



SOMERSET COUNTY

HAZARD MITIGATION PLAN

SOMERSET COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

FINAL PLAN UPDATE
JULY 2019

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Section 4: COUNTY PROFILE

*Prepared by the Somerset County
Mitigation Planning Committee*



SECTION 4: COUNTY PROFILE

This profile describes the general information of the County including physical setting, population and demographics, general building stock, and land use and population trends along with critical facilities located within Somerset County. In Section 5, specific profile information is presented and analyzed to develop an understanding of the study area, including the economic, structural, and population assets at risk and the particular concerns that may be present related to hazards analyzed (for example, a high percentage of vulnerable persons in an area).

GENERAL INFORMATION

Some of the oldest settlements in New Jersey are located throughout Somerset County, some dating back to the middle of the 17th century. Being one of the oldest counties in the U.S., Somerset County is steeped in colonial and Revolutionary War history. Somerset County was established by charter on May 22, 1688, with land conveyances dating to 1651. (Somerset County, 2007) According to the 2010 U.S. Census data, the County's population is 323,444. Somerset County is the 13th most populated county in New Jersey. (U.S. Census Bureau, 2012) While the next Census will not be until 2020, the Census Bureau's July 2017 population estimate for Somerset County of 335,432 reflects a 3.7% increase from 2010 to 2017, exceeding the 2.4% increase that occurred statewide during this period. These figures show that Somerset County was among the top five counties in New Jersey in terms of the rate of population growth between 2010 and 2017 and the County continues to maintain its rank as New Jersey's 13th most populous county.

Physical Setting

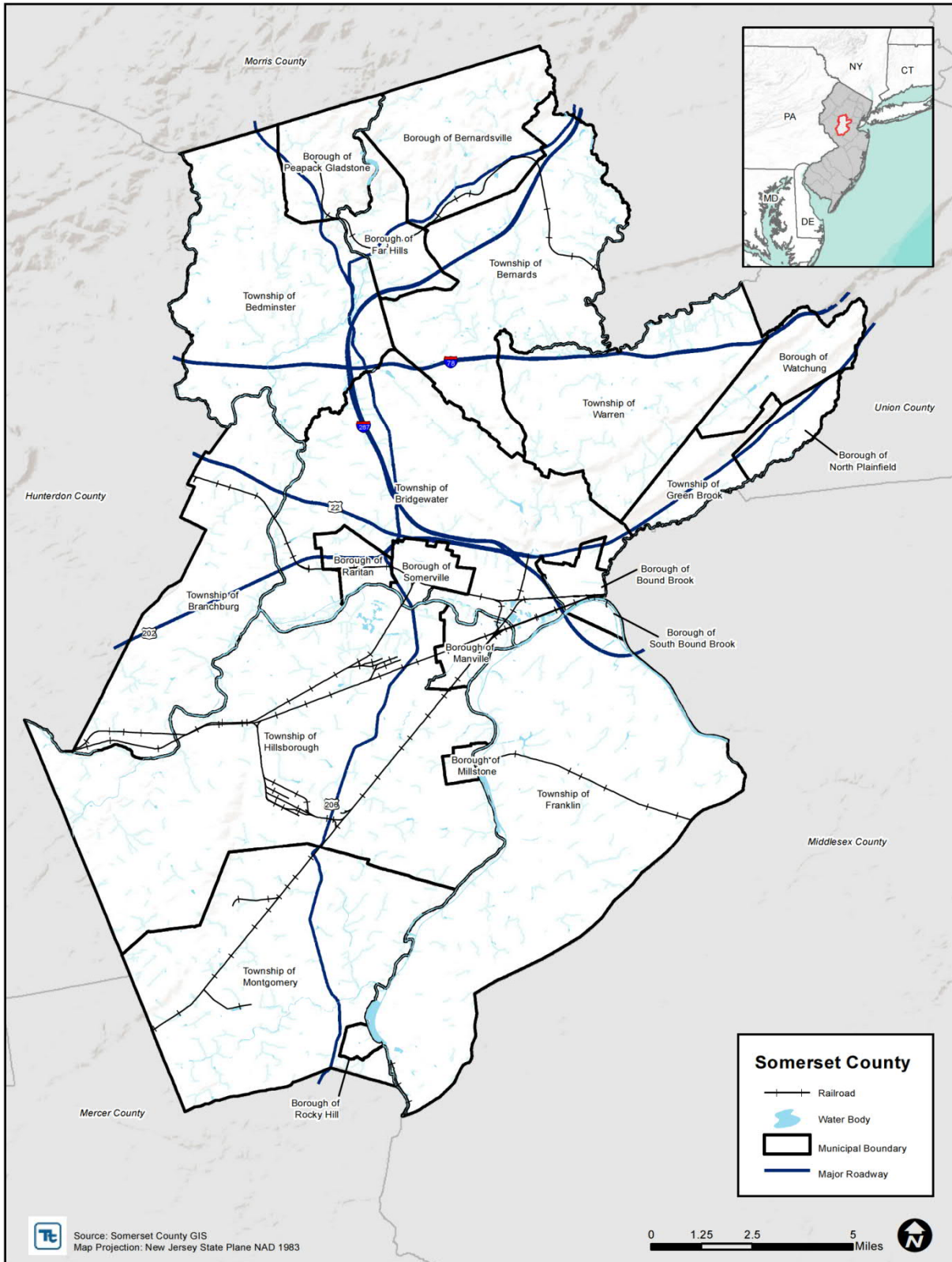
This section presents the physical setting of the County, including: location, hydrography and hydrology, topography and geology, climate, and land use/land cover.

Location

Somerset County is at the hub of central New Jersey, with its 21 municipalities encompassing over 300 square miles and a population exceeding 300,000 residents. Each jurisdiction contains a diversity of landscape, population, and development that reflects the different lifestyles of its residents. Somerset County is located within the New York metropolitan area, the largest metropolitan area in the U.S. There is a balance between urban and suburban communities and rural countryside in the county. (Somerset County, 2018)

Located in north central New Jersey, Somerset County is bounded to the north by Morris County, to the east by Union County, to the southeast by Middlesex County, to the south by Mercer County, and to the west by Hunterdon County (Figure 4-1). The Raritan River bisects Somerset County, with a more hilly landscape to the north and the area to the south consisting of a flatter terrain.

Figure 4-1. Somerset County, New Jersey

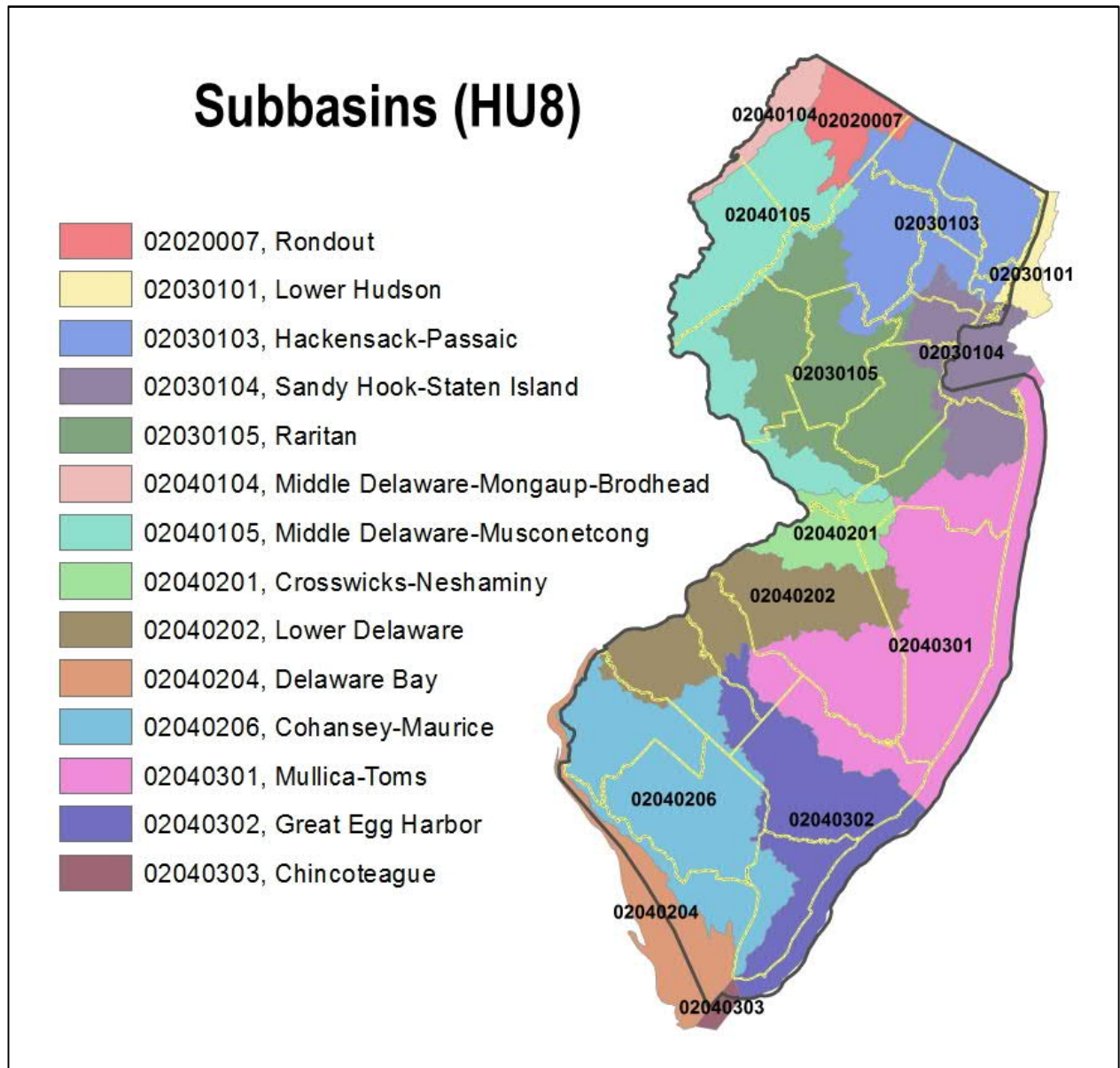


Source(s): Somerset County MIS; NJDEP GIS

Hydrography and Hydrology

Numerous ponds, lakes, creeks, and rivers make up the waterscape of Somerset County. The major waterways within Somerset County include: the Passaic River, Raritan River, North Branch Raritan River, South Branch Raritan River, Millstone River, Lamington River, and Green Brook. All of these water bodies are a part of the two major sub-basins, the Hackensack-Passaic Sub-basin and the Raritan Sub-basin. (NJDEP 2015 accessed 2018) Figure 4-2 shows the locations of the sub-basins statewide.

Figure 4-2. Somerset County Sub-basins



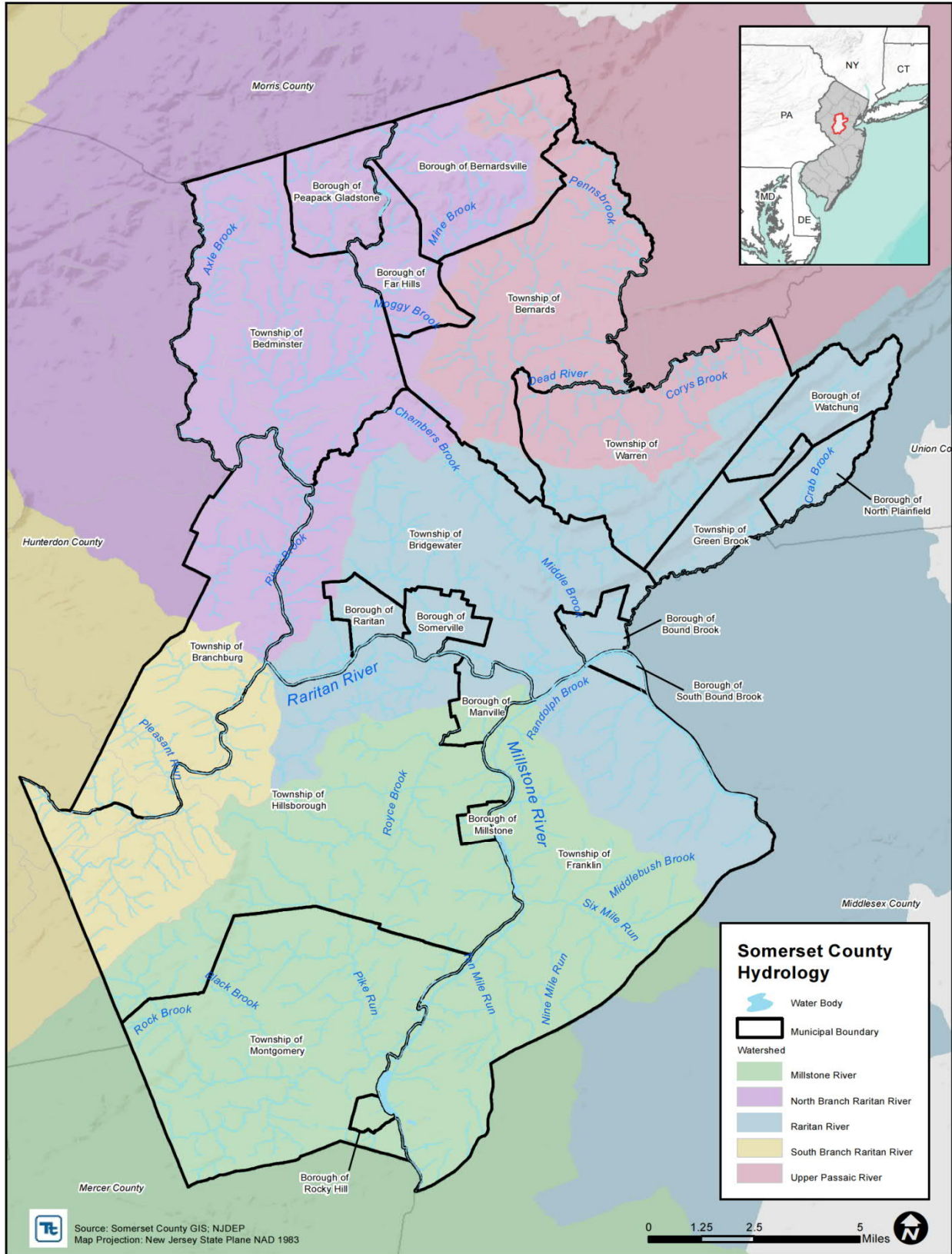
Source: USEPA, NJDEP 2012, updated 2/7/15, accessed 7/10/18

The Hackensack-Passaic Sub-basin is located in New Jersey and New York. It contains 495 lakes, almost 1,300 total miles of river, and over 1,100 square miles of land. (Bergen County Partnership for Community Health, 2000) Urban areas make up 69% of the sub-basin. (USDA NRCS, 2011) In Somerset County, portions of Warren Township, Bernards Township, Bernardsville Borough and Far Hills Borough are in this sub-basin. Approximately twelve percent of Somerset County is located in the Hackensack-Passaic Sub-basin; three percent of the sub-basin is located in Somerset County. The portion of the sub-basin that is located in Somerset County is generally gently sloping land that is low in elevation; and is a mix of forested, low-density development, and agricultural land. (USDA NRCS, 2011)

The Raritan Sub-basin is the largest sub-basin located entirely within New Jersey. It covers approximately 1,100 square miles and includes parts of seven counties (Hunterdon, Mercer, Monmouth, Morris, Somerset, and Union), and all or part of 100 municipalities. The Raritan Sub-basin provides water to approximately 1.2 million people in central New Jersey. The sub-basin as a whole contains 461 lakes. (USEPA, 2018) The major water bodies that make up this sub-basin include the North and South Branch Raritan River, South River, Green Brook, Lawrence Brook, and the Millstone River. (Natural Resources Conservation Service (NRCS), 2006) Approximately 88% of Somerset County lies within this sub-basin. (USDA NRCS 2011)

Five Watershed Management Areas (WMAs) are located in Somerset County. These are shown in Figure 4-3.

Figure 4-3. Watershed Management Areas of Somerset County



The Millstone River Watershed Management Area (WMA) encompasses the southern portion of Somerset County including Montgomery, Franklin, Hillsborough, and Manville. The major tributaries within it are the Millstone River, Stony Brook, Cranbury Brook, Bear Brook, Ten Mile River, Six Mile River, and Bedens Brook. Land use within the watershed is primarily suburban development, with some significant agricultural areas. Extensive recent residential development has taken place in the upper portion of this watershed. (NJDEP 2018)

The North Branch Raritan River WMA encompasses the northwestern portion of Somerset County including Bedminster, Branchburg, Peapack Gladstone, Far Hills, and Bernardsville. The major tributaries in this WMA include the Raritan River, Peapack Brook, Rockaway Creek, and Lamington River. Land use within this WMA is predominantly low-density residential, rural, wooded, and agricultural with historic villages that include commercial and residential land uses. The more intense development is located along the major road corridors within this WMA (NJDEP 2018.)

The South Branch Raritan River WMA encompasses a portion in southwestern Somerset County, in the Townships of Hillsborough and Montgomery. The major tributaries in the WMA include the Neshanic River, Spruce Run Creek, Mulhockaway Creek, and Cakepoulin Creek. Land uses consist primarily of agriculture and low-density residential, with an increasing trend of suburban and industrial development occurring within the major highway corridors (NJDEP 2018.)

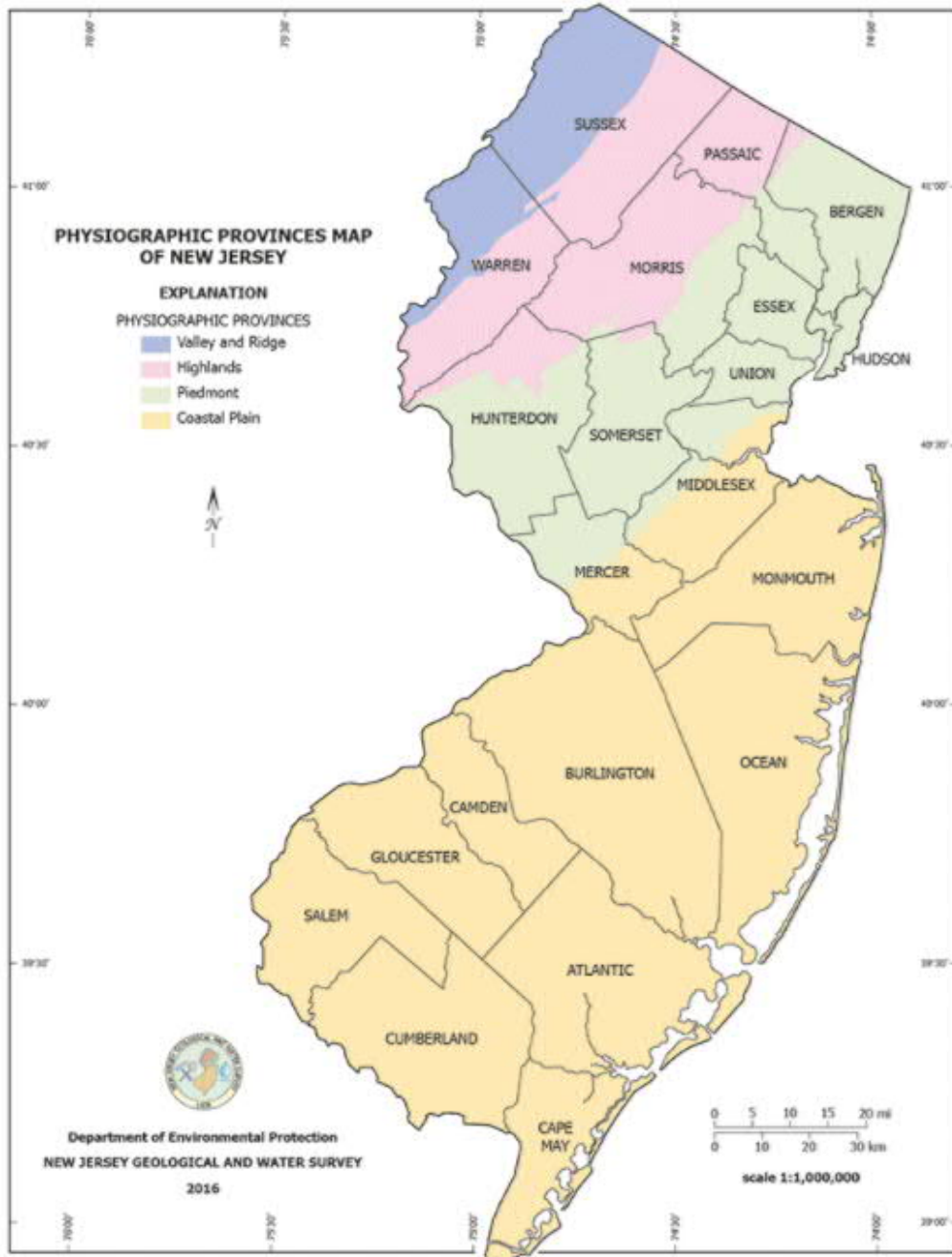
The Raritan River WMA encompasses east central Somerset County including the municipalities of Franklin, Bridgewater, Somerville, Raritan, Green Brook, Bound Brook, South Bound Brook, North Plainfield, Watchung, and Warren. Urban and suburban land uses predominate, punctuated by large scale industrial and commercial areas with connections to the major highway corridors that traverse this WMA. (NJDEP 2018)

The Upper Passaic River WMA encompasses the north eastern portion of Somerset County including the municipalities of Bernards, Bernardsville, Far Hills, and Warren. The major tributaries include Cory's Brook, Dead River, Penns Brook, and Mine Brook (NJDEP 2018.) Suburban residential land uses with interspersed community-oriented commercial development dominate the landscape within this WMA.

Topography and Geology

Somerset County is located largely within the Piedmont Province, one of the four major physiographic regions of New Jersey (see Figure 4-4). The Piedmont Province has an area of approximately 1,600 square miles and makes up about one-fifth of the state. The Piedmont Province is mainly underlain by slightly folded and faulted sedimentary rocks of the Triassic and Jurassic age and igneous rocks of the Jurassic age. (Dalton, 2003)

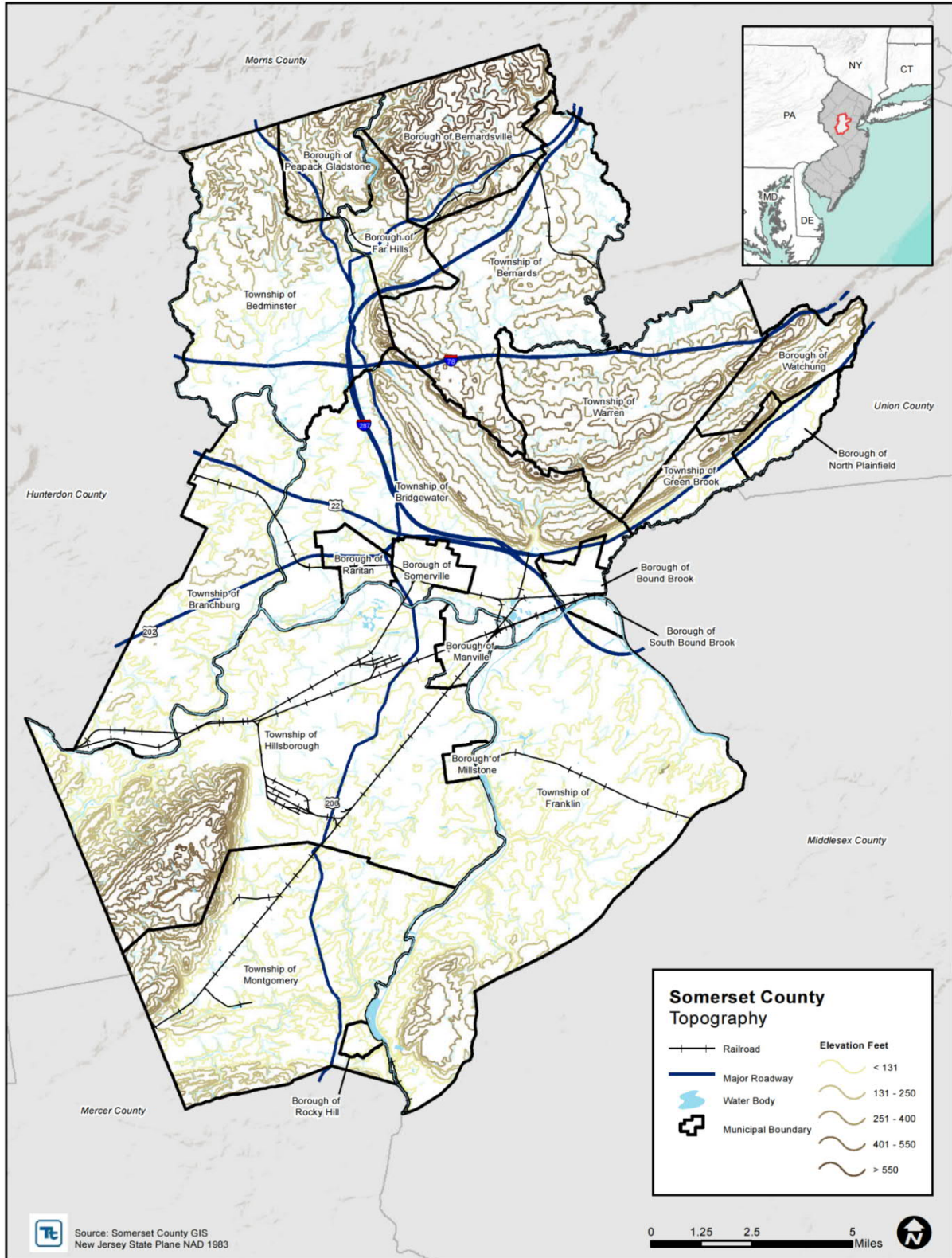
Figure 4-4. Physiographic Provinces in Somerset County



Source: New Jersey Geological and Water Survey, 2016

According to the New Jersey Geological and Water Survey (NJGWS), the Piedmont Province is a low rolling plain divided by a series of higher ridges. The width varies from approximately 16 miles near the New York border to over 30 miles at the Delaware River. The most prominent feature of the eastern portion of the province is the Palisades, which has a maximum elevation of 547 feet near Closter and provides views of the Hudson River and New York City. Near the Newark Bay, toward its boundary with the Coastal Plain Province, the elevation is at sea level. (Dalton, 2003) Figure 4-5 displays the elevations throughout Somerset County.

Figure 4-5. Somerset County, New Jersey Elevation Contours



Source: Somerset County GIS (created using 2 ft. contours)

A small portion of northern Somerset County (including portions of Bernardsville, Far Hills and Peapack Gladstone) is located within the Highlands Province. This province occupies an area of approximately 980 square miles, about one-eighth of New Jersey. The Highlands Province is mainly underlain by highly metamorphosed igneous and sedimentary rocks of the Middle Proterozoic age. Small areas within this province are underlain by Late Proterozoic age metasedimentary rocks and diabase dikes. This mountainous belt is approximately 10 miles wide at the Delaware River and 23 miles near the New York border. (Dalton, 2003)

Like New Jersey, there are distinct geological regions within the County. These geologic regions include the Highlands, the Somerville Lowlands, the Watchung Highlands, and the Sourland-Rocky Hill Uplands.

The Highlands Region is found in Bernardsville, Far Hills, and Peapack-Gladstone, all located within the northern part of Somerset County. The flat-topped ridges are composed of dense gneissic bedrock materials rising to an elevation of over 800 feet above sea level in Bernardsville. In the Peapack Valley, locally cavernous limestone is found, which presents potential development constraints for certain types of large scale construction. (Somerset County Planning Board, 1987)

The Somerville Lowlands is the most extensive physiographic region in Somerset County and it is characterized by 100 to 200 foot elevations and generally low relief with rolling hills and wide valleys. It is found throughout the areas lying south and west of the Highlands and Watchung regions and extends to the Sourland and Rocky Hill Uplands in the southern portion of the county. The Somerville Lowlands are underlain by red shale, sandstone, and Kittatiny Limestone. (Somerset County Planning Board, 1987)

The Watchung Uplands, located to the south of the Highlands Region includes the highly visible parallel ridges and valleys of the Watchung Mountains. These formations have basaltic bedrock, which is a dense, massive rock of volcanic origin. It offers very little water storage because of its dense characteristics and absence of fractures. Soil cover on the ridges is generally thin. (Somerset County Planning Board, 1987)

The Sourland-Rocky Hill Uplands are found in the southern portion of Somerset County. Their major feature is two separate, but related, formations consisting primarily of diabase, a very dense formation. In the Sourland Mountain, the diabase bedrock is adjoined by a dense, argillite formation, which is a sedimentary rock. Like the Watchung Uplands, the diabase and argillite bedrock yields very little groundwater. (Somerset County Planning Board, 1987)

Climate

New Jersey is located about halfway between the equator and the North Pole, on the eastern coast of the United States. Due to its geographic location, New Jersey is influenced by wet, dry, hot, and cold airstreams, creating a highly variable climate. (ONJSC Climate Overview, accessed 2018)

Somerset County is part of New Jersey's northern and central climate zone as defined by the State Climatologist. The Northern Zone covers approximately one-quarter of New Jersey and consists of elevated highlands and valleys, which are part of the Appalachian Uplands. Surrounded by land, this region has a continental-type of climate, with minimal influence from the Atlantic Ocean. Prevailing winds are from the southwest in the summer and from the northwest in the winter. Located in the northernmost portion of New Jersey, the Northern Zone normally exhibits cooler temperatures than the other climate regions of the State. During the warmer months, thunderstorms provide most of the rainfall for the Northern Zone. This region has about twice as many thunderstorms as the Coastal Zone. The

growing season of the Northern Zone is the shortest of all climate zones in the state, approximately 155 days. (ONJSC Climate Overview, accessed 2018)

The Central Zone has a northeast to southwest orientation, running from the New York Harbor and the Lower Hudson River to the great bend of the Delaware River in Trenton. This region has many urban areas with large amounts of associated mobile and stationary pollution sources including vehicular traffic, energy generation, water treatment and industrial processes. With the high concentrations of buildings and paved surfaces, these areas tend to absorb and retain more heat, affecting local temperatures. Heavily developed areas within the Central Zone are warmer than surrounding suburban and rural areas according to observed nighttime temperatures. This is known as the urban “heat island” affect. (ONJSC Climate Overview, accessed 2018)

The northern edge of the Central Zone is typically the boundary between freezing and non-freezing precipitation in the winter. During the summer, temperatures vary between the northern and southern sections. (ONJSC Climate Overview, accessed 2018) According to 2018 US Climate Data, the average annual high temperature for central Somerset County (Bridgewater) was 62.1 degrees Fahrenheit; the annual average low temperature was 39.2 degrees Fahrenheit; the average annual rainfall precipitation was 47.75 inches and the average annual snowfall is 29 inches. For more information, see <https://www.usclimatedata.com/climate/bridgewater/new-jersey/united-states/usnj0606>.

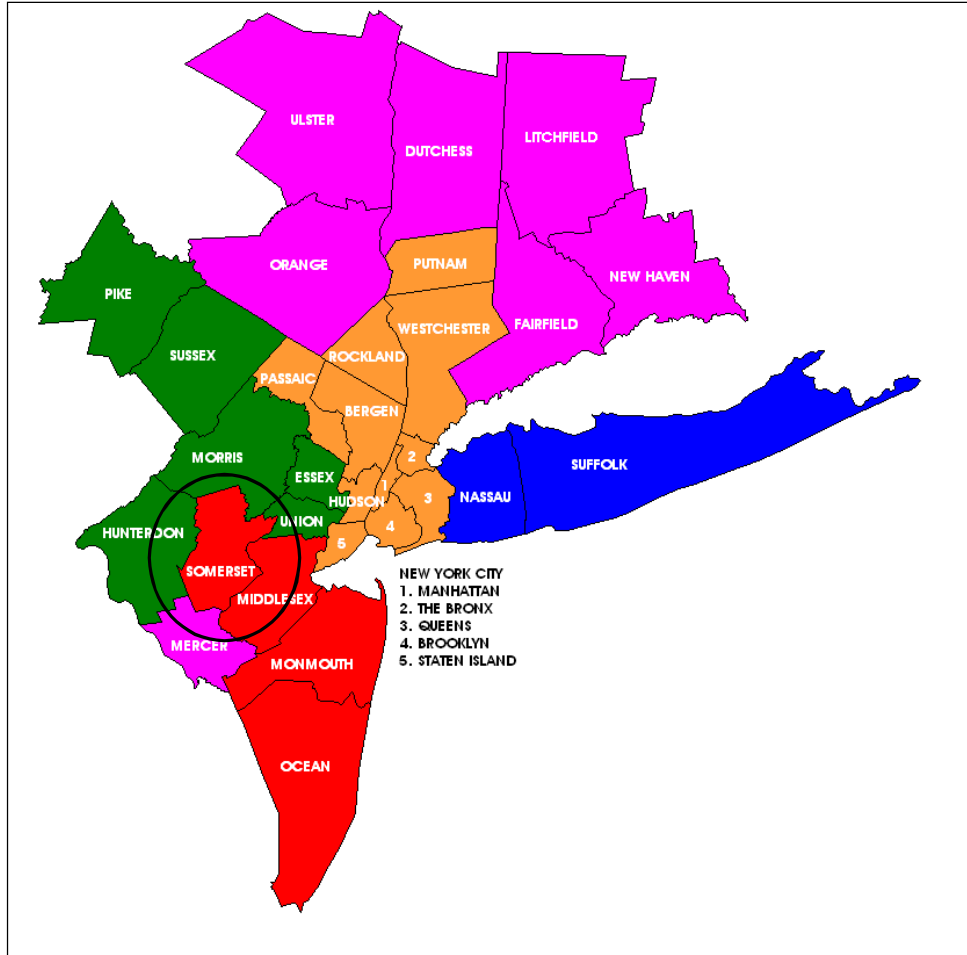
Please also see the Climate Memorandum included as Appendix FRF-11 of the Final Flood Resiliency Framework for climate change data specific to New Jersey and the impacts these changes are having on Somerset County and the State. The Final Flood Resiliency Framework is provided as Appendix K of this HMP Update.

Metropolitan/Urban Area

The Census Bureau classifies ‘urban’ as all territory, population, and housing units located within an urbanized area (UA) or an urban cluster (UC). It delineates UA and UC boundaries to encompass densely settled territory, which consist of core census block groups or blocks that have a population density of at least 1,000 people per square mile; and surrounding census blocks that over an overall density of at least 500 people per square mile. An urbanized area is a densely populated area with a population density of more than 1,000 people per square mile and a population of more than 50,000. (Demographia, 2001) Urban clusters are defined in the same manner as urbanized areas; however, an urban cluster has a population density of 2,500 people per square mile and a population of more than 50,000. (Center for Information Development and Service, Date Unknown) With a population of over 300,000 and a population density of over 1,000 people per square mile, Somerset County is considered an urban area.

Somerset County is one of the 23 counties within the New York–Northern New Jersey–Long Island NY-NJ-PA Metropolitan Statistical Area, includes Somerset County. It is the most populous metropolitan area in the United States and the fourth most populous in the world. This area is at the heart of the New York-Newark, NY-NJ-CT Urbanized Area, with a 2010 population of 18,897,109. (U.S. Census Bureau, 2010 Census) With approximately 3,353 square miles of land, it is the largest urbanized area in the United States. It is also the fourth most densely populated urbanized area in the country, with 5,635 persons per square mile. (U.S. Census Bureau, 2010 Census) The U.S. Census Bureau also defines a wider functional metropolitan area based on commuting patterns, the *New York-Newark-Bridgeport, NY-NJ-CT-PA Combined Statistical Area* with an estimated population of 22,085, (as of 2012). This metropolitan area is made up of 5 divisions as indicated in Figure 4-6.

Figure 4-6. New York-Northern New Jersey-Long Island, NY-NJ-PA Metropolitan Statistical Area



Source: U.S. Census, 2000

Note: Somerset County is located in the Edison, NJ Metropolitan Division (circle)

New York-White Plains-Wayne, NY-NJ Metropolitan Division

Nassau-Suffolk, NY Metropolitan Division

Newark-Union, NJ-PA Metropolitan Division

Edison, NJ Metropolitan Division

Rest of the New York-Newark-Bridgeport, NY-NJ-CT Combined Statistical Area

POPULATION AND DEMOGRAPHICS

Population Characteristics

According to the 2010 U.S. Census, Somerset County had a population of 323,444 people, representing an increase of 25,954 persons from the year 2000. This is in agreement with the data included in HAZUS-MH 4.0, which is based on the 2010 U.S. Census data¹. Table 4-1 presents the population

¹ Note: The Census Bureau's July 2017 estimates reflect a 3.7% increase in Somerset County from 2010 to 2017 (2017 Census Population Estimate of 335,432 persons). FEMA, however, does not update its HAZUS software when interim Census population estimates are published; but rather only when decennial Census reports are issued.

statistics for Somerset County based on the 2010 U.S. Census data. Figure 4-7 shows the distribution of the general population density (persons per square mile) by Census block.

DMA 2000 requires that HMPs consider socially vulnerable populations. These populations can be more susceptible to hazard events, based on a number of factors including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. For the purposes of this study, vulnerable populations shall include (1) the elderly (persons aged 65 and over) and (2) those living in low-income households.

Table 4-1. Somerset County Population Statistics (2010 U.S. Census)

Municipality	Census 2010 Total Pop.	Census 2000 Total Pop.	Pop. 65+ Census 2010		Low-Income Pop. ** Census 2010	
			Total	% of Total	Total	% of Total
Township of Bedminster	8,165	8,302	1,149	14.1%	823	10.1%
Township of Bernards	26,652	24,575	3,588	13.5%	1,736	6.5%
Borough of Bernardsville	7,707	7,345	941	12.2%	629	8.2%
Borough of Bound Brook	10,402	10,155	1,053	10.1%	2,998	28.8%
Township of Branchburg	14,459	14,566	1,597	11.0%	533	3.7%
Township of Bridgewater	44,464	42,940	6,515	14.7%	3,167	7.1%
Borough of Far Hills	919	859	150	16.3%	121	13.2%
Township of Franklin	62,300	50,903	8,513	13.7%	8,131	13.1%
Township of Green Brook	7,203	5,654	969	13.5%	295	4.1%
Township of Hillsborough	38,303	36,634	3,556	9.3%	3,126	8.2%
Borough of Manville	10,344	10,343	1,472	14.2%	2,160	20.9%
Borough of Millstone	418	410	67	16.0%	34	8.1%
Township of Montgomery	22,254	17,481	2,200	9.9%	1,058	4.8%
Borough of North Plainfield	21,936	21,103	1,842	8.4%	4,940	22.5%
Borough of Peapack-Gladstone	2,582	2,433	310	12.0%	225	8.7%
Borough of Raritan	6,881	6,338	933	13.6%	1,475	21.4%
Borough of Rocky Hill	682	662	126	18.5%	19	2.8%
Borough of Somerville	12,098	12,423	1,330	11.0%	2,408	19.9%
Borough of South Bound Brook	4,563	4,492	407	8.9%	384	8.4%
Township of Warren	15,311	14,259	2,059	13.4%	642	4.2%
Borough of Watchung	5,801	5,613	1,225	21.1%	327	5.6%
Somerset County (Total)	323,444	297,490	40,002	12.4%	35,231	10.9%

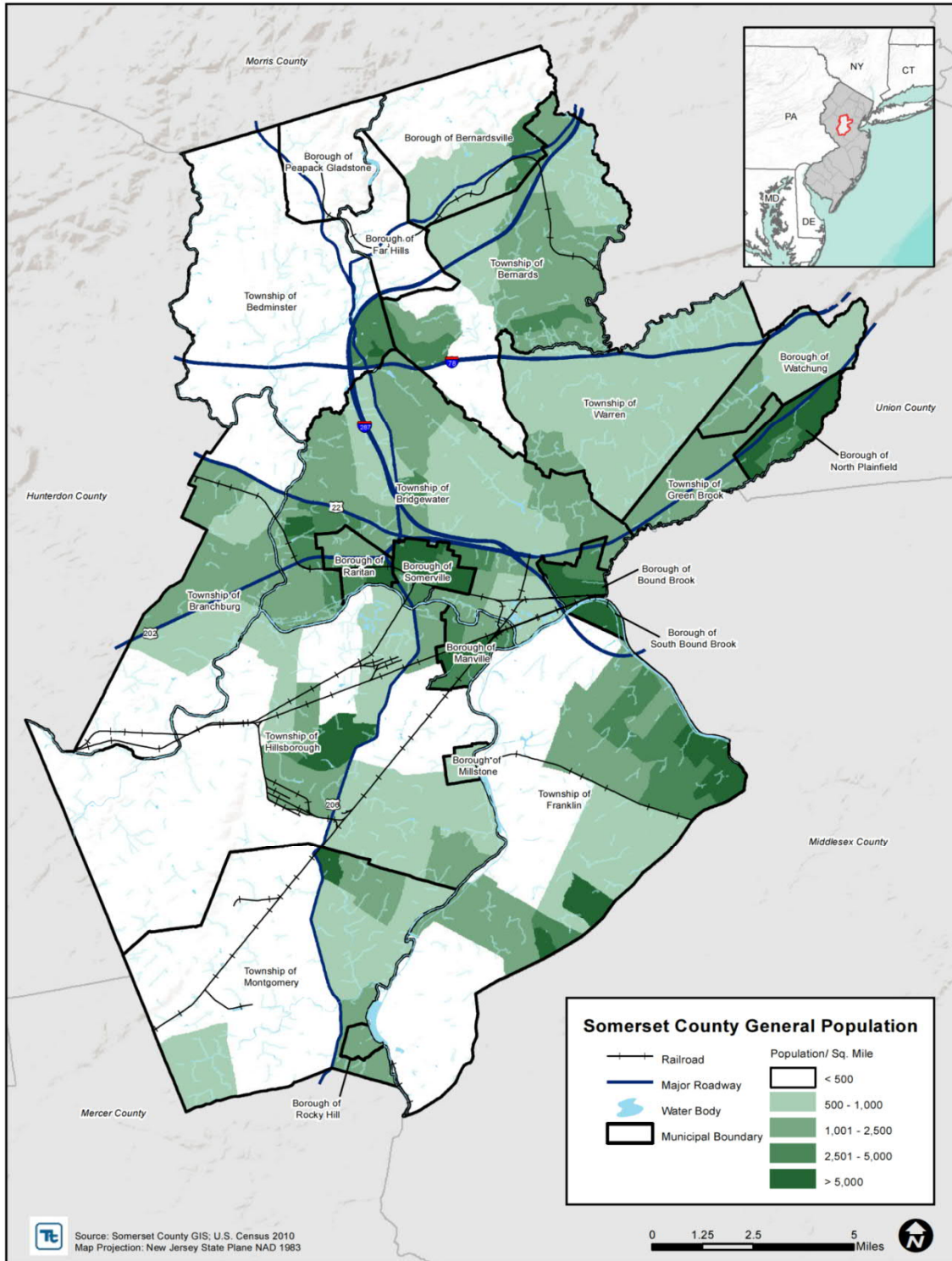
Sources: Census 2010 (U.S. Census Bureau); HAZUS-MH

Note: Pop. = population

* Income below 200% of the poverty level is considered low income. This table presents the number persons whose income was below twice the poverty level, as per the Census 2010 American Community Survey 5-year Estimate 2006-2010.

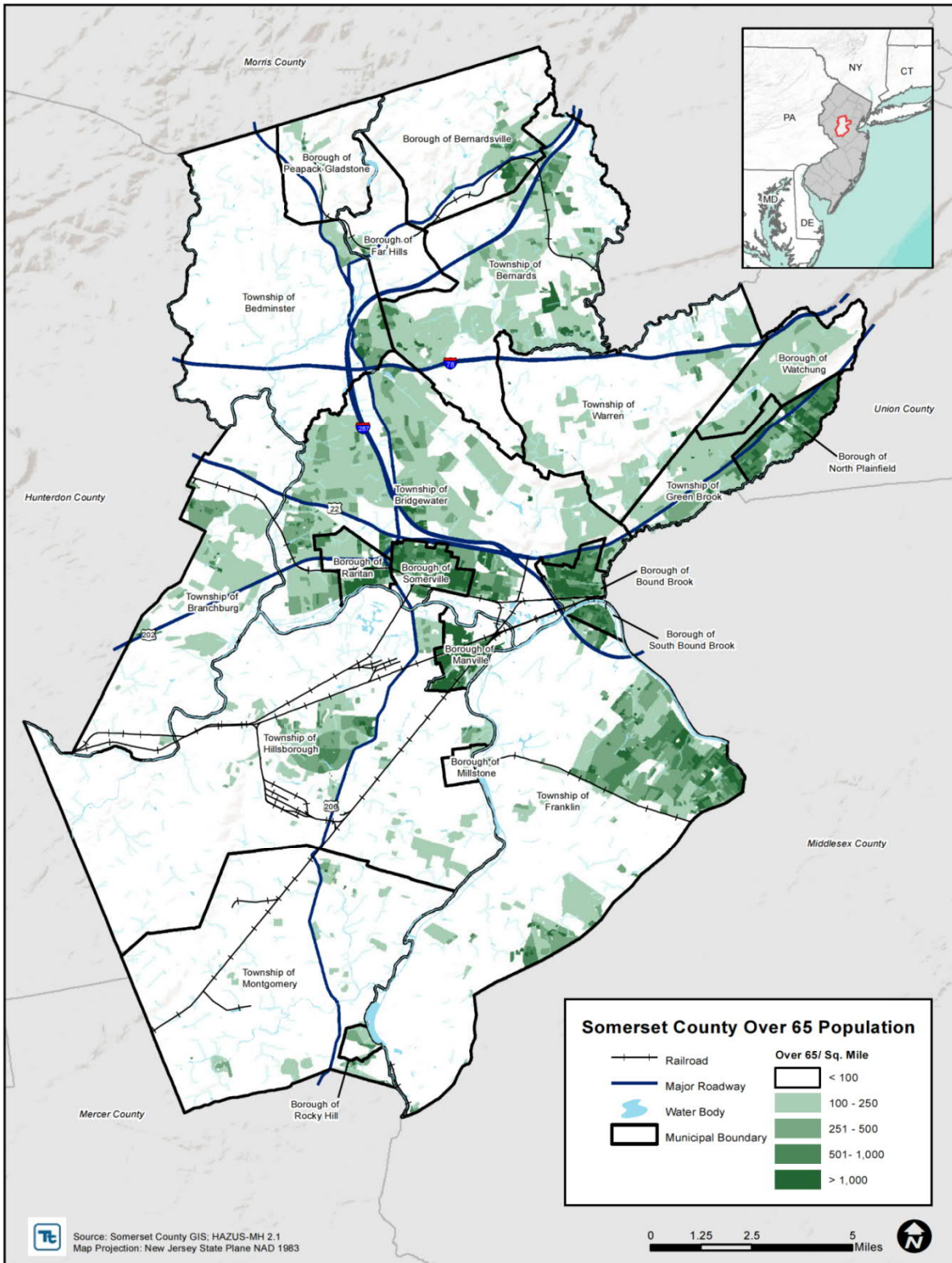
The following maps indicate distribution based on Census Block designations. Figure 4-8 shows the distribution of persons over age 65 in Somerset County, while Figure 4-9 shows the distribution of low income persons.

Figure 4-7. Distribution of General Population for Somerset County, New Jersey



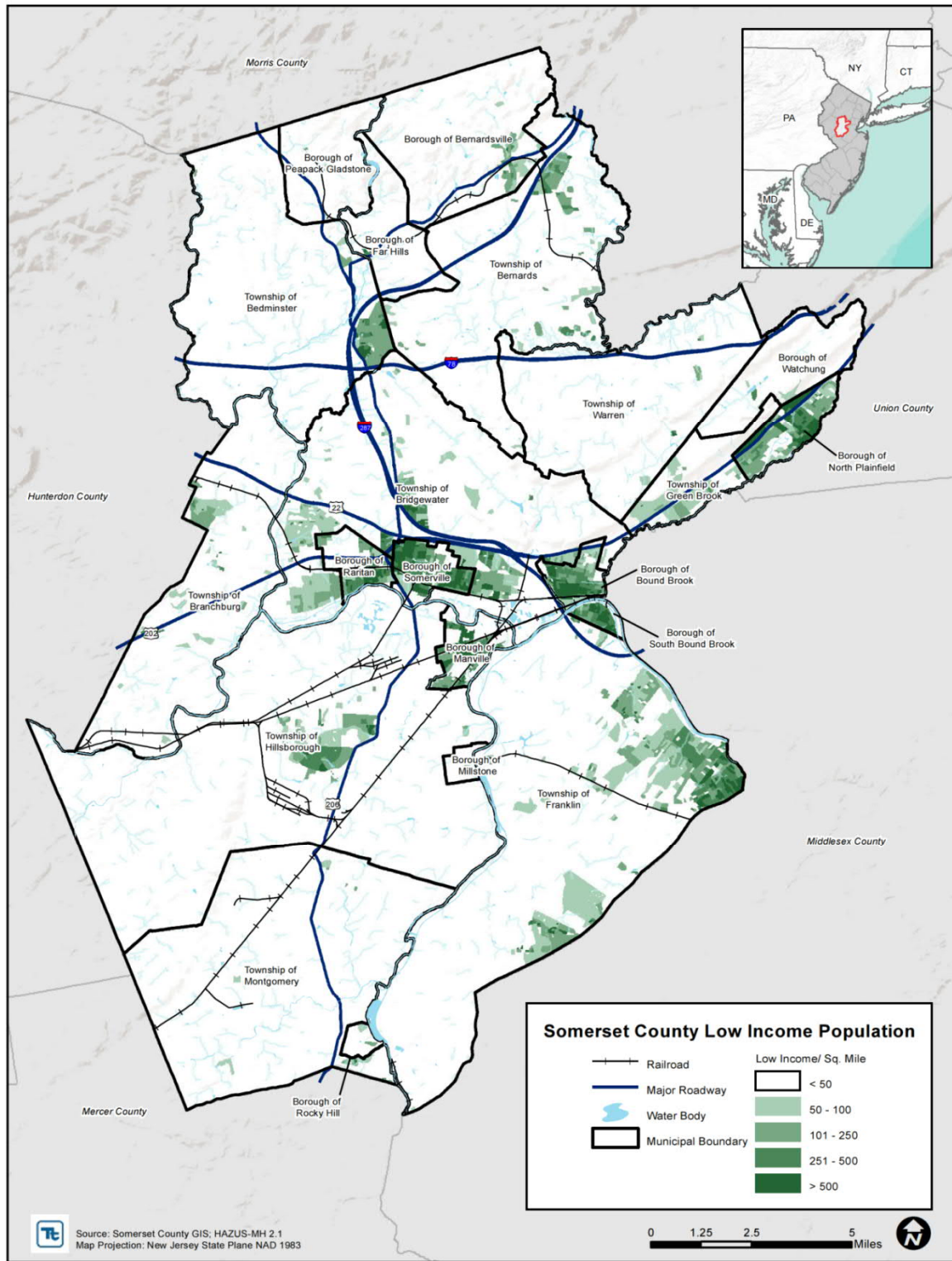
Source: U.S. Census 2010; Somerset County GIS

Figure 4-8. Distribution of Persons over the Age of 65 in Somerset County, New Jersey



Source: HAZUS-MH, Somerset County GIS

Figure 4-9. Distribution of Low-Income Population in Somerset County, New Jersey



Source: HAZUS-MH, Somerset County GIS

Population Trends

This section discusses population trends and provides information for estimating future growth and associated residential development patterns. Population trends can provide a basis for making decisions on the type of mitigation approaches to consider and the locations in which these approaches should be applied. This information can also be used to support land use policy and planning decisions aimed at avoiding future development in vulnerable areas.

According to the U.S. Census Bureau, Somerset County’s 2010 population was 323,444 persons, which is an 8.72 percent increase from the 2000 Census population of 297,490. From 1900 to the present, the County has experienced constant growth in population. The largest increase was seen between the years 1950 to 1960, when the County experienced a 45.29 percent (54,459 persons) population increase. The smallest increase was seen between the years 1970 and 1980, when Somerset County only experienced a 2.4 percent (4,757 persons) population increase. More recently, from 1990 to 2000, Somerset County experienced a 23.81 percent (57,211 persons) population increase. Rates of increase are observed to be much lower in recent years, with an 8.72% increase between 2000 and 2010; and an estimated 3.71% increase between 2010 and 2017. The County experienced overall growth from 1990 to 2010, during which population increased by 34.6 percent (83,165 persons). (U.S. Census Bureau, 2010) Table 4-2 shows population growth countywide from 1900 to 2017 in Somerset County. Table 4-3 shows population growth by municipality from 1940 to 2017. Figure 10 depicts the past, current, and projected population statistics/trends for the County. Figure 11 depicts the population trends of the municipalities between 1940 and 2017.

Table 4-2. Somerset County Population Trends, 1900 to 2017

Year	Population	Change in Population from Prior Census	Percent (%) Population Change
1900	32,948	—	—
1910	38,820	5,872	17.82
1920	47,991	9,171	23.62
1930	62,132	14,141	29.47
1940	74,390	12,258	19.73
1950	99,052	24,662	33.15
1960	143,913	44,861	45.29
1970	198,372	54,459	37.84
1980	203,129	4,757	2.40
1990	240,279	37,150	18.29
2000	297,490	57,211	23.81
2010	323,444	25,954	8.72
2017*	335,432	11,988	3.71

Source: U.S. Census Bureau Decennial Censuses

*2017 Census Population estimates, July 1, 2017, online at

<https://www.census.gov/quickfacts/fact/table/somersetcountynewjersey#viewtop>

Note: Change in population and percent in population change was calculated from available data

Table 4-3. Somerset County Resident Population by Municipality: 1940-2017

	1940	1950	1960	1970	1980	1990	2000	2010	**2017 estimates
Bedminster	1,606	1,613	2,322	2,597	2,469	7,086	8,302	8,165	8,210
Bernards	4,512	7,487	9,018	13,305	12,920	17,199	24,575	26,625	27,061
Bernardsville	3,405	3,956	5,515	6,652	6,715	6,597	7,345	7,707	7,815
Bound Brook	7,616	8,374	10,263	10,450	9,710	9,487	10,155	10,402	10,468
Branchburg	1,231	1,958	3,741	5,742	7,846	10,888	14,566	14,459	14,712
Bridgewater	4,934	8,234	15,789	30,235	29,175	32,509	42,940	44,464	45,414
Far Hills	574	600	702	780	677	657	859	919	927
Franklin*	6,299	9,601	19,858	30,389	31,358	42,780	50,903	62,300	66,734
Green Brook	763	1,155	3,622	4,302	4,640	4,460	5,654	7,203	7,212
Hillsborough	2,645	3,875	7,584	11,061	19,061	28,808	36,634	38,303	40,003
Manville	6,065	8,597	10,995	13,029	11,278	10,567	10,343	10,344	10,414
Millstone	252	289	409	630	530	450	410	418	420
Montgomery	3,360	3,819	3,851	6,353	7,360	9,612	17,481	22,254	23,584
North Plainfield	10,586	12,766	16,993	21,796	19,108	18,820	21,103	21,963	22,060
Peapack-Gladstone	1,354	1,450	1,804	1,924	2,038	2,111	2,433	2,582	2,610
Raritan	4,839	5,131	6,137	6,691	6,128	5,798	6,338	6,881	8,011
Rocky Hill	404	537	528	917	717	693	662	682	688
Somerville	8,720	11,571	12,458	13,652	11,973	11,632	12,423	12,098	12,418
South Bound Brook	1,928	2,905	3,626	4,525	4,331	4,185	4,492	4,563	4,657
Warren	2,139	3,316	5,386	8,592	9,805	10,830	14,259	15,311	16,029
Watchung	1,158	1,818	3,312	4,750	5,290	5,110	5,613	5,801	5,985
Somerset County Total:	74,390	99,052	143,913	198,372	203,129	240,279	297,490	323,444	335,432

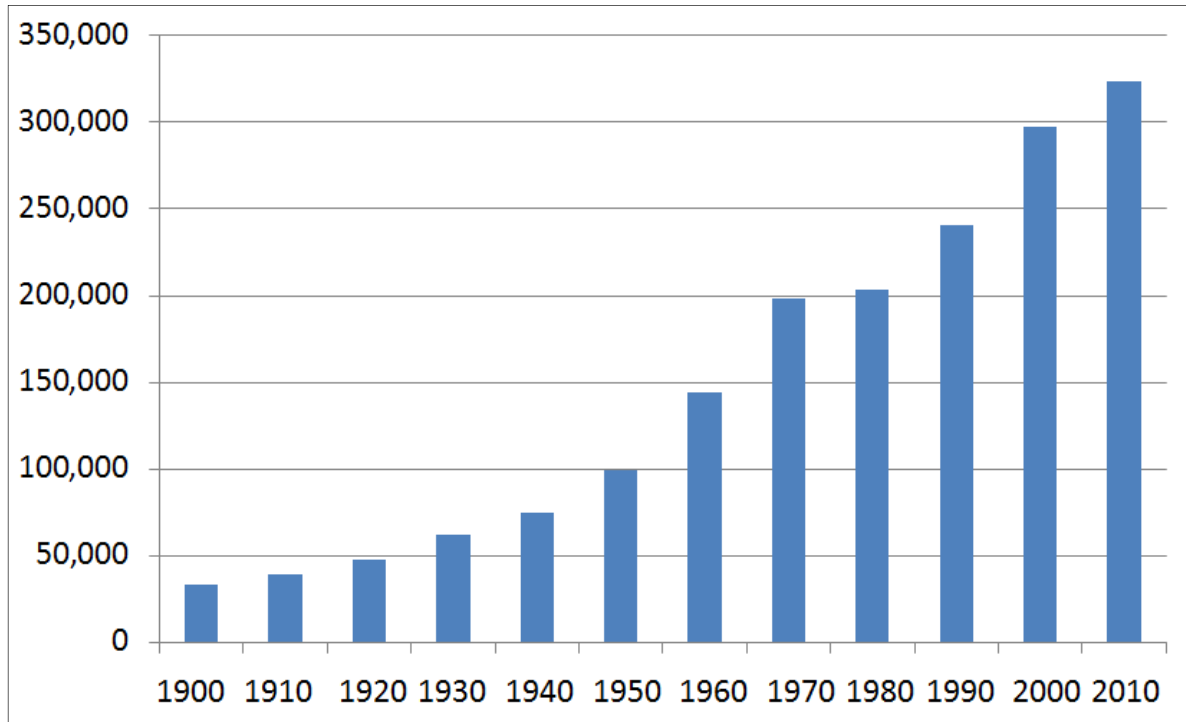
Source: U.S. Census of Population and Housing, Decennial Censuses.

* East Millstone Township consolidated with Franklin Township in 1949.

** <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk> accessed July 2018

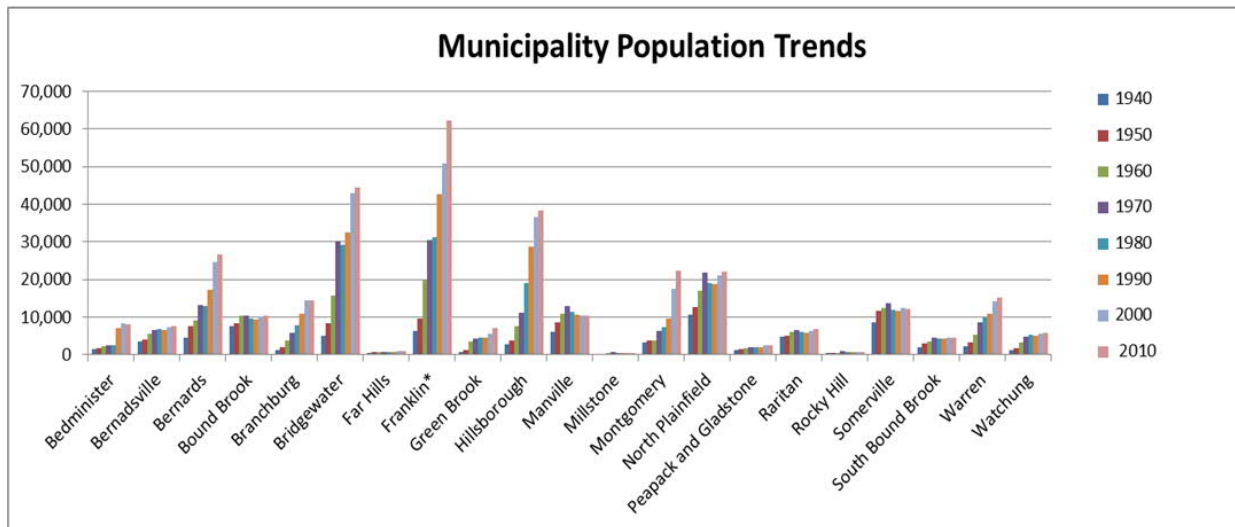
It is important to note that Census 2010 data is the most recent population data included in HAZUS MH 4.0 for the risk assessment of this 2019 HMP update. It is anticipated that Census 2020 data should be available in updated releases of HAZUS in time for the next plan update in 2024.

Figure 4-10. Somerset County - Change in Total Population, 1900 to 2010



Source: U.S. Census Bureau, 2010

Figure 4-11. Somerset County - Change in Total Population by Municipality: 1940-2010



Source: U.S. Census of Population and Housing, 2010.

* East Millstone Township consolidated with Franklin Township in 1949.

Between 1990 and 2010, none of the 21 jurisdictions experienced an overall decrease in their population. All but three of the jurisdictions saw an increase in their populations from 2000 to 2010. The only jurisdictions that experienced population decreases were Bedminster Township, Branchburg Township, and South Bound Brook Borough. The Township of Franklin experienced the greatest population increase

of 11,791 persons to lead all Somerset County jurisdictions in numerical growth and remain as the County’s most populated municipality with a 2010 population of 62,300. The Township of Bridgewater, with a 2010 population of 44,646, grew by 1,525 persons since 2000. The Township of Hillsborough is the third most populated municipality in Somerset County, with a 2010 population of 38,303 and its population increased by 1,669 since 2000. (U.S. Census Bureau, 2012) The two largest municipalities in Somerset County, since 1970, have been Franklin and Bridgewater. (New Jersey Department of Labor and Workforce Development, 2005)

Similar to the years between 2000 and 2010, population estimates show increases in all 21 jurisdictions for the years between 2010 and 2017. The greatest increase in numbers of persons was, again, in the Township of Franklin with an increase of 4,434 persons to again lead all Somerset County jurisdictions in numerical growth and remain as the County’s most populated municipality with a 2017 estimated population of 66,734 (nearly 20% of Somerset County’s residents live in Franklin).

Table 4-4 displays the ten most populated municipalities in Somerset County. Based on New Jersey Department of Labor 2014 population projections², the County population is expected to reach 378,700 by 2034 – an increase of 55,526 persons and 17% over Census 2010 values. With the predicted population increase, urban (residential) land use will increase, while other land uses, such as agriculture and forested land could possibly decrease over time.

Table 4-4. Ten Largest Municipalities in Somerset County

Rank	Municipality	Population*
1	Franklin	66,734
2	Bridgewater	45,414
3	Hillsborough	40,003
4	Bernards	27,061
5	Montgomery	23,584
6	North Plainfield	22,060
7	Warren	16,029
8	Branchburg	14,712
9	Somerville	12,418
10	Bound Brook	10,438

Source: Census Bureau 2017 Population Estimates online at <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>, and accessed in July 2018

The County’s population is expected to increase by 0.5% between 2010 and 2020, reaching a total of 339,627 according to Woods and Poole Economics, Inc. 2013. (Rutgers Graduate Planning Studio, 10-8-14) “Projections of Total Population by County” produced by the NJDLWD suggests that Somerset County’s population may grow by 8.0% (a total of 349,400) from 2010 to 2022, and show that Somerset is among the top six (6) counties statewide, having growth rates exceeding 5% for this period. A 5% growth rate during this period is anticipated statewide during this period. The NJDLWD’s projections indicate Somerset County’s population could reach 370,000 by 2032, and increase of 14% over 2010, with Somerset County remaining among the top six growth counties statewide.

² New Jersey Department of Labor Population and Labor Force Projections, 2014 to 2034, online at: https://www.nj.gov/labor/lpa/dmograph/lfproj/lfproj_index.html and accessed July 2018.

GENERAL BUILDING STOCK

The 2010 U.S. Census data identifies 117,759 households in Somerset County. The number of households in Somerset County increased by 7.45% countywide from 2000 to 2010 (up from 108,894 in 2000). A total of 11,104 housing units were added to the County's housing stock between 2000 and 2010, increasing from 112,023 to 123,127, a 9% increase during this decade. The U.S. Census defines a household as all persons occupying a housing unit, and a housing unit as a house, apartment, mobile home, group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Therefore, you may have more than one household per housing unit. The median house value in Somerset County was estimated at \$420,500 in 2010 (U.S. Census, 2010), higher than most counties in New Jersey. (Somerset County Trends and Indicators Report, 2013)

This update used data from the dasymetric general building stock in HAZUS-MH 4.0. For the purposes of this update, there are 99,953 structures in Somerset County, with a total building replacement value (structure and content) of greater than \$77 billion. Approximately 88.6 percent of the total buildings in the County are residential, which make up 66.3 percent of the building stock structural value associated with residential housing. Table 4-5 presents building stock statistics by occupancy class for Somerset County.

Table 4-5. Building Stock Count and Replacement Value by Occupancy Class

Municipality	Total		Residential		Commercial		Industrial	
	Count	Replacement Value	Count	Replacement Value	Count	Replacement Value	Count	Replacement Value
Bedminster (T)	2,531	\$2,926,883,513	1,529	\$1,610,161,476	221	\$1,054,267,691	0	\$185,033,452
Bernards (T)	7,576	\$6,593,650,834	6,850	\$4,772,898,189	359	\$1,288,192,547	13	\$205,479,676
Bernardsville (B)	3,282	\$2,095,824,557	2,841	\$1,380,117,393	162	\$470,622,095	38	\$58,740,529
Bound Brook (B)	3,011	\$1,709,050,255	2,702	\$1,117,065,971	244	\$413,617,249	3	\$102,441,512
Branchburg (T)	5,369	\$4,998,363,005	4,385	\$2,600,872,260	464	\$1,145,515,554	152	\$813,109,707
Bridgewater (T)	14,316	\$11,822,787,836	13,351	\$7,804,032,796	501	\$2,392,711,635	166	\$793,478,398
Far Hills (B)	536	\$252,653,733	302	\$221,500,883	41	\$24,664,575	0	\$4,325,907
Franklin (T)	15,592	\$14,127,297,337	13,992	\$9,436,887,140	750	\$3,018,621,365	220	\$1,264,399,653
Green Brook (T)	2,465	\$2,001,262,734	2,229	\$1,208,607,276	188	\$648,260,609	16	\$81,820,245
Hillsborough (T)	10,812	\$7,696,023,535	9,328	\$6,073,548,328	472	\$1,081,193,798	118	\$379,565,254
Manville (B)	4,250	\$1,712,090,590	4,031	\$1,217,774,694	131	\$353,804,997	28	\$67,735,180
Millstone (B)	221	\$75,985,930	208	\$61,008,506	7	\$5,328,780	0	\$4,215,355
Montgomery (T)	6,899	\$5,440,591,236	5,901	\$3,881,514,666	270	\$1,275,924,090	12	\$129,855,764
North Plainfield (B)	5,781	\$3,513,119,263	5,424	\$2,588,812,112	288	\$732,921,867	4	\$66,763,517
Peapack Gladstone (B)	1,118	\$873,393,436	877	\$495,196,826	70	\$332,596,634	5	\$14,059,936
Raritan (B)	2,418	\$1,898,399,964	2,165	\$887,879,996	188	\$362,953,888	32	\$599,971,390
Rocky Hill (B)	352	\$193,885,797	319	\$114,699,775	15	\$52,248,040	4	\$9,372,408
Somerville (B)	3,799	\$3,133,616,194	3,323	\$1,511,820,439	401	\$1,329,459,436	14	\$125,302,188
South Bound Brook (B)	1,420	\$897,242,447	1,328	\$616,963,912	59	\$244,564,384	1	\$9,546,482
Warren (T)	5,999	\$4,241,801,561	5,490	\$2,842,405,257	266	\$935,393,281	16	\$299,627,189
Watchung (B)	2,206	\$1,511,409,266	2,029	\$1,090,649,944	117	\$311,247,813	8	\$54,675,366
Somerset County	99,953	\$77,715,333,023	88,604	\$51,534,417,839	5,214	\$17,474,110,328	850	\$5,269,519,108

Source: Somerset County GIS 2008, HAZUS-MH 4.0

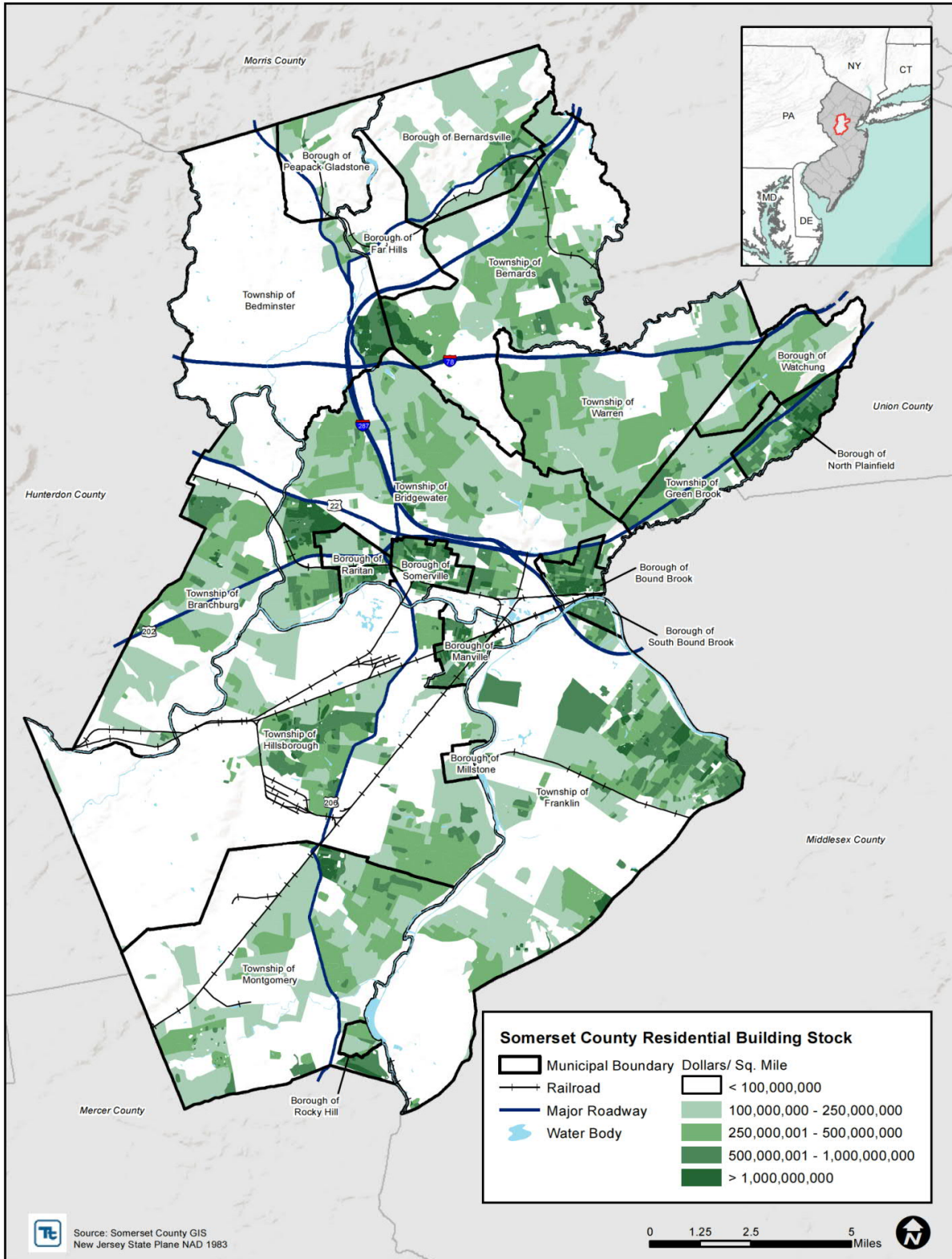
Note: Replacement value reflects the replacement cost for building structure and contents. Generally, contents for residential structures are valued at about 50 percent of the building's value. For non-residential facilities, the value of the content is generally about equal to the building's structural value.

The 2010 Census data shows that the majority of the County's housing stock (59.2 percent) is comprised of single-family detached units. The 2015 U.S. Census Bureau's County Business Patterns data identified 9,968 business establishments employing 186,151 people in Somerset County.

Figure 4-12 through Figure 4-14 show the distribution and exposure density of residential, commercial and industrial buildings in Somerset County. Exposure density is the dollar value of structures per unit area, including building content value. Generally, contents for residential structures are valued at about 50 percent of the building's value. For commercial facilities, the value of the content is generally about equal to the building's structural value. Actual content value varies widely depending on the usage of the structure. The densities are shown in units of \$1,000,000 (\$M) per square mile.

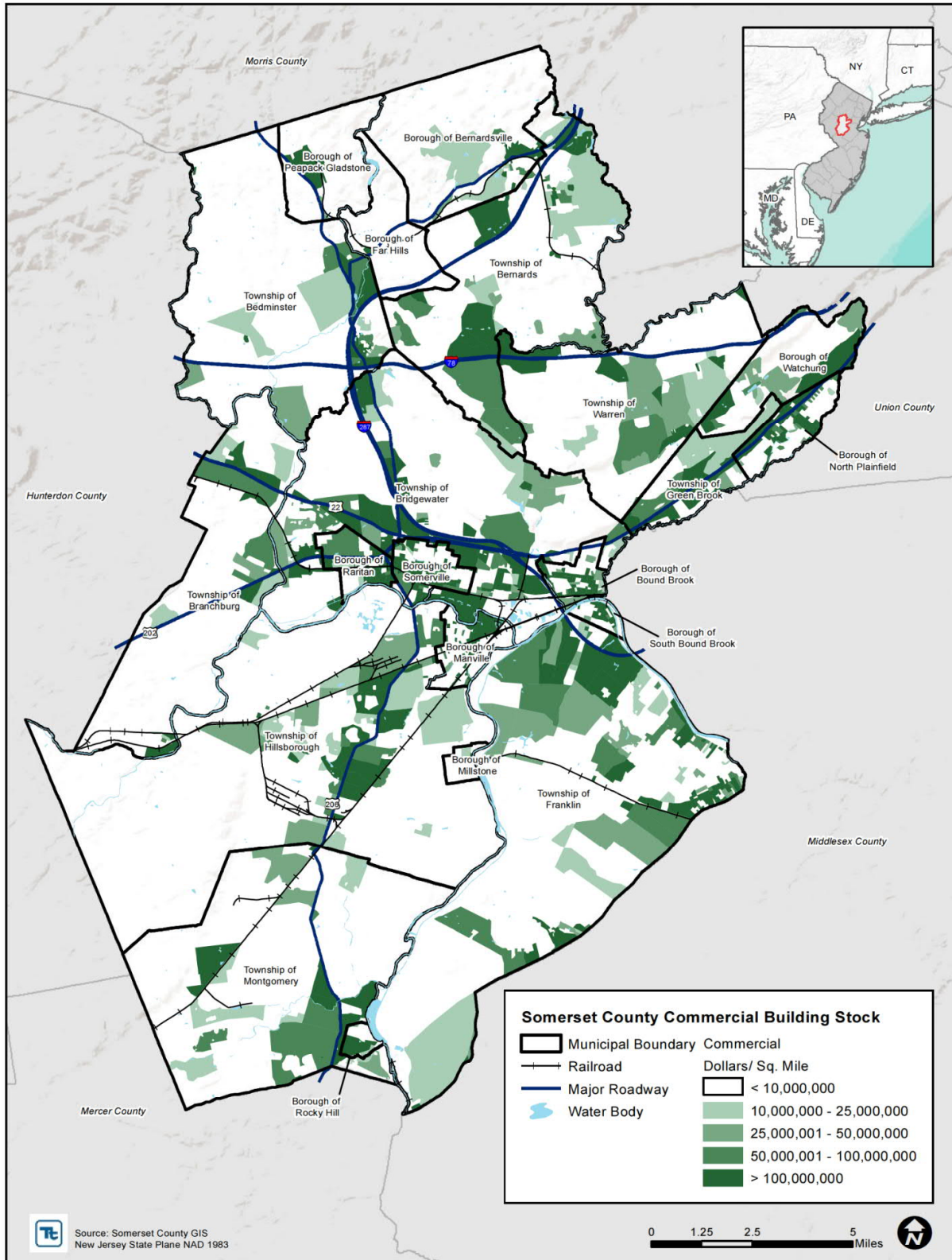
Viewing exposure distribution maps, such as Figures 4-12 through 4-14, can assist communities in visualizing areas of high exposure and in evaluating aspects of the study area in relation to the specific hazard risks.

Figure 4-12. Distribution of Residential Building Stock and Value Density in Somerset County



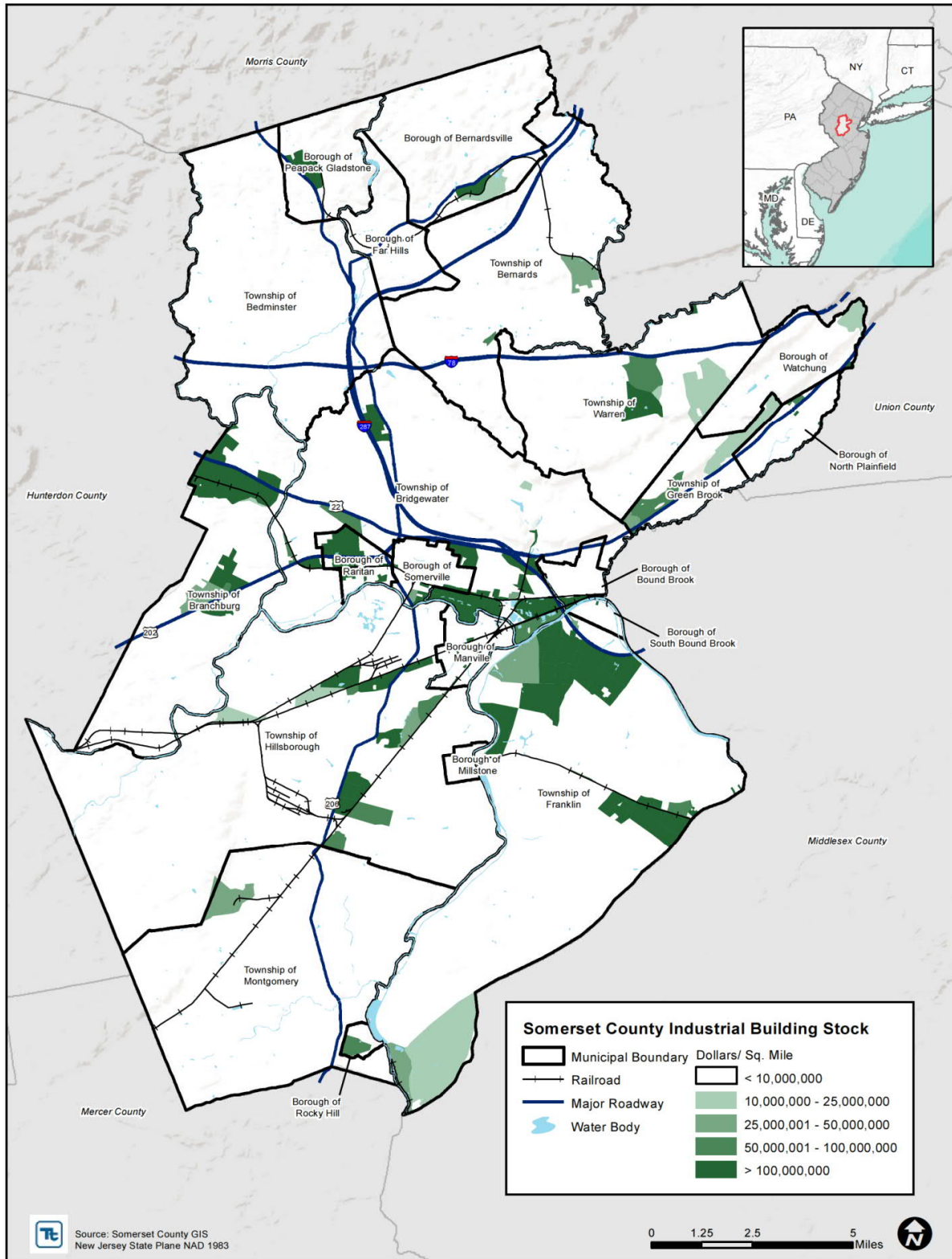
Source: HAZUS-MH

Figure 4-13. Distribution of Commercial Building Stock and Exposure Density in Somerset County



Source: HAZUS-MH

Figure 4-14. Distribution of Industrial Building Stock and Value Density in Somerset County



Source: HAZUS-MH

Cultural and Historic Sites

The Somerset County Cultural and Heritage Commission completed the six-volume Somerset County Cultural Resources Survey in 1989. The survey assessed 4,840 sites and structures in the County and determined that 565 sites and 23 historic districts were eligible or possibly eligible for the National Register of Historic Places. The survey proposed multiple property historic nominations for metal truss bridges, stone arch bridges and Dutch barns. Currently the County has 68 individual historic sites and 30 historic districts listed on the Nation Register. There are currently 68 historic sites open to the public. An updated list of “*National and New Jersey Register of Historic Places, Sites and Districts in Somerset County*” is included in Appendix M.

The County is currently undertaking the preparation of a “*Somerset County Preservation Plan*”. The Plan is a ground-breaking project that will address preservation in Somerset County across all fields – farmland, open space and historic preservation. By studying the individual focus of each program in conjunction with overlapping goals and funding opportunities, the County Planning Division will be better equipped to implement the best preservation strategies and leverage the most funding across agencies. The Plan will directly build upon the *Somerset County Investment Framework* and the *County Economic Development Strategy*. The Preservation Plan is also being coordinated with the *County Hazard Mitigation Plan Update* and the *Walk Bike Hike Somerset County Connecting Vibrant Communities Plan*. The historic preservation element of the Preservation Plan will provide a brief outline of the history of the County, summary of historic resources in the County; an overview of the various governmental and non-profit efforts influencing historic preservation in the County; a discussion of significant historic preservation issues; and goals, objectives and implementation strategies.

The County also has over 50 significant cultural assets, ranging from the “Arts on Division” art district in Somerville to Edward Nash Theatre at Raritan Valley Community College in Branchburg, and the Watchung Arts Center in Watchung. Additional information about these sites can be found by accessing the following link: <https://visitsomersetnj.org/play/arts-culture/page/9/>. These cultural assets are important to the quality of life, economy and character of the County and its municipalities. Strategies that protect cultural and historic resources from natural hazards are supported in this Plan. (Somerset County Planning Division, 2018)

LAND USE AND DEVELOPMENT TRENDS

Local zoning and planning authority is provided for under the New Jersey Municipal Land Use Law (N.J.S.A. 40:55D-1 et. seq.), which gives municipalities zoning and planning authority. This has the greatest influence on land use and development patterns in Somerset County. DMA 2000 requires that communities consider land use trends, which can impact the need for, and priority of, mitigation options over time. Land use trends significantly impact exposure and vulnerability to various hazards. For example, significant development in a hazard area increases the building stock and population exposed to that hazard.

This plan provides a general overview of population and land use and types of development occurring within the study area. An understanding of these development trends can assist in planning for future development and ensuring that appropriate mitigation, planning, and preparedness measures are in place to protect human health and community infrastructure.

Development Trends

The landscape of Somerset County and its communities is shaped by how land is used and developed. Somerset County has many assets that make it an attractive place for growth and investment. Growth in

Somerset County has exceeded many areas of the State over the past 35 years. In order to maximize the benefits of development, land must be developed in a way that is orderly, responsible, and consistent with established State, local and county land use plans. Somerset County and its municipalities have a long history of supporting the smart growth principals of the State Development and Redevelopment Plan (SDRP), which promotes focused mixed-use development and infrastructure investments in centers and economic growth corridors, and redirects growth away from environmentally sensitive areas such as floodplains and wetlands to areas that are well-served by infrastructure, community services and cultural assets. As such, the County and its municipalities have adopted land use plans and policies that discourage development in environmentally sensitive, hazard prone areas. Historic settlement patterns resulted in river-front development in a few of the County's oldest and earliest settled communities where the majority of the County's repetitive loss properties are currently located. Modern municipal master plans and zoning ordinances, reflective of FEMA NFIP, State and Federal environmental protection regulations and the SDRP's smart growth principles, have greatly curtailed development from occurring in flood hazard areas. The most sustainable way to grow is through redevelopment of outdated and under-utilized facilities and sites. For the most part, previously developed sites are in prime locations, and a shift toward redevelopment instead of "greenfield" development is now underway in response to dwindling vacant potentially developable land resources. The application of Green building and site design standards to new development and redevelopment going forward is encouraged in order to advance resilient community goals countywide. These principles provide a foundation for the County Investment Framework, which is described in Section 9. These and other resiliency strategies are presented in the Final Flood Resiliency Framework and Final Energy Resiliency Framework documents included in Appendices K and L, respectively. (Somerset County Planning Division, 2018)

The Somerset County Planning Division maintains records of land development review (LDR) data comprised of information about the number and type of proposed development projects that are submitted for review and approval to the County Planning Division annually. Although the County Planning Division's LDR data is useful for providing insight into countywide development trends, it is important to note that it primarily represents projects that impact County roads and drainage facilities.

According to "Transportation Choices, Somerset County Circulation Plan Update" prepared by the Somerset County Planning Board in 2003, County development activity is influenced by economic trends, market demand factors, interest rates, and lending policies. The County Planning Division's LDR data shows that the highest amount of residential development proposed countywide during the past 35 years occurred during the mid- to late-1980s, with a peak of 6,485 new lots proposed in 1985. This data shows the number of proposed new lots increased during periods of economic growth, and decreased during recessionary periods. The number of proposed new non-residential square feet follows a similar pattern, with a 35-year high of 10,724,547 also occurring in 1985. The change in the number of final lots created, both residential and non-residential also fluctuated with the economic cycle, with the highest number correlating with periods of economic prosperity. Single-family residential development predominated until the Great Recession of 2008, resulting in a sprawl development pattern that led to the suburbanization of much of the County.

The County's larger, less-developed townships experienced high rates of suburban growth during the 1980s and 1990s, while the County's older, smaller, urbanized boroughs experienced minimal or no growth during that period. During the two decades of rapid suburbanization that occurred in Somerset County from 1983 through 2002, 25,207 acres of undeveloped land was consumed by residential lots, and another 14,045 acres were consumed by non-residential lots, for a total of 39,252 acres. The amount of land consumption associated with new residential development declined significantly thereafter, especially as mixed-use and multi-family residential redevelopment and re-use of vacant and underutilized sites became more prevalent following the Great Recession; along with the County's declining supply of vacant potentially developable land as the County proceeds toward build-out

conditions. During the 15-year period of 2003 through 2017, 4,229 acres of undeveloped land were consumed by new residential lots and 624 acres were consumed by non-residential development, for a total of 4,853 acres. The below table (Table 4-6) summarizes land development data in 5-year increments for the past 35 years.

Table 4-6. Somerset County Land Development Review Data, Subdivision and Site Plan Activity Countywide

5-Year Period	Total Final Residential Lots	Total Final Nonresidential Lots	Total Residential Units Proposed	Total Commercial & Institutional Square Feet Proposed	Total Acres In Final Residential Lots	Total Acres In Final Nonresidential Lots
1983 - 1987	12,003	215	17,812	34,581,517	8,269.66	1,399.21
1988 - 1992	4,824	95	4,925	16,312,806	5,529.20	5,529.20
1993 - 1997	6,615	11	2,256	9,176,891	6,702.51	6,702.51
1998 - 2002	4,786	60	4,505	13,368,818	4,705.57	414.43
2003 - 2007	3,837	27	2,951	944,598	2,091.49	405.97
2008 - 2012	925	5	1,259	4,245,706	1,369.99	107.19
2013 - 2017	1,411	13	3,684	6,747,649	767.50	111.21

Source: Somerset County Planning Division, Annual Land Development Review Data

This data shows that since the beginning of the 2000s, the amount of new non-residential development (office, retail and industrial) declined significantly. Some of this decline can be attributed to over-built market conditions that resulted from the high rate of speculative office development that took place during the previous two decades, the overall reduction in economic growth statewide and changing business models (including space per employee reductions and communications technology advances allowing the ability to work at remote locations). The amount of residential development that occurred during this period also significantly declined. The recovery from the Great Recession (2008) throughout New Jersey lagged significantly behind the rest of the nation. This slow recovery period marked a shift in lifestyle preferences, a reduction in household income growth, especially among new entrants into the workforce and housing market, and restrictive lending policies. This generated increased demand for multi-family attached housing types and a rise in new rental apartment construction, much of which occurred through redevelopment within existing town and village centers and transit hubs that offer greater mobility options. During the recovery period beginning in 2009, multi-family attached housing types comprised a much higher proportion of total residential development as compared to previous decades when large lot single-family housing types dominated the market. Center-based development has surged in popularity in recent years, supporting the achievement of sustainability and resiliency goals at the County and municipal levels. (Somerset County Planning Division, 2018)

In 2017, the top five municipalities in terms of total proposed residential lots and units were as follows:

- Hillsborough – 461
- Bridgewater – 403
- Franklin – 271
- Somerville – 267
- Raritan – 263

The top five municipalities in terms of total residential lots created in 2017 were:

- Hillsborough – 130
- Franklin – 63
- Montgomery – 56
- Bridgewater – 6
- Manville – 1
- Warren – 1

The top five municipalities in terms of total proposed non-residential square feet in 2017 were:

- Bridgewater – 617,281
- Franklin – 538,851
- Branchburg – 244,802
- Watchung – 132,119
- Somerville – 105,893

Source: Somerset County Planning Board, 2018

Major Factors Influencing Current and Future Growth and Development Patterns

The Mount Laurel IV Declaratory Judgment Process commenced in 2015 as a result of the responsibility for determining municipal affordable housing obligations and implementation of municipal housing elements and fair share plans pursuant to the Fair Housing Act being placed under the jurisdiction of the State Supreme Court, in response to a failure by the State Council on Affordable Housing to adopt updated Substantive and Procedural Rules and lack of a legislative solution. As the Declaratory Judgment Process continues, increasing numbers of municipalities in Somerset County and other areas of the state are reaching settlements with the Fair Share Housing Center and are adopting amended third round housing elements and fair share plans which describe municipal affordable housing obligations through 2025, and the strategies through which these obligations will be met. Although this process has not reached a final conclusion for several municipalities as of the writing of this plan, it is clear that several thousand new housing units will be built throughout Somerset County as a result of this process. Many affordable housing units will be provided as part of large-scale inclusionary development projects, the majority of which are located with the County’s Priority Growth and Alternative Growth Investment Areas consistent with the County Investment Framework (described below) which are served by public sewer and water systems. State and local environmental, floodplain and stormwater management regulations and ordinances remain applicable to all new affordable housing developments. (Somerset County Planning Division, 2018)

Another factor influencing future development is related to the County’s Wastewater Management Plan, development of which is currently underway; and the associated Wastewater Service Areas Map which was adopted by the NJDEP in 2013 pursuant to the NJ Water Quality Management Planning Rules. (N.J.A.C. 7:15) The amount of remaining vacant potentially developable land within sewer service areas assigned to domestic treatment facilities in the County is becoming increasingly limited as the County approaches build-out. In addition, several of the public domestic wastewater treatment plants within the county have limited remaining capacity and facility expansions will be needed to accommodate new growth. A few treatment plant expansion projects are currently planned, underway, and/or have been recently completed in some areas of the County. It is anticipated that the majority of the higher-intensity public sewer dependent future growth occurring in the County will take the form of infill and redevelopment. This trend represents an opportunity to renew stormwater management infrastructure and apply green design and construction standards to new development and redevelopment that will improve community resiliency in redevelopment areas. (Somerset County Planning Division, 2018)

Land Use Trends

Somerset County's land area is occupied and utilized in several different ways. NJDEP's Land Use & Land Cover Data is organized based on major land use categories including agricultural land, barren land, forested land, urban land, and wetlands. In 2002, 42.8 percent of the land in Somerset County was used for residential, industrial, transportation, and recreational purposes. Compared to the 2007 figures, which indicate that 45.3 percent of the County was developed for these purposes, it is clear that there has been an increase in urban land use. Also in 2002, 26.2 percent was forested land, 15.8 percent was agricultural land, 13.7 percent was wetlands, and 1.6 percent was barren land. When compared with the Land Use & Land Cover Data from 2007, there has been a decrease in agricultural land (-0.7 percent), barren land (-0.4 percent), forest (-1.0 percent) and wetlands (-0.3 percent) coupled by an increase in urban land use (+2.5 percent) during this period (see Table 4-7 and Figure 4-15 below). Due in part to better imagery and mapping techniques available for the 2012 Land Use Land Cover (LULC) data update, the acreage distribution by land use category is inconsistent with past trends. Urban land has increased by 7,000 acres but when the change in total area is taken into account, its percentage decreased as compared to 2007 data. Similarly, increases in agriculture, forest and wetland acreages can be attributed to better delineation methods rather than actual increases in these land use types since 2007. It is important to note that 2007 through 2012 was a time of slow growth statewide and in Somerset County due to the Great Recession, which began in 2008 and was followed by a very slow and prolonged recovery period that extended through 2012 and beyond. This factor may also contribute to the potential change in trends this data may represent. Additional information is provided below.

Table 4-7. Land Use Summary for Somerset County, 2012

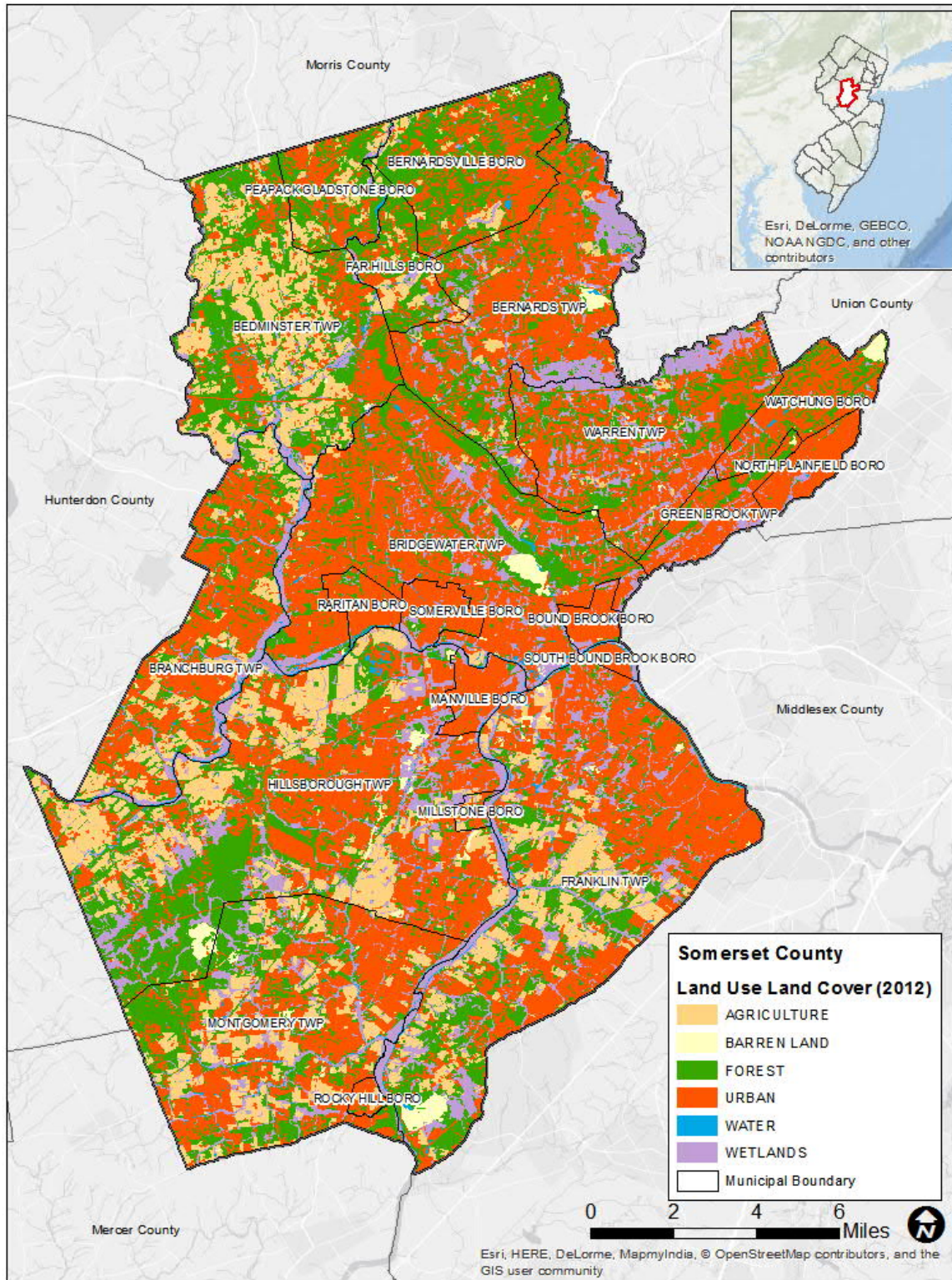
Land Use Category	2002 Data		2007 Data		2012 Data*	
	Acreage	Percent of Somerset County	Acreage	Percent of Somerset County	Acreage	Percent of Somerset County
Agriculture	30,396	15.8	28,790	15.0	31,161	14.36
Barren	3,166	1.6	2,315	1.2	2,199	1.0
Forest	50,503	26.2	48,542	25.2	59,683	27.8
Wetlands	26,332	13.7	25,753	13.4	26,788	12.5
Urban	82,483	42.8	87,141	45.3	94,252	44.0

Source: Somerset County Planning Division, 2006; NJ Department of Environmental Protection - 2007 and 2012 LULC

Note: Urban land includes residential, industrial, transportation, and recreational land. Water is excluded from the table above.

*Differences in county-wide total acreage are attributed to improved data development methods, and better imagery and mapping techniques over time. More information can be found at <http://www.nj.gov/dep/gis/lulc12c.html>

Figure 4-15. Land Use Land Cover for Somerset County



Source: Land Use Land Cover 2012 data published by NJDEP available at NJ Geographic Information Network website.

Agricultural Land

Changes in NJDEP's LU/LC Data over time presented in Table 4-8 on the following page show an ongoing trend of declining farm acreage between 1986 and 2012 (a reduction of 20,104 acres or 42.4 percent). This trend is confirmed by the Census of Agriculture, which shows that agricultural land declined by 29.8 percent (14,774 acres) between 1982 and 2012, while developed land experienced an increase of 27 percent (17,359 acres). Agricultural land is used primarily for the production of food and fiber. This includes cropland, pastureland, and orchards. According to the NJDEP, agricultural land includes pasturelands and grazing lands associated with horse or cattle raising operations, orchards, vineyards, nurseries and other horticultural areas. Other lands used in support of agricultural activities, such as farmsteads, associated barns, stables, and corrals, are also included. (NJDEP, 2007)

Figure 4-16 shows the change in agricultural land between 1986 and 2002, while Figure 4-17 shows agricultural land as of 2012. NJDEP's 2012 LU/LC GIS data is still the latest available.

Table 4-8. Somerset County Land Use Change in Agricultural Land (1986 to 2012)

Municipality	1986* (Acres)	1995* (Acres)	2002* (Acres)	2012** (Acres)	1986 to 1995 Difference		1995 to 2002 Difference		1986 to 2002 Total Change		1986 to 2012 Total Change	
					Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)
Bedminster	6,974	6,582	6,260	5,818	-392	-5.6	-322	-4.9	-714	-10.2	-1,156	-16.6
Bernards	1,291	901	707	496	-390	-30.2	-194	-21.5	-584	-45.2	-795	-61.5
Bernardsville	852	805	658	574	-47	-5.5	-147	-18.3	-194	-22.8	-278	-32.6
Bound Brook	0	0	0	0	0	0.0	0	0.0	0	0.0	0	0.0
Branchburg	5,017	3,305	2,423	2,410	-1,712	-34.1	-882	-26.7	-2,594	-51.7	-2,607	-52.0
Bridgewater	1,207	595	361	267	-612	-50.7	-234	-39.3	-846	-70.1	-940	-77.8
Far Hills	823	853	711	579	30	3.6	-142	-16.6	-112	-13.6	-244	-29.6
Franklin	9,556	7,263	5,484	4,935	-2,293	-24.0	-1,779	-24.5	-4,072	-42.6	-4,621	-48.4
Green Brook	16	8	13	6	-8	-50.0	5	62.5	-3	-18.8	-10	-62.6
Hillsborough	11,846	9,721	8,294	7,296	-2,125	-17.9	-1,427	-14.7	-3,552	-30.0	-4,550	-38.4
Manville	11	0	0	0	-11	-100.0	0	0.0	-11	-100.0	-11	-100.0
Millstone	97	86	77	76	-11	-11.3	-9	-10.5	-20	-20.6	-21	-22.0
Montgomery	7,832	5,348	4,058	3,899	-2,484	-31.7	-1,290	-24.1	-3,774	-48.2	-3,933	-50.2
North Plainfield	3	3	3	3	0	0.0	0	0.0	0	0.0	0	-5.2
Peapack-Gladstone	909	931	870	677	22	2.4	-61	-6.6	-39	-4.3	-232	-25.5
Raritan	38	0	0	2	-38	-100.0	0	0.0	-38	-100.0	-36	-95.5
Rocky Hill	113	126	109	45	13	11.5	-17	-13.5	-4	-3.5	-68	-60.6
Somerville	1	2	2	0	1	100.0	0	0.0	1	100.0	-1	-73.4
South Bound Brook	1	1	1	1	0	0.0	0	0.0	0	0.0	0	-16.7
Warren	841	433	362	237	-408	-48.5	-71	-16.4	-479	-57.0	-604	-71.8
Watchung	6	6	3	8	0	0.0	-3	-50.0	-3	-50.0	2	37.6
Somerset County Total	47,434	36,969	30,396	27,330	-10,465	-22.1	-6,573	-17.8	-17,038	-35.9	-20,104	-42.4

Source: * Somerset County Planning Board, 2006 and **NJDEP LULC Data, 2012



Figure 4-16. Somerset County Land Use Change in Agriculture (1986 to 2002)

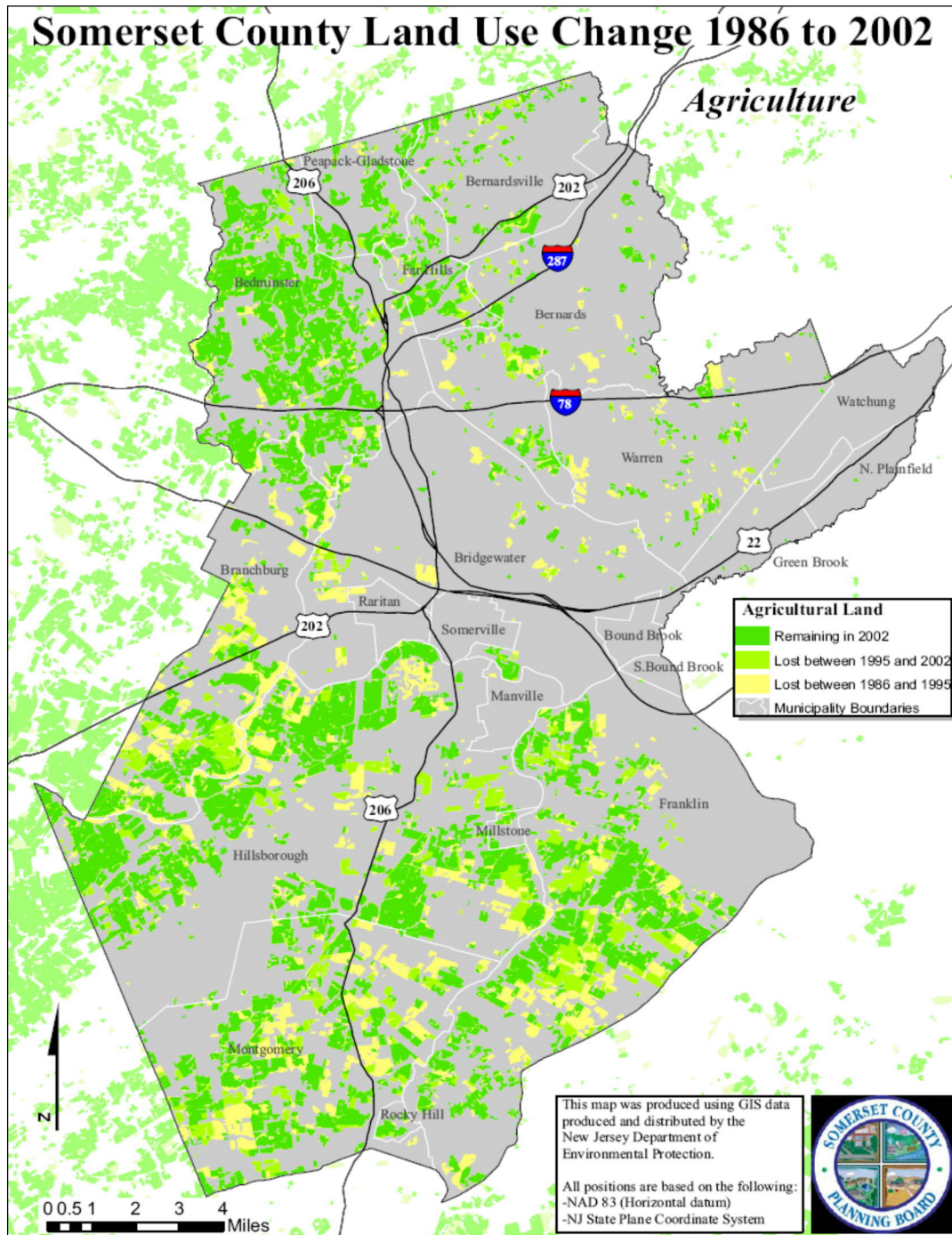
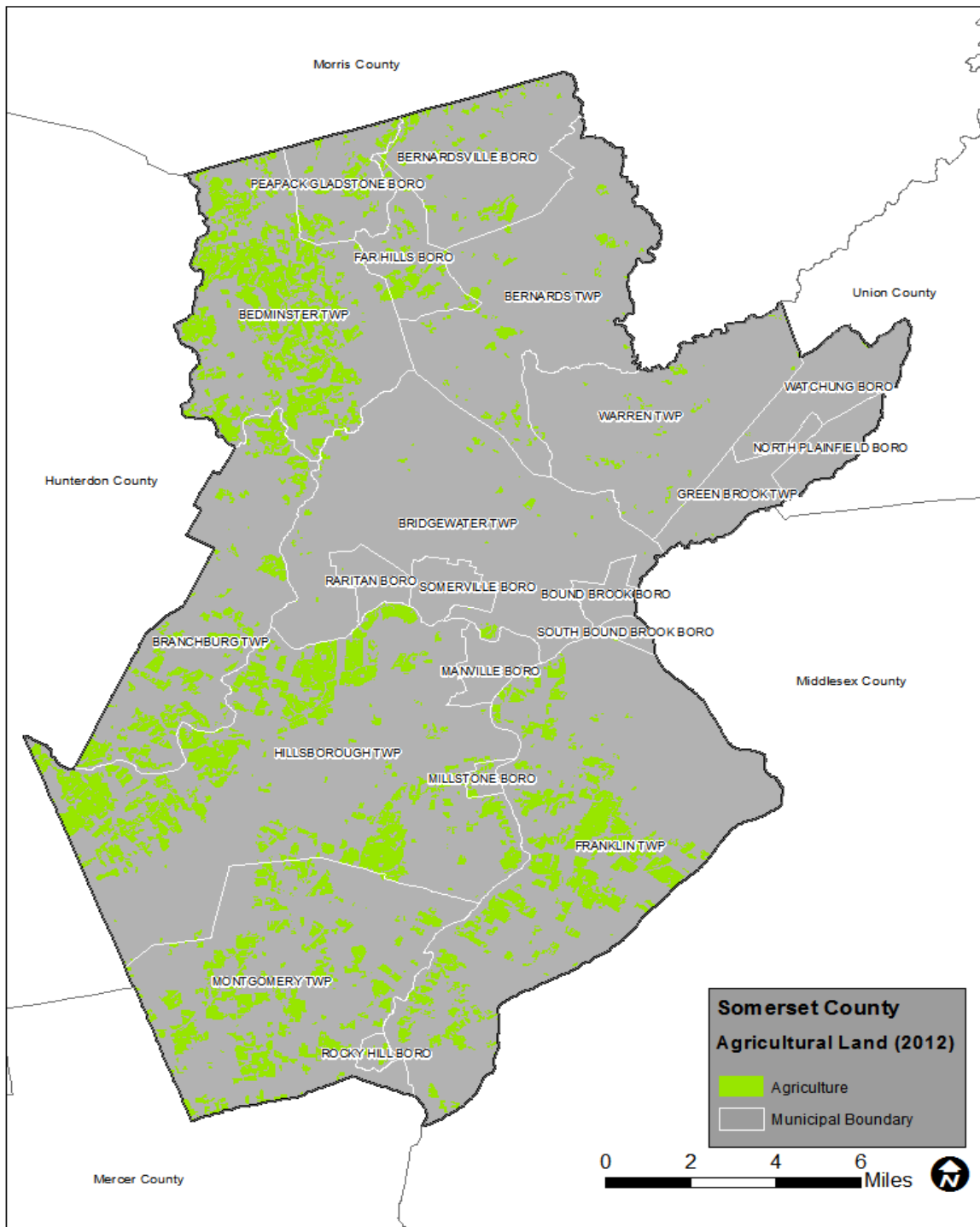


Figure 4-17. Somerset County Agricultural Land 2012



Source: Land Use Land Cover 2012 data published by NJDEP available at NJ Geographic Information Network website.

Agriculture is an integral part of the natural landscapes that comprise the County. Somerset County's natural and agricultural landscapes are attractive to many farmers. According to the 2012 Census of Agriculture³, in 2012, there were 34,735 acres of farmland in the County, or approximately 18% of the total lands in the County. This is less than the 2002 Census which indicated that there were 36,237 acres of farmland or 18.5% of the total lands in the County, though significantly more than the 2007 survey which indicated that there were 32,721 acres of farmland or 17.7% of total lands in the County. In 2012 there were 400 active farms in the County. Despite the decline in active farms, 122,940 acres or approximately 62 percent of the county is comprised of unique farmland soils.

According to NJDEP's LULC data, farmland comprised 14.1% of the total land area of the County in 2012. Please note that although the percentage of agricultural land according to the Census of Agriculture differs from this figure due to significant differences in methodology as well as temporal issues, they show similar overall distribution patterns within the county. The northern portion of the County contains the majority of the County's cattle and equine lands and hay fields. The southern area of the County is more flat and fertile, making it better suited for field crops. Due to significant recent suburban development in the eastern portion, the western section of Somerset County supports more agriculture. (Morris Land Conservancy, 2007)

Historically, Somerset County offered almost ideal farming conditions from colonial times to the present. According to "Franklin Township, New Jersey – A History" by William Brahms, Franklin Township had 322 farms with an average size of 100 acres in 1880. Most of Somerset County families lived on farms and supported themselves by growing a variety of crops. Between 1920 and 1940, chicken farming became more common, often on small, subsistence farms. By the 1950s, the chicken farming industry diminished significantly due to the encroachment of residential development into poultry farming areas. By the 1970s, about 25 percent of the County was still farmland of which 65 percent was being cultivated. At that time, dairy farming was the dominant form of agriculture with 371 farms in Somerset County. Forty (40) percent were dairy farms, 25 percent were chicken farms, and 25 percent were horse farms. This pattern is very similar to the agricultural society in Somerset County during 2001. (Somerset County Agriculture Retention and Development Master Plan, 2001)

Most areas being farmed today in Somerset County have been in agriculture for at least several hundred years. Over the past few decades, agriculture has changed in the County. (Somerset County Agriculture Retention and Development Master Plan, 2001) In 2007, the County supported 445 farms, an increase of 3 farms from 2002. By 2012, the County supported 400 farms, a decrease of 45 from 2007. This number has remained relatively constant during the past 25 years, when the number of farms ranged between 407 and 486 in 1997. However, these farms are operating on a shrinking stockpile of available farmland. The average size of a farm in Somerset County has dropped dramatically. In 2007, the average size of a farm was 74 acres, nearly 40 percent smaller than in 1982. By 2012, the average size of a farm was somewhat higher at 87 acres. Table 4-9 displays the number of farms in Somerset County from 1982 to 2012. Since 1982, the number of farms, average farm size, and total acreage of farmland in Somerset County has decreased.

³ The National Agriculture Statistics Service (NASS) plans to release Census of Agriculture data for 2017, in both electronic and print formats, beginning in February 2019.

Table 4-9. Farms in Somerset County, 1982 to 2012

Year	Number of Farms	Average Farm Size(acre)	Total Acreage
1982	414	120	49,509
1987	407	111	45,190
1992	435	101	43,989
1997	437	106	46,258
2002	442	82	36,237
2007	445	74	32,721
2012	400	87	34,735
2017	Pending release by NASS in 2019		

Source(s): Somerset County Agriculture Retention and Development Master Plan, 2001; U.S. Department of Agriculture National Agricultural Statistics Service (NASS), 2012

The trend of decreasing farm size in Somerset County is apparent when the number of small farms in the County is compared with the number of large farms over time. The number of small farms in Somerset County (less than 50 acres) has grown steadily during the past 20 years, while the number of large farms (greater than 50 acres) has steadily declined. As of 2012, there were 284 small farms operating in the county. (USDA, 2012)

The Somerset County Trends and Indicators Report prepared by the Somerset County Planning Board in 2013 shows that total agricultural assessed land comprised 45,041 acres (23% of Somerset County), down from 46,402 acres in 2009. Agricultural land area has been declining in the County over the last 20 years. According to the 2007 Census of Agriculture, the amount of land in farms in the County fell 9 percent between 2002 and 2007. The 2012 Census of Agriculture reports, however, a 6 percent increase between 2007 and 2012. One-third of the municipalities in Somerset County have no farmland remaining. Most of the farmland that has been lost was active crop and pastureland. Between 2002 and 2007, harvested cropland fell 4 percent and pastureland fell 12 percent. Between 2007 and 2012, harvested cropland increased by 16 percent, but pastureland fell by another 4 percent. Table 4-10 and Figures 4-14 through 4-16 show the change in the amount, composition and distribution of agricultural land in Somerset County from 1987 to 2012. Figure 4-15 shows the change in agricultural lands based on NJDEP’s LU/LC Data from 1986 to 2002 in Somerset County municipalities. Figure 4-16 shows the agricultural lands remaining in the County as of 2012 according to NJDEP’s 2012 LU/LC Data.

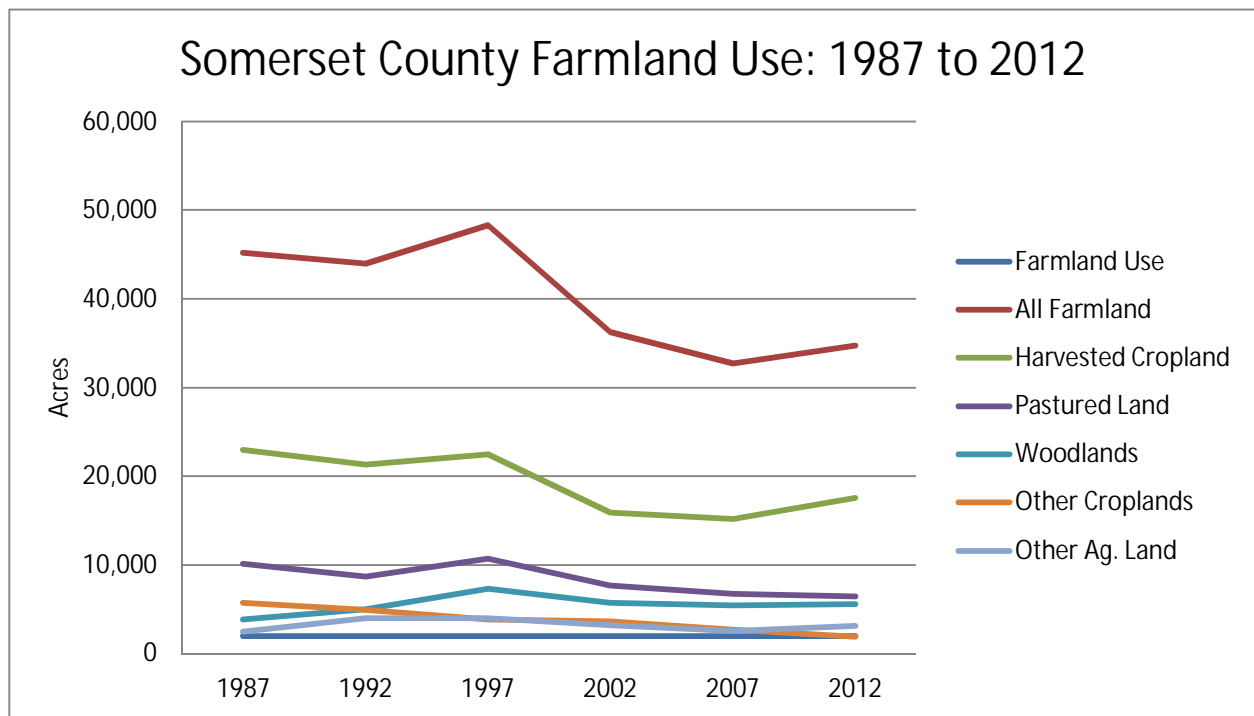
The continuation of agricultural activities on existing farmland within floodplains is a compatible land use. Farmland can accommodate over-bank flows without incurring the comparatively expensive flood damages that effect urbanized floodplain areas. Farmland facilitates a higher degree of groundwater recharge as compared to impervious cover found in urbanized areas which also mitigates flooding. However, it is important that agricultural “best practices” are applied within floodplain areas in order to avoid erosion, pollution, soil compaction and other potentially detrimental impacts. The conversion of natural riparian areas into farmland for agricultural purposes should be discouraged due to the enhanced water supply protection, flood buffering and ecological services they provide.

Table 4-10. Somerset County - Farmland by Use: 1987 to 2012

Farmland Use	1987	1992	1997	2002	2007	2012	Percent Change (2007 - 2012)
All Farmland	45,190	43,989	48,299	36,237	32,721	34,735	6%
Harvested Cropland	22,951	21,316	22,471	15,931	15,184	17,580	16%
Pastured Land	10,142	8,686	10,694	7,663	6,734	6,470	-4%
Woodlands, not pastured	3,882	5,044	7,296	5,770	5,468	5,564	2%
Other Croplands	5,741	4,916	3,859	3,675	2,743	1,943	-29%
Other Agricultural Land	2,474	4,027	3,979	3,198	2,592	3,178	23%

Source: Morris Land Conservancy, 2007

Figure 4-18. Somerset County - Farmland by Use: 1987 to 2012



Source: USDA, 2012

Wetlands

Wetlands comprised 13.0 percent of the total land area of Somerset County in 2012. According to the comparison of NJDEP's LULC Data from 1986, 1995, 2002 and 2012 presented in Table 4-11, the number of wetlands acres Countywide remained relatively stable.

Wetland systems have been under increasing stress as a result of the expansion of urban and suburban development throughout the County. Freshwater wetlands and associated transition areas are an environmentally sensitive feature which is regulated by the 1987 Freshwater Wetlands Protection Act N.J.S.A. 13:9B-1 et seq. and the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. These regulations were enacted to prevent the disturbance of wetlands and reverse decades-long wetland loss trends. NJDEP has established a goal of improving the quality and function of wetlands and achieving a net increase in wetlands using innovative techniques for creating, enhancing and maintaining the State's wetland resources. Freshwater wetlands are defined by the NJDEP as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. The NJDEP uses a three-parameter approach including hydrology, soils and vegetation for designating wetlands. Transition areas are upland areas adjacent to freshwater wetlands which minimize the adverse impacts on wetlands or serve as an integral component of the wetland ecosystem. Farmed wetlands exist within the County, which include wetlands that are or have been in active agricultural use for pasture or hayland. Wetlands play an important flood mitigation role by storing water during heavy rains, then slowly releasing runoff into streams. Trees, root mats and wetland vegetation slow the speed of flood waters and distribute them more evenly over the floodplain. They act as natural sponges that trap and slowly release surface water, runoff and flood waters and recharge groundwater. They also absorb pollutants and provide habitat for a wide diversity of life. A loss in wetland acres over time will reduce flood resiliency.

Table 4-11. Somerset County Land Use Change in Wetlands (1986 to 2012)

Municipality	1986* (Acres)	1995* (Acres)	2002* (Acres)	2012** (Acres)	1986 to 1995 Difference		1995 to 2002 Difference		1986 to 2002 Total Change		1986 to 2012 Total Change	
					Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)
Bedminster	887	1,078	1,063	1,047	191	21.5	-15	-1.4	176	19.8	160	18.0
Bernards	3,027	3,126	2903	2,847	99	3.3	-223	-7.1	-124	-4.1	-180	-6.0
Bernardsville	126	169	164	158	43	34.1	-5	-3.0	38	30.2	32	25.6
Bound Brook	126	126	118	110	0	0.0	-8	-6.3	-8	-6.3	-16	-13.1
Branchburg	763	1,396	1,334	1,272	633	83.0	-62	-4.4	571	74.8	509	66.7
Bridgewater	3,078	3039	2845	2,673	-39	-1.3	-194	-6.4	-233	-7.6	-405	-13.2
Far Hills	234	247	246	241	13	5.6	-1	-0.4	12	5.1	7	3.2
Franklin	4,913	5,459	5,237	4,808	546	11.1	-222	-4.1	324	6.6	-105	-2.1
Green Brook	608	568	500	455	-40	-6.6	-68	-12.0	-108	-17.8	-153	-25.2
Hillsborough	4,829	5,714	5,502	5,316	885	18.3	-212	-3.7	673	13.9	487	10.1
Manville	267	263	259	251	-4	-1.5	-4	-1.5	-8	-3.0	-16	-5.8
Millstone	98	111	100	99	13	13.3	-11	-9.9	2	2.0	1	1.1
Montgomery	2,234	2,700	2,552	2,490	466	20.9	-148	-5.5	318	14.2	256	11.5
North Plainfield	139	135	128	122	-4	-2.9	-7	-5.2	-11	-7.9	-17	-11.9
Peapack-Gladstone	71	79	79	77	8	11.3	0	0.0	8	11.3	6	8.7
Raritan	47	48	47	44	1	2.1	-1	-2.1	0	0.0	-3	-7.2
Rocky Hill	19	20	22	21	1	5.3	2	10.0	3	15.8	2	11.0
Somerville	160	158	148	140	-2	-1.3	-10	-6.3	-12	-7.5	-20	-12.6
South Bound Brook	65	64	64	60	-1	-1.5	0	0.0	-1	-1.5	-5	-8.4
Warren	3,068	3016	2850	2,687	-52	-1.7	-166	-5.5	-218	-7.1	-381	-12.4
Watchung	179	177	171	162	-2	-1.1	-6	-3.4	-8	-4.5	-17	-9.2
Somerset County Total	24,938	27,693	26,332	25,081	2,755	11.0	-1,361	-4.9	1,394	5.6	143	0.6

Source: *Somerset County Planning Board, 2006; **NJDEP LULC Data, 2012



Barren Land

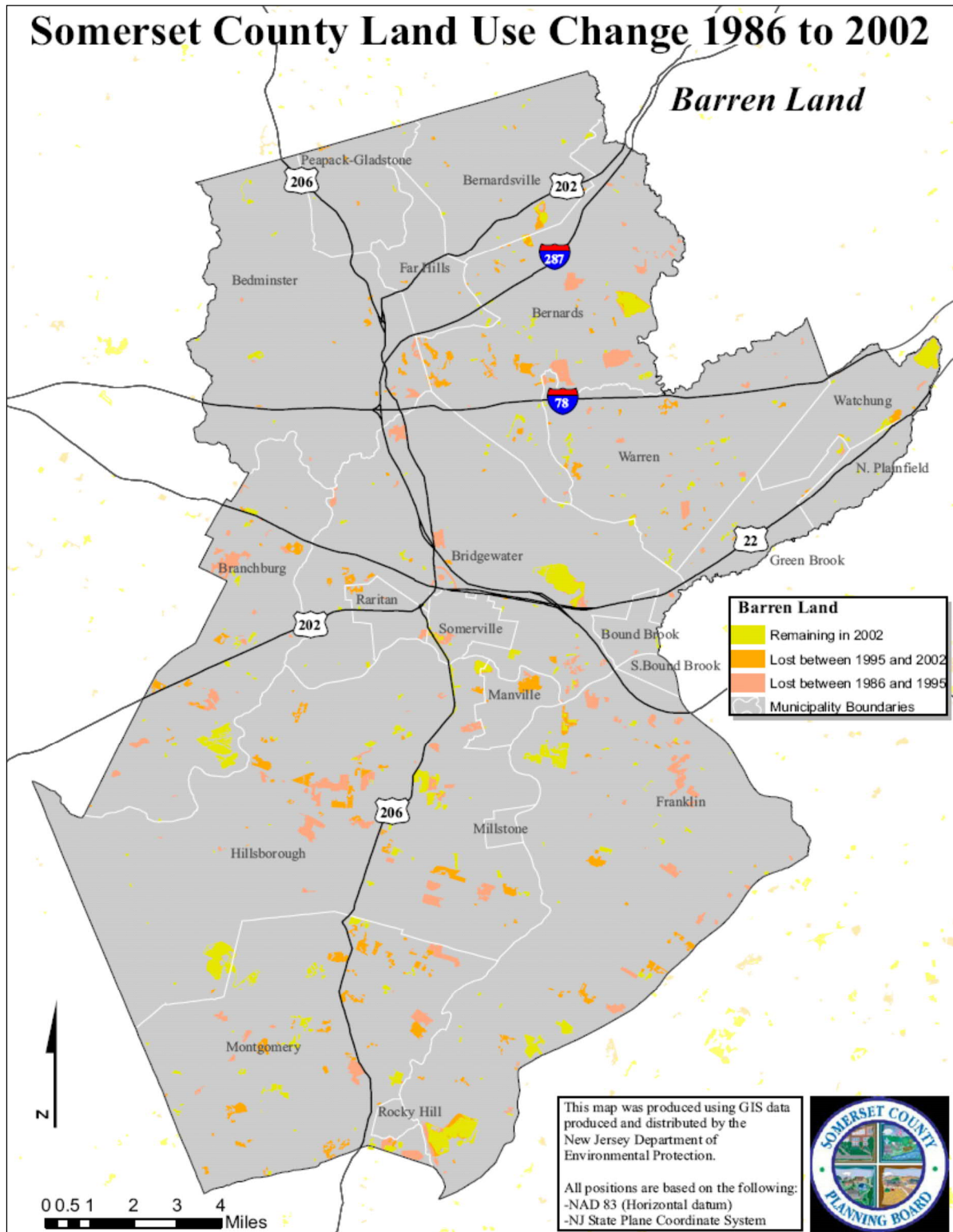
Barren land includes a variety of specific types, but all are characterized by a general lack of any significant vegetative cover. Included are both naturally barren areas, such as beaches and rock outcrops, as well as artificially created barren areas, where vegetation has been removed. Cleared but undeveloped urban lands, transitional areas, mines, dumps, and quarries are also considered barren land. (NJDEP, 2007) Unlike agricultural land, barren land has not experienced a dramatic decline in loss of land. In 2002, approximately 3,166 acres of land in Somerset County was considered barren land. Since 1986, nearly 44 percent (1,717 acres) of the County's barren land has been converted into other land uses, such as residential or commercial properties. Table 4-12 shows the land use change in barren land from 1986 to 2012 in each Somerset County jurisdiction. Figure 4-19 shows the land use change in barren land from 1986 to 2002, and Figure 4-20 shows the remaining barren lands in the County in 2012.

Table 4-12. Somerset County Land Use Change in Barren Land (1986 to 2012)

Municipality	1986* (Acres)	1995* (Acres)	2002* (Acres)	2012** (Acres)	1986 to 1995 Difference		1995 to 2002 Difference		1986 to 2002 Total Change		1986 to 2012 Total Change	
					Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)
Bedminster	63	62	51	26	-1	-1.6	-11	-17.7	-12	-19.0	-37	-58.7
Bernards	604	452	279	163	-152	-25.2	-173	-38.3	-325	-53.8	-441	-73.0
Bernardsville	74	83	68	16	9	12.2	-15	-18.1	-6	-8.1	-58	-78.4
Bound Brook	3	0	9	5	-3	-100.0	9	N/A	6	200.0	2	66.7
Branchburg	330	137	323	30	-193	-58.5	186	135.8	-7	-2.1	-300	-90.9
Bridgewater	486	330	403	390	-156	-32.1	73	22.1	-83	-17.1	-96	-19.8
Far Hills	0	6	12	10	6	N/A	6	100.0	12	N/A	10	N/A
Franklin	735	578	737	515	-157	-21.4	159	27.5	2	0.3	-220	-29.9
Green Brook	15	17	19	13	2	13.3	2	11.8	4	26.7	-2	-13.3
Hillsborough	834	640	545	594	-194	-23.3	-95	-14.8	-289	-34.7	-240	-28.8
Manville	29	115	20	8	86	296.6	-95	-82.6	-9	-31.0	-21	-72.4
Millstone	0	0	0	0	0	0.0	0	0.0	0	0.0	0	N/A
Montgomery	371	541	350	154	170	45.8	-191	-35.3	-21	-5.7	-217	-58.5
North Plainfield	0	0	10	2	0	0.0	10	N/A	10	N/A	2	N/A
Peapack-Gladstone	5	16	5	13	11	220.0	-11	-68.8	0	0.0	8	160.0
Raritan	21	21	6	26	0	0.0	-15	-71.4	-15	-71.4	5	23.8
Rocky Hill	0	0	0	0	0	0.0	0	0.0	0	0.0	0	N/A
Somerville	60	0	31	12	-60	-100.0	31	N/A	-29	-48.3	-48	-80.0
South Bound Brook	0	0	0	4	0	0.0	0	0.0	0	0.0	4	N/A
Warren	128	134	108	52	6	4.7	-26	-19.4	-20	-15.6	-76	-59.4
Watchung	152	190	190	160	38	25.0	0	0.0	38	25.0	8	5.3
Somerset County Total	3,910	3,322	3,166	2,193	-588	-15.0	-156	-4.7	-744	-19.0	-1,717	-43.9

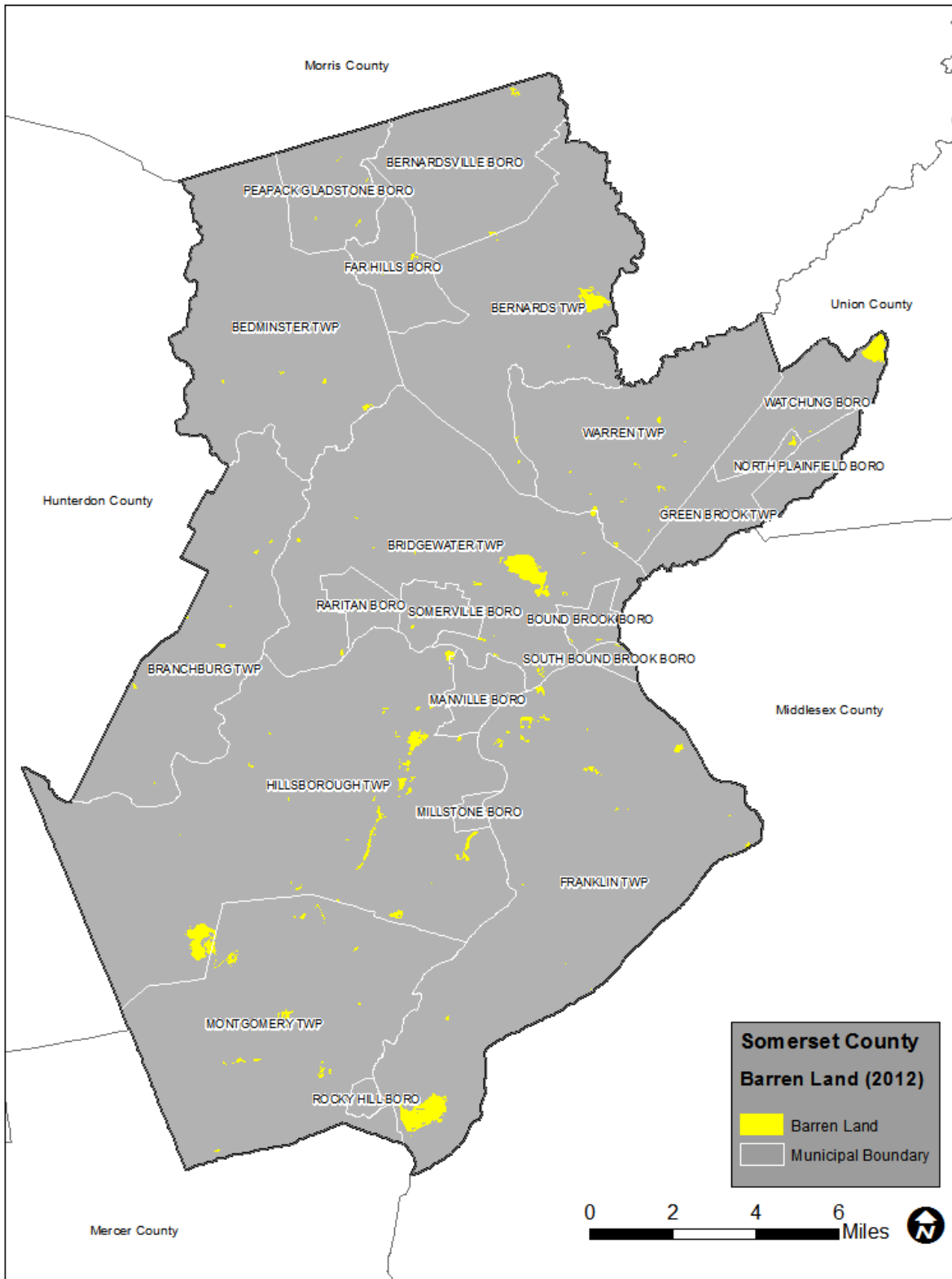
Source: *Somerset County Planning Board, 2006; **NJDEP LULC Data, 2012
 N/A = Not applicable

Figure 4-19. Somerset County Land Use Change in Barren Land (1986 to 2002)



Source: Somerset County Planning Board, 2006

Figure 4-20. Somerset County Barren Land 2012



Source: Land Use Land Cover 2012 data published by NJDEP available at NJ Geographic Information Network website.

Forested Land

Forested land includes all upland areas covered by woody vegetation. The vegetation may be primarily deciduous, coniferous, or a mixture of both, and include scrub/shrub and brush areas as well as mature tree stands of various densities. (NJDEP, 2007)

Somerset County has always had an abundance of woodlands with early records indicating that most of the County was heavily wooded when the first settlers arrived. (Somerset County Planning Board, 1987) Thirteen jurisdictions saw a decrease in forested land from 1986 to 2002. As shown in Table 4-7, overall, the County has seen a 5.8 percent (2,980 acres) decrease in forested land from 1986 to 2012. Table 4-13 and Figure 4-21 depict total land use change in forested land in Somerset County. Figure 4-22 shows the remaining land under forest in 2012.

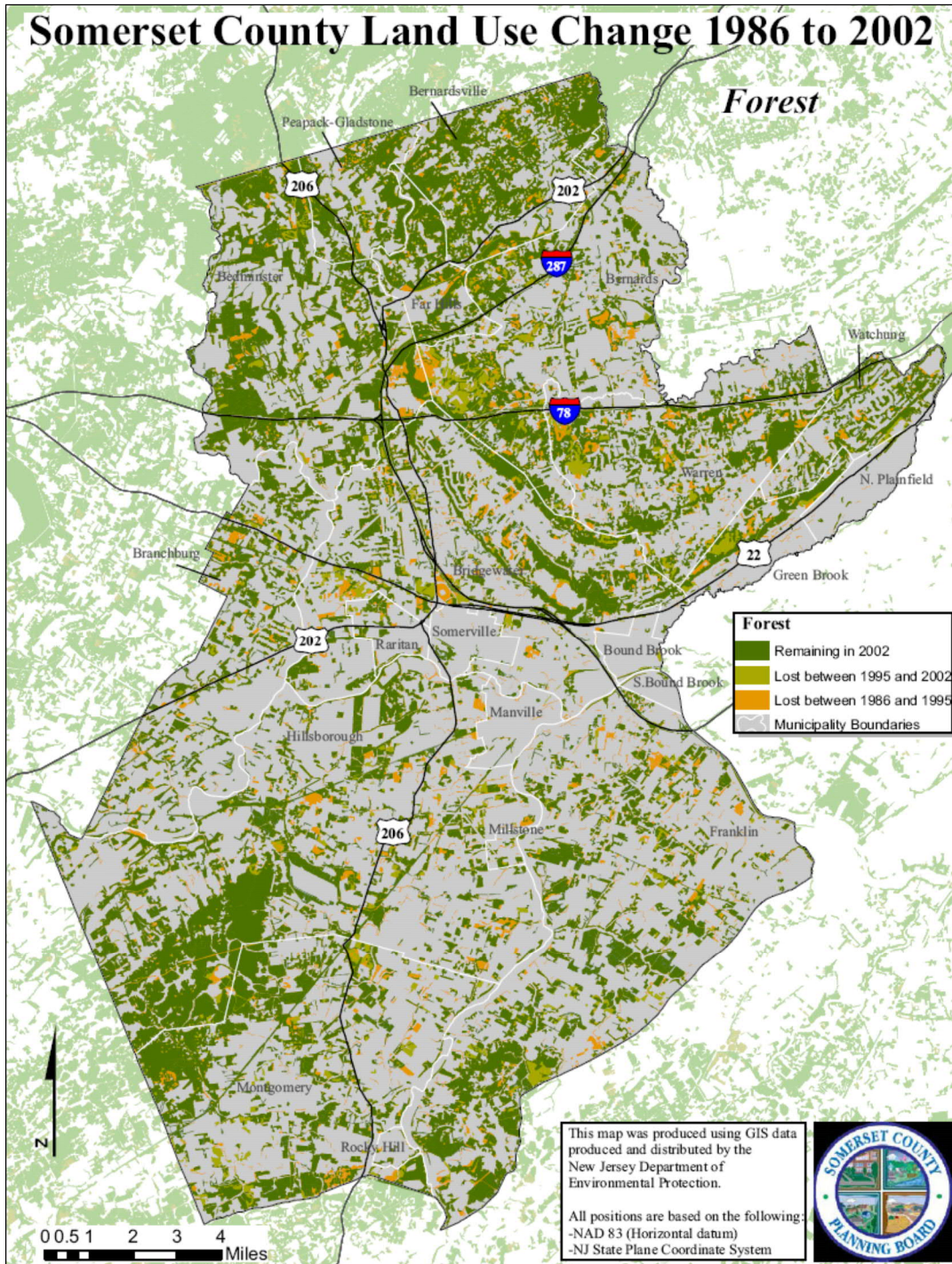
During heavy rains, forested areas within floodplains help reduce the risk of flooding. Woodlands can intercept and retain excess rainwater, and minimize the amount of stormwater runoff entering waterways. Trees prevent soil erosion and increase water absorption into the ground. Reforestation within floodplains can be an effective green infrastructure strategy for improving flood resiliency.

Table 4-13. Somerset County Land Use Change in Forested Land (1986 to 2012)

Municipality	1986* (Acres)	1995* (Acres)	2002* (Acres)	2012** (Acres)	1986 to 1995 Difference		1995 to 2002 Difference		1986 to 2002 Total Change		1986 to 2012 Total Change	
					Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)
Bedminster	6,320	6,381	6,279	6,171	61	1.0	-102	-1.6	-41	-0.6	-149	-2.4
Bernards	4,396	4,244	3,683	3,606	-152	-3.5	-561	-13.2	-713	-16.2	-790	-18.0
Bernardsville	3,976	4,159	3,975	3,682	183	4.6	-184	-4.4	-1	0.0	-294	-7.4
Bound Brook	25	37	24	21	12	48.0	-13	-35.1	-1	-4.0	-4	-16.0
Branchburg	2,089	2,224	2,440	2,354	135	6.5	216	9.7	351	16.8	265	12.7
Bridgewater	4,942	4,760	4,521	4,197	-182	-3.7	-239	-5.0	-421	-8.5	-745	-15.1
Far Hills	1,497	1,437	1,397	1,419	-60	-4.0	-40	-2.8	-100	-6.7	-78	-5.2
Franklin	5,702	5,857	6,292	5,909	155	2.7	435	7.4	590	10.3	207	3.6
Green Brook	982	860	686	632	-122	-12.4	-174	-20.2	-296	-30.1	-350	-35.6
Hillsborough	9,151	8,989	9,131	9,047	-162	-1.8	142	1.6	-20	-0.2	-104	-1.1
Manville	24	19	29	40	-5	-20.8	10	52.6	5	20.8	16	66.7
Millstone	57	57	54	60	0	0.0	-3	-5.3	-3	-5.3	3	5.3
Montgomery	5,536	5,758	5,505	5,233	222	4.0	-253	-4.4	-31	-0.6	-303	-5.5
North Plainfield	38	50	39	36	12	31.6	-11	-22.0	1	2.6	-2	-5.3
Peapack-Gladstone	1,740	1,671	1,633	1,522	-69	-4.0	-38	-2.3	-107	-6.1	-218	-12.5
Raritan	191	203	184	146	12	6.3	-19	-9.4	-7	-3.7	-45	-23.6
Rocky Hill	38	26	43	46	-12	-31.6	17	65.4	5	13.2	8	21.1
Somerville	20	49	73	82	29	145.0	24	49.0	53	265.0	62	310.0
South Bound Brook	10	9	11	5	-1	-10.0	2	22.2	1	10.0	-5	-50.0
Warren	3,730	3,517	3,320	3,139	-213	-5.7	-197	-5.6	-410	-11.0	-591	-15.8
Watchung	1,097	1,136	1,184	1,086	39	3.6	48	4.2	87	7.9	-11	-1.0
Somerset County Total	51,561	51,443	50,503	48,581	-118	-0.2	-940	-1.8	-1058	-2.1	-2,980	-5.8

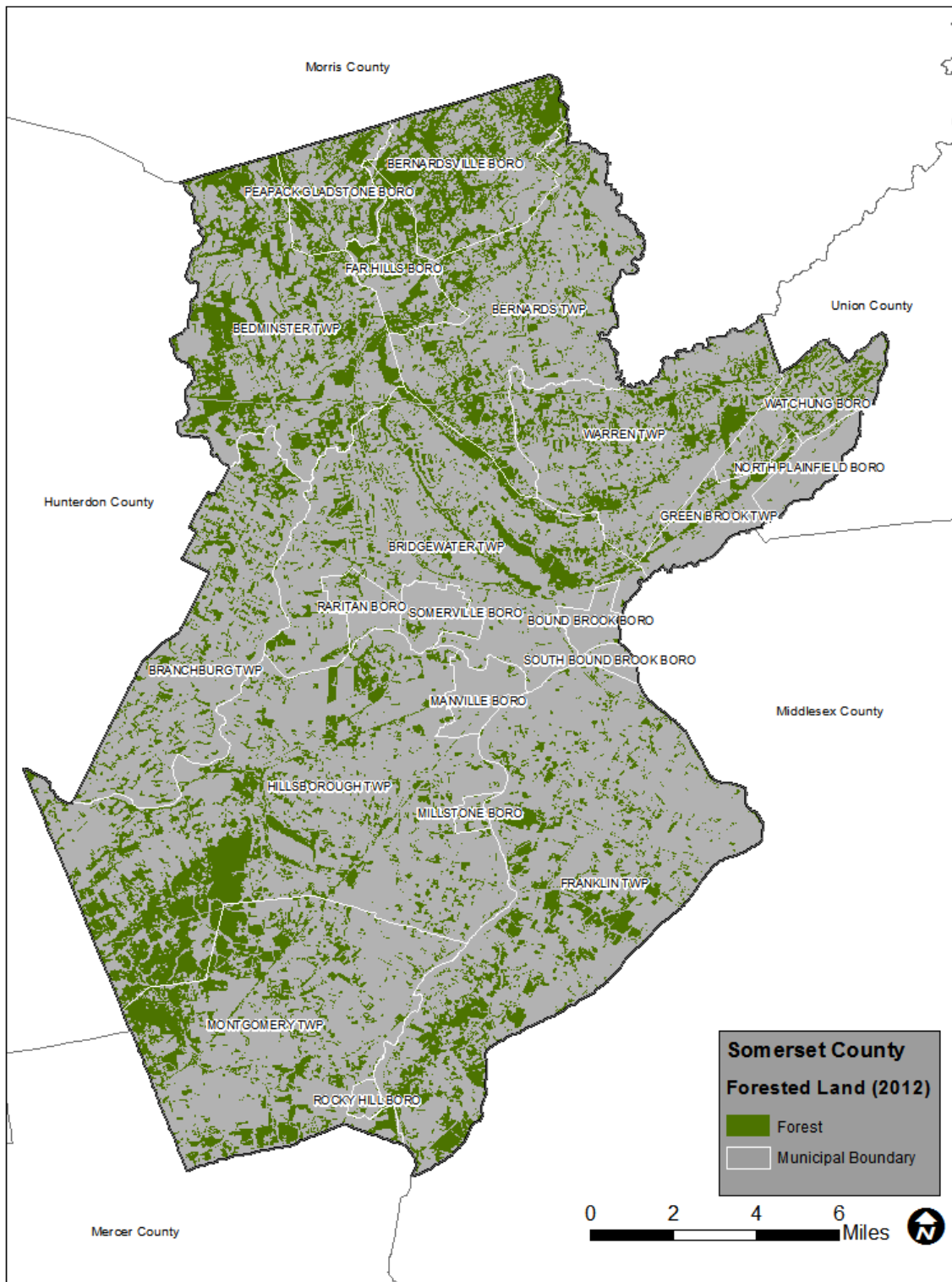
Source: *Somerset County Planning Board, 2006; ** NJDEP LULC Data, 2012

Figure 4-21. Somerset County Land Use Change in Forested Land (1986-2002)



Source: Somerset County Planning Board, 2006

Figure 4-22. Somerset County Forested Land 2012



Urban Land

Urban land includes most of what normally would be considered developed land. Residential areas, commercial areas, services and institutions, industrial areas, and those developed for transportation and utilities are the primary land uses included in urban land. There are several other open land categories that are included with urban land. Developed recreation areas, whether a part of a park, educational facility, or private concern (e.g. golf course), are considered a part of urban land. Also included are areas such as large, landscaped lawns in corporate businesses and service centers, parks, and residential areas. (NJDEP, 2007) Urbanization and suburbanization generally contribute to increasing flood risks. Vegetation removal, soil grading and compaction, and the construction of drainage systems and impervious surfaces increase runoff from rainfall and snowmelt. As a result, peak discharge volumes and the frequency of flooding increases in nearby streams. Changes to stream channels that occur with development can limit their capacity to convey floodwaters. Roads and buildings that are constructed in flood-prone areas are exposed to increased flood hazards, including inundation and erosion. New Jersey has adopted stormwater management rules and regulations (N.J.A.C. 7:8) pursuant to Municipal Land Use Law (N.J.S.A. 40:55D-1 et. seq.), the Water Quality Planning Act (N.J.S.A. 58:11A-1 et seq.), the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and the flood Hazard Area Control Act (N.J.S.A. 58:16A-50 et. seq.), in order to help communities reduce their current and future vulnerability to flooding and protect water resources. Municipalities have also begun to implement green infrastructure and impervious cover reduction strategies to increase flood resilience.

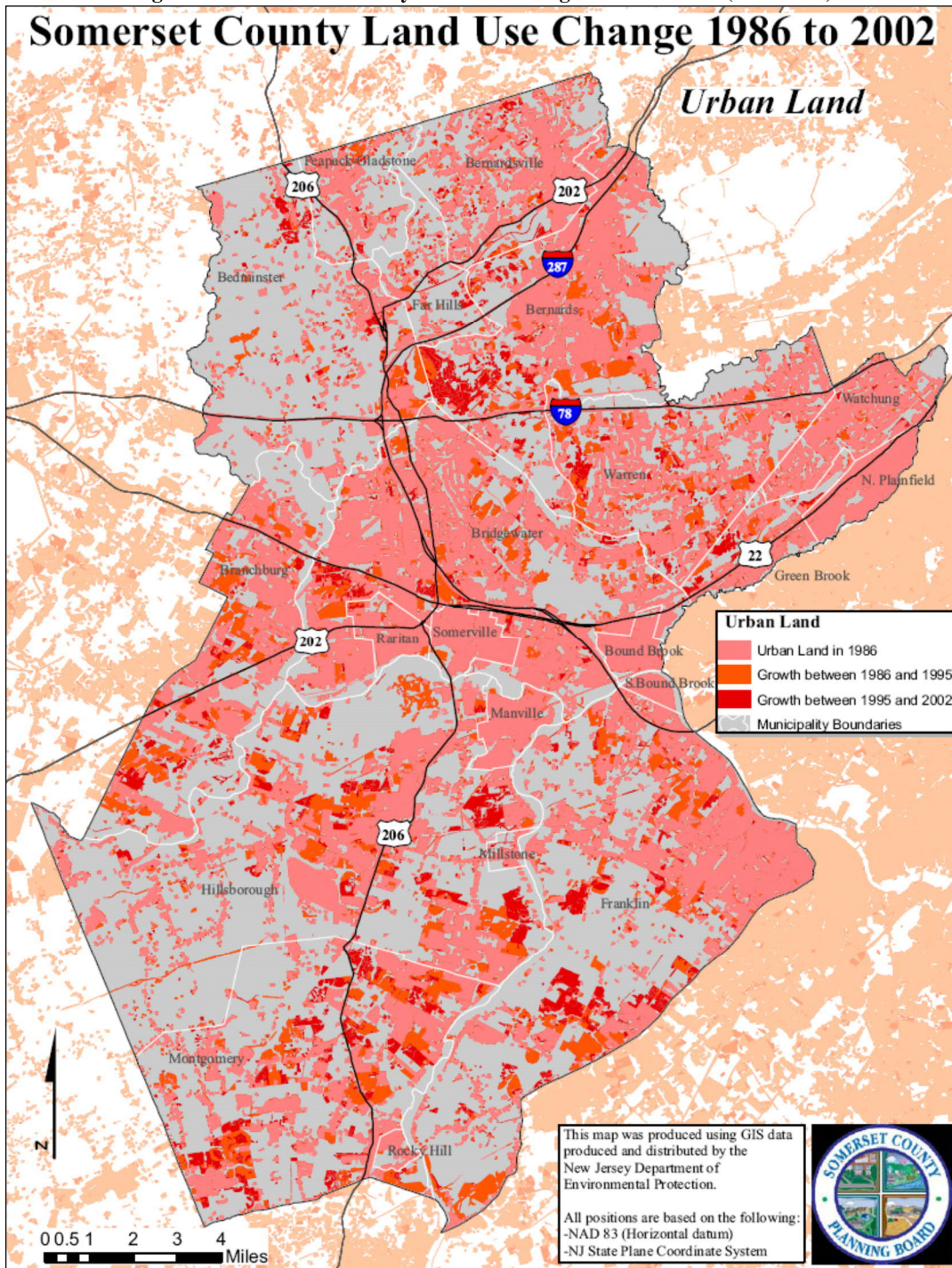
Urban and developed land made up 89,107 acres (46.1 %) of Somerset County's total land area in 2012. The amount of urban land within the County increased by 23,983 acres or 36.8 percent between 1986 and 2012. Table 4-14 and Figures 4-24 depict total change in urban and developed land in Somerset County during this period. The percentage of developed land in the 100 year and 500 year floodplains is addressed in Section 5.4.3 (Flood Profile) of this plan. The amount of urban land increased in every Somerset County municipality between 1986 and 2012, with the highest increases occurring in Franklin, Hillsborough and Montgomery Townships.

Table 4-14. Somerset County Land Use Change in Urban and Developed Land (1986 to 2012)

Municipality	1986* (Acres)	1995* (Acres)	2002* (Acres)	2012** (Acres)	1986 to 1995 Difference		1995 to 2002 Difference		1986 to 2002 Total Change		1986 to 2012 Total Change	
					Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)
Bedminster	2,517	2,656	3,085	3,586	139	5.5	429	16.2	568	22.6	1,069	42.5
Bernards	6,074	6,669	7,802	8,315	595	9.8	1,133	17.0	1,728	28.4	2,241	36.9
Bernardsville	3,247	3,051	3,398	3,611	-196	-6.0	347	11.4	151	4.7	364	11.2
Bound Brook	846	836	851	882	-10	-1.2	15	1.8	5	0.6	36	4.3
Branchburg	4,594	5,697	6,226	6,588	1,103	24.0	529	9.3	1,632	35.5	1,994	43.4
Bridgewater	10,814	780	12,372	12,854	-10,034	-92.8	11,592	1486.2	1,558	14.4	2,040	18.9
Far Hills	540	550	724	830	10	1.9	174	31.6	184	34.1	290	53.7
Franklin	8,450	10,180	11,749	13,275	1,730	20.5	1,569	15.4	3,299	39.0	4,825	57.1
Green Brook	1185	1353	1588	1,689	168	14.2	235	17.4	403	34.0	504	42.5
Hillsborough	8,202	9,795	11,346	12,588	1,593	19.4	1,551	15.8	3,144	38.3	4,386	53.5
Manville	1181	1122	1211	1,213	-59	-5.0	89	7.9	30	2.5	32	2.7
Millstone	158	156	180	190	-2	-1.3	24	15.4	22	13.9	32	20.3
Montgomery	4,741	6,355	8,207	8,786	1,614	34.0	1,852	29.1	3,466	73.1	4,045	85.3
North Plainfield	1612	1604	1601	1,617	-8	-0.5	-3	-0.2	-11	-0.7	5	0.3
Peapack-Gladstone	1,015	1,047	1,151	1,371	32	3.2	104	9.9	136	13.4	356	35.1
Raritan	969	995	1024	1,050	26	2.7	29	2.9	55	5.7	81	8.4
Rocky Hill	232	232	230	285	0	0.0	-2	-0.9	-2	-0.9	53	22.8
Somerville	1251	1284	1234	1,241	33	2.6	-50	-3.9	-17	-1.4	-10	-0.8
South Bound Brook	344	346	346	346	2	0.6	0	0.0	2	0.6	2	0.6
Warren	4,707	5,375	5,831	6,356	668	14.2	456	8.5	1,124	23.9	1,649	35.0
Watchung	2,445	2,370	2,327	2,435	-75	-3.1	-43	-1.8	-118	-4.8	-10	-0.4
Somerset County Total	65,124	73,453	82,483	89,107	8,329	12.8	9,030	12.3	17,359	26.7	23,983	36.8

Source: *Somerset County Planning Board, 2006; ** NJDEP LULC Data, 2012

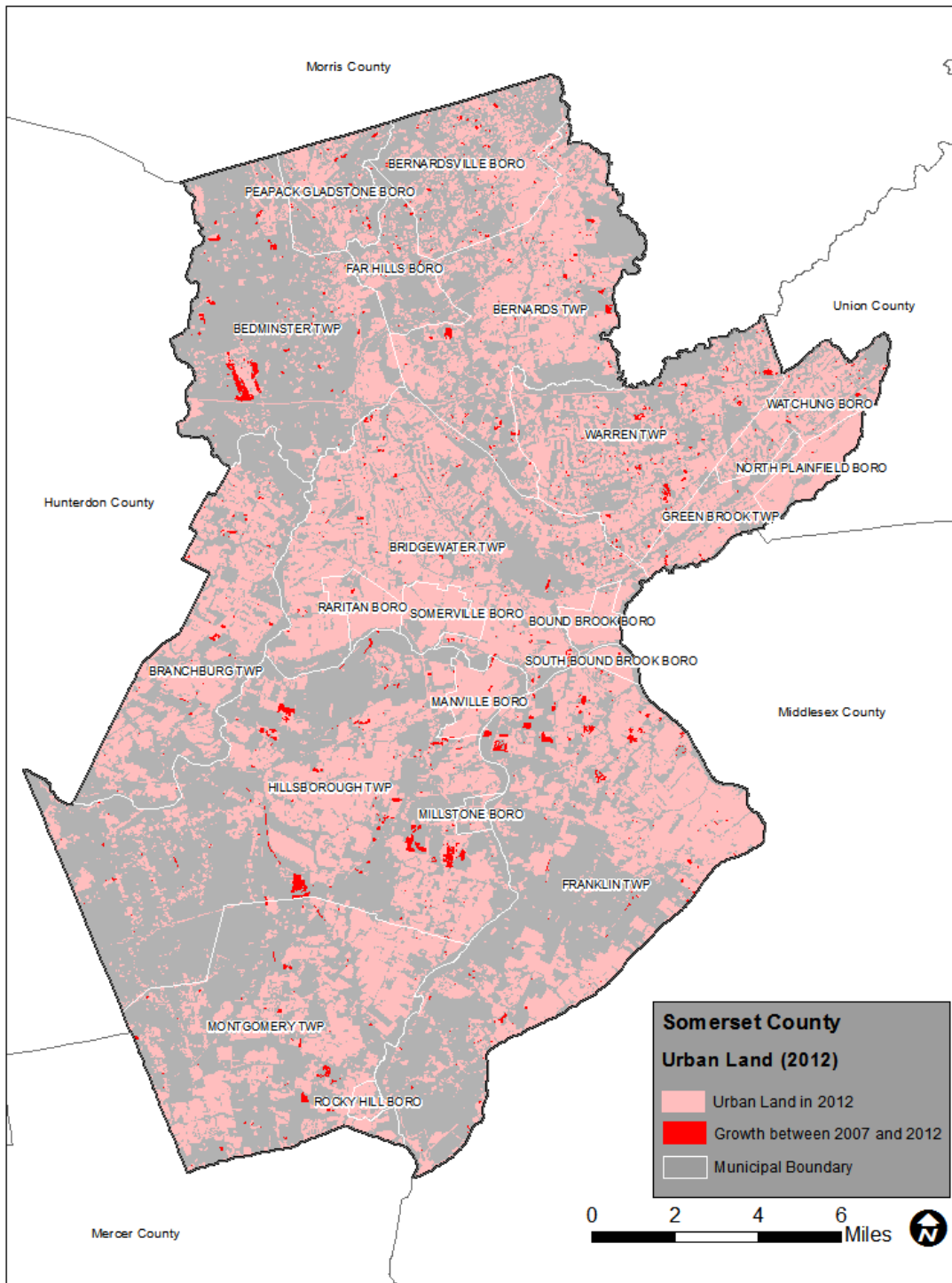
Figure 4-23. Somerset County Land Use Change in Urban Land (1986-2002)



Source: Somerset County Planning Board, 2006

Note: The acres in Somerset County's open space inventory (9,800) do not include acres preserved by municipalities.

Figure 4-24. Somerset County Land Use Change in Urban Land (2002-2012)



Source: Land Use Land Cover 2012 data published by NJDEP available at NJ Geographic Information Network website

Open Space

For the purposes of this chapter, open space is defined as land that is permanently set aside for public or restricted private use and will not be developed. Open space may be used for passive or active recreation, or may be reserved to protect or buffer natural areas. (Kwon et al., 2007) Open space types in Somerset County range from areas where active recreation is prevalent, such as parks equipped with playgrounds, picnic areas and various sports fields, to habitat preserves and wildlife conservation areas where activity is limited to passive recreation and where hiking trails may provide access to unique natural features. The County adopted a Parks, Recreation and Open Space Master Plan in 1994, setting a goal of preserving 10,500 acres of land to be acquired for the County park system. Somerset County re-examined its goals and as part of the 2000 Parks, Recreation and Open Space Master Plan Update, increased its preservation goal from 10,500 acres to 20,500 acres. By 2012, Somerset County’s total open space park inventory exceeded 13,300 acres. (Somerset County Open Space, 2013) The 2017 Open Space Advisory Committee Annual Report reported a total park inventory exceeding 14,760 acres.

The Somerset County park system consists of 24 park areas⁴. There are six general use parks, offering both active and passive recreation facilities; five golf courses; three special use parks, devoted to horticulture and fine arts; one developed natural park, which features an environmental education center; and ten undeveloped natural areas. Table 4-15 shows the County park system and total acreage of each park as reported in the 2000 Parks, Recreation and Open Space Master Plan.

Table 4-15. Total Acreage for the Somerset County Park System *

Park	Total Acreage as of 8/16/18
Chipman Tract	104.47
Colonial Park/Spooky Brook Golf Course	691.39
Duke Island	348.67
East County Park	150.51
Lord Stirling Park	1,015.03
Green Knoll Golf Course	157.14
Quail Brook Golf Course and Park	200.10
Natirar	408.76
North Branch Greenway	221.82
Raritan River Greenway (Including Torpey Athletic Complex)	539.88
Ralph T. Reeve Cultural Center	37.36
Recreational Easements	26.35
Rezem Tract	65.43
Second Watchung Greenway	841.78
Skillman Park	247.02
Sourland Mountain Preserve (Including Mountain Park)	6,230.67
South Branch Greenway	671.03
Van Home Park	96.77
Washington Valley Park	741.69

⁴ www.somersetcountyparks.org/EcologicalStewardship/Ecological%20Stewardship.html, accessed July 2018.

Park	Total Acreage as of 8/16/18
Woodfern Farm	445
Warrenbrook Golf Course and Pool	124.73
Leonard J. Buck Garden	44.57
Little Brook Sanctuary	114.58
North Branch Park	179.13
Skillman Park	247.02
South Franklin Initiative	256.81
Lamington Greenway	543.52
Neshanic Valley Golf Course	436.39
Passaic River Greenway	113.40
County Land Preservation Trends	
Total, Year 2000*	8,233
Total, Year 2017**	14,759
Acres acquired, 2000-2017	6,525

Source for 2018 data: Somerset County Engineering Division

* Source: Somerset County Parks, Recreation and Open Space Master Plan, 2000

** Source for 2017 data: Somerset County 2017 Open Space Advisory Committee Annual Report

As mentioned previously, the Somerset County Open Space Preservation Program added a substantial amount of land to the County park system each year. In 2012 alone, the Open Space Trust acquired properties valued at \$7,925, 314. In 2017, the Somerset County Open Space Preservation Program had another successful year with the addition of over 176.5 acres of land from 10 property owners at a cost of \$3,862,857 (of which \$815,190 was contributed by outside agencies. Also, to-date, the NJDEP Green Acres Program and the Garden State Preservation Trust Program awarded the County \$14,525,000 in matching grants and \$4,500,000 in loans.

There are several state-owned open spaces in Somerset County as well, including Washington Rock State Park and Delaware and Raritan Canal State Park. The Six Mile Run Preserve is an open space resource that serves as a potential water supply reservoir site and is part of the Delaware and Raritan Canal State Park. The Six Mile Run Preserve is located in Franklin Township and is adjacent to the Delaware and Raritan Canal. Both of these Parks are rich in cultural and historical significance. (NJDEP, 2007) Washington Rock State Park is located in Green Brook Township and is one of the oldest state parks in New Jersey. Washington Rock State Park is situated on top of Watchung Mountain and is best known for its scenic vistas and role it served during the Revolutionary War. (NJDEP, 2007) The Delaware and Raritan Canal State Park is one of central New Jersey's most popular recreational corridors for canoeing, jogging, bicycling, fishing, and horseback riding. (NJDEP, 2007) This Park has a total area of 4,200 acres and extends into in Hunterdon, Mercer, Middlesex, Monmouth, and Somerset Counties.(New Jersey Audubon Society, Date Unknown)

In addition to county- and state-owned open space, there are numerous local parks, greenways and preserves owned by municipalities and non-profit land conservation organizations scattered throughout the County.

FUTURE GROWTH AND DEVELOPMENT

The Somerset County Master Plan and associated Somerset County Investment Framework Map contain overall land use goals and objectives that are aligned with the principles of smart growth, sustainability and resiliency. The County Investment Framework (CIF) Map was adopted by the Somerset County Planning Board in 2014. Flood hazard zones were among the criteria used in delineating the land use categories shown on the CIF Map. The CIF map also includes “Greenway Linkages” along all major stream corridors as part of the “Priority Preservation Investment Area” designation, within which open space preservation and riparian corridor protection and restoration are promoted and development within flood hazard areas is discouraged. The CIF serves as the geographic basis for all County Planning projects, preservation and infrastructure investment initiatives. It replaces the County’s 1987 growth, preservation, economic revitalization and preservation plans, resources, programs, policies and investment decisions; and conveys a clear investment message regarding local and regional land use priorities to both public and private sectors. All of the County’s municipalities and a broad group of diverse stakeholders provided input into the planning process. The CIF builds upon and reinforces local land use planning priorities. The NJ State Planning Commission adopted a resolution supporting the CIF and recognizing it as a model for county land use planning statewide in October 2013. For more information about the CIF please visit the following website: <http://www.co.somerset.nj.us/government/public-works/planning/master-plan>.

GIS datasets were used as the basis of the criteria-based approach used for identifying areas most suitable for growth and preservation in the County, as depicted on the CIF map. A series of GIS-based “Asset Maps” were created to illustrate each of the criteria that were used in developing the CIF, and which facilitated the process of identifying the land use categories on the map. “Priority Growth Investment Areas” (PGIAs) are areas where infrastructure and community facilities necessary to support growth are concentrated; and “Priority Preservation Investment Areas” are places where the location of environmentally sensitive features such as floodplains and wetlands, as well as other ecological and natural resources are concentrated. PGIAs are areas where primary economic growth and community development strategies that enhance quality of life and economic competitiveness are preferred, and where appropriate, growth-inducing investments are encouraged. PGIAs are areas where development and infrastructure assets are already concentrated. They are prime locations for the vibrant mixed-use, live-work environments within walking distance of public transit and green space that many employers, workers and households desire. Alternative Growth Investment Areas (AGIAs) consist primarily of substantially developed suburban neighborhoods and include community-oriented business and service establishments. These are residential areas and small, often historic town and village centers where investments that enhance livability and neighborhood character are preferred. Job retention and community sustainability are high priorities within AGIAs. The CIF clearly recognizes that PGIAs and AGIAs contain environmentally sensitive stream corridors, floodplains and flood prone areas and therefore Greenway Linkages have been delineated as an overlay to promote low impact uses that are compatible with the environmentally sensitive nature of these corridors. The County Master Plan and the CIF also discourage development within the special flood hazard area portion of Greenway Linkages. (Somerset County Planning Division, 2018)

The CIF also identifies Priority Preservation Investment Areas (PPIAs) where agriculture along with preservation and restoration of environmentally sensitive natural resources are preferred. PPIAs are not well-served by infrastructure and utilities because they are targeted for conservation, farmland and open space preservation. Environmental and agricultural assets such as riparian and headwater areas, preserved farms and parkland are concentrated within the County’s PPIAs, as well as the County’s highly prized scenic, rural and historic landscapes. These are areas where voluntary use of environmental and agricultural land stewardship best management practices by both the public and private sectors are

encouraged. In addition, the CIF identifies Limited Growth Investment Areas (LGIAs) that are comprised of existing rural and environmentally sensitive low-density residential development and historic community settlement areas that are served by septic systems and often private wells. Both PPIAs and LGIAs are areas where the expansion of growth-inducing infrastructure is discouraged and where low intensity land uses with minimal environmental impacts are preferred. Any new growth within PPIAs and LGIAs should avoid environmental sensitive areas including flood hazard zones. (Somerset County Planning Division, 2018)

This effort combined with the County's work to develop a Comprehensive Economic Development Strategy (CEDS) demonstrates the County's desire to maximize the benefits that can accrue when investment and infrastructure improvements are made in a coordinated manner. The Priority Investment Framework and the CEDS efforts are highly coordinated and work together to prioritize investments in Somerset County.

The County Investment Framework:

- Capitalizes on key state, regional and local community, infrastructure and environmental assets
- Provides a geographic framework for guiding regional and local planning
- Aligns investments by the private sector, higher education and all levels of government
- Ensures state, county and local assets and policies are leveraged to successfully implement mutually supported outcomes
- Allows for the efficient allocation of resources and controls the long-term cost of public services while reinvigorating existing communities
- Provides certainty regarding the growth and investment priorities that are supported at the regional and local levels

The Somerset County Investment Framework Map presents areas in the following four categories, as described below and as depicted in Figure 25:

- **Priority Growth Investment Areas (PGIAs)** are areas where primary economic growth and community development strategies that enhance quality of life and economic competitiveness are preferred; and where appropriate, growth-inducing investments are encouraged. PGIAs are areas where development and infrastructure assets are already concentrated. They are prime locations for the vibrant mixed-use, live-work environments within walking distance of public transit and green space, and that many employers, workers and households desire.
- **Priority Preservation Investment Areas (PPIAs)** are areas where agriculture and the preservation and restoration of environmentally sensitive natural resources are preferred and where investments aimed at resource restoration and protection, and farmland and open space preservation are preferred. Environmental and agricultural assets are concentrated within the County's PPIAs, as well as the County's highly-prized scenic, rural and historic landscapes. These are the areas where voluntary use of environmental/agricultural stewardship best management practices by both the public and private sectors are encouraged. PPIA Greenways are also identified. Greenways traverse all investment area categories and are places where investments that support a regional system of linked open space and conservation areas along stream corridors and ridgelines and the restoration of degraded environmental resources are high priorities. Greenways, parks and open space can be established within any of the investment area categories.
- **Alternative Growth Investment Areas (AGIAs)** are existing substantially developed areas located within adopted sewer service areas that are not PGIAs or PPIAs, and where large-

scale, growth-inducing investments are not desired. Most of the County's AGIAs consist of residential neighborhoods and include community oriented business and service establishments. These are quiet, safe, well-maintained residential areas where investments that enhance livability and neighborhood character are preferred. Local Priority Areas (LPAs) are a subset of AGIAs. These are distinct small town and village centers, some of which have been designated by the NJ State Planning Commission, and existing/emerging employment nodes, that have limited growth opportunities due to their scale, historic character, environmental and access constraints and municipal preferences. Job retention and community sustainability are high priorities within LPAs.

- **Limited Growth Investment Areas (LGIAs)** are areas that are outside of sewer service areas and that are not shown as PGIAs, AGIAs or PPIAs. LGIAs are places where large-scale investments that may lead to additional development or change in neighborhood character are not desired. LGIAs are comprised primarily of existing low-density, residential areas that are served by on-site septic systems. They are areas that support lifestyles with strong connections to the natural environment. Investments that restore and protect environmental resources, strengthen open space linkages and enhance quality of life are preferred in LGIAs.

As of 2017, the County Planning Board reported:

- 24 PGIAs and 15 LPAs have been identified countywide - totaling 22,600 acres or 12% of the County's land area; and each community has at least one PGIA or LPA.
- PGIA "place types" range from mixed-use public transit-served centers to commercial corridors to industrial districts.
- LPAs include small village centers, neighborhood-oriented business districts and/or small industrial parks.
- PPIAs comprise 97,600 acres (approximately half of the County's land area), of which 47% is permanently preserved open space and farms.
- GIS parcel-based boundaries have been prepared in collaboration with municipal officials.

Potential new development in Somerset County, as reported by participating jurisdictions as part of this 2019 plan update, is depicted in Table 4-16.

New construction potentially totaling over 7,500 residential units are planned countywide as a result of municipal responses to the Mount Laurel IV Declaratory Judgment Process, which has been underway since 2015. The majority of this development will take place in Priority Growth and Alternative Growth Investment Areas as shown on the County Investment Framework Map. Many of the County's municipalities reached agreements with the Fair Share Housing Network and the Court during 2017 and 2018 concerning municipal affordable housing obligations pursuant to the State Fair Housing Act of 1985. These agreements led to the preparation of amended municipal housing elements and fair share plans and associated ordinances, many of which have recently been or are currently in the process of being finalized.

Figure 4-25. Somerset County Investment Framework – Priority Growth Investment Areas

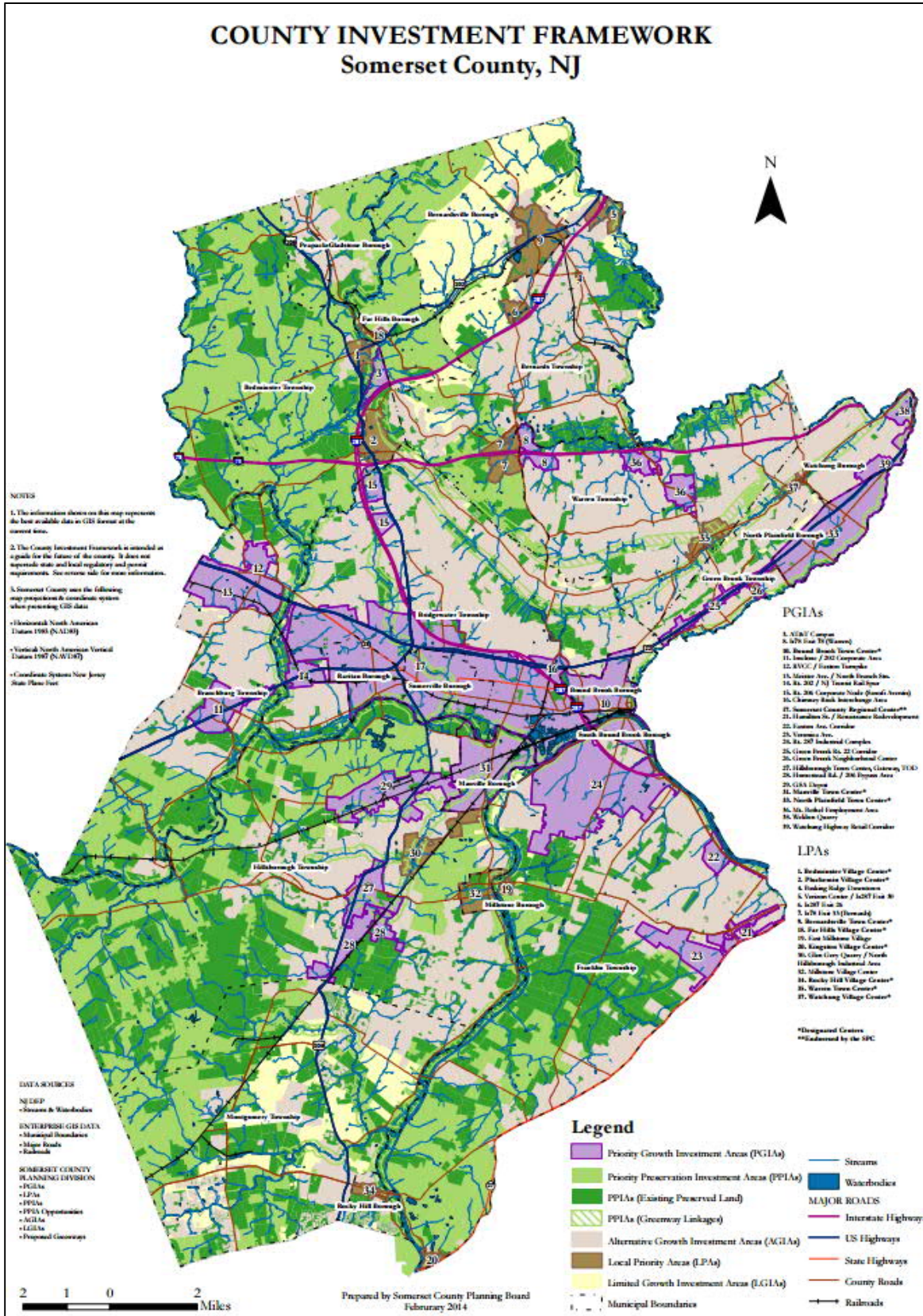


Table 4-16. Potential New Development in Somerset County

Jurisdiction	Potential New Development by Jurisdiction						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
Bedminster (T)	Bedminster did not note any major development planned for the next 5 years.						
Bernards (T)	Bernards did not note any major development planned for the next 5 years.						
Bernardsville (T)	Bernardsville did not note any major development planned for the next 5 years.						
Bound Brook (B)	Bound Brook Industrial Storage	Commercial	1	69 South Main Street	Bl. 1 Lt. 69	Flood Area	Has not broken ground
	West Main Street Urban Renewal	Residential	1	7-15 West Main Street	Bl. 7 Lt. 28	None	Has broken ground
	Meridia Downtown Urban Renewal	Residential	1	14-16 West Main Street	Bl. 1 Lts. 42 & 43	Flood Area	Has not broken ground
	Talmage Commons	Residential	1	118 Talmage Avenue	Bl. 5 Lt. 12-18;; 18.01, 22-26, 26a	Unknown	Has not broken ground
Branchburg (T)	Dante Realty	Commercial	1	County line Rd	Block 17, lot 1	None	Incomplete
	Briad Development Inc.	Hotel	1	Route 202	Block 44, lots 32-36	None	Approved
	Branchburg Builders LLC	Residential	50	Burnt Mills Road	Block 2 lot 8	None	Approved
	Capstone Holdings, LLC	Residential	10	Old York and Centerville	Block 71 lots 1-2	None	Approved
	Deerfield Creek LLC	Residential	16	616 Case Rd	Block 76 lot 34 & 36.01	None	Before planning board
	Distinctive Properties LLC	Residential	6	75 Elia Drive	Block 76.04 lot 52	None	Approved
	Fox Hollow II	Residential	120 units	3434 Route 22	Block 5.11 lot 2	None	Approved
	3331 Route 22 LLC	Commercial	4	3331 Route 22	Block 9 Lots 9-13	None	Approved
	Redco Branch LP	Commercial	1	25 Columbia Road	Block 10 Lot 11.13	None	Approved
	River Trace	Residential	48 Units	Route 202	Block 55 lot 9	None	Under Construction

Jurisdiction	Potential New Development by Jurisdiction						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
	Schultz Container	Commercial	1	200 Aspen Hill Road	Block 10 lot 9	None	Approved
	Robert Henderson	Residential	9 units	1100 Route 28	Block 7 lot 3	None	Approved
Bridgewater (T)	The Delaney (LCS Development)	Residential	16	Frontier Road	711/ 13	None	Age Restricted Community/ Approved
	Patriot Green (Eden Woods)	Residential	33	East Main Street	329/ 3.01, 13.01 & 14	None	Apartment Complex/ Approved
	Center of Excellence (Advance Realty)	Commercial/ Residential	unknown	Route 202/ 206	483/ 17, 18 & 19	None	Mix Use Development/ Conceptual Review
	Lifetime Fitness Center	Commercial	1	Commons Way	411/ 39.07	None	Fitness Center/ Under Construction
	Marriott Hotel	Commercial	2	Commons Way	411/ 39.02	None	Hotel/ Approved
	Sunrise Senior Living	Residential	1	390 Route 22	400/ 5.04	None	Assisted Living/ Approved
	The Learning Experience	Commercial	1	1940 Route 22, East	382/ 4	Flood Plain	Daycare/ Approved
	PSE&G	Commercial	1	1920 Route 22, East	382/ 5 & 5.01	Flood Plain	Utility Control Center/ Under Construction
	Bridgewater Hills	Commercial	5	Frontier Road	711/ 7	None	Hotel/ Under Review
	Heritage Inn	Commercial	5	Route 22, East	222/ 3, 4 & 5	None	Hotel/ Under Review
Far Hills (B)		Residential	Approximately 75	180 Douglas Road	Lot 1 Block 23	None	Potential
Franklin (T)	Franklin did not note any major development planned for the next 5 years.						
Green Brook (T)	Green Brook did not note any major development planned for the next 5 years.						
Hillsborough (T)	Hillsborough did not note any major development planned for the next 5 years.						
Manville (B)	Rustic Mall	Commercial	Unknown	South Main Street	Block 310.01 Lots 2.01 and 2.02	None	Redevelopment Project
Millstone (T)	Millstone did not note any major development planned for the next 5 years.						

Jurisdiction	Potential New Development by Jurisdiction						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
Montgomery (T)	Western Pest	Commercial	Not provided	Not provided	35002/9	Not provided	Office - Estimated year for added assessment 2018; tear down existing and build new
	Land Rover/Jaguar	Commercial	Not provided	Not provided	34001/60,61,62	Not provided	Auto Dealership - Estimated year for added assessment 2018
	Madison Marquette's Montgomery Promenade	Commercial	Not provided	Not provided	34001/45,56,57,77,78,79,80	Not provided	Retail - Estimated year for added assessment 2020
	Goddard School	Commercial	Not provided	Not provided	28006/67	Not provided	Day Care Facility - Estimated year for added assessment 2020
	The Grove at Montgomery	Commercial	Not provided	Not provided	6001/1	Not provided	Retail - Estimated year for added assessment 2018
	Montgomery Place	Commercial	Not provided	Not provided	5023/2 and a portion of former 206 bypass reservation	Not provided	Retail - Estimated year for added assessment: 2018-CVS, operations building, and 1 retail building; 2019-2020 remainder of retail
	Continuing Care Community	Commercial	Not provided	Not provided	portion of 4001/33&33.01	Not provided	Continuing Care - Estimated year for added assessment post-2019; development map proposes change in land use
	Village Walk at Montgomery	Commercial	Not provided	Not provided	28005/65,66,68,68	Not provided	Retail - Estimated year for added assessment 2020; tear down existing and build new
	Audi Service Center	Commercial	Not provided	Not provided	34001/34	Not provided	Automobile Service Center - Estimated year for added assessment 2020
	Baker Chrysler	Commercial	Not provided	Not provided	34001/57	Not provided	Auto Dealership - Estimated year for added assessment 2020
Research Park	Commercial	Not provided	Not provided	35001/14	Not provided	Office - Estimated year for added assessment post-2020; project on hold	

Jurisdiction	Potential New Development by Jurisdiction						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
	Land Rover/Jaguar	Commercial	Not provided	Not provided	35002/13	Not provided	Auto Dealership - Estimated year for added assessment post-2020; project on hold
North Plainfield (T)	Costco	Commercial	1	1290 Route 22	203.1/1	No	Wholesale/Completed
	Petco	Commercial	1	1262 Route 22	203.1/1	No	Retail/Complete
	La-Z-Boy	Commercial	1	1240 Route 22	203.1/1	No	Retail/Complete
NPBOE	The NPBOE did not note any major development planned for the next 5 years.						
Peapack Gladstone (B)	SJP Properties	Residential	30	Brady Drive West		none	Proposed
Raritan (T)	Raritan did not note any major development planned for the next 5 years.						
Rocky Hill (T)	Senior Citizen Housing	Residential	17 duplexes/34 units	Princeton Avenue	Across the street from Borough Park	No – Across the street from flood-prone properties, but not in flood zone itself.	Approved before downturn in economy – no progress since.
Somerville (B)	McAleavy	Residential	1	388 William Street	75/4.01	None	Approved
	The Davenport	Residential	1	Davenport Street	115/17	None	Approved
	Sterling/SOMA	Residential	1	110 S Bridge Street	123/4	None	Under Construction
	JSM @ 154 Main	Retail/Residential	1	154 W Main Street	115/23	None	Proposed
	JSM @ Somerville	Retail/Residential	3	West Main Street	117.01 1.03	None	Approved
	DGM	Residential	1	Veterans Memorial Drive	61/6.01	None	Approved
	Litgo	Residential	2	Haynes Street	50/3	None	Approved
	DeSapio Properties	Retail/Office/Residential	1	46 East Main Street	63/1	None	Under Construction

Jurisdiction	Potential New Development by Jurisdiction						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
	The Davenport	Residential	1	21-29 Davenport Street	115/17	None	Approved
	Somerset Station	Commercial Residential	15	N/A	123 & 124 Numerous Lots	None	Proposed
	40 Haynes	Residential	2	40 Haynes Street	50 Lots 3, 13, 14	None	Approved
	Viamare	2 SF Residential Commercial	3	William & Gaston	81/1.01	None	Approved
South Bound Brook (T)	Landmark	Residential	22	Johnson Street	74/1	None	Townhouses
	Borough Hall Property	Residential Commercial	Unknown	Main Street	56/3	Not Known	Not provided
SRVSA	Mercury Emission Control System	Enhanced incinerator air pollution control system	1	50 Polhemus Lane, Bridgewater	Block 305 Lot 1	n/a	Will be completed by January 2019
	Storm Control Treatment Facility	Wet-weather treatment facility to prevent chronic sanitary sewer overflows in Somerville	5	Loeser Avenue, Bridgewater	Block 300 Lot 13	Flooding	Construction start early 2019
	Storm Control Pumping Station Relocation (Flood Mitigation Project)	Relocate the electronic control system and emergency generator of Storm Control Pumping Station out of the flood hazard area	1	Loeser Avenue, Bridgewater	Block 300 Lot 13	Flooding	Planning and Design not to begin prior to 2021
Warren (T)	Sleepy Hollow Subdivision	Residential	20	Hillcrest Boulevard		Local Flooding	Under Construction
	The Hollows Subdivision	Residential	10	Hillcrest Boulevard		Local Flooding	Planning Board
	Amenities Building at WCC	Commercial	1	Warren Corporate Center Drive		None	Under Construction
	Lindbergh Affordable Housing	Residential	4?	Lindbergh Avenue		Local Flooding	Planning Board
	King George Inn 2	Residential	13	King George Road		None	Planning Board

Jurisdiction	Potential New Development by Jurisdiction						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
	American Properties	Residential	100?	Mount Bethel Road		None	Planning Board
	Flag Plaza	Residential	1	Mount Bethel Road		None	Planning Board
Watchung (B)	Affordable Housing	Residential	20	East Drive	Block 57.01 Lot 6.01	Steep Slopes	On Hold
Somerset County (New/Potential Development, County-Owned Lands)	Mountain View Park	Recreational	7 lighted baseball fields, playground, pavilion, concession/rest room facility	141 Mountain View Rd., Hillsborough	BK 175; Lot 39.01, 39.03, BK 177; Lots 23.01, 23.02, 23.04	no	Demolition and cleanup activities associated with former US GSA Belle Mead Depot have been completed. Phase I opened 4-2017. Phase II involves the development of additional baseball fields.
	Somerset County Senior Wellness Center	Health & Wellness	14,000 sq. building with indoor recreation and dining facilities	876 E. Main St., Bridgewater	Block 347; L 1.02	no	opened 5-2016
	Somerset County Social Services Sen. Walter E Kavanagh Building	County Offices	3-story, 42,440 sq. ft. office building	73 East High Street, Somerville	Bk 71; Lots 28, 27, 28 29, 30 & 31	no	opened 7-2016

Source: Mitigation Planning Committee (MPC)

CRITICAL FACILITIES

A comprehensive inventory of critical facilities in Somerset County was developed for the 2014 Plan from various sources including HAZUS-MH default data, Somerset County Management Information Services Division (MIS) (now called the Somerset County Information Technology (IT) Division), County Office of Emergency Management and input from the Steering Committee and MPC. There were no changes to the critical facility inventory GIS datasets (essential facilities, utilities, transportation features, and user-defined facilities) since the last plan update. The GIS inventory of critical facilities described in this section was used for the Risk Assessment in Section 5. However, some minor updates to the tabulated information contained in this Section have been provided herein. When County-level actions SC 6 and SC 18 are completed, new GIS datasets should be incorporated into the next update of this plan in 2024.

Critical facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities and hazardous material facilities.

Essential facilities are a subset of critical facilities that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category was defined to include police, fire, EMS, EOCs, schools, shelters, senior facilities and medical facilities.

Emergency Facilities are for the purposes of this Plan, emergency facilities include police, fire, emergency medical services (EMS) and emergency operations centers (EOC).

The Somerset County Office of Emergency Management (SCOEM) works collaboratively with state and local emergency management officials to maintain current information on critical and essential facilities located within the County on an ongoing basis. This information is maintained by the SCOEM as part of the County's Emergency Operations Planning and Response and Recovery Program responsibilities. Information on critical and essential facilities is also maintained by each municipal office of emergency management.

Unlike the 2009 and 2014 versions of this plan (which included address-specific facilities information here in Section 4 of the main text), this plan update has been revised to provide detailed facilities information in Appendix M, which will not be available for public release due to homeland security purposes. Summary level information is provided in the balance of this subsection, as per County updates made to Appendix M. The Somerset County Office of Emergency Management and/or municipal HMOs and OEM Coordinators should be contacted if further clarification is needed.

Essential Facilities

This section provides information on emergency facilities, hospital and medical facilities, schools, shelters and senior care and living facilities.

Emergency Facilities

For the purposes of this Plan, emergency facilities include police, fire, emergency medical services (EMS) and emergency operations centers. (EOC) Tables 4-17 through 4-19 summarize the number of these emergency facilities within Somerset County.

Table 4-17. Police Stations in Somerset County

Municipality	Number of Police Stations
Bedminster (T)	1
Bernards (T)	1
Bernardsville (B)	1
Bound Brook (B)	1
Branchburg (T)	1

Bridgewater (T)	2
Far Hills (B)	1
Franklin (T)	1
Green Brook (T)	1
Hillsborough (T)	1
Manville (B)	1
Millstone (B)	0
Montgomery (T)	1
North Plainfield (B)	1
Peapack Gladstone (B)	1
Raritan (B)	1
Rocky Hill (B)	0
Somerville (B)	1
South Bound Brook (B)	1
Warren (T)	1
Watchung (B)	1
Somerset County Total:	20

Source: Somerset County MIS, Updated by Somerset County OEM, 2018

Table 4-18. Fire Stations and Rescue Squads in Somerset County

Municipality	Number of Fire Stations	Number of Rescue Squads	Number of Combined Facilities
Bedminster (T)	2	1	0
Bernards (T)	2	1	1
Bernardsville (B)	1	0	0
Bound Brook (B)	4	1	0
Branchburg (T)	4	1	0
Bridgewater (T)	7	5	0
Far Hills (B)	0	0	0
Franklin (T)	11	2	0
Green Brook (T)	2	0	0
Hillsborough (T)	3	2	0
Manville (B)	3	1	0
Millstone (B)	0	0	0
Montgomery (T)	2	1	0
North Plainfield (B)	1	1	0
Peapack Gladstone (B)	1	1	0
Raritan (B)	2	2	0
Rocky Hill (B)	1	1	0
Somerville (B)	4	1	1
South Bound Brook (B)	1	1	0
Warren (T)	4	1	0
Watchung (B)	1	1	0
Somerset County Total:	56	24	2

Source: Somerset County MIS, updated by Somerset County OEM, 2018

Table 4-19. Emergency Operation Centers in Somerset County

Municipality	Number of EOCs
Bedminster (T)	0
Bernards (T)	1
Bernardsville (B)	1
Bound Brook (B)	1
Branchburg (T)	1
Bridgewater (T)	1
Far Hills (B)	0
Franklin (T)	0
Green Brook (T)	1
Hillsborough (T)	0
Manville (B)	1
Millstone (B)	0
Montgomery (T)	1
North Plainfield (B)	0
Peapack Gladstone (B)	0
Raritan (B)	1
Rocky Hill (B)	0
Somerville (B)	2
South Bound Brook (B)	1
Warren (T)	0
Watchung (B)	2
Somerset County Total:	14

Source: Somerset County MIS, updated by Somerset County OEM, 2018

Hospitals and Medical Centers

Table 4-20 summarizes the number major medical facilities in Somerset County.

Table 4-20. Medical Facilities (Hospitals, Urgent Care and Surgery Centers) in Somerset County

Municipality	Number of Medical Facilities
Bedminster (T)	1
Bernards (T)	1
Bernardsville (B)	0
Bound Brook (B)	1
Branchburg (T)	1
Bridgewater (T)	2
Far Hills (B)	0
Franklin (T)	2
Green Brook (T)	1
Hillsborough (T)	1
Manville (B)	0
Millstone (B)	0
Montgomery (T)	1
North Plainfield (B)	0

Peapack Gladstone (B)	0
Raritan (B)	1
Rocky Hill (B)	0
Somerville (B)	2
South Bound Brook (B)	0
Warren (T)	0
Watchung (B)	0
Somerset County Total:	14

Source: Somerset County Planning Division and County OEM, 2018

Shelters

Table 4-21 summarizes the number of emergency shelters in Somerset County.

Table 4-21. Shelter Facilities in Somerset County

Municipality	Number of Shelters
Bedminster (T)	3
Bernards (T)	9
Bernardsville (B)	7
Bound Brook (B)	5
Branchburg (T)	3
Bridgewater (T)	8
Far Hills (B)	2
Franklin (T)	5
Green Brook (T)	2
Hillsborough (T)	14
Manville (B)	3
Millstone (B)	3
Montgomery (T)	1
North Plainfield (B)	2
Peapack Gladstone (B)	3
Raritan (B)	1
Rocky Hill (B)	1
Somerville (B)	5
South Bound Brook (B)	4
Warren (T)	6
Watchung (B)	1
Somerset County Total:	88

Source: American Red Cross- National Shelter System (NSS), Somerset County Municipal and County OEM Coordinators, Sept. 2018

Schools

Table 4-22 summarizes the number of public and private schools in Somerset County (excludes pre-school and daycare facilities unless they are combined with kindergarten and higher grade levels).

Table 4-22. Schools in Somerset County

Municipality	Number of Schools
Bedminster (T)	3
Bernards (T)	11
Bernardsville (B)	5
Bound Brook (B)	6
Branchburg (T)	5
Bridgewater (T)	18
Far Hills (B)	1
Franklin (T)	19
Green Brook (T)	2
Hillsborough (T)	13
Manville (B)	4
Millstone (B)	0
Montgomery (T)	9
North Plainfield (B)	10
Peapack Gladstone (B)	1
Raritan (B)	2
Rocky Hill (B)	0
Somerville (B)	5
South Bound Brook (B)	1
Warren (T)	8
Watchung (B)	3
Somerset County Total:	126

Source: Somerset County IT: NJGIN, New Jersey Schools: Public, Private and Charter, 2018 and Somerset County Planning Division, 2018

Senior Facilities

Table 4-23 summarizes the number of senior centers and senior housing (includes a range of age-restricted housing types including supported group homes, assisted living facilities, continuing care retirement communities and senior apartments) in Somerset County.

Table 4-23. Senior Facilities in Somerset County

Municipality	Number of Senior Facilities
Bedminster (T)	1
Bernards (T)	9
Bernardsville (B)	1
Bound Brook (B)	1
Branchburg (T)	1
Bridgewater (T)	18
Far Hills (B)	1

Municipality	Number of Senior Facilities
Franklin (T)	16
Green Brook (T)	2
Hillsborough (T)	9
Manville (B)	2
Millstone (B)	0
Montgomery (T)	8
North Plainfield (B)	0
Peapack Gladstone (B)	2
Raritan (B)	3
Rocky Hill (B)	0
Somerville (B)	1
South Bound Brook (B)	2
Warren (T)	6
Watchung (B)	4
Somerset County Total:	87

Source: 2014 Somerset County Hazard Mitigation Plan, updated by the Somerset County Planning Division, 2018

Transportation Systems

This section summarizes available inventory data for roadways, airports, railways and other transportation systems in Somerset County.

Highway, Roadways and Associated Systems

Interstate 287, State Highway 27, and U.S. Highway 206 are the major north-south routes in the County. The major east-west routes include Interstate 78, U.S. Highways 22 and 202, and State Highway 28. These are also the routes expected to be used in a major countywide evacuation. Alternate north-south evacuation routes include County Routes 523, 525, 527, 531 and 533; alternate east-west routes include County Routes 512, 514, 518, 523, 525, 531, 533, 567 and 601. (Somerset County Emergency Operations Plan – Evacuation Annex, Date Unknown) In terms of bridges, there are 773 highway bridges located throughout the County. Highway bridges are too numerous to list or display on a map but were included as part of the inventory for the risk assessment.

Airports and Heliports

Table 4-24 summarizes the airports and heliports in Somerset County.

Table 4-24. Airports/Heliports in Somerset County

Municipality	Number of Airports/Heliports
Bedminster (T)	15
Bernards (T)	1
Bernardsville (B)	0
Bound Brook (B)	0
Branchburg (T)	1
Bridgewater (T)	3
Far Hills (B)	0
Franklin (T)	1

Municipality	Number of Airports/Heliports
Green Brook (T)	0
Hillsborough (T)	1
Manville (B)	0
Millstone (B)	0
Montgomery (T)	2
North Plainfield (B)	0
Peapack Gladstone (B)	0
Raritan (B)	0
Rocky Hill (B)	0
Somerville (B)	1
South Bound Brook (B)	0
Warren (T)	1
Watchung (B)	0
Somerset County Total:	26

Sources: NJ GIS Transportation, Division of Aeronautics, September 21, 2016
<https://www.state.nj.us/transportation/gis/maps/heliports.pdf> and County Planning Division, 2018

Public Transportation

Somerset County is served primarily by New Jersey Transit bus and rail lines, offering service throughout the County and other major stations including Hoboken and Newark/New York Penn Stations. Tables 4-25 and 4-26 list the railroad facilities and bus facilities located in the County.

NJ Transit provides passenger rail service on the Raritan Valley Line, which is accessed from five (5) stations located in Somerset County. Some of the stations along the corridor to the east include Dunellen, Westfield, Union, Newark (Penn Station), Hoboken and Penn Station in New York City (A change of trains may be required in Newark Penn Station to get to New York- Penn Station). Stations to the west include White House, Lebanon, Annandale and High Bridge. NJ Transit also provides passenger rail service on the Gladstone Branch of the Morris & Essex Line, which connects to stations to the east including Millington, Berkeley Heights, Short Hills, Hoboken and New York- Penn Station. Stations to the west along this line include Chatham, Denville and Hackettstown.

NJ Transit operates six (6) public transit buses that serve Somerset County: 1) Access Link, 2) 114/117, 3) 65/66, 4) 822, 5) 605 and 6) WHEELS 986. Somerset County is also served by the following private bus carriers which provide regional service between Somerset County and New York City: 1) Lakeland Bus, 2) Suburban Transit and 3) Trans-Bridge. In addition, Somerset County operates its own public transit routes and para-transit services (CAT-1R, CAT-2R, CAT-3R, DASH (Bound Brook to New Brunswick) and SCOOT (Bedminster, Bound Brook, Bridgewater, Hillsborough, Manville and Somerville). One public transit route (Link 23) serves portions of Somerset County and is operated by the County of Hunterdon. For more information about public and private passenger rail and bus transit services available in Somerset County, please visit the RideWise website at the following link: <https://ridewise.org/>.

Public and private bus and van transportation service providers located in Somerset County are listed in Table 4-26.

Somerset County is traversed by three major freight rail systems. Norfolk Southern operates an intermodal network that links to major container ports and other freight carriers in the eastern United States which extends through Somerset County. CSX also operates freight rail facilities including the Trenton Line and a major rail yard in Manville. To a lesser degree, Conrail Shared Assets (CSAO) also operates in Somerset County. Additionally, there are 10 railroad bridges located throughout the County.

Table 4-25. Railroad Facilities in Somerset County

Municipality	Number of NJ Transit Railroad Facilities
Bedminster (T)	0
Bernards (T)	2
Bernardsville (B)	1
Bound Brook (B)	1
Branchburg (T)	1
Bridgewater (T)	2
Far Hills (B)	1
Franklin (T)	0
Green Brook (T)	0
Hillsborough (T)	0
Manville (B)	1
Millstone (B)	0
Montgomery (T)	0
North Plainfield (B)	0
Peapack Gladstone (B)	2
Raritan (B)	1
Rocky Hill (B)	0
Somerville (B)	1
South Bound Brook (B)	0
Warren (T)	0
Watchung (B)	0
Somerset County Total:	13

Source: NJ Transit and Somerset County Planning Division, 2018

Table 4-26. Bus and Van Transportation Service Providers and Facilities (Public and Private) in Somerset County

Municipality	Number of Bus Facilities
Bedminster (T)	1
Bernards (T)	2
Bernardsville (B)	0
Bound Brook (B)	0
Branchburg (T)	0
Bridgewater (T)	5
Far Hills (B)	0
Franklin (T)	1
Green Brook (T)	0
Hillsborough (T)	4
Manville (B)	1
Millstone (B)	0
Montgomery (T)	2

Municipality	Number of Bus Facilities
North Plainfield (B)	1
Peapack Gladstone (B)	0
Raritan (B)	0
Rocky Hill (B)	0
Somerville (B)	1
South Bound Brook (B)	0
Warren (T)	1
Watchung (B)	0
Somerset County Total:	19

Source: Somerset County Planning Division and RideWise 2018

Lifeline Utility Systems

This section presents potable water, wastewater, and energy resource utility system data. Due to heightened security concerns, local utility lifeline data sufficient to complete the analysis have only partially been obtained.

Potable Water Supply

New Jersey American Water (NJAW) supplies water to all communities in Somerset County (only a small portion of Franklin Township), except Rocky Hill. Franklin Township Public Works Water Division purchases water in bulk from NJAW. (Sleeper, 2008) The following lists identify the communities that are served by the NJAW's Short Hills system and the NJAW's Raritan system:

NJAW Short Hills System:

- Bedminster Township
- Bernards Township
- Bernardsville
- Far Hills

NJAW Raritan System:

- Bound Brook
- Branchburg
- Bridgewater
- Franklin
- Green Brook
- Hillsborough
- Manville
- Millstone
- Montgomery
- North Plainfield
- Peapack-Gladstone
- Raritan
- Somerville
- South Bound Brook
- Warren
- Watchung

Somerset County's potable water supply is derived primarily from surface water sources. According to NJ American Water Co (NJAW), the Raritan system's primary surface water sources are the Raritan River, Millstone River and the Delaware and Raritan Canal, with their flow augmented by Spruce Run and Round Valley Reservoirs discussed below. According to NJAW, 92 percent of the water supply in the NJAW Raritan System in 2018 is treated surface water. Source water for the Somerset County portion of the Short Hills system is from the Raritan River, Millstone River, Delaware and Raritan Canal and Passaic River (via water purchased from the Passaic Valley Water Commission). Additionally, a

small portion of the water supply is well water from wellfields distributed throughout the system. (Sleeper, 2008) Table 4-27 below indicates the dependence on groundwater (well-water) by municipality.

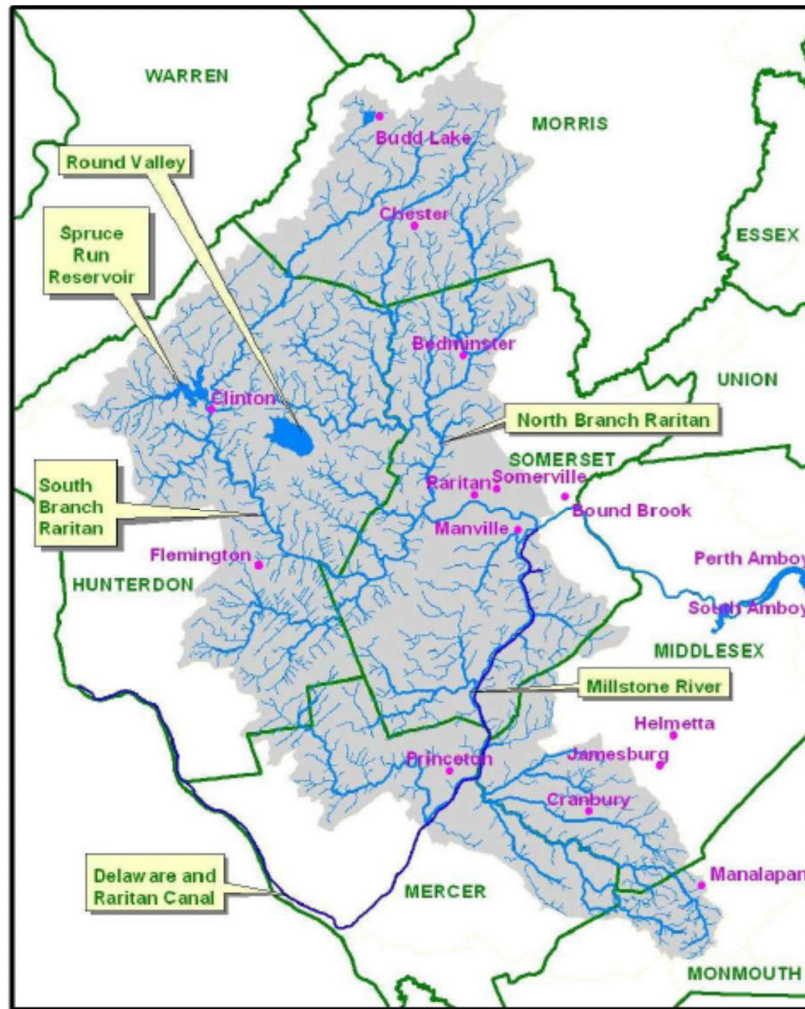
Table 4-27. Percent Groundwater (well water) Usage by Municipality

Municipality	% Ground-Water Usage
Bedminster Township	13.6%
Bernards Township	100%
Bernardsville Borough	100%
Bound Brook Borough	7.4%
Branchburg Township	35.3%
Bridgewater Township	23.3%
Far Hills Borough	100%
Franklin Township	12.8%
Green Brook Township	12.7%
Hillsborough Township	22.3%
Manville Borough	0.6%
Millstone Borough	56.7%
Montgomery township	26.3%
North Plainfield Borough	1.2%
Peapack and Gladstone Borough	11.0%
Raritan Borough	3.6%
Rocky Hill Borough	100%
Somerville Borough	0.7%
South Bound Brook Borough	8.8%
Warren Township	34.0%
Watchung Borough	28.8%
Somerset County Total:	28.6%

John Nawn, USGS, 2008

The New Jersey Water Supply Authority (NJWSA) operates Raritan Basin water supply facilities (Spruce Run Reservoir, Round Valley Reservoir and the Delaware and Raritan Canal) for the State of New Jersey and its residents (Figure 4-26). More than 1.5 million residents in central and northern New Jersey obtain their drinking water in part or wholly from water purveyors, which purchase water under contract from NJWSA, including residents of Somerset County. Additionally, water is purchased for irrigation, recreation and industrial uses. (NJWSA, 2018)

Figure 4-26. Raritan Basin



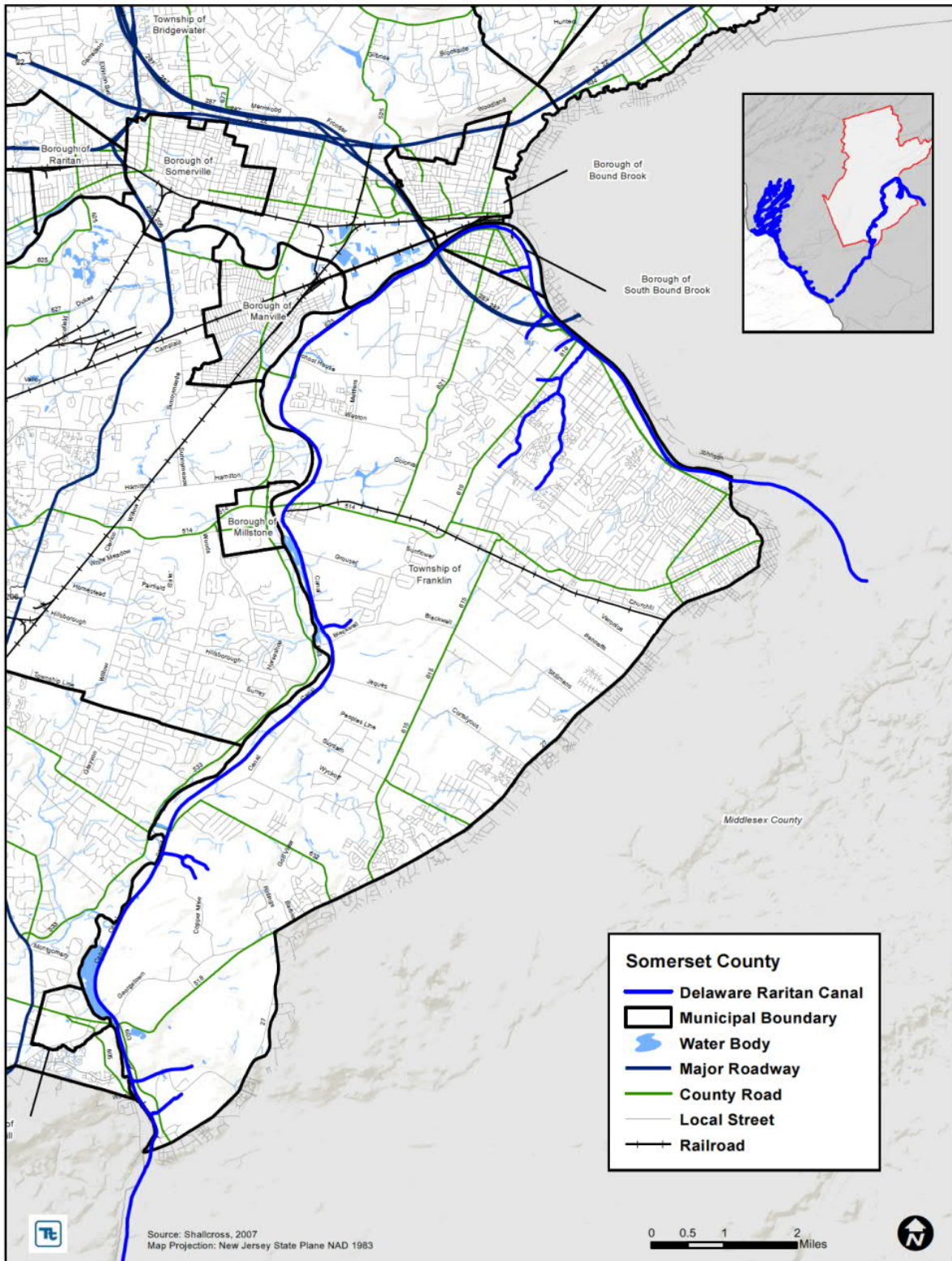
Source: NJWSA, 2005

The Raritan Basin is a surface water supply system consisting of an in-line reservoir (Spruce Run Reservoir), an offline reservoir (Round Valley Reservoir), and a water supply Canal (Delaware and Raritan Canal) that conveys water into the basin from the Delaware River. Spruce Run and Round Valley Reservoirs are located in Hunterdon County, and both are integral parts of the Somerset County potable water supply system. Round Valley and Spruce Run supply water to the North and South Branches of the Raritan River and Somerset County's surface water intakes are located near the confluence of the Millstone and Raritan Rivers. (NJWSA, 2018) North Brunswick has an intake on the Delaware and Raritan Canal located in Franklin Township. (Shallcross, 2008)

The Delaware and Raritan Canal is an inter-basin transfer (i.e., Delaware Basin water is transferred to the Raritan Basin via the Delaware and Raritan Canal). (NJWSA, 2018) The Delaware and Raritan Canal provides the raw water supply, wholly or in part, to five (5) major drinking water purveyors (Figure 4-27). Two of the purveyors are located in Somerset County. The Canal can be adversely affected by all hazards of concern discussed in this HMP, but primarily from flooding, severe storms, winter storms and drought. Inundation mapping for the Round Valley and Spruce Run Reservoirs was performed in the 1980s for the Operation and Maintenance Manual in accordance with N.J.A.C. 7:20-1.1. The Manual

included an Emergency Action Plan which contained a Dam Breach Analysis, Inundation Maps and Emergency Notification and Evacuation Plans. Damages are discussed in the severe storm and flood profiles (Sections 5.4.1 and 5.4.3). (Shallcross, 2007)

Figure 4-27. Delaware and Raritan Canal



Source: Shallcross, 2007

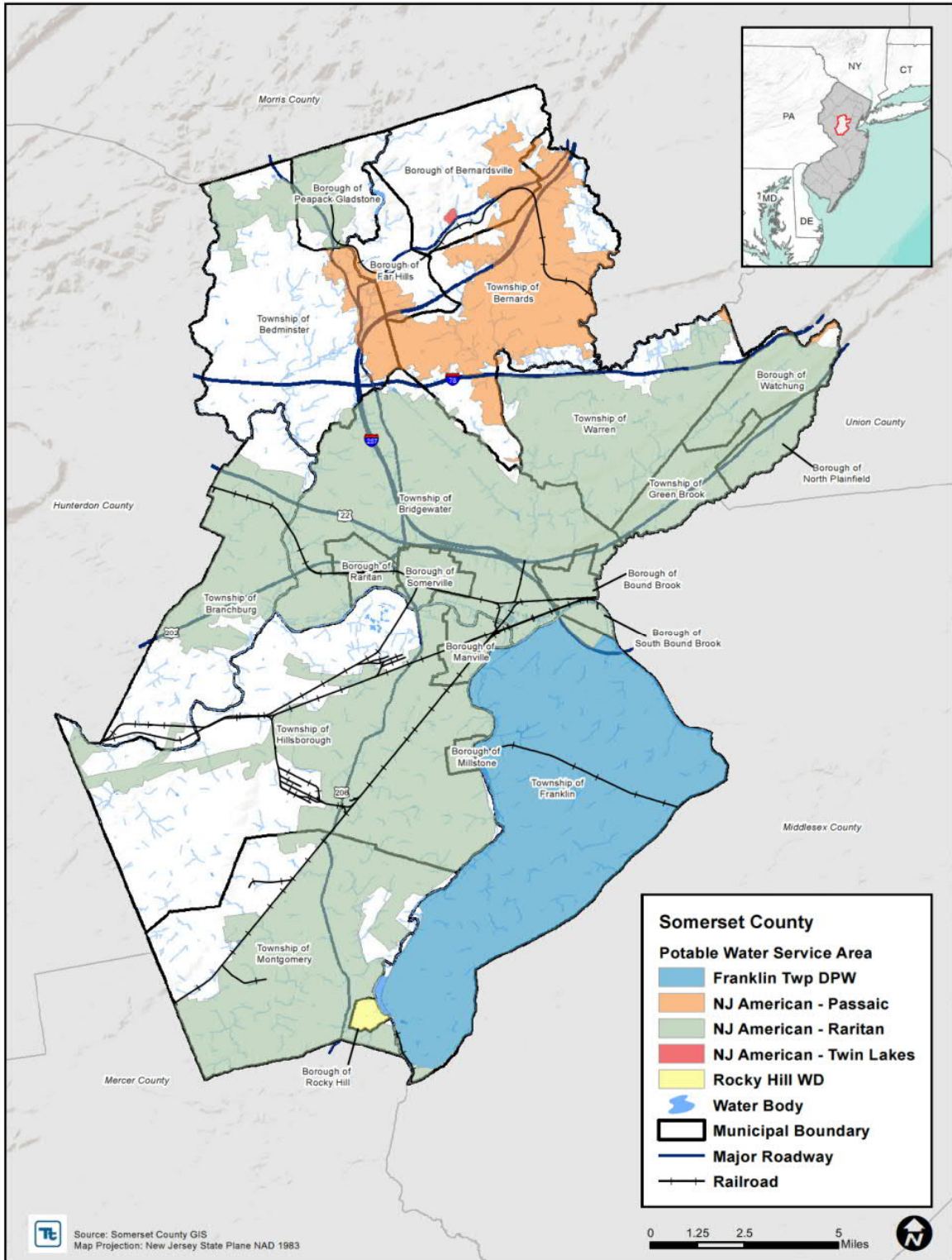
Table 4-28 lists the potable water facilities, tanks and wells located in Somerset County. Figure 4-28 illustrates the potable water services areas in the County.

Table 4-28. Somerset County Potable Water Facilities, Tanks and Wells

Municipality	Number of Facilities
Potable Water Facilities	
Bridgewater (T)	1
Franklin (T)	1
Montgomery (T)	1
Somerville (B)	1
Potable Water Tanks/Towers	
Bernards (T)	1
Franklin (T)	2
Manville (B)	2
Peapack Gladstone (B)	1
Potable Water Wells	
Bernards (T)	1
Bernardsville (B)	2
Bound Brook (B)	2
Branchburg (T)	3
Bridgewater (T)	5
Green Brook (T)	11
Montgomery (T)	11
North Plainfield (B)	3
Rocky Hill (B)	1
Potable Water Pump Station	
Branchburg (T)	1
Franklin (T)	5
Peapack Gladstone (B)	1

Source: Somerset County MIS, reviewed by Somerset County, 2018

Figure 4-28. Potable Water Purveyor Service Areas in Somerset County



Source: 2014 Somerset County Hazard Mitigation Plan

Wastewater Facilities

Table 4-29 summarizes the number of wastewater treatment facilities located in each municipality in Somerset County. Table 4-30 shows the number of wastewater pump stations in each municipality.

Table 4-29. Somerset County Wastewater Treatment Facilities

Municipality	Number of Surface Water Discharge Wastewater Treatment Facilities	Number of Groundwater Discharge Wastewater Treatment Facilities
Bedminster (T)	2	4
Bernards (T)	2	2
Bernardsville (B)	1	2
Bound Brook (B)	0	0
Branchburg (T)	1	1
Bridgewater (T)	1	1
Far Hills (B)	0	2
Franklin (T)	0	1
Green Brook (T)	0	0
Hillsborough (T)	1	5
Manville (B)	0	0
Millstone (B)	0	0
Montgomery (T)	6	13
North Plainfield (B)	0	0
Peapack Gladstone (B)	0	3
Raritan (B)	0	0
Rocky Hill (B)	0	0
Somerville (B)	0	2
South Bound Brook (B)	0	0
Warren (T)	3	2
Watchung (B)	0	1
Somerset County Total:	17	39

Source: Somerset County Planning Division, August 2018 (NJDEP Data miner accessed 8-16-18)

A map illustrating the wastewater service areas in Somerset County, adopted by the NJ Department of Environmental Protection in 2013 is posted on the Somerset County Planning Board website at the following link: <https://www.co.somerset.nj.us/government/public-works/planning/wastewater-plan/countywide-wmp-and-municipal-chapters>.

Energy Resources

JCP&L and PSE&G are the primary electric and gas utility companies in Somerset County. There are oil (Sun Pipe Line Company and Tidewater Oil), natural gas (Algonquin Gas Transmission Company and Texas Eastern Transmission Company), electric and communication (AT&T, Verizon, and Embarq) lines that run throughout the County. Utility companies have made a number of system repairs and upgrades since the 2014 HMP was developed. These improvements are described in the Final Energy Resiliency Framework included in Appendix L.

Table 4-30 summarizes the number of electric substations and transfer stations located in Somerset County.

Table 4-30. Number of Electric Substations and Transfer Stations in Somerset County

Municipality	Number of Electric Substations and Transfer Stations
Bedminster (T)	1
Bernards (T)	3
Bernardsville (B)	0
Bound Brook (B)	0
Branchburg (T)	1
Bridgewater (T)	6
Far Hills (B)	0
Franklin (T)	1
Green Brook (T)	0
Hillsborough (T)	2
Manville (B)	0
Millstone (B)	0
Montgomery (T)	2
North Plainfield (B)	0
Peapack Gladstone (B)	1
Raritan (B)	0
Rocky Hill (B)	0
Somerville (B)	2
South Bound Brook (B)	0
Warren (T)	1
Watchung (B)	0
Somerset County Total:	20

Source: Input from Planning Committee, Somerset County MIS (2008) and Somerset County Energy Council, 2018

Communication Resources

Somerset County's communities are served by between two and four ADSL, cable, fiber, fixed wireless, satellite and other fixed residential broadband providers as noted in data compiled by the Federal Communications Commission (FCC) December 2016. The County is also served by a variety of media outlets. Some of these media companies have their operations located within the County. The Townships of Franklin and Warren operate 911 Communications Centers. Somerset County operates a 911 Communications Center that serves the remaining (19) Somerset County municipalities at this time and provides assistance to Franklin and Warren Township and to the Morris County PSAPs when needed. The County's 911 Communications Center provides direct dispatch for 41 Fire agencies and 20 Emergency Medical Service (EMS) agencies throughout the County. A complete list of media entities serving Somerset County communities is included in Appendix M.

Table 4-31 summarizes the number of communication service providers and outlets located in Somerset County.

Table 4-31. Communication Services and Outlets Located in Somerset County

Municipality	Number of Communication Facilities
Bedminster (T)	0
Bernards (T)	2
Bernardsville (B)	2
Bound Brook (B)	1
Branchburg (T)	1
Bridgewater (T)	2
Far Hills (B)	0
Franklin (T)	5
Green Brook (T)	0
Hillsborough (T)	0
Manville (B)	0
Millstone (B)	0
Montgomery (T)	1
North Plainfield (B)	0
Peapack Gladstone (B)	0
Raritan (B)	0
Rocky Hill (B)	0
Somerville (B)	4
South Bound Brook (B)	0
Warren (T)	2
Watchung (B)	1
Somerset County Total:	21

Source: Somerset County Public Information Office, 2018 and <https://www.co.somerset.nj.us/government/public-health-safety/911-communications>

High-Potential Loss Facilities

High-potential loss facilities include dams, levees, hazardous materials facilities (HAZMAT), nuclear power plants and military installations. No nuclear power plants or military installations were identified in the County. Dams, levees and HAZMAT facilities are discussed below.

Dams and Levees

According to the New Jersey Department of Environmental Protection (NJDEP), there are four hazard classifications of dams in New Jersey. The classifications relate to the potential for property damage and/or loss of life should the dam fail:

- Class I (High-Hazard Potential) - Failure of the dam may result in probable loss of life and/or extensive property damage
- Class II (Significant-Hazard Potential) - Failure of the dam may result in significant property damage; however loss of life is not envisioned.
- Class III (Low-Hazard Potential) - Failure of the dam is not expected to result in loss of life and/or significant property damage.

- Class IV (Small-Dam Low-Hazard Potential) - Failure of the dam is not expected to result in loss of life or significant property damage.

According to the NJDEP Bureau of Dam Safety, Table 4-32 summarizes the number of dams that are located in Somerset County based upon their classification. Figure 4- 30 illustrates the locations of these dams.

Table 4-32. Dams in Somerset County

County	Total Count	High	Significant	Low	Other
Somerset	99	4	13	67	15

Source: NJDEP Bureau of Dam Safety, 2013; updated in 2018 to recognize removal of the Weston Mills Dam, which was permanently breached during the fall 2017.

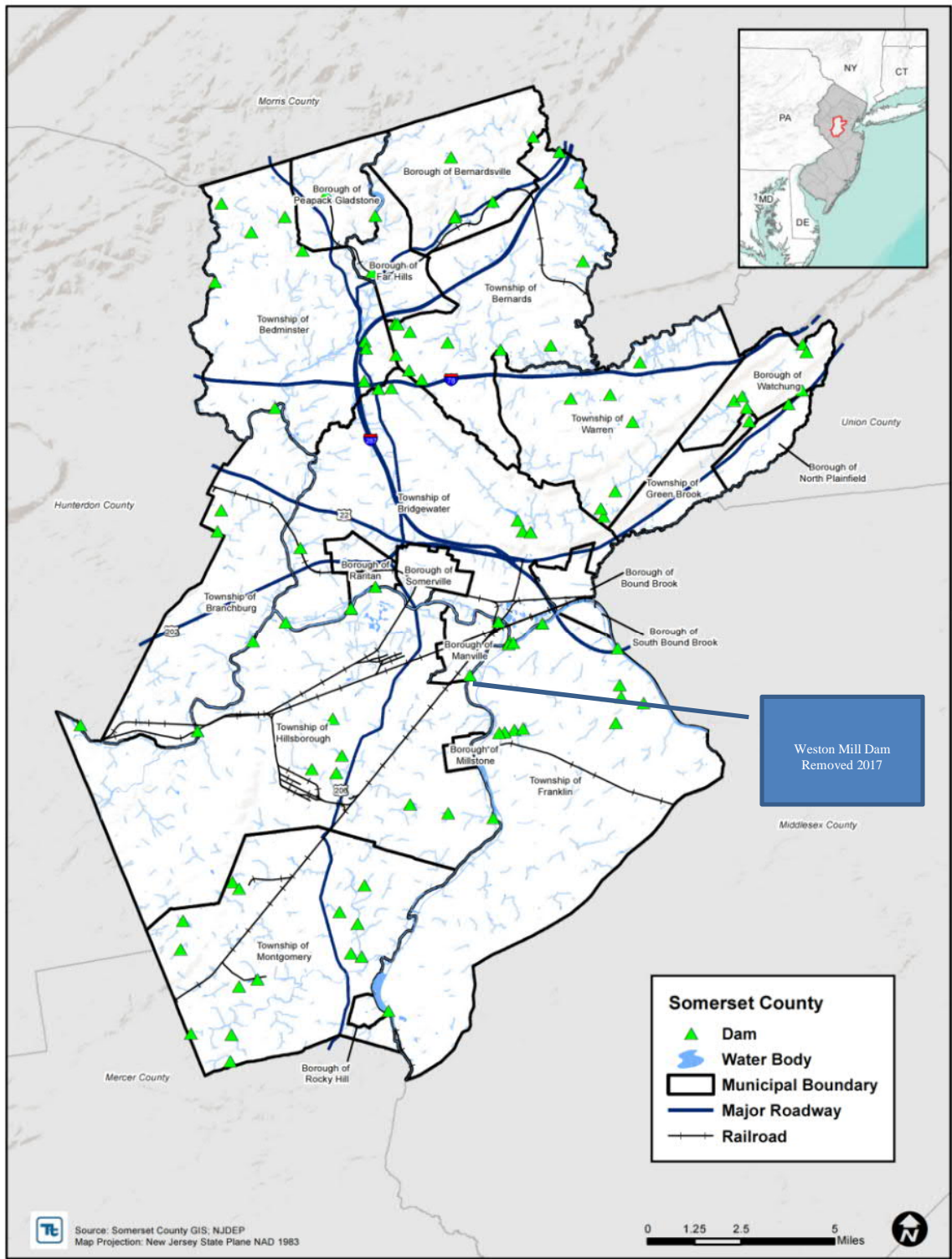
There are a total of 17 high or significant hazard dams located within Somerset County, and four have been designated as Class I dams with high hazard potential. (USACE National Inventory of Dams Query Summary, 2018; NJDEP Bureau of Dam Safety, 2018) Two of the four Class I dams have records of past flooding incidents. No new events have occurred since the plan's last update in 2014. See Table 4-33. An additional 67 dams present low hazard potential. Dam locations are shown on Figure 4-30.

Table 4-33. High Hazard Dams in Somerset County

NID ID	Dam Name	Dam Type	Location	Main Purpose	Dam Height (ft.)	Dam Storage (acre-feet)	Dam Hazard Classification	Incident Date	Incident Description
NJ00372	West Branch Reservoir Dam	Earth Gravity	Bridgewater Township	Recreation	39	465	High	8/1/71	The dam was overtopped by flooding waters in the storm of August, 1971, resulting in considerable erosion of the downstream embankment.
NJ00373	East Branch Reservoir Dam	Concrete	Bridgewater Township	Recreation	32	77	High	No reported incidents	No reported incidents in the NPDP database.
NJ00767	Watchung Lake Dam	Earth Gravity	Watchung Borough	Recreation	19	175	High	9/16/99	The DIN indicates that the incident occurred during 9/16-17/99. Investigation on 9/20/99 revealed that the dam performed as designed and safely passed the flood. The peak of the floodwater came within two inches of flowing over the gabion protection on the right side of the dam. No flow was noted on the right abutment. Water did flow over the left abutment and down Stirling Road. Water flow from the concrete overflow spillway and that flowing in the groin of the dam resulted in a significant washout (6 to 8 feet deep along the toe of the dam at the left groin, exposing the entire concrete cutoff. Only minor undercutting (4 to 6 inches) of the concrete cutoff occurred. The remains in the bottom of this erosion consist of large boulders and stone. It was determined that the erosion does not pose a serious threat to the integrity of the dam and no emergency work would be necessary. The Township will need to obtain an engineer to design a proper repair to the toe of the dam.
NJ00362	Ravine Lake Dam	Rockfill Masonry	Peapack Borough	Recreation	45	320	High	No reported incidents	No reported incidents in the NPDP database.

Sources: USACE National Inventory of Dams Query Summary, 2018; NJDEP Bureau of Dam Safety, 2018.

Figure 4-30. Dams in Somerset County



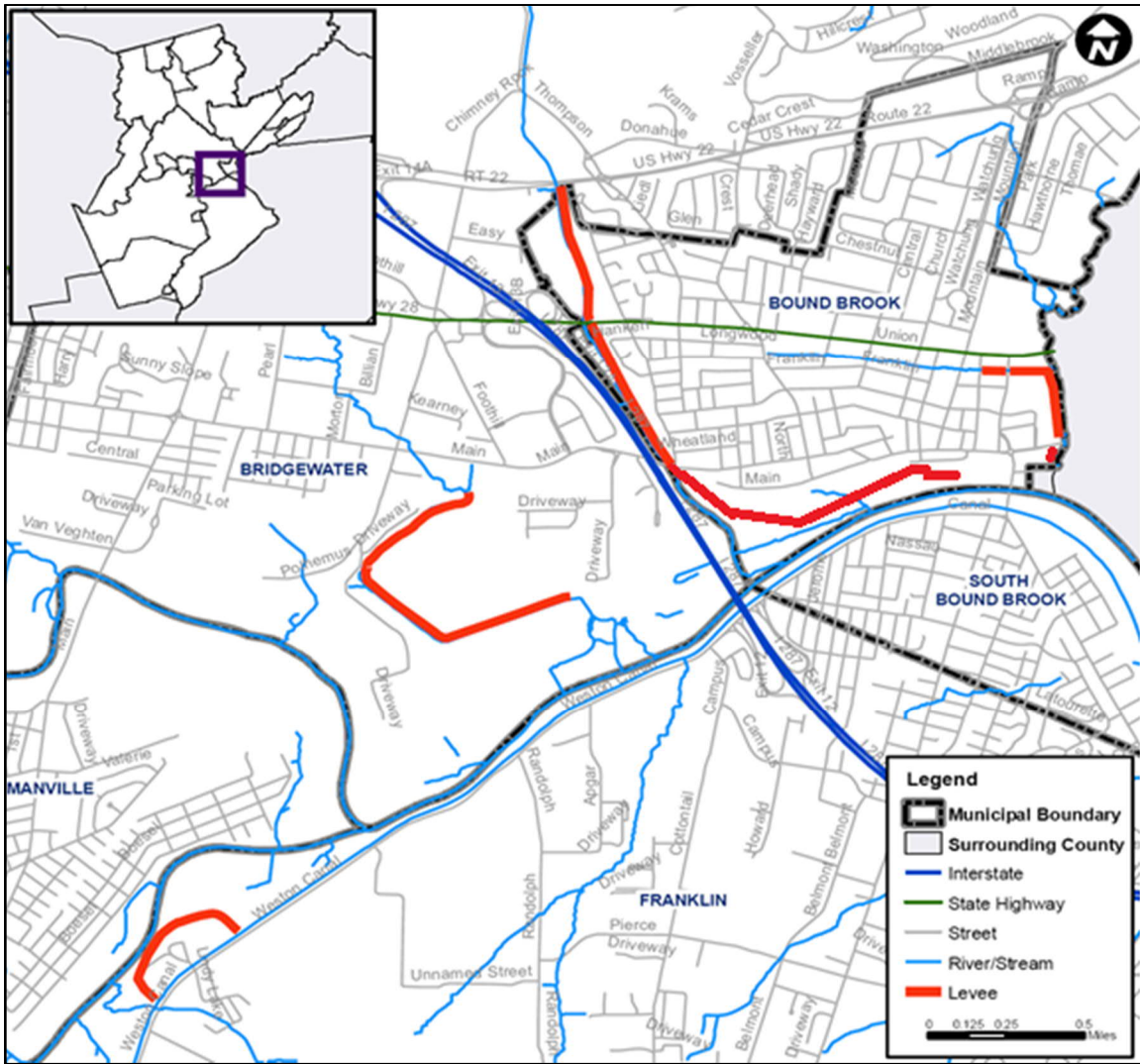
Source: Somerset County GIS; NJDEP, 2013
 Note: the Weston Mills Dam was permanently breached in the fall 2017 and is no longer present. This map includes the 17 dams that meet NID criteria as well as numerous other smaller dams.

Two additional dams/reservoirs of importance to Somerset County are the Spruce Run and Round Valley dams located to the west in Hunterdon County, discussed earlier under Potable Water. The Spruce Run Dam is a 6,000 foot long earthen dam for the 11 billion-gallon on-stream water storage Spruce Run Reservoir. The Round Valley Dams (2 earthen dams) were constructed to develop the 55 billion-gallon water storage Round Valley Reservoir. Both reservoirs are an integral part of a water supply system that also consists of the Delaware & Raritan Canal. (NJWSA, Date Unknown) The concern for potential flash flooding from these dams is discussed in the Flood Profile in Section 5.4.3 of this Plan.

As provided by Somerset County, five levees in the County are shown in Figures 4-32 and 4-33. The levee in Zarephath (Franklin Township) was built in the floodplain of the Millstone River to protect the Alma White College buildings and grounds (now the Somerset Christian College). According to the Somerset County Flood Insurance Study (Volume 1 of 5), the 100-year flood profile is below the top of the levee (42 feet NGCD 29). In 1974, a dike/levee in Bridgewater was built to protect the American Cyanamid Company along Cuckels Brook from the 100-year flood. The Newell Drive Berm in Bernards Township is located along the west bank of Harrison Brook. Both the levee in Bridgewater and Bernards do not meet FEMA's minimum 3-foot freeboard requirement to protect to the 100-year flood. (FEMA, 2007) In 2006, two levees were built on the western and eastern sides of Bound Brook Borough and according to the Green Brook Flood Project Floodplain Management Plan, were designed to provide protection from a 150-year flood. The levee on the west side of Bound Brook is located along Middle Brook and the levee on the east side is located along Green Brook. (USACE, 2005)

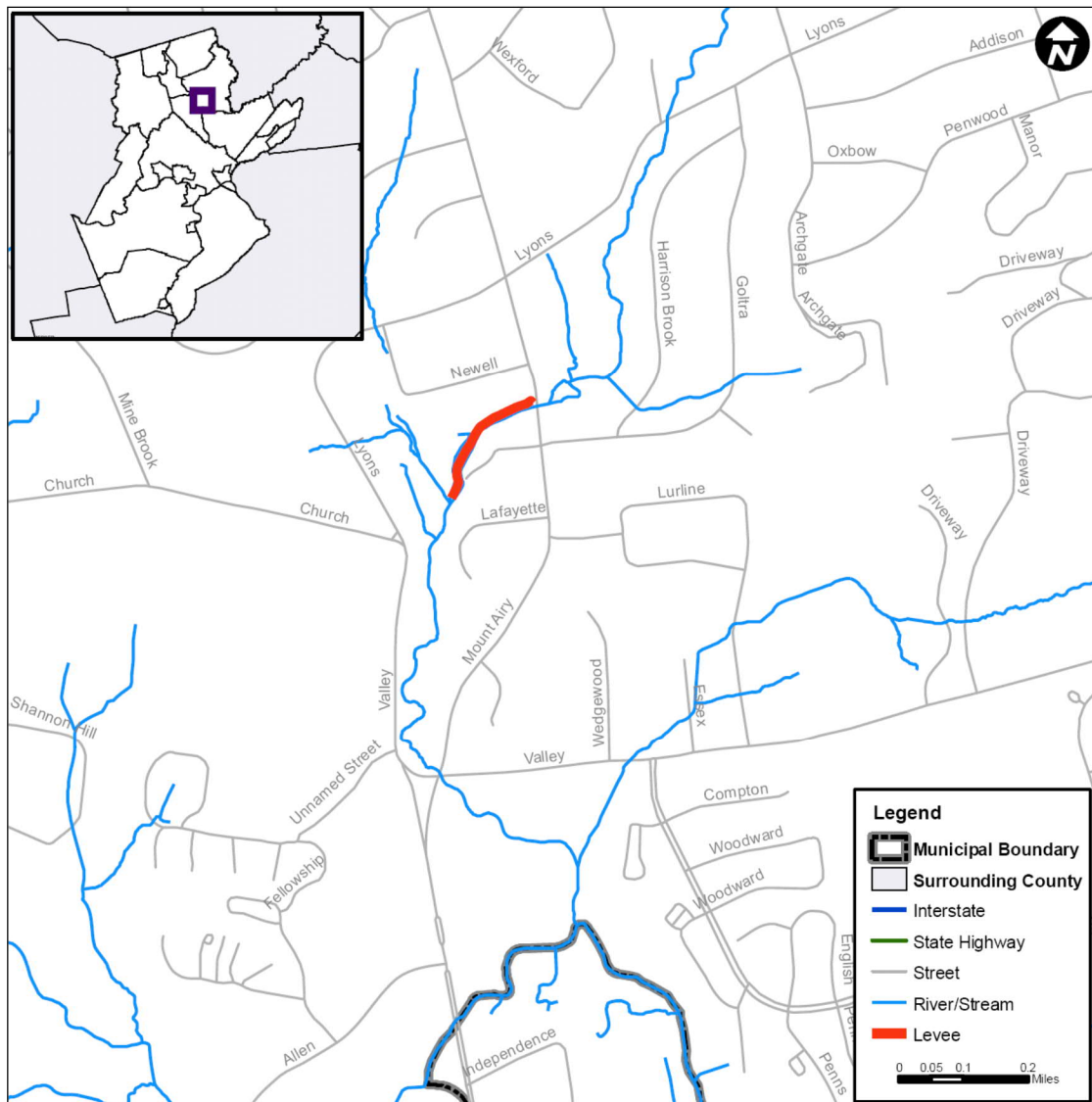
The flood analysis in Section 5.4.3 of this plan addresses the dams and levees that were included in the hydrologic and hydraulic modeling to complete the Digital Flood Insurance Rate Maps for Somerset County (effective September 28, 2007 for most panels and November 4, 2016 for certain areas updated to reflect the USACE Green Brook Flood Risk Reduction Project).

Figure 4-31. Levees in Bound Brook, Bridgewater and Franklin



Source: Somerset County Engineering; Somerset County MIS, updated 2018 to reflect USACE Green Brook FRRP

Figure 4-32. Levees in Bernards Township



Source: Somerset County Engineering; Somerset County MIS

HAZMAT Facilities

The U.S. Environmental Protection Agency's (EPA) 2016 Toxics Release Inventory (TRI) database (released March 2018) indicates there are 19 TRI facilities in Somerset County (for purposes of comparison, there were 22 facilities reported in the agency's 2005 TRI database). TRI facilities are those required to report on chemical storage and use based on particular volumes of specified chemicals stored and used. (USEPA, 2007) NJDEP Bureau of Release Prevention identifies nine regulated facilities in the County where an extraordinarily hazardous substance may be present or generated above regulatory levels that are subject to the Toxic Catastrophe Prevention Act, (N.J.S.A. 13:1K-19 et seq.) and the regulations arising from the Act as codified in N.J.A.C. 7:31. (NJDEP, 2007; NJDEP, 2018)

Other Facilities

The Planning Committee identified additional facilities (user-defined facilities) as critical including municipal buildings and Department of Public Works facilities. These facilities were included in the risk assessment conducted for the County. Table 4-34 summarizes the number of other critical facilities located within Somerset County.

Table 4-34. Other Facilities in Somerset County

Municipality	Number of DPW Facilities	Number of Town Halls	Number of County Facilities
Bedminster (T)	1	1	0
Bernards (T)	1	1	1
Bernardsville (B)	1	1	0
Bound Brook (B)	1	1	0
Branchburg (T)	1	1	1
Bridgewater (T)	3	1	8
Far Hills (B)	0	1	0
Franklin (T)	1	1	1
Green Brook (T)	1	1	0
Hillsborough (T)	2	1	2
Manville (B)	1	1	1
Millstone (B)	0	1	0
Montgomery (T)	1	1	0
North Plainfield (B)	2	1	0
Peapack Gladstone (B)	2	1	0
Raritan (B)	1	1	1
Rocky Hill (B)	0	1	0
Somerville (B)	1	1	11
South Bound Brook (B)	1	1	0
Warren (T)	1	1	1
Watchung (B)	1	1	0
Somerset County Totals	23	21	27

Source: Somerset County Hazard Mitigation Plan, 2014, updated by the Somerset County OEM, 2018