
10	Right to Farm must be flexible to accommodate the changing needs of agriculture.
11	Provisions are needed to improve the mechanism for conflict prevention.

Source: Summary Report: The Right to Farm in New Jersey - A Legal, Institutional and Social Analysis

The SADC authorizes the establishment of the County Agricultural Development Board (CADB) to administer the Farmland Preservation Programs (FPP) at the county level. The CADB identifies the preferred Agricultural Development Areas (ADA) in the county. In Atlantic County the ADA's locations have not significantly changed from the northwestern section of the County. The criteria for the easement purchase of farm land through the State Farmland Preservation Program has been modified from a 100 acre requirement to at least a 25 acre minimum, whereas, Figure 3.16 references the agricultural areas in the County. However, the designation of land in and of itself is inadequate for the mitigation of development pressure. This must also include effective farmland preservation programs at the disposal of the land owner enabling them to maintain their property as farmland and be equitably compensated.

There are various FPPs available including an eight year program, permanent deed restrictions, easement donations, fee simple purchase and sale at public auction with deed restrictions. Also, even though there is a Pinelands Development Credit program, it is market dependent. Consequently, the state priority ranking for easement purchase remains limited for Atlantic County farmers. Nonetheless, Atlantic County farmers continue to take advantage of the FPPs available, particularly, the Eight year program that provides cost-sharing grants for soil and water conservation projects, specifically, irrigation systems. This program also offers protection from nuisance complaints, water and fuel rationing and various aspects of eminent domain. There were ninety-nine farms enrolled in the eight year program as of March 13, 1998, totaling 4,965 acres. The County is also active in easement purchases, recently acquiring 104 acres at \$3,550/acre of the Sikking Bros. gladiola farm on Oak and Post Roads adjacent to Cumberland County. Benefits also increase if there is a municipally approved FPP. The land affected by the FPP is protected from exclusive agricultural zoning for eleven years, as well as, eminent domain and public funds expenditure for nonagricultural development.

The main sources of funding for the FPPs in the State are from the Farmland Preservation Bond Act of 1989, the Open Space Preservation Bond Act of 1989, and the Green Acres, Clean Water, Farmland and Historic Preservation Bond Act of 1992. The federal government for the first time in 1997 formed a partnership with New Jersey by authorizing a \$1 million dollar cost-share grant. This partnership was through the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) and awarded under the Federal Agriculture Improvement and Reform Act of 1996 providing FPPs for farmland easement purchases.

Through public awareness and sources of funding, farmland preservation in Atlantic County shall continue to be an important component of our economy providing needed agricultural products and of course jobs for the community. A few of the measures available to assist in farmland preservation in the County include the Right to Farm program, a Right to Farm Case Registry and liaison, and a Right to Farm Task Force. The Task Force provides recommendations for revisions to the Right to Farm Act. The recently instituted Farm Link program attempts to match willing buyers and sellers. Also, the State Transfer Development Right (TDR) Bank provides assistance to landowners and municipalities both financially and otherwise for adoption of TDR ordinances.

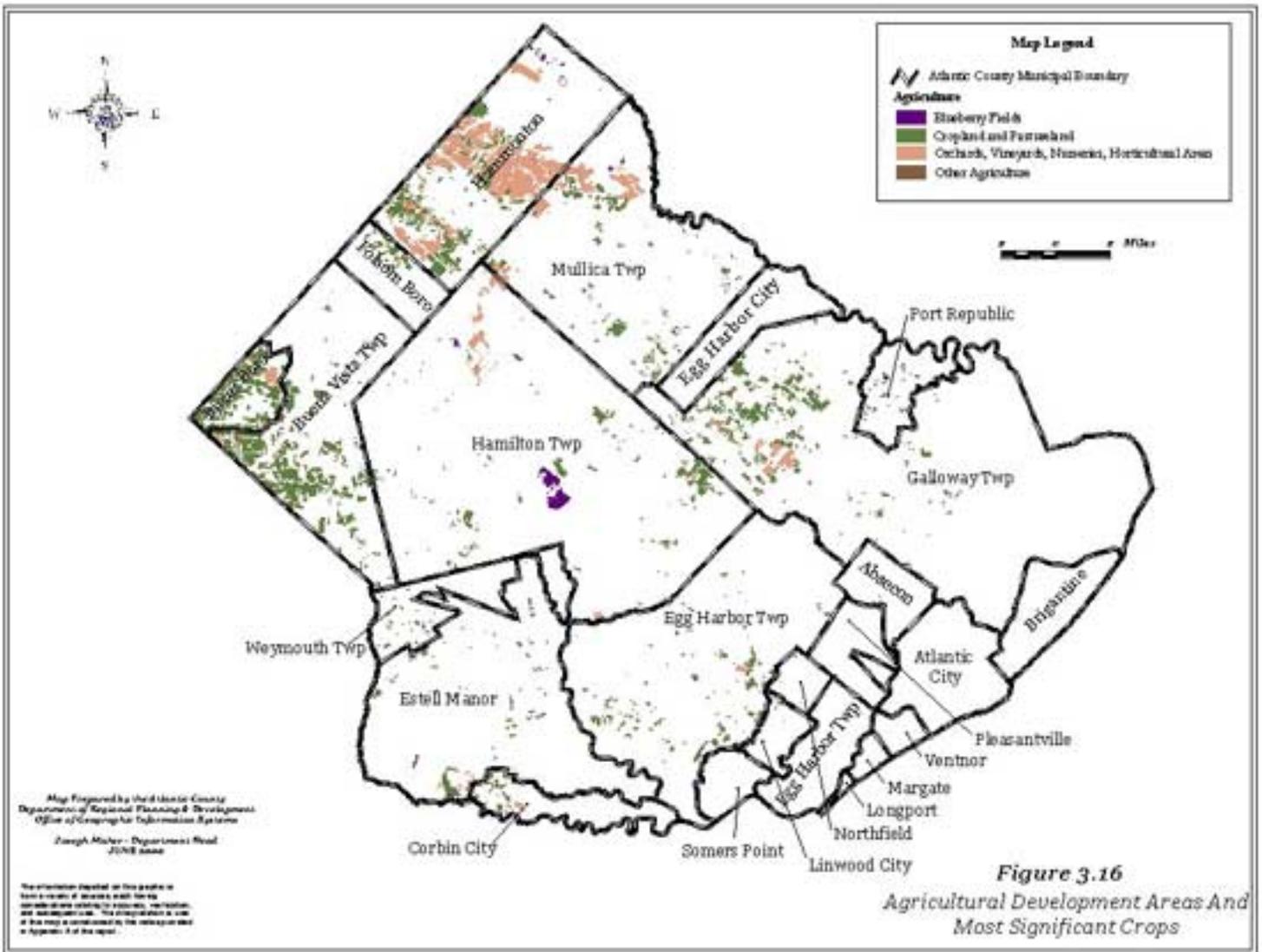


Figure 3.16
Agricultural Development Areas And Most Significant Crops

CHAPTER IV - PLANNING FOR THE FUTURE

INTRODUCTION

Atlantic County has continued to experience the impacts associated with casino gaming. The addition of new convention facilities will continue to enhance the economic and employment opportunities within the County and in the southern New Jersey area. Expansion to the Atlantic City International Airport as well as the proposed lane addition to the Atlantic City Expressway are a result of the continued impacts felt from the casino gaming industry.

The future of Atlantic County rests in the hands of a number of agencies. Atlantic County government has the task of coordinating the goals and policies of a variety of agencies who are unidirectional in their approvals. Each agency has been given a mission to accomplish. Atlantic County government must focus those various missions to ensure Atlantic County residents can accomplish their life goals within the framework provided by government.

The goals and policies set forth in this chapter will provide a direction to be considered in formulating future studies and laws. Important decisions will be made in the next decade which will sculpt the landscape of Atlantic County for the future. These goals and policies should guide the choices made to move into the next millennium.

PLANNING GOALS

- Enhance the quality of life for County residents by expanding active recreation opportunities through the acquisition and development of an extensive County Park System.
- Ensure quality growth and development by planning and developing County infrastructure to complement land use goals established by State and local plans.
- Encourage a diversity of economic opportunities for job creation to compliment the new convention facilities and expected casino growth.
- Promote the location of research and development businesses for mutual benefit of industry; job searchers and the colleges in Atlantic County.
- Coordinate the planning and development of adequate potable water supply and wastewater treatment capacity to accommodate future growth.
- Preserve and enhance the quality of the natural resources of the County.
- Preserve selected critical natural areas supporting endangered species and wildlife habitat.

- Promote safe and efficient transportation systems for access to the County and within the County, including air, rail and motor vehicle systems.
- Preserve and make more efficient use of existing roadway capacities by encouraging sound land use planning and highway access control.
- Preserve and protect the farmland and occupation of farming within the County.
- Preserve the historic and cultural resources in the County.

LAND USE

GOALS

- 1. Influence State and Regional master plans to support the land use goals of Atlantic County.**
- 2. Promote quality growth and development in areas where capital facilities are available.**
- 3. To encourage revitalization of urban neighborhoods where housing is in decline.**
- 4. To discourage growth in areas that would require unplanned extension of capital facilities.**
- 5. Promote lands for a diversity of economic development opportunities within the communities of Atlantic County.**

POLICY STATEMENTS

The County has been subjected to a number of land use planning effects by the New Jersey Pinelands Commission; the New Jersey Division of Coastal Resources as well as the New Jersey Planning Commission. Each agency has adopted a plan for portions of Atlantic County that requires municipalities to confirm their land use policies to their plans. The County was authorized to coordinate that conformance through the Cross-Acceptance process.

The designated areas of the County; Shore Area; Bay Area; Growth Areas and Rural Area were designated on Figure 3.1. These areas establish the focus of the future land use policies of the County. While the County does not establish land use, the capital facilities needed to allow growth to occur must be coordinated by the County.

Policy LU-1

Participate in the development of State and regional planning initiatives, assisting plans to support County land use goals.

While the responsibility for land use planning rests with the local governments, the consequences of complex land use regulation policies promulgated by the State and regional planning agencies do not always get addressed locally before adoption. Communication by the County with local planning boards and governing bodies to alert them to new planning initiatives will assist local government to act as opposed to react to important issues.

Policy LU -2

Evaluate transportation opportunities in existing neighborhoods to promote safe and efficient movement of traffic.

The removal of points of congestion and the addition of traffic controls to improve access to and from an existing neighborhood encourages the development or redevelopment of existing neighborhoods.

Policy LU-3

Encourage local governments to develop information management systems to allow sharing of parcel mapping and land use data to solve regional planning issues.

Information management will be a key tool to support decision making in the 21st century. Issues involving land use planning affect regional transportation decisions. A grants program from the County to municipalities to develop Geographic Information Systems that are consistent with the County system will be the building blocks that will provide better information for better decisions.

TRANSPORTATION

GOALS

- 1. Maintain and improve a circulation system that provides for the safe and efficient movement of traffic.**
- 2. Provide an energy-efficient transportation system that minimizes the negative effects of vehicular emissions on air quality.**
- 3. Protect natural and manmade resources from the negative effects of traffic and road improvements.**
- 4. Provide transportation choices for work, recreation and other trips for County residents and visitors.**
- 5. Promote economic development and tourism in the transportation planning process.**

Policy T-1

Provide improved access from the Baltimore-Washington D.C. metropolitan areas by linking the New Jersey Turnpike and I-295 with the Atlantic City Expressway.

To promote greater access of the casino and non-casino visitor market, it is recommended that I-295 and /or the New Jersey Turnpike be linked with the Atlantic City Expressway. The utilization of existing major routes is preferable to a new highway due to the inevitable problems relating to environmental impacts and new right-of-way acquisition

Policy T-2

Encourage the construction of the Buena-Weymouth Connector to mitigate traffic congestion along US 40 in the vicinity of Mays Landing.

As noted above, US 40 in the Mays Landing area is a major spot congestion problem in the County. For this reason, the feasibility of upgrading Weymouth Malaga Road between US 40 and Route 322 should be studied. Improvements needed to upgrade this road to function as a connector route include the widening of Weymouth road and signage on US 40 directing traffic to this alternate route.

Policy T-3

Construct a linkage between West Jersey Avenue and Route 40/322 to provide access to the Egg Harbor and Hamilton Township Growth Region

West Jersey Avenue will become a key arterial in Hamilton and Egg Harbor Townships' growth region, which is planned to accommodate substantial residential development. The function of this road will shift dramatically to a major collector of residential traffic bound for the commercial and employment centers of Egg Harbor and Hamilton Townships. In order to bring more resources to bear on the improvements that will become necessary, it is advisable that this roadway becomes a County road.

A new road link (in the vicinity of the Lincoln Road right-of-way) should be constructed between West Jersey Avenue and the Black Horse Pike. This road link should be compatible with the plans for the elimination of the Cardiff Circle and the need to preserve the McKee City rail right-of-way.

Policy T-4

Upgrade the Route 575 corridor to serve as a major north-south Route.

Presently, Atlantic County's north-south trips from the growth regions must filter through local roads and the County's suburban arterials. Fire and Shore Roads are the two principal north-south routes in the County system. Both are too far east to serve the Pinelands regional growth areas in Egg Harbor and Hamilton Townships. With the emergence of residential and employment centers, (including the Hamilton Mall, Atlantic City Airport and Smithville), there is a major need for a modern, well designed arterial road.

It is recommended that Route 575, from West Jersey Avenue to at least the Garden State Parkway (Interchange 44) be upgraded to function as a major north-south route. This corridor would also include a portion of Route 322. Improvements to Route 575 would include:

- Widening to 3 lanes (at intersections) south of Route 322
- Widening to four lanes south of the Atlantic City Expressway with additional turning lanes at intersections.

The proposed upgraded arterial road will play an important role in the County's highway network and enable its transportation infrastructure to keep pace with economic growth.

Policy T-5

Complete partial interchanges with the Garden State Parkway at Pomona Road and US 30, and provide a new interchange at Ocean Heights Avenue.

A considerable amount of traffic congestion exists on State and County highways in the bay communities. Peak hour delays are experienced on Route 9, and Tilton, Shore, Fire and Delilah Roads. Furthermore, it is anticipated that Moss Mill, Jim Leeds and other roads in eastern Galloway Township will experience similar problems in near future. Some of these arterials such as Delilah Road handle worktrips bound for Atlantic City. Others, like Fire Road or Shore Road accommodate visitors or business trips to and from the north and south. A significant amount of traffic will be generated by 6000 existing and planned development units in eastern Galloway Township. Employee trips to Atlantic City will considerably affect levels of service on Routes 30 and 9, and nearby County roads.

As the County's growth areas continue to develop, travel will become increasingly important as will the ability to make connections with the Parkway. Recommended access improvements on the Garden State Parkway include:

- Direct southbound access to the Parkway from Pomona Road (interchange 44) to reduce traffic volumes on roads in Galloway and Absecon not designed for through-traffic.
- Complete the Parkway interchange at US 30 (interchange 40).
- Unsafe/over congested conditions of Parkway ramps on Jim Leeds Road could be corrected at the same time by restricting traffic to medical and emergency vehicles only.
- A new interchange at Ocean Heights Avenue should be provided as the development of southern portion of the County's growth area occurs. At a minimum, access to and from the north should be provided.

Policy T-6

Provide linkages from the Atlantic City Expressway and Rail Line to the Atlantic City Airport.

Expansion of Atlantic City International Airport and research, hotel and industrial development near William J. Hughes Technical Center will place a major burden on local highways if the present roadway configuration is retained. Increased traffic volume generated by facility users and employees will place an increasing burden on local and county roads serving the Airport. There is currently no mass transit connection with the airport. A means to access major destinations needs to be provided.

Recommendations:

- Provide a limited access road from the Atlantic City Expressway to the Atlantic City Airport.
- If a new rail station is established in Pomona (see Policy 11), consider the feasibility of regular bus service from the airport to the train station. If no rail connection is to be provided, a regular shuttle bus service should be provided to Atlantic City.

Policy T-7

Continue to investigate and construct/install relatively low-cost highway improvements that can substantially increase road and intersection capacities with a minimum disruption to neighboring land uses.

As growth and development continues, governments must provide solutions to capacity problems on State, County, and local roads. However, major road improvements are costly and funding is limited. A Transportation System Management (TSM) approach can improve the efficiency of highways at peak hours and permit better levels of service without more costly system wide improvements. Other benefits include improvement in air quality as delays are reduced and fuel consumption declines. TSM encompasses a broad range of actions; restriping an intersection, minor geometric improvements, synchronizing the timing of signals, etc....

Tilton Road (a high volume County route) is an ideal candidate for potential synchronization of signals. The County is exploring the synchronization of the Tilton Road signals from 40/322 to the intersection of Tilton, Mill and Shore Roads. Other candidates synchronization include Delilah Road (Fire to Shore Road) and Shore Road in Pleasantville.

Features that support mass transit use to new areas of development should be incorporated into development reviews at the county and municipal level (e.g., bus turnouts along arterial highways and adequate internal circulation for buses or vans in large developments). Bike – compatible design can be used for road reconstruction or resurfacing at minimal cost. This not only provides recreational benefits, but also encourages use of an alternate transportation mode for work trips.

Policy T-8

Encourage the widening of the Atlantic City Expressway from the Pleasantville Toll Plaza to Atlantic City.

Increased traffic volumes on the Expressway have resulted in traffic congestion between the Pleasantville Toll Plaza and the Atlantic City exit. The County should support the construction of additional travel lanes to this section of the highway.

Policy T-9

Access codes must be enacted to preserve the function of County roads to prevent the proliferation of traffic congestion and safety problems.

Roads serve at least two basic (and often competing) functions; access to property (residential, commercial, etc.) and the efficient movement of traffic over long distances and at relatively high speeds. State and county roads fall somewhere between local roads and State highways (e.g., US 40/ 322 and Route 30) although, for the most part, they function as intermunicipal or regional routes.

One of the direct consequences of rapid growth is the proliferation of individual driveways on arterial routes serving high volumes of traffic. As access to individual sites increases, so do traffic hazards and congestion, undermining the function of these roads. Access control (specifically, the rational and efficient placement of driveways along an arterial road) is a critical concern as the County's suburban growth areas continue to develop.

The State Highway Access Management Act empowered the State to adopt and enforce an access code to preserve the State system as a regional and arterial network. The Act also permits counties and municipalities to adopt similar codes and represents an opportunity for Atlantic County to protect the function of its arterial system. The County should develop its own access management code and identify arterial roads to be given priority for this type of regulated protection.

Policy T-10

Demand for and feasibility of fixed mass transit routes for mainland communities should be investigated.

Atlantic County is well served by intercity transit routes and the 7 A-routes originating in Atlantic City. Routes tend to be arranged in radial manner, so travel times to and from the City are minimized and convenience of trips maximized.

However growth has occurred and will continue to occur in offshore communities, particularly Egg Harbor, Hamilton and Galloway Townships. Particularly residents in Egg Harbor Township lack convenient mass transit services to take them to the Hamilton Mall, the medical centers on Jim Leeds Road or Richard Stockton College of New Jersey on Pomona Road. Similarly, Richard Stockton College of New Jersey students lack adequate transit service to the Malls and other activity and employment centers. In general, activity centers (even in the same municipality) cannot be linked by transit trips without a lengthy time-consuming detour into Atlantic City or Pleasantville.

The need for transit routes linking major employment and activity centers should be investigated, particularly along the Route 575 corridor in Egg Harbor and Galloway Townships. The need will grow as residential development and jobs continue to disperse from Atlantic City and concentrate in the mainland growth areas.

Policy T-11

Continue to support the Atlantic City Rail Line, including downtown revitalization planning, traffic and parking studies, site planning and similar elements.

Commuter rail service, provided by the Atlantic City Rail Line (restored in 1987) links Atlantic City (at the new Convention Center), with communities in Gloucester County and with Philadelphia. The rail line supports Atlantic County's economic growth, opening up new markets to the local recreation industry. In addition to this, the downtown revitalization of Absecon, Hammonton Townships and Egg Harbor City should be boosted by the stations in these communities.

As the population in the northern growth region increases, a need for a rail station at Pomona will increase as well. Many future residents of this area may work in Philadelphia or western Camden County. A Pomona station would provide a convenient link to the PATCO Line for these reverse commuters.

Recommendations:

- Encourage establishment of a rail station at Pomona (near Pomona Road)
- In conjunction with the station, provide a park and ride area for rail commuters
- Provide a shuttle service from the station to the Atlantic City International Airport and other major employers in the immediate area such as Richard Stockton College of New Jersey, APMC, William J. Hughes Technical Center, Wheaton, etc.

Policy T-12

Other transit modes must be well coordinated with the commuter and intercity services, to be responsive to the shifting ridership volumes and composition.

New Jersey Transit bus routes can provide excellent feeder service for commuters, particularly in the western portion of the County. With employment in Atlantic City projected to increase by 10,000 to 15,000 jobs by 2005, commuter rail will become an increasingly important transportation resource, especially if complemented by an efficient feeder system. The passenger volume of intercity and commuter rail operations may also warrant a connector system to the boardwalk and possibly the marina. The County supports further investigation into a connector system.

Policy T-13

Atlantic County's active rail freight, future rail and non-rail use lines and other rail right of way must be preserved for future rail and/or non-rail use.

Rail freight is currently utilized by several businesses in Pleasantville and Egg Harbor Townships on privately owned Pleasantville and Linwood secondary lines. The County-owned McKee City Spur extends to an industrial and warehousing district in Egg Harbor Township. Although there are no current rail freight users in this district, the potential for future use will grow as light industrial development continues.

A rail right-of-way is valuable for other purposes. Potential uses include protected pedestrian walkways, bike paths, and utilities. For these reasons, there is a need to preserve right of ways, particularly in the vicinity of Shore Mall, where improvements for Route 40/322 and Cardiff Circle are proposed.

Policy T-14

Establish a comprehensive bicycle routing system that will encourage the use of bicycles for commuting and recreation via bicycle compatible roadways.

The Intermodal Surface Transportation Efficiency Act (ISTEA) and the Clean Air Act Amendments (CAAA) require states which are in air quality non-attainment areas to develop traffic management strategies to reduce single occupancy vehicle travel miles. Bikeways and bicycle-compatible roadways are recognized by ISTEA as a viable strategy in an overall trip reduction program.

The Bicycle Element (January, 1995, Appendix D) of the Atlantic County Master Plan identifies the need for bicycle commuter routes (linking residential, employment, and activity centers) and recreational routes on scenic roads or with recreational areas/facilities as a destination. The Plan identifies road design considerations and the need for facilities (bike lockers, bike racks on transit vehicles, etc.), route maps and signage to assist and encourage the use of bike routes. The Plan also identifies and lists ten priority bikeway routes, five on State and Federal routes and five on County Routes.

WASTEWATER MANAGEMENT

GOALS

- 1. Provide for the improvement to water quality in all surface and ground water systems.**
- 2. Provide sufficient wastewater collection and treatment capacity to meet future population growth.**
- 3. Research the viability of wastewater reuse systems to reduce reliance on potable water for non-consumptive uses.**

POLICY STATEMENTS

As discussed in the Wastewater Management Element, Atlantic County has been designated as the Water Quality Management Planning Agency for the management of wastewater and planning needs for the region. Therefore, the following policy statements are provided in order to assure a proper balance between the need to provide the necessary management of wastewater and the conservation and protection of the region's natural resources.

Policy WM - 1

Encourage the continued study and development of wastewater management plans as a cooperative effort among municipalities, the County, and other jurisdictional agencies.

To be most effective, the wastewater management planning process needs to have consistent goals among those involved in the design, approval, and implementation phases of the plan. The establishment of an ad hoc committee of officials who share goals in providing effective wastewater management for the region would help to limit the potential for conflicts in the development and implementation of these plans is recommended.

Policy WM - 2

Encourage and assist in the development of standardized methods for the reporting and recording of wastewater flow information.

It is important that the recording and reporting of wastewater flows by municipalities and utility authorities follow a standardized format in order that the County's Wastewater Management Plan (WMP) can be prepared with the assurance that data analysis is based on consistent and quality information.

Policy WM - 3

Assist in the development of alternative applications of treated wastewater.

The utilization of treated wastewater for landscaping in Atlantic City should be explored in other areas of the County. The application of treated wastewater may be an alternative method of irrigation for plant nurseries, golf courses, and other land uses while providing a secondary benefit of recharging the aquifer.

Policy WM - 5

Assist in the development of funding programs for wastewater management.

It is important that funding is made available to not only the large scale public projects that serve the majority of the population, but also to owners of individual septic systems that are not designed to the current standards, and have failed and are compromising public health.

Policy WM - 6

Assist and educate residents in best management practices for individual onsite septic systems.

The County Board of Health's documentation of septic system failures and problem areas suggests that not only should funding programs continue to correct and/or replace these systems, but that the public health would be benefited by the establishment of educational opportunities, whereby, residents can be assured that investments in the management of wastewater are being maintained at optimum levels.

Policy WM - 7

Recognize that modular treatment technology may be necessary to meet groundwater quality standards.

Throughout the Pinelands Area new and/or expanded point sources such as schools or commercial enterprises may require the implementation of modular treatment technology in order to meet the stringent groundwater criteria required by the Pinelands Comprehensive Management Plan.

WATER SUPPLY

GOALS

- 1. Maintain adequate water supply sources for public and private uses.**
- 2. Educate the public concerning testing individual private water supply wells.**
- 3. Protect the aquifer from land uses that could contaminate water supplies.**
- 4. Work with New Jersey American Water Company and other water utilities to extend public water to areas with contaminated wells as per the Atlantic County Health Department records.**

POLICY STATEMENTS

The management of our water supply is a critical issue that requires a proactive response in order to assure that the quantity and quality of this resource is adequately maintained. The demand and supply ratio must be properly investigated, whereby, anticipated needs can be planned to meet the projected growth in the County. Also, the regulatory aspects of the Pinelands on watershed management and the evidence of saltwater intrusion shows that long term planning and conservation of the water supply and quality are key initiatives.

Policy WS - 1

Assist in the quantification of the region's existing water supply.

It is imperative that the existing dependable yield of the area water supply be determined so that plans can be developed and implemented that are flexible in providing alternative water supply resources for anticipated demands.

Policy WS - 2

Assist in the development of an updated water model, monitoring program, and alternative water use implementation strategies.

The existing water models need to be updated and a program of monitoring water supplies and use implemented to assure that the effects on the resource from current and projected demands can be accurately evaluated. This would facilitate development of effective water use strategies depending on the quantitative and qualitative conditions of the water supply.

Policy WS - 3

Assist in the promotion and education of water conservation.

The conservation of our water supply has a cumulative effect, whereby, everyone has a role to play in conserving this natural resource. Therefore, education in schools and proactive leadership from agricultural, commercial, and industrial users shall advance the awareness that the cumulative efforts of water conservation shall have far reaching benefits to the overall sustainability of the water supply.

Policy WS - 4

Assist and encourage the development of wastewater recycling.

The development of alternative uses of treated effluent as irrigation and recharge into the water table, as well as, discharge into surface waters should be implemented on a regional basis. These strategies properly planned and implemented shall reduce the adverse effects from the “mining” of water. This is important in both the Kirkwood-Cohansey aquifer and the Atlantic City 800-Foot Sands, whereas, stream flows can be properly maintained, as well as, stabilization of the advancing saltfront, respectively.

Policy WS - 5

Assist in the development of land use strategies that mitigate adverse effects to our water resources from non-point source pollution.

The effects of land use and associated non-point source pollution is an important aspect in the overall planning of our water resources. The implementation of effective land use planning and stormwater management practices, and wellhead protection programs shall all advance the quantity and quality of our water resources, as well as, benefit the recreational and ecological aspects of surface waters.

Policy WS - 6

Assist in the development of a regional water supply and quality plan.

The sustainability and quality of our water resources combined with wastewater management and land use planning , as well as, observed adverse trends such as, the cone of depression and inland migration of the saltfront implores us that we develop comprehensive plans based on a regional watershed perspective.

NATURAL RESOURCES

GOALS

- 1. Protect and preserve the significant natural resource assets of the County.**
- 2. Promote education of the citizens of the County as to the need to protect and preserve natural resources.**
- 3. Encourage State and Federal agencies to clean up hazardous waste sites in the County.**

POLICY STATEMENTS

Atlantic County has an abundance of natural resources that deserve our continued conservation efforts. The three (3) major river systems: The Great Egg Harbor River, Mullica River and Tuckahoe River and associated wetlands, coastal and estuarine habitats, ground water, soils, and the various flora and fauna all play an important role in the maintenance of a healthy environment. Therefore, it is in our best interest that these resources are protected through recognized best management practices.

Policy NR - 1

Encourage the installation of additional US Geological Survey water quality monitoring stations and results to be submitted to the Atlantic County Department of Regional Planning and Development.

There are a substantial number of monitoring stations along the Mullica River, a total of twenty-five with four in Atlantic County. However, along the Great Egg Harbor River there are a total of only three stations with two in the County and the Tuckahoe River only one station in Cape May County.

Policy NR - 2

Encourage local governments and other agencies to establish consistent stormwater management design standards.

It is important that stormwater management facilities not only be reviewed at the local level but also comply with regional initiatives. This can be accomplished through a cooperative effort in the development of standards that meet regional stormwater management goals.

Policy NR - 3

Assist in the adoption of a stormwater management inspection program that can be administered at the local level.

A monitoring program of stormwater management facilities throughout the County should be established to assure proper functioning and maintenance, as well as, mitigation of potential pollution sources, including but not necessarily limited to sediments, deicing compounds, crop runoff and illegal dumping.

Policy NR - 4

Development of a Geographic Information System (GIS) data layer of stormwater management facilities, particularly, those having a direct impact on watersheds of the three aforementioned major rivers in the County.

The GIS technology can be incorporated into the development of a plan of stormwater management facilities, particularly, the location of discharges into the drainage basins. It is anticipated that location of some basins might be applied spatially to advance stormwater management plans from a regional perspective.

Policy NR - 5

Development amendments to the County Land Development Standards requiring stormwater management facilities and other spatial data to be submitted to the Atlantic County Department of Regional Planning and Development in an approved digital format.

The incorporation of the proposed amendment shall allow the County to maintain valuable information more cost effectively, as well as, advance the GIS database.

Policy NR - 6

Assist in educational opportunities in the protection of our coastal beaches and dunes, as well as, our estuarine resources.

It is obvious that our beaches are an important resource not only from an environmental perspective but also from a commercial and tourism vantage. Therefore, it is essential that funding sources for education and protection measures are maintained at optimum levels to assure the continuance of these resources.

Policy NR - 7

Encourage and assist in the awareness of the importance of coastal and inland wetlands.

The importance of the County's coastal and inland wetland environments needs to be maintained through education and enforcement. Also, development applications with wetlands need to be properly designed and planned to mitigate any adverse effects to the wetland ecosystem.

Policy NR - 8

Encourage and assist in a cooperative effort with local governments and resource extraction site owners in the development of best management practices in the functioning and reclamation of resource extraction facilities.

Sand and gravel are both important resources that are incorporated into a variety of uses. It is important that a cooperative effort be accomplished, whereby, the industry, as well as , the environment and surrounding properties can be protected from the inherently intensive practices involved in extractive industries. It is essential that mining and reclamation are performed simultaneously in order to facilitate alternative uses of the site following the use of the location for resource extraction.

Policy NR - 9

Assist and support in the monitoring and remediation of hazardous waste sites, as well as, enforcement of violators.

Hazardous waste sites pose serious environmental concerns, particularly, to the County's groundwater whereas, it is essential that these sites be reclaimed and monitored, as well as, evaluation of alternative uses for these locations in order to mitigate the risk of them becoming attractive nuisances and dump sites. Also, violators of environmental legislation should be prosecuted by all means available as prescribed by law.

SOLID WASTE MANAGEMENT

GOALS

- 1. Facilitate the County's management of solid waste through source reduction, recycling, and reuse.**
- 2. Educate the public, including seasonal residents and visitors on the County's Solid Waste Management Plan.**

POLICY STATEMENTS

The Atlantic County Utilities Authority (ACUA) and private operators have successfully met the challenge of the County's solid waste initiatives. Following the implementation of the County recycling program in 1988, recycling and solid waste management have progressed into the recycling of more than nineteen items and the development of the Haneman Environmental Park, respectively. The deregulation of the solid waste industry has shown the need for the County to be more adaptive and competitive in the recycling and solid waste marketplace.

Policy SW - 1

The County should continue to reexamine the Solid Waste Management Plan to assure that programs are meeting specific goals and objectives.

It is imperative that the Solid Waste Management Plan be flexible to meet the dynamic nature of the solid waste industry. The County should continually review the Plan to assure its successful application to the community which it serves.

Policy SW -2

Assist and encourage source reduction programs and techniques in order to facilitate management of the County's waste flows.

The County has recognized that its per capita solid waste generation has a seasonal component that must be considered, therefore, it is essential that not only permanent residents but seasonal residents also are educated on the source reduction initiatives.

Policy SW - 3

Assist in the development of educational programs to effectuate public awareness on the importance of recycling.

The average recycling rate for municipalities in Atlantic County for 1997 was 30 percent, whereas, the State requirement is 50 percent. The County should assist municipalities in educating the community on the importance of recycling and the reporting of same, as well as, source reduction and landfill capacities to assure proper application of the County Solid Waste Management Plan.

Policy SW - 4

Assist in the Household Hazardous Waste Collection program and the development of a permanent facility for same.

The high participation rate of County residents in the household hazardous waste collection days indicates the need for collection and a permanent facility. Past programs have been successful indicating the public has become more aware on the need to properly dispose of particular household hazardous wastes. These efforts should be increased in order that the public is continually reinforced on the importance of proper disposal of these substances.

Policy SW - 5

The County needs to continue to support in-county disposal of all solid waste. This is consistent with State policies of self-sufficiency.

The ACUA, through a two year demonstration project has been able to show the ability to dispose of municipal waste at the ACUA landfill without causing any safety hazards due to proximity of the Atlantic City International Airport.

Policy SW - 6

The ACUA must continue to implement an effective plan that addresses the potential safety issues due to the proximity of the landfill to the Atlantic City International Airport.

The proximity of the landfill to the Atlantic City International Airport poses a potential risk to aviation safety, due to the amount of birds attracted the landfill. Therefore, the ACUA should continue to provide landfilling at night during lower activity levels of various bird species, as well as, other strategies to mitigate the potentially adverse conditions that may result from increased bird populations at the solid waste complex.

AFFORDABLE HOUSING

- 1. Insure that adequate housing facilities are available for all County residents.**
- 2. Insure that adequate infrastructure is available to support housing opportunities in the County.**

POLICY STATEMENTS

As we have seen, the Courts have recognized throughout the years that there continues to be a need for local governments to provide their fair share of affordable housing. Through the enactment of the Fair Housing Act of 1985 and the establishment of the Council On Affordable Housing (COAH) the State of New Jersey has made a commitment to assure that its residents are afforded a realistic opportunity to be provided adequate housing irrespective of their income levels.

Policy AH - 1

Educate municipalities in the Mount Laurel Doctrine and assist them in updating their housing elements and fair share plans within their master plans.

The County should facilitate educational opportunities for municipalities to become more familiar with the Mount Laurel Doctrine of their obligation to provide a fair share of affordable housing needs of the region. Municipalities should be assisted in amending their housing elements and fair share plans as needed, to assure they are maintaining realistic goals in meeting affordable housing obligations.

Policy AH - 2

Encourage municipal participation in the Council On Affordable Housing (COAH) certification process.

There have only been five of the twenty-three municipalities in the County that have exercised their option of submitting housing elements and fair share plans to COAH for certification. The County should encourage the remaining municipalities and instruct them on the benefits in having their plans certified by COAH, whereas, same would provide municipalities and the County with a more accurate analysis of existing affordable housing and our prospective needs.

Policy AH - 3

Assist municipalities in grant applications to acquire funding for low and moderate income housing.

There are a variety of funding sources available to provide required housing. The County should establish partnerships with municipalities to secure adequate funding for anticipated rehabilitation and new housing construction.

Policy AH - 4

Assist and support the establishment of zoning ordinances that allow a variety of affordable housing and flexible building codes.

A municipality's zoning ordinance may be an effective planning tool for local governments in offering various options in satisfying their affordable housing needs. This can be achieved through allowing accessory apartments, in-law suites, conversion of single family dwellings into multifamily dwellings, age restricted housing, Elder Cottage Housing Opportunities (ECHO) units as permitted uses and accessory uses in specific zoning districts. Also, incorporation of flexible building codes that would allow a more cost effective renovation of existing structures to be used as affordable housing

Policy AH - 5

Assist municipalities in the revision of their land development ordinances to allow affordable housing plans of a specified number of dwelling units to be exempt from site plan review and/or only requiring minor site plan approval.

A municipality's land development ordinance may be revised in order to allow an exemption of site plan approval on specific projects that would have only minimal impact on conditions that typically warrant site plan approval including but not necessarily limited to: landscaping, lighting, storm water management, etc. and/or establish site plan review advisory boards that could approve minor applications. This would assist in keeping development costs at a minimum, whereby, same can be deferred to the cost of providing affordable housing.

Policy AH - 6

Encourage municipalities to incorporate within their ordinances provisions for allowing mobile home parks that would permit manufactured housing, a State recognized form of affordable housing.

The Municipal Land Use Law (MLUL) recommends that municipalities consider mobile home parks as a permitted uses, thereby, providing a reasonable means of affordable housing. The state-of-the-art manufactured housing sometimes referred to as double-wides, as well as, modular construction offer an attractive and affordable alternative housing for people of low and moderate income.

Policy AH - 7

Assist municipalities in the preparation of Neighborhood Preservation and Small Cities CDBG Programs in specific areas and coordinate a monitoring and rehabilitation plan with the Atlantic County Improvement Authority (ACIA).

The County should continue to encourage partnerships with the ACIA and municipalities in identifying and maintaining rehabilitation efforts of existing housing stock in specifically designated neighborhoods.

Policy AH - 8

Assist municipalities in the implementation of Regional Contribution Agreements (RCA) and the writing of development fee ordinances as methods for meeting their affordable housing needs.

Considering the County is involved in the recipient certification process of an RCA and familiar with various ordinances the Atlantic County Department of Regional Planning and Development should play an advisory role in the review and implementation of RCA's and the writing of development fee ordinances.

HISTORIC PRESERVATION

- 1. Preserve the County's heritage by preserving the historic sites in the County.**
- 2. Document the remaining historic resources within the County.**

POLICY STATEMENTS

It is obvious at this point that historic preservation is an important component of our every day lives. We in Atlantic County are exceptionally fortunate to be situated geographically in a region that has played a vital role in the making of our great nation. Atlantic County is rich with treasures of the past that deserve our respect and command our diligence to see that they remain permanent reminders of our heritage for us and for all generations.

The County has established the Atlantic County Department of Regional Planning and Development and the Office of Cultural and Heritage Affairs. It is with these highly qualified professionals and volunteerism of the people of our communities that shall enable us to revisit the surveys completed and to establish a new agenda for the preservation of our historic sites. The following are policy statements to assist us in reaching our historic preservation goals.

Policy HP - 1

Continue to encourage and support local governments to institute historic preservation elements within their respective master plans.

The Municipal Land Use Law (MLUL) as amended by (N.J.S.A. 40:55D-28b10) provides for the inclusion of a Historic Preservation Plan Element where appropriate as an integral component of a master plan. This element shall indicate the location, significance, methodology of assessment, and impact on other components of the master plan of the historic sites and districts within the community. It is imperative in order to maintain the County's historical and cultural heritage that municipalities adopt this element within their master plans and that the County provide any assistance that may be deemed necessary to accomplish same.

Policy HP - 2

Encourage and assist municipalities in the processes involved in implementing Historic Preservation Commissions.

The MLUL (N.J.S.A.40:55D-107 et. seq.) also provides for the establishment of Historic Preservation Commissions which would be charged with review of applications before the Planning Board and Zoning Board of Adjustment.

The County should assist local governments as needed in the organization of more Historic Preservation Commissions within the County through education and workshops.

Policy HP - 3

Advise and assist local governments in the implementation of zoning ordinance revisions to designate historic sites and districts , where applicable.

Also, within the MLUL (N.J.S.A. 40:55D-65.1) is a provision for municipalities to adopt zoning ordinances that specifically relate to historic preservation. Many areas within the County would directly benefit through the establishment of zoning ordinances that would preserve historic sites and districts within their respective communities. This is particularly important in potential historic districts that have not had too much in-fill development.

Policy HP - 4

Educate and assist municipalities in the Certified Local Government (CLG) program enacted through the National Historic Preservation Act as amended in 1980.

The two (2) major benefits of the CLG program is that following certification a local government shall be eligible for at least 10% of the total federal allocation to the State and review of any nominations to the National Register of Historic Places (NRHP) prior to their submission to the State Historic Preservation Officer (SHPO).

Policy HP - 5

Assist and encourage local governments with funding of historic preservation projects.

There are many funding sources available for governments for preservation projects: The Historic Preservation Fund, Community Development Block Grants, Certified Local Government program, as well as, Public-Private Partnerships. However, considering, funding has its limits and priorities it is imperative that the County consider a regional approach, whereas, large areas, as well as, those under development pressure typically are assigned a higher priority for funding.

Policy HP - 6

Encourage and educate owners on historic preservation tax incentives.

There are tax incentives for the preservation of historic structures that should be investigated, namely, the Historic Rehabilitation Tax Credit, and Charitable Contribution deductions. These may mitigate the detrimental effects that current building materials (i.e. siding, roofing, window treatments, etc.) have on potential historic buildings and structures that may deem same as noncontributory in determining potential historic districts.

Policy HP - 7

Educate and encourage owners on preservation of historic sites through easement programs.

The County should investigate potential sites that may be suitable for an easement purchase through the New Jersey Conservation Restriction and Historic Preservation Restriction Act and the Green Acres program. Also, historic preservation may warrant a Transfer of Development Rights (TDR) program similar to other TDR programs in the State.

Policy HP - 8

Assist and support municipalities, civic organizations and private individuals in completing applications and surveys necessary for determining that a site is eligible for the State and National Register of Historic Places.

Following the County's assistance to municipalities in establishing Historic Preservation Elements in their master plans, Historic Preservation Commissions, and supporting zoning amendments this partnership should continue towards the main goal and objective of having our historic sites listed on the State and National Registers of Historic Places.

FARMLAND PRESERVATION

- 1. Preserve adequate farmland in the County for food production.**
- 2. Encourage the adoption of policies that promote the farming community.**

POLICY STATEMENTS

Atlantic County is a leader in the agricultural production of a substantial number of crops statewide, as well as, nationally. The soil characteristics and climate have enabled the agricultural community to maintain their farms as a viable component of our economy. However, Pinelands legislation, diminished funding, and nuisance complaints have all adversely impacted the ability of our farms to operate, whereby, they continue to remain in jeopardy. Therefore, it is urgent that we explore all levels of farmland preservation.

Policy FP - 1

Assist and support the County Agricultural Development Board (CADB) with their activities.

The County should continue to assist the CADB in their efforts with respect to funding for water and soil conservation, mapping of Agricultural Development Areas (ADA), easement purchases, and proposals to establish a State approved base price/acre amount for easement purchases of farms in the Pinelands.

Policy FP - 2

Encourage and assist in the adoption of Transfer Development Rights (TDR) and Right-To-Farm ordinances.

The County should research the State Transfer Development Rights Bank and assist in the adoption of TDR ordinances as another measure for providing necessary farmland preservation.

Policy FP - 3

Assist and support the agricultural community in the State Farm Link and the Pinelands Development Credit programs.

The County should cooperate with the CADB and the agricultural community at large in the matching of buyers and sellers with respect to farms in general and in the marketing of Pinelands Development Credits (PDC's).

BIBLIOGRAPHY

A.C. 2000, Demographic and Economic Data for Atlantic County, New Jersey, March 1997.

Atlantic City A Shining Past ... A Brighter Future, Business News New Jersey, Spring 2000.

Atlantic City Convention & Visitors Authority, 1997 Annual Report.

Atlantic City Convention & Visitors Authority, Fact Sheets and General Information Packet.

Atlantic City Convention & Visitors Authority, 1998 Marketing Plan.

Atlantic County Infrastructure Improvement Program Fiscal Years 1996-1998.

Atlantic County Master Plan, Atlantic County Division of Planning, September 1988.

Atlantic County Open Space Plan, Atlantic County Department of Regional Planning & Development, Division of Planning, February 1985.

Atlantic County Recycling Plan, Atlantic County Department of Regional Planning & Development and the Atlantic County Utilities Authority, 1988.

Atlantic County Solid Waste Management Plan, Amendments July 9, 1991 and March 10, 1998.

Atlantic County Solid Waste Management Plan, 2nd Working Draft, September 1994.

Atlantic County Water Quality Management Plan and Amendments, 1980 through 1999.

Business Forecast 2000, Atlantic City Press, January 30, 2000.

Business Review & Forecast 2000, Greater Atlantic County Region: Building for the Future, Atlantic County Weeklies, February 24, 2000.

1997 Census of Agriculture, United States Department of Agriculture, Issued June 1999.

Chapter 93 Substantive Rules of the New Jersey Council on Affordable Housing for the Period Beginning June 6, 1994 as Amended Through January 5, 1998.

Characterization of Surface Water Quality along a Watershed Disturbance Gradient, Water Resources Bulletin, American Water Resources Association, Robert A. Zampella.

County of Atlantic Rural Transportation System, NJ Transit, Application for FY' 1998, CARTS 98.

Draft Atlantic County's Special Transportation Master Plan for the Elderly, Disabled, and Rural Residents, Atlantic County Division of Intergenerational Services and Department of Policy, Planning, and Economic Development, March 1997.

Draft Comprehensive Management Plan for The Great Egg Harbor National Scenic and Recreational River, National Park Service, Philadelphia Support Office, In Cooperation With the Great Egg Harbor River Planning Committee, April 1998.

Federal Manual for Identifying and Delineating Jurisdictional Wetlands, January 1989.

Governor's Council on New Jersey Outdoors, Final Report, February 26, 1998.

Growth Trends, Atlantic County, New Jersey, The Department of Regional Planning and Economic Development, 1998.

A Guide to Atlantic County's Planning Advisory Board and Development Review Committee, The Department of Regional Planning and Economic Development, Office of Policy and Planning, June 6, 1997.

Guiding Design on Main Street, National Trust for Historic Preservation, 1988.

Historic Building Surveys Atlantic County Northern, Bay, and Coastal Communities, The History Store, September 8, 1986.

1997 Independent Consulting Engineer's Annual Bond Report and Certification for Atlantic County Utilities Authority, May 1998.

Journey to Work Characteristics of the SJTPO Region 1980-1990, County Commuter Flows in South Jersey.

Local Preservation, Distributed by Interagency Resources Division, Washington, D.C.

Municipal Land Use Law Chapter 291, Laws of N .J. 1975, Amendments Updated Through October 1998.

Needs and Feasibility Assessment of Mainline Parkway Widening, Interchanges 30 - 80, Vollmer Associates LLP, October 1996.

New Jersey Employment & Population in the 21st Century, Volume 1, Industry and Occupational Employment Projections for New Jersey 1996 to 2006, Part B (County Projections), Division of Labor Market & Demographic Research, October 1999.

New Jersey Employment & Population in the 21st Century, Volume 2, Population and Labor Force Projections for New Jersey 1996 to 2010, Part B (County Projections), Division of Labor Market & Demographic Research, July 1999.

The New Jersey Fair Housing Act N.J.S.A. 52:27D-301 et. seq. As amended February 1998.

New Jersey & National Register of Historic Places 1970 through 1995, New Jersey Department of Environmental Protection, Division of Parks & Forestry.

New Jersey Pinelands Commission Manual for Identifying and Delineating Pinelands Area Wetlands, A Pinelands Supplement to the Federal Manual, New Jersey Pinelands Commission, January 1991.

New Jersey Population Trends 1790 to 1990, New Jersey Department of Labor, April 1991.

New Jersey Residential Building Permits Historical Summary 1970-1979, New Jersey Department of Labor and Industry, Trenton, N.J., Reprinted January 1989.

New Jersey's Common Ground 1994-1999, New Jersey Open Space and Outdoor Recreation Plan Summary.

New Jersey 1996 State Water Quality Inventory Report, State of New Jersey Department of Environmental Protection, Policy and Planning, Office of Environmental Planning.

New Jersey Zoning and Land Use 1998 Edition, William M. Cox.

Outlook 98, New Jersey Economics, March 1998.

People Places & Progress The COAH Story 1996-1997, The NJ Council on Affordable Housing.

Preserving New Jersey: A Handbook for Municipal Historic Preservation Commissions, Preservation New Jersey, August 1986.

Recommended Implementation Plan for the Atlantic County Water Supply Study, New Jersey Department of Environmental Protection, Office of Environmental Planning Statewide Program Development, March 1998.

Regional Transportation Plan Update, South Jersey Transportation Planning Organization, March 23, 1998.

Report: Update to Garden State Parkway Mainline Capacity Projections, Vollmer Associates, LLP, June 1995.

Shellfish Growing Water Classification Charts, New Jersey Department of Environmental Protection, Division of Science and Research, Water Monitoring Management, Bureau of Marine Water Monitoring, 1987-88, 1989-90, 1993, 1995, 1997, and 1998.

Solid Waste Strategies in Atlantic County: Past, Present and Future, The Atlantic County Utilities Authority, January 1993.

South Jersey Transportation Planning Organization, Transportation Improvement Program Fiscal Years 1998-2002.

South Jersey Transportation Planning Organization, Transportation Improvement Program Fiscal Years 1998-2002, Proposed Amendments February 13, 1998.

The South Jersey Regional Transportation Plan Update, South Jersey Transportation Planning Organization, March 23, 1998.

The Statewide Solid Waste Management Plan, 1993 Update.

State of New Jersey Census Trends 1970 - 1980, New Jersey Department of Labor, July 1984.

Task Force on New Jersey History Volume II, Historic Sites in New Jersey: An Assessment of Public Opinion, The Eagleton Institute of Politics Center for Public Interest Polling Rutgers - The State University of New Jersey, June 1997.

Trends in Employment & Wages, Covered by Unemployment Insurance 1997, April 1999, New Jersey Department of Labor.

U.S. Geological Survey Water-Data Report NJ-97-2, Volume 2., Ground-Water Data.

U.S. Geological Survey Water-Data Report NJ-97-1, Volume 1., Surface -Water Data.

Internet Websites

www.aclink.org	Atlantic County, New Jersey, USA
www.census.gov	The United States Census Bureau, U.S. Department of Commerce, USA
www.fws.gov	The United States Fish & Wildlife Service, USA
www.njleg.state.nj.us	The New Jersey State Legislature, USA
www.state.nj.us/dep/	The New Jersey Department of Environmental Protection, USA
www.state.nj.us/osp/	The New Jersey Office of State Planning, USA
www.wnjp.in.state.nj.us	Workforce New Jersey Public Information Network, USA

APPENDIX A

GIS Bibliography

The maps shown in the Atlantic County Master Plan are for illustrative purposes only and were not developed in accordance with National Map Accuracy standards. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user. These maps were developed, in part, using information from the following sources:

- New Jersey Department of Environmental Protection Geographic Information System (GIS) digital data
- Department of Transportation digital tabular data
- U.S. Bureau of the Census digital tabular data
- Department of Labor digital tabular data
- Pinelands Commission Geographic Information System (GIS) digital data
- Office of State Planning Geographic Information System (GIS) digital data
- Adams, Rehmann and Heggan Geographic Information System (GIS) digital data
- Atlantic County Department of Regional Planning and Economic Development Geographic Information System (GIS) digital data in conjunction with the Atlantic County Office of Geographic Information Systems.

This secondary product has not been verified by the above agencies/companies and is not state authorized.

APPENDIX B

Official County Map of Right-of-Way Standards and Functional Classifications

ROUTE #	ROAD NAME	TERMINAL POINTS	Functional Classification	R.O.W. STANDARDS
536	Waterford Rd/Chew Rd	U.S. Rte 206-Camden Co. line	Minor Collector	60
540	Cedar Ave/Landis Ave	U.S. Rte 40-Cumberland Co. line	Minor Collector	60
542	Hammonton/Pleasant Mills Rd	NJ 54-Burlington Co. Line	Minor Collector	60
552	Bears Head Road	US 40-Cumberland Co. Line	Collector	72
557	Buena Tuckahoe Road	US 40-NJ 50	Minor Collector	60
559	Chew Rd	CR 561-CR 640	Collector	72
559	Mays Landing-Dacosta Rd	CR 640-CR 606	Collector	72
559	Somers Point Mays Landing Rd	CR 617-NJ 52	Collector	72
559	Old Harding Highway	CR 606-US 40/NJ 50	Collector	72
ALT 559	Ocean Heights Avenue	CR 585-US 9	Minor Collector	60
		US 9-Patcong Creek	Arterial	90
		Patcong Creek-CR 575	Arterial	90
		CR 575-CR 559	Collector	72
561	Jimmie Leeds Road	US 9-CR 634	Collector	72
		CR 634-Duerer Street	Arterial	90
561	Duerer Street	Jimmie Leeds-CR 575	Arterial	90
		CR 575-Moss Mill Road	Collector	72
561	Moss Mill Road	Duerer Street-US 30	Collector	72
		US 30-Hammonton-DaCosta Road	Collector	72
561	Egg Harbor Road	Moss Mill Road-Rte 54	Minor Collector	60
561	Hammonton-Rosedale Road	NJ 54-Camden Co. Line	Collector	72
ALT 561	Moss Mill Road	Oyster Creek-US 9	Minor Collector	60
		US 9 -CR 575	Arterial	90
		CR 575-CR 561	Collector	72
Spur 561	Blue Anchor Road	US 322-Camden Co. Line	Collector	72
563	Jerome Avenue	CR 629-Margate Bridge	Arterial	100
563	Mill Rd	Margate Bridge-CR 585	Arterial	90
563	Tilton Road	CR 585-US 30	Arterial	100
563	Philadelphia Avenue	US 30-561	Arterial	90
563	Egg Harbor-Greenbank Rd	CR 561-Burlington Co. Line	Minor Collector	60
575	Cologne-Port Republic Road	US 9-CR 561ALT.	Collector	72
575	English Creek-Port Rep. Road	CR 561-CR 563	Arterial	100
575	Pomona Road	CR 563-US 40/322	Arterial	100
575	English Creek Rd	US 40/322-CR 559 ALT	Arterial	100
		CR 559 ALT-CR 559	Collector	72
585	Shore Road	US 30-NJ 152	Collector	72
601	New Jersey Avenue	US 9-CR 651	Minor Collector	60
		CR 651-US 30	Minor Collector	60
602	Hammonton-DaCosta Road	US 30-CR 561	Collector	72
603	English Creek Road	US 40/322-Expressway	Arterial	100
604	English Creek Road	CR 563-Expressway	Minor Collector	60
605	English Creek Road	US 30-CR 686	Minor Collector	60
606	Harding Highway	US 40-CR 559	Collector	72
608	Franklin Avenue	US 40-Washington Avenue	Arterial	90
608	Washington Avenue	Franklin Ave-Doughty Rd	Minor Collector	60
		Doughty Rd-CR 561	Collector	72
		CR 651-US 40/322	Arterial	90
610	Old New York Road	US 9- CR 575	Minor Collector	60
611	Mays Landing-Tuckahoe Rd	NJ 50-NJ 50	Minor Collector	60
612	Elwood Weekstown Road	CR 623-CR 643	Minor Collector	60
613	Hammonton Atsion Rd	US 30-CR 693	Collector	72
614	Cologne Avenue	CR ALT 561-US 40	Collector	72
615	Zion Road	CR 585-CR 559	Minor Collector	60
616	Mill Street	CR 559-NJ 50/US 40	Minor Collector	60
617	River Road	CR 559-NJ 50/US 40	Collector	72
618	Oyster Creek Road	CR 561-US 9	Minor Collector	60
619	Wheat Road	US 40-Cumberland Co. Line	Collector	72
620	Maryland Avenue	NJ 152-CR 585	Collector	72
622	Cedar Avenue	Railroad Ave-US 40	Minor Collector	60
623	Weymouth Elwood Road	CR 559-CR 542	Minor Collector	60
624	Clarks Landing Rd	CR 575-CR 563	Minor Collector	60
627	Central Road	US 40-CR 681	Collector	72

629	West End-Wellington Avenue	US 40/322-Dorset Avenue	Arterial	90
629	Dorset Avenue	Wellington-Ventnor Ave	Arterial	90
629	Ventnor Avenue	Dorset-Lancaster Avenue	Arterial	90
		Lancaster-Wilson Avenue	Minor Collector	60
		Wilson Avenue-32nd Ave	Arterial	90
		32nd Ave-NJ 152	Minor Collector	60
630	Ohio Avenue	CR 585-CR 561	Minor Collector	60
631	Illinois Avenue	CR 585-US 30	Minor Collector	60
633	Jimmie Leeds Road	CR 561-US 30	Arterial	100
634	Pitney Road	CR 610-Church Street	Collector	72
637	Cumberland Avenue	NJ 50-Cumberland Co.	Minor Collector	60
638	Brigantine Boulevard	NJ 87-14th St. North	Arterial	90
640	Mays Landing-Da Costa Road	CR 559-US 30	Collector	72
643	Weekstown-Pleasant Mills Rd	CR 563-CR 623	Minor Collector	60
644	Dolphin Avenue	CR 585-Pleasantville Line	Minor Collector	60
645	Buck Hill Road	NJ 50-CR 648	Minor Collector	60
646	Delilah Road	US 30-US 40/322	Arterial	100
647	Cologne Port Republic Rd	CR 624-CR 561	Minor Collector	60
648	Buck Hill Road	NJ 50-CR 649	Minor Collector	60
649	Head of the River Road	NJ 49-CR 611	Minor Collector	60
650	Cologne Port Republic Rd	CR 624-CR 575	Minor Collector	60
651	Mill Road	CR 634-US 30	Collector	72
651	Fire Road	US 30-CR 662	Arterial	90
		CR 662-CR ALT 559	Collector	72
651	Jeffer's Landing Road	CR 559-Jeffer's Landing	Minor Collector	60
652	Lower Bank Road	CR 563-Burlington Co. Line	Minor Collector	60
654	Sixth Avenue	CR 561-US 30	Collector	72
655	Lincoln Avenue	CR 619-Cumberland Co. Line	Collector	72
657	Motts Creek Rd	Motts Creek-CR 610	Minor Collector	60
658	Columbia Rd (Mu. Twp.)	US 30-CR 542	Minor Collector	60
659	Central Avenue	Parkway-CR 615	Minor Collector	60
660	Farragut Avenue	US 40-CR 617	Minor Collector	50
661	Central Avenue	Parkway-EHT/Linwood Border	Collector	72
662	Mill Road	CR 585-CR 651	Collector	72
		CR 651-CR 559 ALT	Collector	72
663	California Avenue	CR 585-CR 651	Collector	72
665	New York Avenue	Bay Ave-US 9	Collector	72
666	Cape May Avenue	CR 557-NJ 49	Minor Collector	60
668	Forty Wire Road	US 40-CR 669	Minor Collector	60
669	Eleventh Avenue	NJ 50-CR 666	Minor Collector	60
670	Leipzig Ave & Almond St.	CR 563-CR 614	Collector	72
671	Union Road	CR 557-Cumberland Co. Line	Minor Collector	60
672	Brewster Road	Gloucester Co. Line-Cumberland Co. Line	Collector	72
674	Bremen Avenue	US 30-Liebig Street	Minor Collector	60
678	Thirteenth & Fairview Avenue	US 30-CR 559	Minor Collector	60
679	Main Road	CR 542-US 30	Collector	72
680	Broadway	US 30-CR 542	Minor Collector	60
681	Oak Road	CR 557-Cumberland Co. Line	Minor Collector	60
682	Summer Road	US 40-CR 672	Minor Collector	60
684	Spruce Avenue	US 40/322-Parkway	Collector	72
685	Westcoat Road	CR 651-CR 646	Collector	72
686	Aloe Street	CR 605-NJ 50	Collector	72
687	Old Tilton Rd	US 9-US 40/322	Minor Collector	60
688	First Road	CR 640-NJ 54	Collector	72
690	Weymouth Malaga Rd	Gloucester Co. Line-US 40	Minor Collector	60
		US 40-NJ 54	Collector	90
691	Burroughs Avenue	Oak Avenue-CR 615	Minor Collector	50
693	Columbia Road	US 206-CR 542	Minor Collector	60
697	Old Turnpike Road	Franklin Blvd-AC Expressway	Local Road	60
724	Third Street	CR 542-CR 678	Minor Collector	60
		CR 678-Camden Co. Line	Minor Collector	60

APPENDIX C

Atlantic County Open Space and Recreation Plan
(Under Separate Cover)

APPENDIX D

Bicycle Element for the Atlantic County Master Plan

BICYCLE ELEMENT FOR THE ATLANTIC COUNTY
MASTER PLAN

PREPARED BY:
ATLANTIC COUNTY DEPARTMENT OF REGIONAL PLANNING
AND
ECONOMIC DEVELOPMENT

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INTRODUCTION

In response to the passage of the Federal Intermodal Surface Transportation Efficiency Act (ISTEA) and the 1990 Clean Air Act Amendments (CAAA), County staff in the Division of Parks and the Office of Policy and Planning County have developed this Bikeway Plan. The passage of ISTEA and CAAA give ample incentive to develop a comprehensive bicycle element for the County's master plan at this time. Both acts require states which are in air quality non-attainment develop traffic management strategies to reduce vehicle miles traveled by single occupancy vehicles. Bikeways and

bicycle compatible roadways are specifically recognized in the legislation as viable components of an overall trip reduction program.

It must also be recognized that bicycles serve a dual function as a mode of transportation and a recreational activity. Certain bike routes will be trip oriented while others will be recreation oriented and some will serve both purposes.

INTENT OF THE BICYCLE MASTER PLAN

The intent of the plan is to provide the logical framework for the County to establish a comprehensive bicycle routing system that will encourage the use of bicycles for commuting and recreation via bicycle compatible roadways (bikeways), exclusive bicycle paths, and bike lanes. This will necessitate the extensive use of state highway routes along major commuter pathways and will include County Roads to connect municipal and state bike routes and other areas of interest in Atlantic County.

The Bicycle Element will also be the basis for a separate implementation plan and will prioritize routes and improvements and recommend potential funding sources.

DEFINITIONS

For the purposes of this document the following terms and definitions will apply:

Bicycle - A vehicle having two tandem wheels, either of which is more than 16" in diameter or having three wheels in contact with the ground any of which is more than 16" in diameter, propelled solely by human power, upon which any person may ride.

Bicycle Facilities - A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking facilities, mapping all bikeways and shared roadways not specifically designated for bicycle use.

Bicycle Lane (Bike Lane) - A portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bicycle Path (Bike Path) - A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.

Bicycle Route (Bike Route) - A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without a specific bicycle route number.

Bikeway - Any road, path or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Highway - A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way.

Right of Way - A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Right of Way - The right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian.

Roadway - The portion of the highway, including shoulders for vehicle use.

Shared Roadway - Any roadway upon which a bicycle lane is not designated and which may legally be used by bicycles regardless of whether such facility is specifically designated as a bikeway.

Sidewalk - The portion of a highway designed for preferential or exclusive use by pedestrians.

NEEDS ANALYSIS

Commuter Trips

In order to provide for alternative commuting, bike routes must serve as direct routes to and from residential, employment and activity centers. In Atlantic County the majority of employment centers are located on or very near a State highway. Various Bicycle standards including the **American Association of Highway and Transportation Officials (AASHTO)** guidelines state that commuter cyclists will not use an indirect route to destination points just to ride on less traveled (auto) roadways. Therefore it is critical in Atlantic County that the State highways be bicycle compatible and are signed, striped and mapped to provide the most direct routing to and from employment centers. This plan will define those segments of the State highway system that are essential for this purpose.

Another large segment of commuter bicycle usage is the school trip. Special attention will be given to the anticipated routes from residential centers to local elementary and secondary school facilities since the morning in bound trip often coincides with A.M. peak hours for automotive traffic. These trips may be best provided for on local low volume roadways for better safety.

For commuter purposes other than school trips, the primary burden of the County and municipal bike routes would be to distribute cyclists to the bicycle compatible elements of the state highway system to provide the most direct route to employment and residential centers. A secondary goal would be to provide County and municipal routes

to those employment centers that are not directly served by State highways such as the FAATC in Egg Harbor Township and the casinos in Atlantic City. This plan will delineate and prioritize bike routes along County roads and in certain instances municipal streets to serve these purposes.

Recreational Trips

Recreational bike trips may coincide to some extent with commuter trips, however, most recreational trips are more likely to be taken on bicycle paths or bicycle compatible roadways with scenic value or recreational facilities as an end point. Recreational cyclists may also shy away from roadways that have high volumes of automobile and truck traffic which may be experienced on commuter oriented bike routes.

The County efforts in this area would be to ensure that all of the County owned park and recreational facilities are accessible to cyclists. These facilities would include, Gaskill Park, Lake Lenape Park, River Bend Park and Estell Manor Park. An effort will also be made to connect with Municipal and State recreational facilities and bike routes as well as intra-county connections. In addition to routes that lead to recreational facilities this plan will also identify several routes that utilize low volume rural roads which are already recognized by the cycling community for their recreational and scenic value.

One of the major efforts that will be defined by this plan is the proposed bike path from Buena Vista Township to the Shore Mall in Egg Harbor Township. This is envisioned to serve as a dual recreational and commuter facility located along the abandoned West Jersey Rail line and the Coastal Interceptor right of way.

Other Considerations

In order to promote cycling for commuter and recreational purposes consideration must be given to ancillary facilities for the cyclist. These include bike lockers at destination points, bike racks on transit vehicles, baggage lockers, etc... In addition signs, pavement markings safety improvements and mapping must be provided to promote use of the designated bike routes.

Safety improvements necessary along bicycle compatible roadways and bike lanes include replacing existing slotted at grade drainage grates with the bicycle compatible parallel bar grates, upgrading railroad crossings and providing the appropriate advisory signs for both motorized and bicycle traffic. All signs and striping would be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

ROUTING/Commuter Routes

State Roads

As discussed in the needs analysis portion of this plan the most critical element of the commuter bike routing system will be the state highway portion. Most of the County's major residential and employment centers are located along or very nearby the State highway system. For this reason the most direct commuter routes will be on the State highways. It is also important to note that with only a couple of exceptions only the State highways have typical cross that can support designated "bike lanes" (separate lanes designated specifically for bicycles). Routes 40, 322, 30, and 9 are essential to provide adequate opportunity for commuter trips to the major employment centers in the County. To a lesser extent Routes 152, 54, 50, and 87 would also serve as important commuter links. Table #1 below describes those sections of State highways in Atlantic County which should be designated, signed and striped as bicycle facilities:

Table #1

<u>ROUTE NUMBER</u>	<u>STARTING POINT</u>	<u>ENDING POINT</u>	<u>TREATMENT</u>
ROUTE 9	COUNTY LINE, SOMERS POINT	GARDEN STATE PARKWAY, PORT REPUBLIC	SHOULDER BIKE LANE
ROUTE 30	COUNTY LINE, HAMMONTON	ILLINOIS AVENUE, ATLANTIC CITY	SHOULDER BIKE LANE
ROUTE 40	COUNTY LINE, BUENA BOROUGH	ROUTE 322, HAMILTON TWP.	SHOULDER BIKE LANE
ROUTE 50	COUNTY LINE, CORBIN CITY	ROUTE 30, EGG HARBOR CITY	SHOULDER BIKE LANE
ROUTE 54	ROUTE 40	ROUTE 206	SHOULDER BIKE LANE
ROUTE 152	BAY AVENUE, SOMERS POINT	VENTNOR AVENUE LONGPORT	SHOULDER BIKE LANE
ROUTE 187	BRIGANTINE BOULEVARD	ROUTE 30	SHOULDER BIKE LANE
ROUTE 322	COUNTY LINE, FOLSOM	ROUTE 40, HAMILTON TWP.	SHOULDER BIKE LANE
ROUTE 40/322	POMONA ROAD, HAMILTON TWP.	MONUMENT, ATLANTIC CITY	SHOULDER BIKE LANES

County Roads

There are several major employment centers that are accessible only via County and Municipal routes. The FAA Technical Center, Stockton State College, Atlantic City Medical Center (Mainland) and the Expressway Corporate Center are notable examples. In order to serve these areas the following roads should be targeted to provide for bike compatible facilities.

1. Tilton Road from Route 30 to Route 9
2. Delilah Road from Route 40/322 to Route 9
3. Washington Avenue from Cardiff Circle to Route 9

4. Pomona Road from Route 40/322 to Jim Leeds Road

5. Jim Leeds Road from Route 30 to Route 9

Separate Bike Facilities

There are several existing bike facilities that provide limited commuter opportunities as well as recreational use. These facilities are listed below along with recommendations to improve the commuter potential of each one.

Somers Point - Linwood Bike Path

The Somers Point - Linwood Bike Path runs from Maryland Avenue in Somers Point to Poplar Avenue in Linwood along the abandoned South Jersey Seashore Line, Somers Point Spur. There are currently plans to extend the bike path to the City line in Northfield along a portion of the same railroad line that has remained active. The path runs roughly parallel to, and between Route 9 and Shore Road and offers dedicated bicycle and pedestrian access between the two residential communities. In order to improve commuter potential of this facility the bike path should be extended along the available railroad right of way from the existing terminus in Linwood to the end of the Seashore Line Spur in Pleasantville. This would offer better commuter potential to job centers in Northfield, Pleasantville and Egg Harbor Township as well as the residential communities.

Atlantic City - Ventnor Boardwalk

Another existing facility that is dedicated to pedestrian and bicycle use is the boardwalk in Ventnor and Atlantic City. This facility is in an excellent location to be used for bicycle commuting on the island, however, it is compromised by the 6:00 A.M. to 10:00 A.M. time limit imposed by the Municipalities.

In order for the boardwalk to reach its potential as a commuter facility a reversal of local ordinances should be considered and bike lanes delineated. A large number of the casino related trips that originate on island could be serviced by bicycle commuting on the boardwalk. These trips cannot be accommodated safely in Atlantic City on Pacific or Atlantic Avenues because of the narrow street configurations and/or high volumes of traffic.

Proposed Atlantic County Bikeway - Buena Vista Township to Egg Harbor Township

Atlantic County is proposing a separate bicycle facility to run along the abandoned West Jersey Seashore Line roughly parallel to Route 40 from Country Club Drive in Buena Vista Township to The Shore Mall in Egg Harbor Township. This facility would provide for commuters and recreational cyclists in the Route 40 corridor. It is

anticipated that the commuter use would be served the most by the portion of the proposed route from Mays Landing east. This facility may or may not obviate the need for bike lanes on portions of Route 40, this would be dependent on adequate access to the proposed Bikeway for commuter purposes. The current plan is to phase the proposed bikeway into three segments with the easternmost segment being the first priority. The second segment would be the acquisition of the railroad trestle and station property in Mays Landing and the third segment would be the portion from CR 616 to Country Club Drive in Buena Vista.

ROUTING/Recreational

There are several routes within the County that are recognized by local and statewide cycling clubs for the scenic value and low automobile and truck usage. In addition the County desires that all of the County parks and recreational facilities be accessible via bicycle. The following routes fall into these two categories.

1. County Route 559 from Weymouth Furnace Park to Route 9 in Somers Point - this would provide access to five County park facilities along CR 559 as well as provide a scenic ride on a relatively low volume roadway. The Furnace Park, Lake Lenape Park, Gaskill Park, Green Tree Golf Course and River Bend Park are all located along this route. A smaller segment of CR 606 from Route 40 to CR 559 should be added to provide better access from Route 40 to the west.

The following routes with some minor variations have been identified by the Shore Cycle Club as good recreational routes based on scenic values and roadway conditions, including traffic volumes. For the purposes of this plan some of the routes have been truncated to those portions which are wholly within Atlantic County. The original circuit for each bicycle route outlined here can be found in the following publication:

"Sweet Sixteen"
Bike Rides in Atlantic, Cape May and Cumberland Counties
Published by the
Shore Cycle Club
P.O. Box 492
Northfield, NJ 08225

The original descriptive route names from the Sweet Sixteen publication have been retained for the purposes of this document. Copies of the original publication are available from the Shore Cycle Club by request for a nominal fee.

Atlantic County Park Picnic - Starting from Estell Manor Park, south on Route 50 to Cumberland (637) Avenue, bear left onto First Avenue, left on Tuckahoe Road (557) to

Route 50, South on Route 50 to Carl Road, right on Carl Road to Aetna Drive (649), Right on Aetna Drive to Head of the River Road (649) to Cape May Avenue (666), right on Cape May Avenue to Eleventh Street (669), right on Eleventh Street to Maple Avenue to Walkers Forge Road, Right on Walkers Forge Road to Route 50, north on Route 50 back to the Estell Manor Park. This route is approximately 25 miles in length on generally lightly traveled roads.

Bike to Breakfast - From the Estell Manor School turn left on Cape May Avenue (666) to the intersection of Tuckahoe Road (557), U-turn back south on Cape May Avenue to Head of the River Road (649), left on Head of the River Road and bearing left at the intersection of Buckhill Road and Aetna Drive, this is Buckhill Road (648) to Carl Road, Right on Carl Road to Aetna Drive, left on Aetna drive to Main Street (611) in Corbin City, Right on Main Street to Route 50. U-turn on Main Street back to Aetna Drive, left on Aetna drive to Head of the River Road, left on Head of The River Road to Cape May Avenue, right on Cape May Avenue back to the Estell Manor School. This route is approximately 30 miles in length along lightly traveled roads.

Blueberry Fields Forever - Starting at Gabriel Field on Duerer Street (561) in Galloway Township, turn right onto Duerer St. (561) to Philadelphia Avenue (563), right on Philadelphia continuing straight as it turns into Weekstown Road to Hammonton Pleasant Mills Road (542), left on Hammonton Pleasant Mills road to Columbia Road (693), right on Columbia Road to Laurel Road, left on Laurel Road to Main Road (679), left on Main Road to 542, right on 542 to Route 30, east on Route 30 (heavy traffic 1.3 miles) to Weymouth Road (640), right on Weymouth Road to Moss Mill Road (561), left on Moss Mill Road (crossing 30) back to Gabriel Field. Total route length approximately 42 miles.

Mullica River Ride (portion of Mullica Roundabout Ride) - Starting from Stockton State College Parking lots proceed left onto College Drive to Pomona Road (575), right on Pomona Road to Moss Mill Road (Alt. 561 beyond the Parkway exit 44), right on Moss Mill Road to Route 9, north on Route 9 to New York Avenue (610), left on New York Avenue to Clarks Landing Road (624), left on Clarks Landing Road to Egg harbor Green Bank Road (563), left on Egg Harbor Greenbank Road to Moss Mill Road 9 (Alt 561), left on Moss Mill Road to Pomona Road, right on Pomona Road to College Drive and back to the parking lots. Total Route length is approximately 40 miles

Phoenix Pedaler - Starting at Gabriel Field in Galloway Township go right on Duerer Street (561) to Moss Mill Road (Alt 561), right on Moss Mill Road to Cologne Port-Republic Road (647), left on Cologne Port Road to Clarks Landing Road (624), right on Clarks Landing Road to Pomona Port Republic Road (575), right on Pomona Road to Duerer Street, right on Duerer to Gabriel Field. Total route length is approximately 25 miles.

PRIORITY ROUTES

State Highways

The most important State highway routes within the County are listed below in order of importance.

1. Route 9 from CR 559 in Somers Point to CR 610 in Galloway Township
2. Route 40/322 from Winchester Avenue in Atlantic City to the intersection of Routes 40 and 322.
3. Route 40 from 322 to Route 50
4. Route 322 from Route 40 to Route 50
5. Route 152 from CR 635 in Somers Point to Sunset Avenue in Longport

County Routes

As stated earlier in this report the following County routes are important for providing alternative commuter access and should be priority routes.

1. Tilton Road from Route 30 to Route 9
2. Delilah Road from Route 40/322 to Route 9
3. Washington Avenue from Cardiff Circle to Route 9
4. Pomona Road from Route 40/322 to Jim Leeds Road
5. Jim Leeds Road from Route 30 to Route 9

IMPLEMENTATION PROPOSAL

STATE HIGHWAYS

In order to implement the proposed improvements on the State highway system the proposals must be accepted by NJDOT and placed in the project pipeline. A ten percent share of the Federal Surface Transportation Program funding has been set aside for "Highway Enhancements" which includes bicycle improvements. This should allow the State to program these funds for the bicycle improvements outlined in this plan. The County has already started the procedure by placing the proposed bicycle improvements for State Highways on its 1992 list of "Regional Transportation Problem Statements". During the 1994 Transportation Improvement Program planning cycle the County will bring the State Highway proposals to the MPO for inclusion on the 1994-1998 State TIP program.

County Roads

The County has already established a policy that when a roadway is being improved or repaved and wherever it is possible within Right of Way constraints, the County will provide a bicycle compatible roadway section in accordance with AASHTO guidelines . This treatment may be a paved shoulder or an acceptable shared use travel lane dependent on individual circumstances. The cost for these improvements will be incorporated into regular project budgets as projects come on line. In addition the County will apply for any State or Federal funding that becomes available as part of the ISTEA or Clean Air Act Amendment specifically for Transportation Control Measures or Bicycle enhancements.

Municipal Routes

The improvements that have been suggested for routes that do not fall within the County or State jurisdictions will be recommended to the municipalities where they are located for action on their part. The Ventnor -Atlantic City Boardwalk and Somers Point Linwood Bike path fall into this category.

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