



SECTION 4 COUNTY PROFILE

This profile describes the general information of Sussex County (physical setting, population and demographics, general building stock, and land use and population trends) and critical facilities located in Sussex 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).

2016 HMP UPDATE CHANGES

- The County Profile Section contains updated information regarding the Sussex County's physical setting, population and demographics and trends, general building stock, land use and trends, and critical facilities. Additionally, future development trends in the county are now included in Section 4.

4.1 GENERAL INFORMATION

Sussex County is the northern most county in the State of New Jersey. It is bordered to the north by New York State, to the south by Warren and Morris Counties, to the east by Passaic County and to the west by the Delaware River and the Commonwealth of Pennsylvania. Historically, Sussex County has been a scenic, rural county with small municipalities, plenty of open space, and agriculture. Figure 4-1 illustrates Sussex County, its municipalities, and the surrounding jurisdictions.

4.1.1 Physical Setting

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

Hydrography and Hydrology

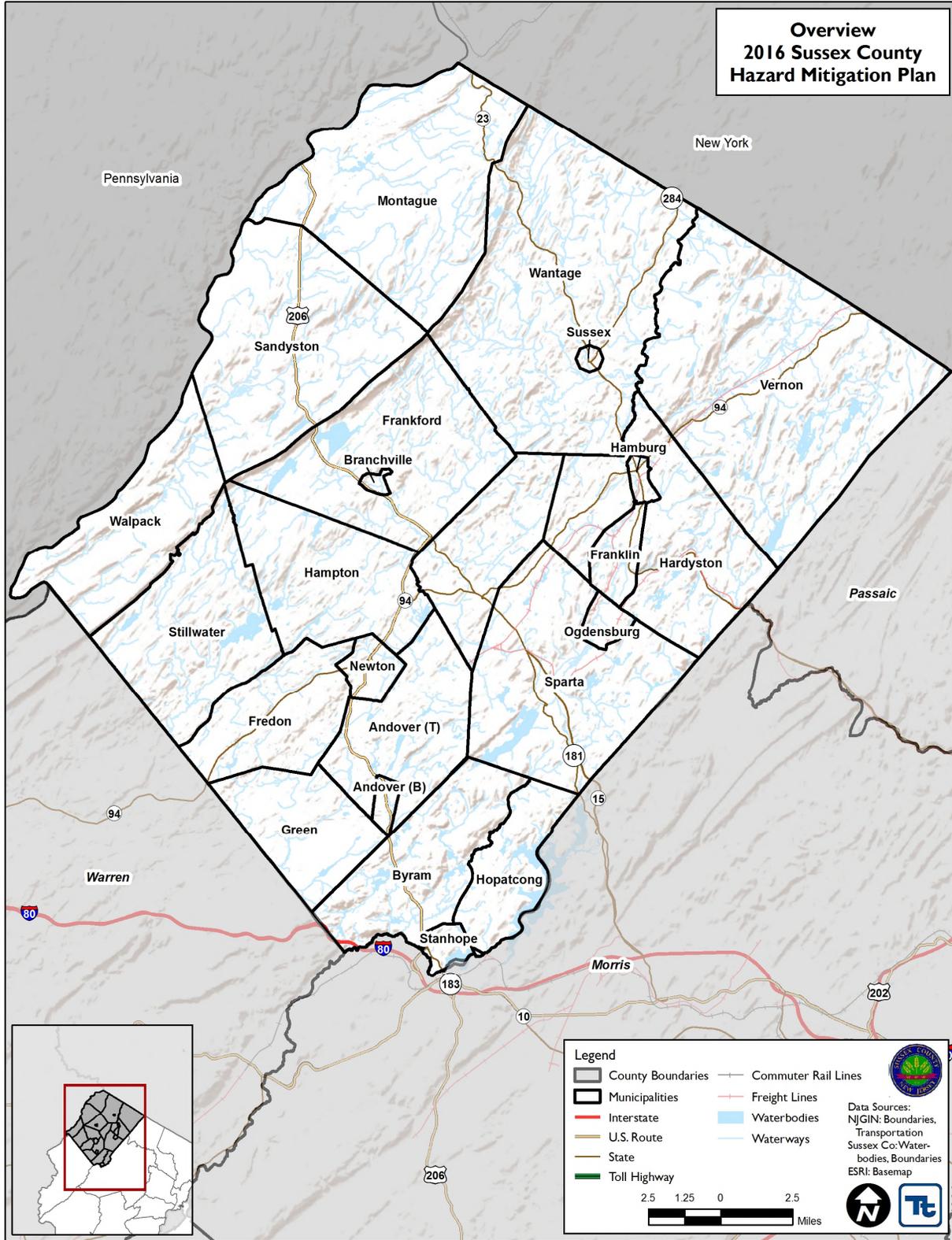
Numerous ponds, lakes, creeks, and rivers make up the waterscape of Sussex County. Most of the lakes in the County are found generally in two areas: along the eastern slope of the Kittatinny Ridge and in the Highlands province of eastern Sussex County. These areas are where topography and geology support the development of lakes. Most of the lakes serve recreational purposes and were developed as vacation areas in the past. The most prominent lakes in Sussex County include Lake Hopatcong (largest in New Jersey), Culvers Lake, Lake Owassa, Big Swartswood Lake, Lake Mohawk, Highland Lake, and Wawayanda Lake. Rivers and streams in Sussex County include: Delaware River, Walkkill River, Flat Brook, Paulins Kill, Pequest River, Musconetcong River, Clove Brook, Mill Brook, Kymer Brook, Lubbers Run, Papakating Creek, Pochuck Creek, Waywayanda Creek, Black Creek, Pequannock River, Pacack Brook, Russia Brook, and Rockaway River. Figure 4-2 illustrates the location of these waterbodies in the county.

Delaware River Basin

The Delaware River is the longest un-dammed river in the United States east of the Mississippi River. It extends 330 miles from the confluence of its east and west branches at Hancock, New York to the mouth of the Delaware Bay where it meets the Atlantic Ocean. The Delaware River is fed by 216 tributaries. Overall, the Delaware River Basin contains 13,359 square miles, draining parts of Pennsylvania, New Jersey, New York, and Delaware. Included in the total area is the 782 square mile Delaware Bay (Delaware River Basin 2013).



Figure 4-1. Sussex County, New Jersey

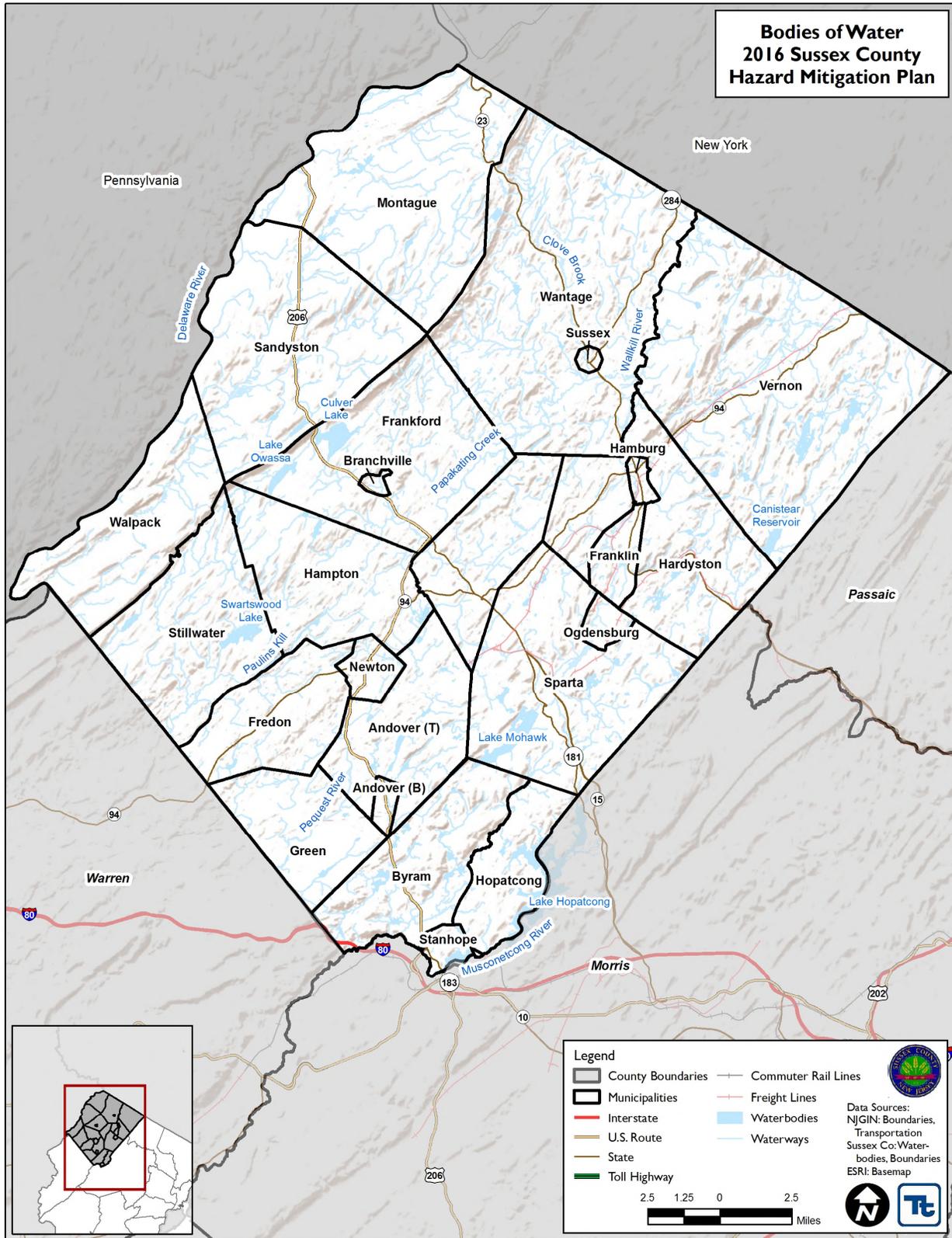


Source: NJGIN, Sussex County





Figure 4-2. Bodies of Water in Sussex County



Source: NJGIN, Sussex County





Watersheds

A watershed is the area of land that drains into a body of water such as a river, lake, stream, or bay. It is separated from other systems by high points in the area such as hills or slopes. It includes not only the waterway itself but also the entire land area that drains to it. Drainage basins generally refer to large watersheds that encompass the watersheds of many smaller rivers and streams.

In New Jersey, the state is divided into 20 Watershed Management Areas (WMA), which are made up of smaller watersheds. Sussex County is located in four of the 20 WMAs that are discussed further below: Upper Delaware (WMA 1); Wallkill (WMA 2); Pompton, Pequannock, Wanaque, Ramapo (WMA 3) and Upper Passaic, Whippany and Rockaway (WMA 6). Figure 4-3 illustrates the watersheds of the State of New Jersey including Sussex County.

Watershed Management Area 1: Upper Delaware

WMA 1 includes portions of Sussex, Morris, and Hunterdon Counties and all of Warren County. This area is also known as the Upper Delaware River Watershed and encompasses 746 square miles in the northwest corner of New Jersey. Within WMA 1, there are six major drainage basins: Delaware River, Flat Brook, Paulins Kill, Pequest River, Lopatcong and Pohatcong River Drainage, and the Musconetcong River (NJDEP 2012).

In Sussex County, WMA 1 is located in the western and southern sections of the county and encompasses greater than half of the county's land area. Principal waterways in Sussex County's portion of WMA 1 include: Flat Book, Paulins Kill, Pequest River, and a short stretch of the Musconectong River (NJDEP 2012).

Watershed Management Area 2: Wallkill River Watershed

This WMA is also known as the Wallkill River Watershed and includes 11 Townships in Sussex County. The Wallkill River Watershed is unique in that its headwaters begin at Lake Mohawk in Sparta Township and then flow north into New York, eventually emptying into the Hudson River. Within WMA 2, there are four subwatersheds: the Wallkill River, Pochuck Creek, Papakating Creek and Rutgers Creek Tributaries (NJDEP 2012).

The Wallkill Watershed is approximately 208 square miles in area, and is comprised of a variety of land uses including rural and centralized residential development, agriculture, commercial, recreational and industrial usage. Also located within this watershed area is the Wallkill National Wildlife Refuge. The refuge watershed/wetlands complex provides migratory and nesting habitats for numerous birds and waterfowl and is home to several endangered species (NJDEP 2012).

WMA 2 occupies the northern and northeastern parts of Sussex County, extending south through Sparta and northern Byram Townships. The Wallkill River flows northeast into New York State, where it empties into the Hudson River near Kingston, New York. Major tributaries of the Wallkill River include Papakating Creek which begins its run in Frankford Township and Clove Brook which flows south from northern Wantage Township. Pochuck Creek is another major tributary which drains part of Vernon and Hardyston Townships east of Pochuck Mountain and enters the Wallkill River several miles into New York State (NJDEP 2012).

Watershed Management Area 3: Pompton, Pequannock, Wanaque, Ramapo Watersheds

WMA 3 is located within the Highlands Province of New Jersey. The Pequannock, Wanaque and Ramapo Rivers all flow into the Pompton River. The Pompton River is, in turn, a major tributary to the Upper Passaic River. WMA 3 contains some of the State's major water supply reservoir systems including the Wanaque Reservoir which is the largest surface water reservoir in New Jersey. There are four watersheds in WMA 3:



Pompton, Ramapo, Pequannock and Wanaque River Watersheds. WMA 3 lies mostly in Passaic County but also includes parts of Bergen, Morris and Sussex Counties (NJDEP 2012).

The Pequannock River Watershed occupies a small area of eastern Sussex County. It flows south out of Vernon Township and continues into Hardyston Township where it turns southeast, forming the border between Morris and Passaic Counties. The Pequannock's confluence with the Passaic River occurs at the eastern end of the Great Piece Meadows, where Morris, Passaic and Essex Counties meet. For most of its run in Sussex County, the Pequannock River flows through Newark's water supply management lands (NJDEP 2012).

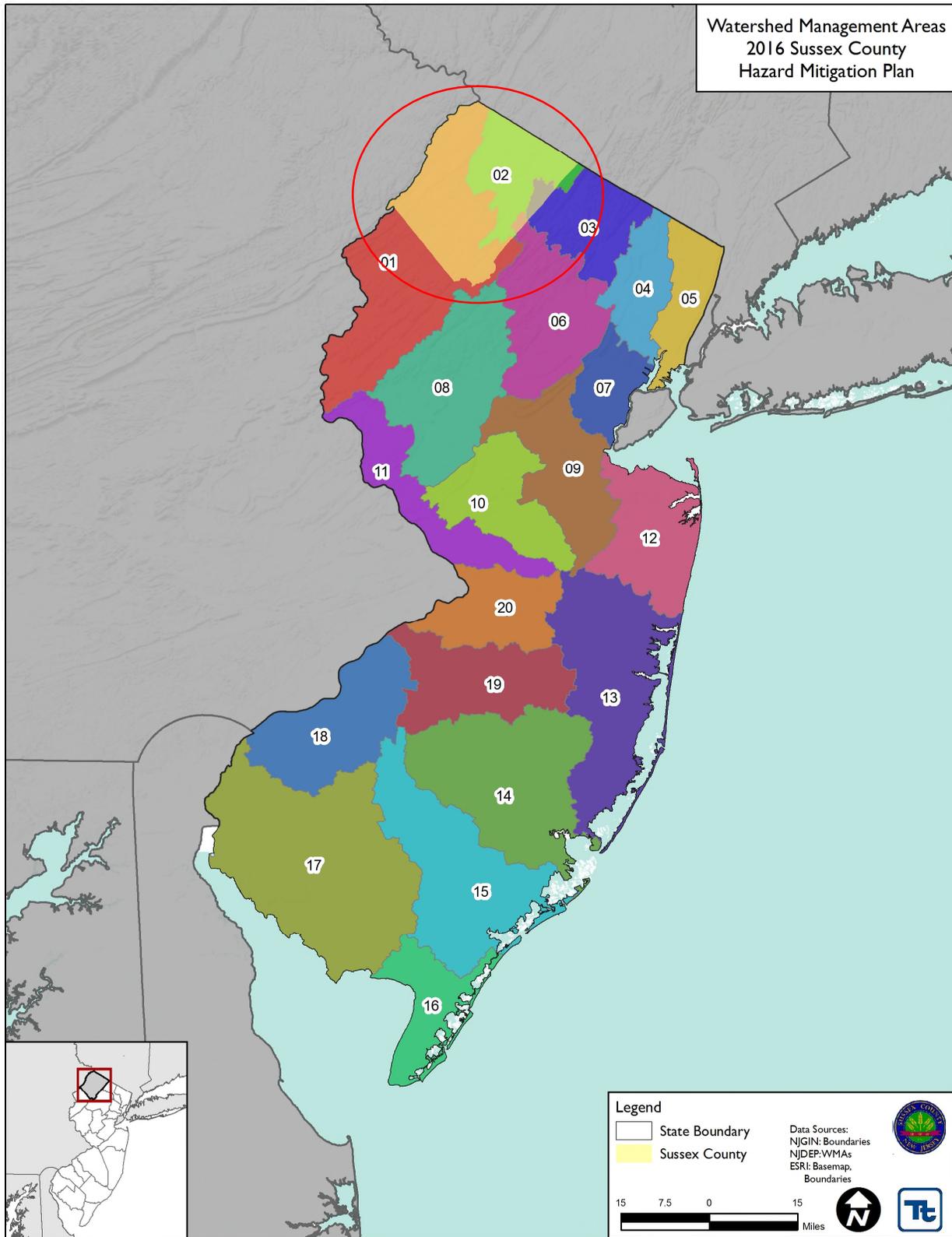
Watershed Management Area 6: Upper and Mid Passaic, Whippany, Rockaway Watersheds

WMA 6 represents the area drained by waters from the upper reaches of the Passaic River Basin including the Passaic River from its headwaters in Morris County to the confluence of the Pompton River. WMA 6 is characterized by extensive suburban development and reliance upon ground water sources for water supply. WMA 6 lies in portions of Morris, Somerset, Sussex and Essex Counties and includes the Upper and Middle Passaic River, Whippany River and Rockaway River Watersheds (NJDEP 2012).

The Rockaway River begins in Jefferson Township and its system's upper reaches are in eastern Sparta Township, where several streams merge to form Russia Brook. Russia Brook flows into Jefferson Township where it meets the Rockaway River below Lake Swannanoa. From there, the Rockaway River flows into the Passaic River (NJDEP 2012).



Figure 4-3. Watersheds of New Jersey



Source: NJDEP
Note: The location of Sussex County is depicted by the red circle.





Topography and Geology

The topography of Sussex County is among the most diverse in the State of New Jersey. The eastern two-thirds of the county lies within the Highlands physiographic province which runs in a northeast belt from Reading, Pennsylvania, across New Jersey, and into southern New York State and western Connecticut. This province is characterized by forested ridges and glacially sculpted valleys. It also contains significant water resources affecting over 11 million residents. The remainder of Sussex County lies within the Ridge and Valley physiographic province. This province is characterized by parallel northeast-southwest trending ridges with fertile valleys in between. The capstone of the Ridge and Valley is the Kittatinny Ridge which runs approximately 40 miles through the county. The Ridge has elevations between 1,200 and 1,500 feet above sea level, and an average width of five miles. At High Point, the northernmost extent of the Kittatinny Ridge, has an elevation of 1,803 feet which is the highest point in New Jersey (County Natural Resources Inventory 2015).

The lowest points in Sussex County are found along the Delaware River at the mouth of Flat Brook (300 feet) and along the Wallkill River at the New York State line (380 feet). Located between the Highlands and Kittatinny Ridge, the Kittatinny Valley has elevations between 600 and 700 feet.

Climate

The State of New Jersey is located approximately halfway between the equator and the North Pole, resulting in a climate that is influenced by wet, dry, hot and cold airstreams, making a highly variable environment. The dominant feature of the atmospheric circulation over North America, including New Jersey, is the broad, undulating flow from west to east across the middle latitudes of the continent. This pattern exerts a major influence on the weather throughout the State (Office of the New Jersey State Climatologist [ONJSC], Date Unknown).

The State of New Jersey is divided into five distinct climate zones. Distinct variations in the day-to-day weather between each of the climate zones is a result of the geology distance from the Atlantic Ocean, and prevailing atmospheric flow patterns. The five climate zones in New Jersey are: Northern, Central, Pine Barrens, Southwest, and Coastal (ONJSC Date Unknown). Sussex County is located in the Northern Climate Zone, described below.

The Northern Climate Zone covers approximately one-quarter of New Jersey and consists mainly of elevated highlands and valleys which are part of the Appalachian Uplands. This zone can be characterized by having a continental type of climate with minimal influence from the Atlantic Ocean, except when the winds contain an easterly component. Annual snowfall averages 40 to 50 inches. During the warmer months, thunderstorms are responsible for most of the rainfall. The climate zone has the shortest growing season, about 155 days (ONJSC Date Unknown).

Sussex County has a temperate climate with warm summers and cold winters. The average temperatures range from approximately 25 degrees in January to 72 degrees in July, with extremes common in the summer and winter months. The average precipitation yearly is approximately 43 inches (FEMA FIS 2011).

Land Use, Land Cover, and Land Use Trends

In 2007, the majority or 55.7 percent of the land in Sussex County was designated as forested land. The 2012 data indicate there was a slight increase in forested land, indicating that approximately 55.9 percent of the county was forested. In 2007, 15.6 percent was urban land; 13.6 percent was wetlands land; 0.6 percent was barren land; and 10.5 percent was agricultural lands. When compared with the land use land cover data set from 2012, there has been a slight increase in urban land (1.7 percent) and wetlands (0.1 percent), while there



has been a slight decrease in agricultural land (-3.8 percent) and in barren land (-4.7 percent). Refer to Table 4-1 and Figure 4-4 below.

Table 4-1. Land Use Summary for Sussex County, 2007 and 2012

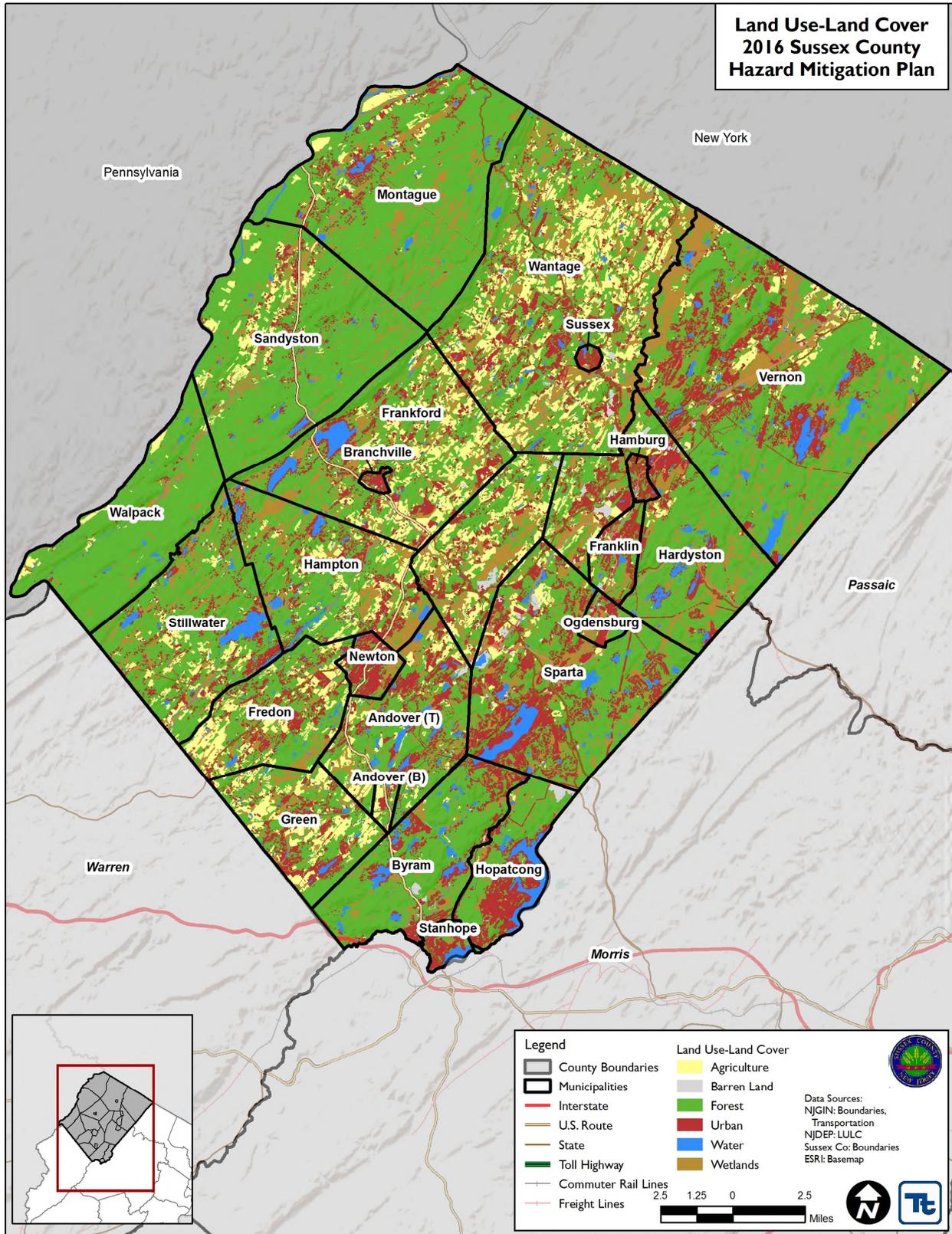
Land Use Category	2007 Data		2012 Data	
	Acreage	Percent of Sussex County	Acreage	Percent of Sussex County
Agriculture	36,153	10.5%	34,778	10.1%
Barren	2,156	0.6%	2,054	0.6%
Forest	190,902	55.7%	191,495	55.9%
Urban	53,420	15.6%	54,334	15.9%
Wetlands	46,591	13.6%	46,645	13.6%

Source: NJDEP (2012 LULC)

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



Figure 4-4. 2012 Land Use Land Cover for Sussex County



Source: NJDEP 2012





Open Space and Parkland

Large portions of Sussex County are permanently set aside as public/conservation space. This includes the Delaware Water Gap National Recreation Area, state parks and forests (High Point and Stokes), and wildlife refuges (Wallkill). Public and conservation open space accounts for more than one-third of the county’s total land area. Overall, open space in Sussex County includes federal, state, county, municipal, and water supply management land.

The National Park Service manages 21,771 acres (federal land) in western Sussex County in the municipalities of Montague, Sandyston and Walpack. This area is known as the Delaware Water Gap National Recreation Area; a 55,857 acre unit of the National Park System located in New Jersey and Pennsylvania. The Fish and Wildlife Service manages 4,635 acres of land in county, known as the Wallkill River National Wildlife Refuge located in the Townships of Vernon and Wantage.

For state land, the New Jersey Division of Fish and Wildlife manages 12 Wildlife Management Areas in Sussex County, totaling 13,775 acres. The New Jersey Division of Parks and Forestry oversees state parks and trail corridors (Paulinskill Valley Trail, Sussex Branch Trail and Appalachian Trail) throughout New Jersey. In Sussex County, there are six state parks, one state forest, and three long-distance trails, totaling 55,135 acres. Additionally, the New Jersey Natural Lands Trust is an independent agency within NJDEP in which properties are comparatively small relative to other state land. Management of this type of state land focuses on fish and wildlife habitat conservation, with less of a focus on public recreation. There are 28 Natural Lands Trust properties in Sussex County totaling 1,064 acres.

As for county-owned open space, Sussex County owns one acre of parkland in the Town of Newton. On the municipal level, there are 1,521 acres of Recreation and Open Space Inventory (ROSI) property in the county. A ROSI is a document filed with the New Jersey Green Acres program that lists all municipal recreation and/or conservation lands in that municipality. A municipality must complete a ROSI when it accepts Green Acre funding for land acquisition or recreation development. Lastly, there are 6,639 acres of water supply management land in Sussex County. A majority of this land is found in Hardyston and Vernon Townships and is owned by the City of Newark. This type of land cannot be sold for development without state review (Sussex County Open Space and Recreation Plan 2003). Refer to Table 4-2 below for a summary of open space in Sussex County.

Table 4-2. Open Space in Sussex County

Name of Facility	Federal, State, County or Municipal Owned	Size (acres in Sussex County)	Municipality
Wallkill River National Wildlife Refuge	Federal	4,635	Hardyston, Vernon, Wantage
Delaware Water Gap National Recreation Area	Federal	21,771	Walpack, Sandyston, Montague
Bear Swamp Wildlife Management Area (WMA)	State	2,036	Frankford and Hampton
Culvers Brook Access WMA	State	4	Frankford
Flatbrook WMA	State	2,090	Sandyston, Walpack
Little Flatbrook Access WMA	State	4	Sandyston
Hainesville WMA	State	281	Montague, Sandyston
Hamburg Mountain WMA	State	2,737	Hardyston, Vernon
Paulinskill River WMA	State	777	Fredon, Hampton



Name of Facility	Federal, State, County or Municipal Owned	Size (acres in Sussex County)	Municipality
Sparta Mountain WMA	State	1,602	Hardyston, Ogdensburg, Sparta
Trout Brook WMA	State	1,098	Stillwater
Walpack WMA	State	387	Walpack
Weldon Brook WMA	State	829	Sparta
Whittingham WMA	State	1,930	Green, Fredon
Allamuchy Mountain State Park	State	5,000	Byram, Green, Stanhope
High Point State Park (includes AT west of Walkill)	State	15,278	Wantage, Montague, Frankford
Hopatcong State Park	State	4	Hopatcong
Kittatinny Valley State Park	State	1,313	Andover Borough, Andover Township
Paulinskill Valley Trail/Sussex Branch Trail	State	556	Andover Borough, Andover Township, Byram, Frankford, Fredon, Hamburg, Hampton, Lafayette, Newton, Ogdensburg, Stillwater, Sparta
Stokes State Forest	State	15,734	Montague, Sandyston, Frankford, Hampton, Stillwater
Swartwood State Park	State	2,250	Hampton, Stillwater
Wawayanda State Park (includes AT east of Walkill)	State	15,000	Vernon
Newark-Pequannock Watershed Easemen	State	3,896	Vernon
Congleton -CLC Partners/Smith (easement)	State	15	Hardyston
Congleton - Violante (easement)	State	16	Hardyston, Wantage
Congleton Wildlife Sanctuary	State	79	Hardyston, Wantage
Congleton Wildlife Sanctuary - CCK Realty)	State	127	Hardyston, Wantage, Lafayette
Congleton - Ferra (easement)	State	14	Hardyston
Congleton - Padula (easement)	State	18	Hardyston
Congleton - Williams (easement)	State	12	Hardyston
Congleton - Wildlife Sanctuary - Farm Association - Marx	State	100	Hardyston, Wantage
Crooked Swamp Caves	State	18	Lafayette
Elm Spring Preserve	State	11	Wantage
Lubbers Run	State	35	Byram
Lubbers Run - Vanderbilt	State	28	Byram
Lubbers Run - Vanderbilt II	State	28	Byram
McCarthy	State	4	Hopatcong
Papakating Creek	State	11	Frankford
Quarryville Brook	State	44	Wantage
Reinhardt - Weber	State	5	Montague
Reinhardt Preserve	State	240	Montague
Reinhardt Preserve - Bunnell (easement)	State	34	Montague
Reinhardt Preserve - Coss	State	6	Montague
Reinhardt Preserve - Layne (easement)	State	24	Montague



Name of Facility	Federal, State, County or Municipal Owned	Size (acres in Sussex County)	Municipality
Reinhardt Preserve - Reinhardt I	State	14	Montague
Walkkill - May/Green Acres	State	13	Ogdensburg
Walkkill River	State	10	Sparta
Walkkill River Addition -NJCF	State	80	Ogdensburg
Walkkill River Addition - Predmore/Bennett	State	4	Ogdensburg
Walkkill River - Pope John High School	State	40	Sparta
Walkkill River Preserve - NJDOT	State	34	Sparta
Sussex County Park	County	1	Newton
Andover Township	Municipal	278	Andover Township
Byram	Municipal	92	Byram
Frankford	Municipal	9	Frankford
Fredon	Municipal	69	Fredon
Hamburg	Municipal	2	Hamburg
Hopatcong	Municipal	172	Hopatcong
Lafayette	Municipal	250	Lafayette
Newton	Municipal	49	Newton
Stanhope	Municipal	15	Stanhope
Stillwater	Municipal	242	Stillwater
Sussex Borough	Municipal	63	Sussex Borough
Vernon	Municipal	123	Vernon
Wantage	Municipal	157	Wantage

Source: Open Space and Recreation Plan 2003

The Highlands Region

The Highlands Region of New Jersey encompasses an area of 859,358 acres located in the northwest part of New Jersey. This Region includes 88 municipalities and portions of seven counties – Bergen, Hunterdon, Morris, Passaic, Somerset, Sussex, and Warren. In the Highlands Water Protection and Planning Act (Highlands Act), the Legislature designated specific boundaries within the Highlands Region as the Preservation Area and the Planning Area. The difference between the two is that municipal and county conformance with the Regional Master Plan is required in the Preservation Area and is voluntary in the Planning Area.

In Sussex County, there is a total of 129,865 acres of land located within the Highlands Region (planning area and preservation area combined). The following municipalities are located in the Highlands: Byram Township (both areas), Franklin Borough (planning), Green Township (both areas) Hamburg Borough (planning), Hardyston Township (both areas), Hopatcong Borough (both areas), Ogdensburg Borough (both areas), Sparta Township (both areas), Stanhope Borough (planning), and Vernon Township (both areas). Table 4-3 summarizes the acreage of the highlands region in Sussex County.



Table 4-3. Acreage of the Highlands Region in Sussex County

Municipality	Planning Area	Preservation Area	Total
Byram Township	233	14,272	14,505
Franklin Borough	2,843	0	2,843
Green Township	10,198	281	10,479
Hamburg Borough	753	0	753
Hardyston Township	8,254	12,557	20,811
Hopatcong Borough	5,346	2,607	7,953
Ogdensburg Borough	1,232	199	1,431
Sparta Township	13,359	11,538	24,897
Stanhope Borough	1,404	0	1,404
Vernon Township	15,470	29,319	44,789
Total Acres For Sussex County	59,092	70,773	129,865

Source: Highlands Regional Master Plan (excerpt of Table 1.1).

Metropolitan Statistical Area

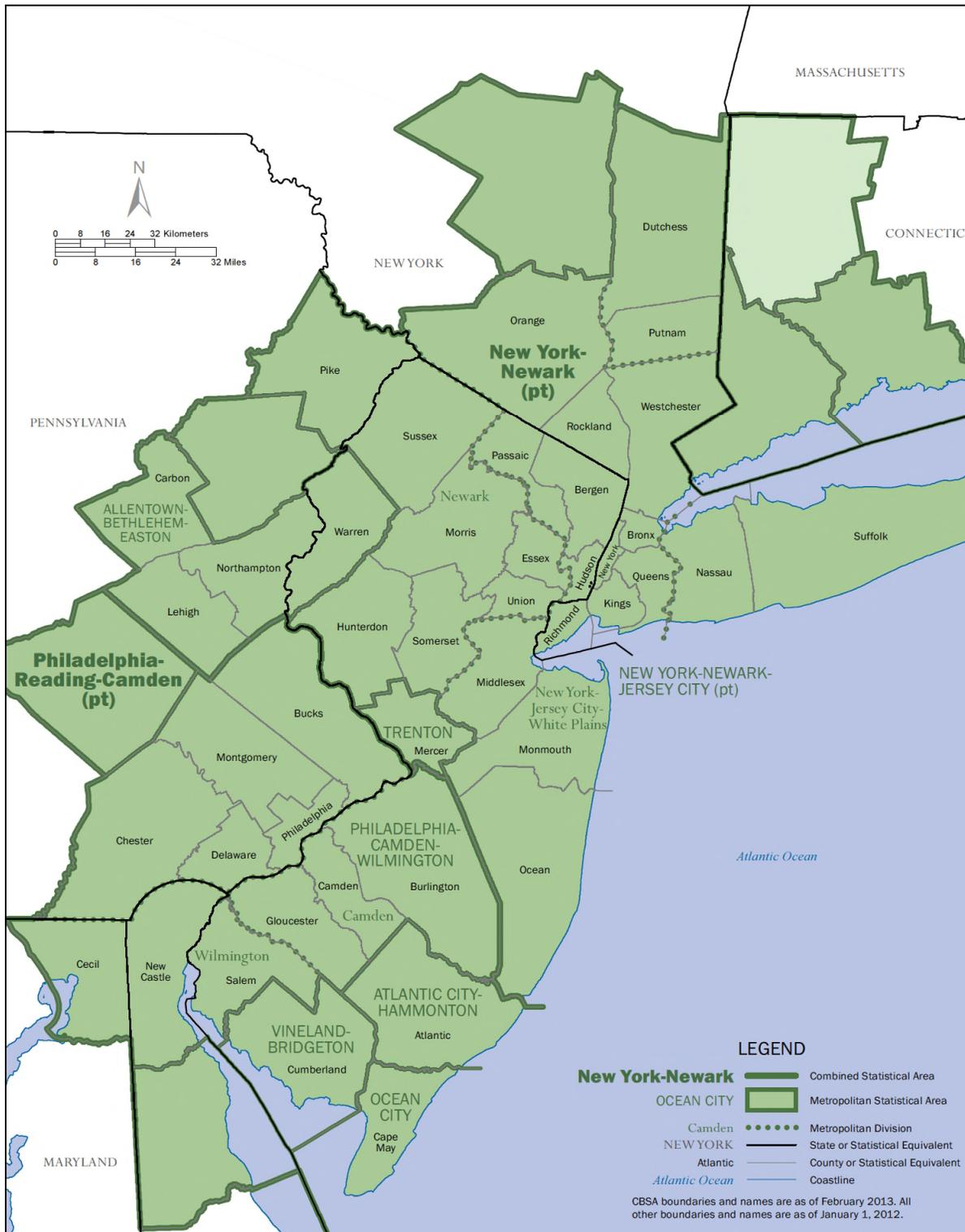
Metropolitan statistical areas (MSA) are geographic entities delineated by the New Jersey Office of Management and Budget (OMB) for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. A MSA is defined as having a large nucleus, together with adjacent communities which have a high degree of social and economic integration with that core (U.S. Census 2014).

Northeast New Jersey and portions of New York State are located in the New York-Newark Combined Statistical Area. This area is broken down into smaller MSAs. Sussex County is located within the New York-Newark Combined Statistical Area and the New York-Newark-Jersey City Metropolitan Statistical Area (U.S. Census 2014).

Due to the size of the New York-Newark-Jersey City Metropolitan Statistical Area, it is further divided into four metropolitan divisions which are separately identifiable employment centers within the MSA. Sussex County is part of the Newark, NJ-PA Metropolitan Division labor market. Figure 4-5 illustrates the different statistical areas in New Jersey and parts of New York State.



Figure 4-5. New York-Newark Combined Statistical Area and Adjacent Statistical Areas



Source: U.S. Census 2014





4.2 POPULATION AND DEMOGRAPHICS

The DMA 2000 requires that HMPs consider the risk and vulnerability of socially vulnerable populations to natural hazards. 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 planning process, vulnerable populations include children, elderly, low-income, the physically or mentally disabled, non-English speakers and the medically or chemically dependent.

4.2.1 Population Characteristics

According to the 2010 U.S. Census, Sussex County had a population of 149,265 people which represents a slight increase from the 2000 U.S. Census population of 144,166 people. Table 4-4 presents the population statistics, including vulnerable populations, for Sussex County based on the 2000 and 2010 U.S. Census data. Figure 4-6 shows the distribution of the general population density (persons per square mile) in 2010 by Census block. Population density has a strong correlation with hazard vulnerability and loss. Urban areas tend to have larger populations and numbers of structures; therefore, these areas tend to experience greater loss during hazard events.



Table 4-4. Sussex County Population Statistics

Municipality	U.S. Census 2010			U.S. Census 2000*						
	Total	Pop. 65+	% Pop. 65+	Total	Pop. 65+	% Pop. 65+	Pop Under 16	% Pop Under 16	Low-Income Pop.*	% Low-Income Pop. of Total
Borough of Andover	606	73	12.0%	658	65	9.9%	108	16.4%	16	2.4%
Township of Andover	6,319	1,012	16.0%	6,033	950	15.7%	1,359	22.5%	90	1.5%
Borough of Branchville	841	141	16.8%	845	153	18.1%	170	20.1%	68	8.0%
Township of Byram	8,350	843	10.1%	8,254	501	6.1%	2,130	25.8%	124	1.5%
Township of Frankford	5,565	921	16.5%	5,420	703	13.0%	1,134	20.9%	240	4.4%
Borough of Franklin	5,045	659	13.1%	5,160	603	11.7%	1,350	26.2%	317	6.1%
Township of Fredon	3,437	469	13.6%	2,860	266	9.3%	679	23.7%	38	1.3%
Township of Green	3,601	388	10.8%	3,220	193	6.0%	828	25.7%	39	1.2%
Borough of Hamburg	3,277	385	11.7%	3,105	252	8.1%	766	24.7%	109	3.5%
Township of Hampton	5,196	768	14.8%	4,943	547	11.1%	1,131	22.9%	195	3.9%
Township of Hardyston	8,213	1,194	14.5%	6,171	630	10.2%	1,371	22.2%	211	3.4%
Borough of Hopatcong	15,147	1,489	9.8%	15,888	1,073	6.8%	3,762	23.7%	423	2.7%
Township of Lafayette	2,538	325	12.8%	2,300	213	9.3%	588	25.6%	32	1.4%
Township of Montague	3,847	536	13.9%	3,412	378	11.1%	847	24.8%	251	7.4%
Town of Newton	7,997	1,481	18.5%	8,244	1,284	15.6%	1,701	20.6%	756	9.2%
Borough of Ogdensburg	2,410	275	11.4%	2,638	212	8.0%	709	26.9%	92	3.5%
Township of Sandyston	1,998	234	11.7%	1,825	244	13.4%	416	22.8%	90	4.9%
Township of Sparta	19,722	2,198	11.1%	18,080	1,491	8.2%	5,035	27.8%	457	2.5%
Borough of Stanhope	3,610	374	10.4%	3,584	268	7.5%	808	22.5%	111	3.1%
Township of Stillwater	4,099	459	11.2%	4,267	360	8.4%	1,061	24.9%	105	2.5%
Borough of Sussex	2,130	261	12.3%	2,145	273	12.7%	446	20.8%	183	8.5%
Township of Vernon	23,943	2,019	8.4%	24,686	1,566	6.3%	6,750	27.3%	637	2.6%
Township of Walpack	16	4	25.0%	41	11	26.8%	0	0.0%	6	14.6%
Township of Wantage	11,358	1,342	11.8%	10,387	916	8.8%	2,727	26.3%	302	2.9%





Municipality	U.S. Census 2010			U.S. Census 2000*						
	Total	Pop. 65+	% Pop. 65+	Total	Pop. 65+	% Pop. 65+	Pop Under 16	% Pop Under 16	Low-Income Pop.*	% Low-Income Pop. of Total
Sussex County Total	149,265	17,850	12.0%	144,166	13,152	9.1%	35,876	24.9%	4,892	3.4%

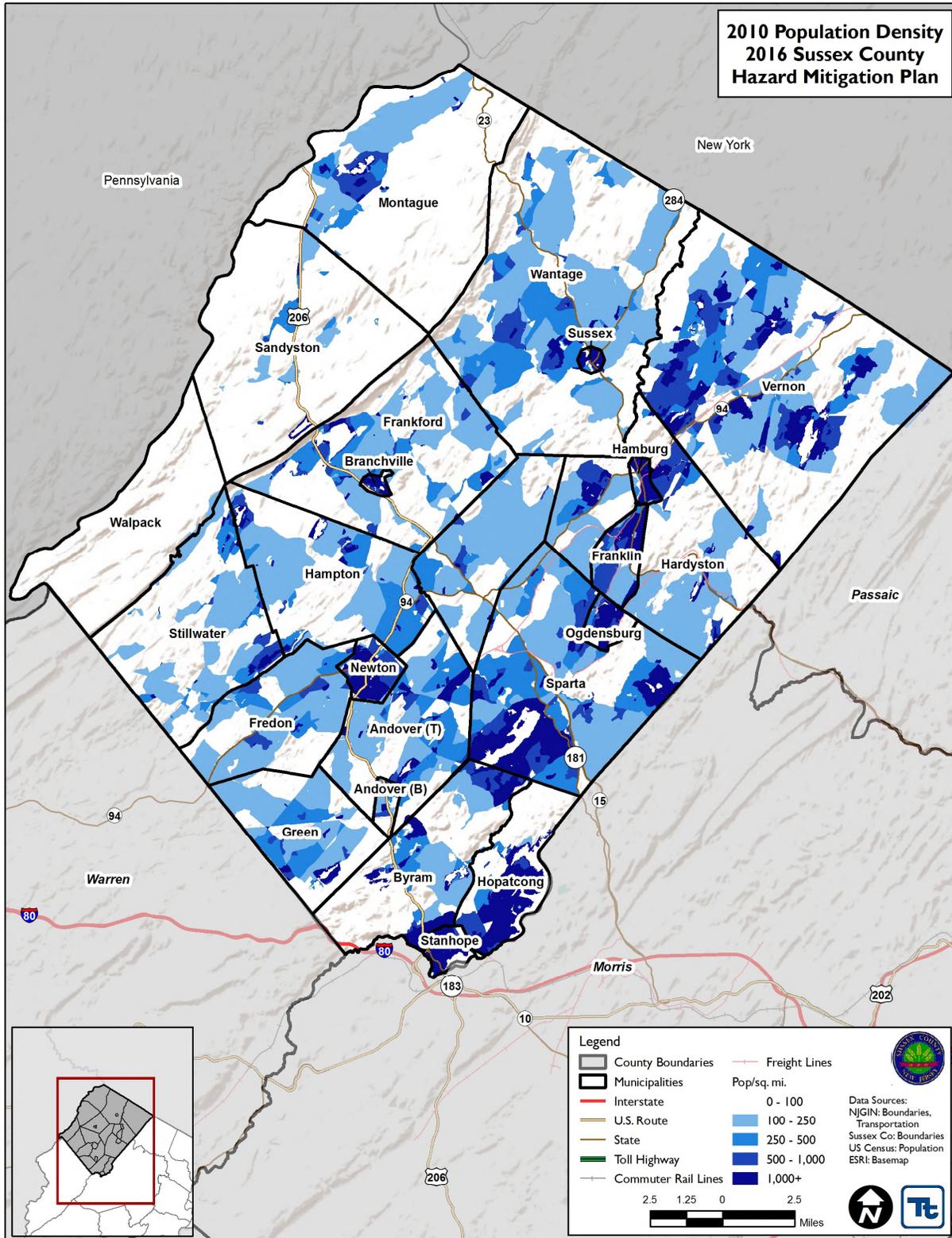
Source: U.S. Census 2010 (U.S. Census Bureau); HAZUS-MH (for 2000 U.S. Census data)

Note: Pop. = population

* Individuals below poverty level (Census poverty threshold for a 3-person family unit is approximately \$18,522)



Figure 4-6. Distribution of General Population Density for Sussex County, New Jersey



Source: U.S. Census 2010
Note: The figure indicates distribution based on Census Block designations.





4.2.2 Vulnerable Populations

Identifying concentrations of vulnerable populations can assist communities in targeting preparedness, response and mitigation actions. For the purposes of this planning process, as noted, vulnerable populations in Sussex County include children, elderly, low-income, the physically or mentally disabled, non-English speakers and the medically or chemically dependent.

Age

Children are considered vulnerable because they are dependent on others to safely access resources during emergencies. The elderly are more apt to lack the physical and economic resources necessary for response to hazard events and are more likely to suffer health-related consequences making recovery slower. Those living on their own may have more difficulty evacuating their homes. The elderly are also more likely to live in senior care and living facilities (described in Section 4.6) where emergency preparedness occurs at the discretion of facility operators.

According to the 2010 U.S. Census, the median age in Sussex County was 42 years. Of the 2010 population, 12.0-percent (17,850 persons) of the county's population is age 65 and older. According to the 2000 Census, 9.1-percent of the county's total population (or 13,152 persons) were age 65 and older. Figure 4-7 shows the distribution of persons over age 65 in Sussex County. According to the 2000 U.S. Census, 24.9-percent (35,876 people) were age 16 or younger. Figure 4-8 shows the distribution of persons under the age 16 in Sussex County.

Income

Of the total population, economically disadvantaged populations are more vulnerable to hazards because they are likely to evaluate their risk and make decisions based on the major economic impact to their family and may not have funds to evacuate. Based on the 2009-2013 American Community Survey Five-Year Estimates, per capita income in Sussex County was estimated at \$37,949 and the median household income for Sussex County is \$100,066 (in 2013 inflation-adjusted dollars). It is estimated that over 15.6-percent of households receive an income between \$50,000 and \$74,999 per year and 10.6-percent of households receive over \$200,000 annually.

The 2009-2013 American Community Survey estimates approximately 7.9-percent (2,524 households) of the households in Sussex County make less than \$25,000 per year and are therefore below the poverty level. According to the U.S. Census Bureau's 2013 poverty thresholds, the weighted average thresholds for a family of four in 2013 was \$23,834; for a family of three, \$18,552; for a family of two, \$15,142, and for unrelated individuals, \$11,888. Figure 4-8 shows the distribution of low income persons.

It is noted that the U.S. Census data for household income provided in HAZUS-MH includes two ranges (less than \$10,000 and \$10,000-\$20,000/year) that were totaled to provide the "low-income" data used in this study. This does not correspond exactly with the "poverty" thresholds established by the U.S. Census Bureau, which identifies households with two adults and two children with an annual household income below \$23,624 per year as "low income" for this region. This difference is not believed to be significant for the purposes of this planning effort.

Physically or Mentally Disabled

Based on the 2009-2013 American Community Survey, the total non-institutionalized population of Sussex County is 146,518, which is approximately 98.2-percent of the total population. Approximately 13,443 of



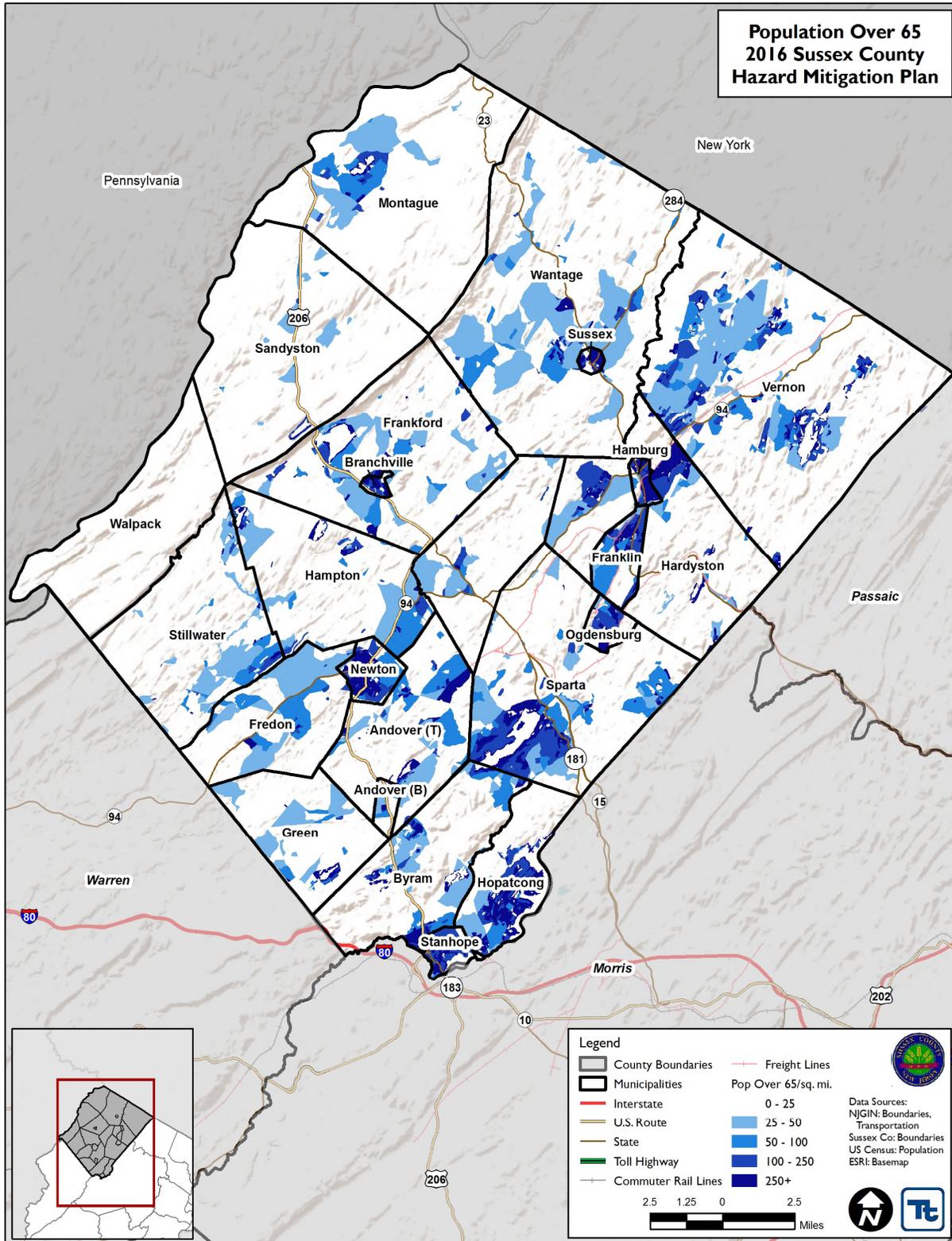
those residents are living with a disability. An estimated 8.4-percent of these residents are under the age of 18 and an estimated 39.1-percent are 65 years or older.

Non-English Speakers

According to the 2009-2013 American Community Survey, 9.9-percent of the county's population over the age of 5 primarily speaks a language other than English at home; this is significantly less than the state average of 30.0-percent. Of the county's population, 4.2-percent speak Spanish, 4.3-percent speak other Indo-European languages, 0.9-percent speak Asian and Pacific Islander languages, and 0.6-percent speak other languages.



Figure 4-7. Distribution of Persons over the Age of 65 in Sussex County, New Jersey

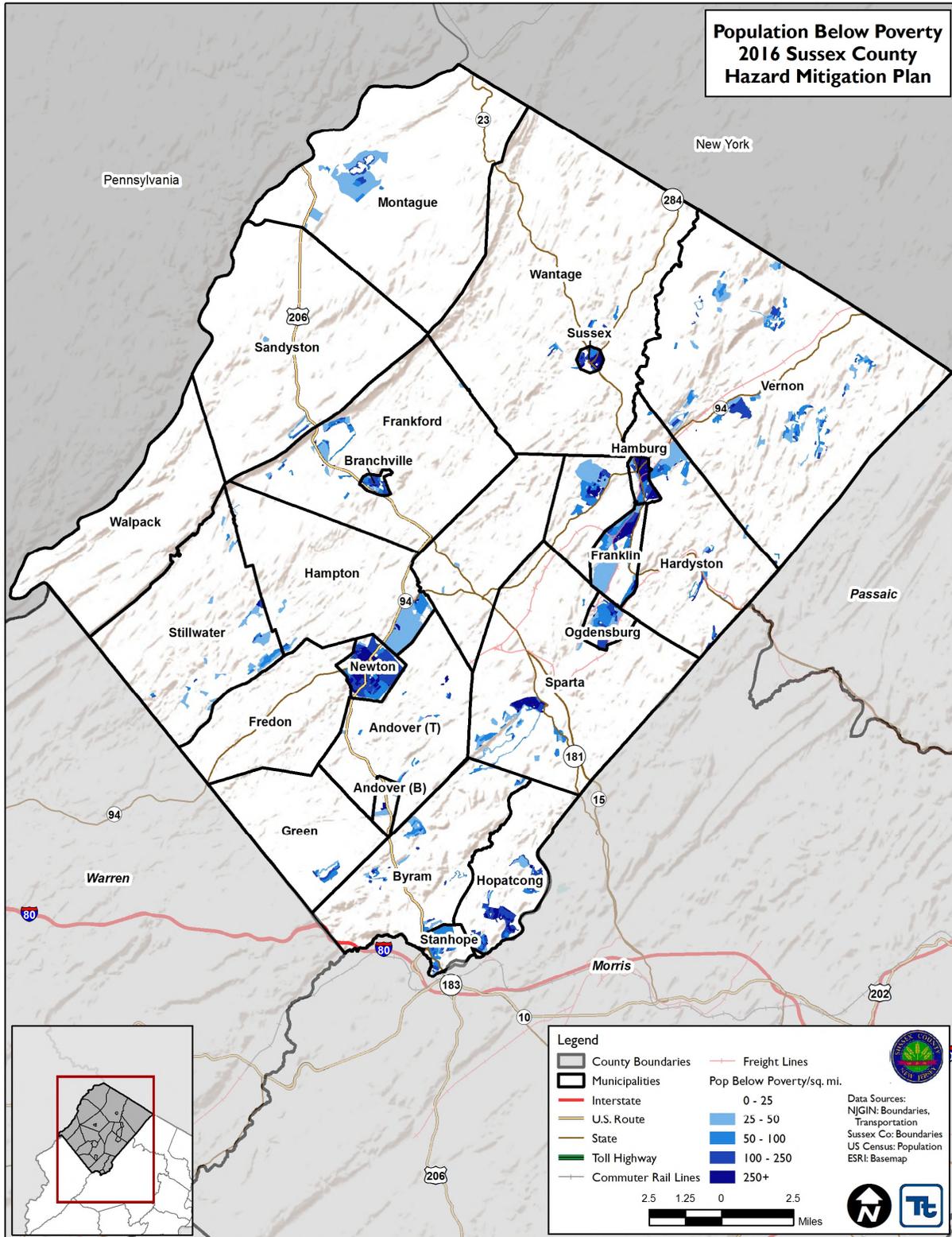


Source: U.S. Census 2010
Note: The figure indicates distribution based on Census Block designations.





Figure 4-8. Distribution of Low-Income Populations in Sussex County, New Jersey

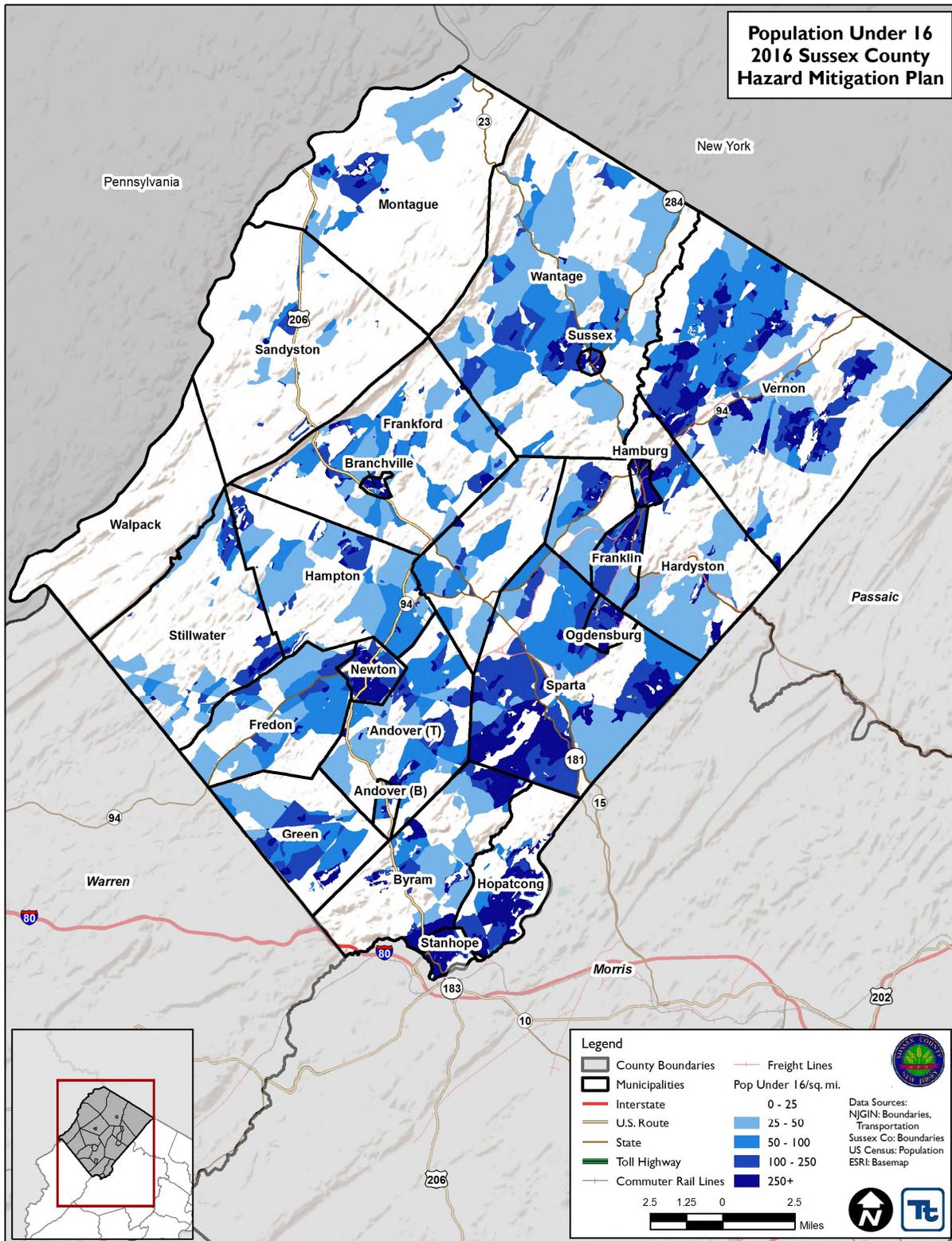


Source: U.S. Census 2010
Note: The figure indicates distribution based on Census Block designations.





Figure 4-9. Distribution of Children Under Age of 16 in Sussex County, New Jersey



Source: U.S. Census 2010
Note: The figure indicates distribution based on Census Block designations





4.2.3 Population Trends

This section discusses population trends to use as a basis for estimating future changes of the population and significantly change the character of the area. 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 planning decisions regarding future development in vulnerable areas.

According to the U.S. Census Bureau Sussex County’s 2010 population was 149,265 persons, which is a 3.5-percent increase from the 2000 U.S. Census population of 144,166. Between 1900 and 2010, the county experienced overall growth. Between 1960 and 1970, the county experienced its largest increase in population: 57.4-percent. The smallest increase was between 2000 and 2010, when the population increased by 3.5-percent. Between 1910 and 1920, the county experienced its largest decrease in population: 7-percent loss (New Jersey Department of Labor and Workforce Development 2014). Table 4-5 displays the population and change in population from 1900 to 2010 in Sussex County.

Table 4-5. Sussex County Population Trends, 1900 to 2014

Year	Population	Change in Population	Percent Population Change
1900	24,134	N/A	N/A
1910	26,781	2,647	11.0%
1920	24,905	-1,876	-7.0%
1930	27,830	2,925	11.7%
1940	29,632	1,802	6.5%
1950	34,423	4,791	16.2%
1960	49,255	14,832	43.1%
1970	77,528	28,273	57.4%
1980	116,119	38,591	49.8%
1990	130,943	14,824	12.8%
2000	144,166	13,223	10.1%
2010	149,265	5,099	3.5%
2014	146,888	-2,377	-1.6%

Source: U.S. Census Bureau, 2014

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

Table 4-6 displays the 10 largest municipalities in Sussex County. According to this 2011 data, Vernon Township was the most populous municipality, comprising 16.4-percent of the county’s total population. According to the Sussex County edition of the Northern Regional Community Fact Book, from 1970 to 2009, 10 of the county’s municipalities more than doubled in size. The fastest growing municipality was Vernon Township with an increase of 309.7-percent between 1970 and 2009. Walpack Township saw the largest decrease in population during this time, from 384 people in 1970 to 34 people in 2009 (New Jersey Department of Labor and Workforce Development 2011).



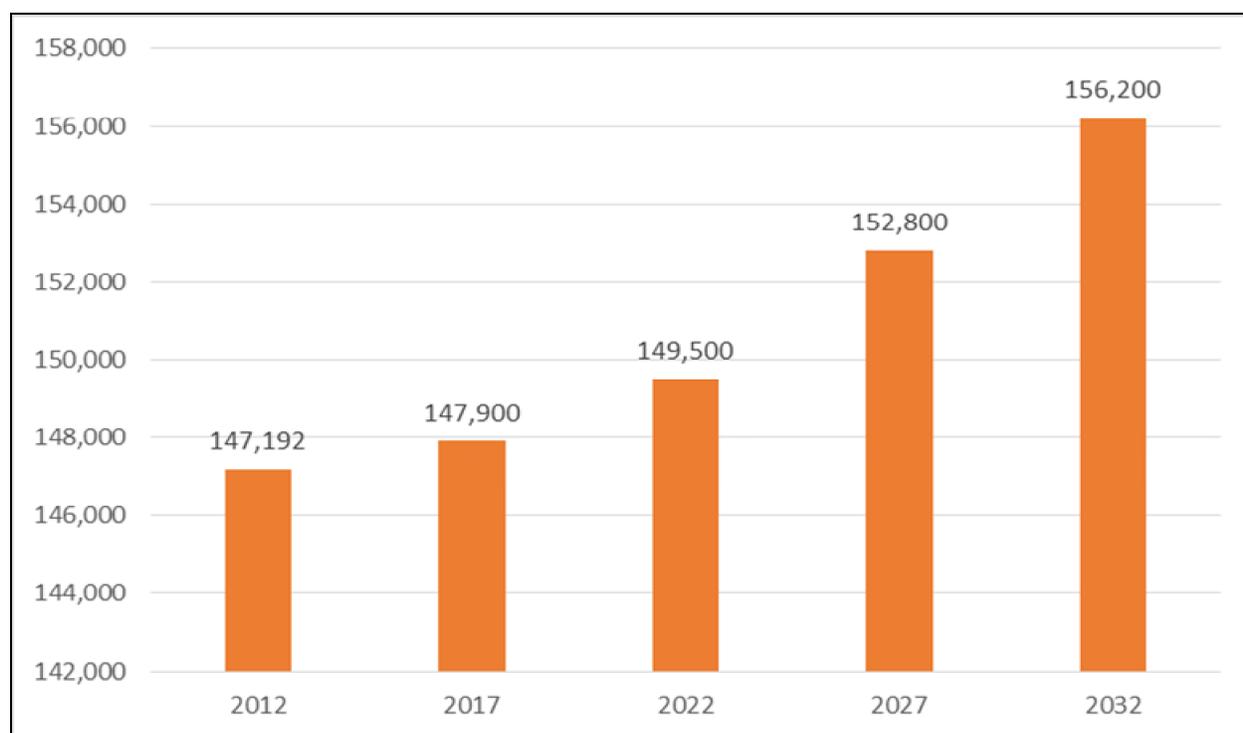
Table 4-6. Ten Largest Municipalities in Sussex County

Rank	Municipality	2009 Population
1	Vernon, Township of	24,825
2	Sparta, Township of	19,225
3	Hopatcong, Township of	15,518
4	Wantage, Township of	11,600
5	Byram, Township of	8,477
6	Hardyston, Township of	8,325
7	Newton, Town of	8,123
8	Andover, Township of	6,533
9	Frankford, Township of	5,594
10	Hampton, Township of	5,126

Source: New Jersey Department of Labor and Workforce Development 2011

Over the next 15 years, from 2017 to 2032, Sussex County is projected to experience a 5.6-percent growth. Based on New Jersey Department of Labor population projections, the county population is expected to reach 147,900 by 2017 and 156,200 by 2032 (Figure 4-10).

Figure 4-10. Sussex County Population Projections, 2012 to 2032



Source: New Jersey Department of Labor and Workforce Development 2014



Between 2000 and 2010, a majority of the county’s municipalities experienced an increase in population. However, population losses were reported in Branchville, Sussex, Walpack, Andover Borough, Franklin, Stillwater, Ogdensburg, Newton, Hopatcong and Vernon. These losses are, however, offset by growth in all other municipalities. The majority of population growth occurred in Hardyston, Sparta and Wantage. Hardyston Township experienced the largest increase in population (33.09-percent) and Walpack Township experienced the largest decrease in population (-60.98 percent). Refer to Table 4-7 for a summary of population trends in Sussex County by municipality.

Table 4-7. Population Trends in Sussex County by Municipality

Municipality	2000 U.S. Census	2010 U.S. Census	Change in Population	Percent Population Change
Andover Borough	658	606	-52	-7.90%
Andover Township	658	606	-52	4.74%
Branchville Borough	6,033	6,319	286	-0.47%
Byram Township	845	841	-4	1.16%
Frankford Township	8,254	8,350	96	2.68%
Franklin Borough	5,420	5,565	145	-2.23%
Fredon Township	5,160	5,045	-115	20.17%
Green Township	2,860	3,437	577	11.83%
Hamburg Borough	3,220	3,601	381	5.54%
Hampton Township	3,105	3,277	172	5.12%
Hardyston Township	4,943	5,196	253	33.09%
Hopatcong Borough	6,171	8,213	2,042	-4.66%
Lafayette Township	15,888	15,147	-741	10.35%
Montague Township	2,300	2,538	238	12.75%
Newton Town	3,412	3,847	435	-3.00%
Ogdensburg Borough	8,244	7,997	-247	-8.64%
Sandyston Township	2,638	2,410	-228	9.48%
Sparta Township	1,825	1,998	173	9.08%
Stanhope Borough	18,080	19,722	1,642	0.73%
Stillwater Township	3,584	3,610	26	-3.94%
Sussex Borough	4,267	4,099	-168	-0.70%
Vernon Township	2,145	2,130	-15	-3.01%
Walpack Township	24,686	23,943	-743	-60.98%
Wantage Township	41	16	-25	9.35%

Source: New Jersey State Data Center 2010





4.3 GENERAL BUILDING STOCK

The 2000 U.S. Census data identified 50,831 households (56,528 housing units) in Sussex County. The 2010 U.S. Census data identified 54,752 households (62,057 housing units) in Sussex County indicating an increase in both households and housing units. As for households, between 2000 and 2010, Sussex County experienced a 7.7-percent increase. As for housing units, the county experienced an increase of 9.8-percent between 2000 and 2010. The U.S. Census defines household as all the persons who occupy a housing unit, and a housing unit as a house, an apartment, a mobile home, a 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 price of an owner-occupied home in Sussex County was estimated at \$285,800 (U.S. Census, 2013).

For this HMP update, the default general building stock in HAZUS-MH was updated and replaced with a custom building inventory for Sussex County, both at the aggregate and structure level. The building stock update was performed using the most current parcel and tax assessment data provided by Sussex County and the NJ Department of the Treasury. The estimated replacement cost value for each structure was calculated using this data and 2015 RS Means valuations. For the purposes of this plan, there are approximately 61,026 structures identified in the county. The total estimated replacement cost for the county is approximately \$31.6 billion. Estimated content value was calculated by using 50-percent of the residential replacement value, and 100-percent of the non-residential replacement values. Actual content value varies widely depending on the usage of the structure. Approximately 91.5-percent of the total buildings in the county are residential, which make up approximately 82.2-percent of the building stock structural value associated with residential housing. Table 4-7 presents building stock statistics by occupancy class for Sussex County.

The 2009-2013 American Community Survey for Sussex County identified that the majority of housing units (41.9 percent) in Sussex County are one-unit detached units. The 2013 U.S. Census Bureau's County Business Patterns data identified 3,267 business establishments employing 31,594 people in Sussex County. The construction industry has the most number of establishments in the county, with 502 establishments. This is followed by the retail trade industry with 408 establishments, and other services (except public administration) with 381 establishments (U.S. Census, 2013).

Figures 4-11 through 4-13 show the distribution and exposure density of residential, commercial and industrial buildings in Sussex County. Exposure density is the dollar value of structures per unit area, including building content value. The densities are shown in units of \$1,000 (\$K) per square mile. Viewing exposure distribution maps can assist communities in visualizing areas of high exposure and in evaluating aspects of the study area in relation to the specific hazard risks.



Table 4-8. Number of Buildings and Replacement Cost Value by Occupancy Class

Municipality	All Occupancies			Residential		Commercial		Industrial		
	Count	Estimated Structure Value	Estimated Contents	Total (Structure + Contents)	Count	Total (Structure + Contents)	Count	Total (Structure + Contents)	Count	Total (Structure + Contents)
Borough of Andover	257	\$110,720,294	\$71,842,600	\$182,562,894	193	\$116,633,081	53	\$56,079,224	1	\$1,632,812
Township of Andover	2,248	\$797,432,934	\$462,439,156	\$1,259,872,091	2,015	\$1,004,981,334	126	\$122,658,441	12	\$20,000,461
Borough of Branchville	353	\$105,787,947	\$68,530,522	\$174,318,470	284	\$111,772,276	55	\$51,386,553	0	\$0
Township of Byram	3,401	\$1,001,139,850	\$542,264,614	\$1,543,404,464	3,217	\$1,376,625,709	101	\$77,729,746	3	\$4,898,436
Township of Frankford	2,716	\$1,028,566,798	\$624,677,847	\$1,653,244,645	2,330	\$1,211,666,853	96	\$136,088,723	7	\$12,609,468
Borough of Franklin	1,630	\$555,083,580	\$326,633,635	\$881,717,214	1,454	\$685,349,835	113	\$128,851,782	10	\$16,407,323
Township of Fredon	1,236	\$524,017,917	\$318,153,210	\$842,171,127	1,050	\$617,594,123	32	\$37,554,664	5	\$8,164,060
Township of Green	1,280	\$617,892,936	\$344,490,322	\$962,383,257	1,153	\$820,207,842	22	\$21,278,642	2	\$3,265,624
Borough of Hamburg	1,464	\$478,777,394	\$268,230,009	\$747,007,403	1,367	\$631,642,153	71	\$95,284,515	2	\$3,265,624
Township of Hampton	2,143	\$898,127,786	\$500,329,547	\$1,398,457,332	1,945	\$1,193,394,718	63	\$62,979,318	1	\$1,632,812
Township of Hardyston	3,731	\$1,058,804,064	\$593,695,837	\$1,652,499,901	3,492	\$1,395,324,682	119	\$118,634,650	27	\$46,114,752
Borough of Hopatcong	6,378	\$1,459,447,874	\$764,642,534	\$2,224,090,408	6,199	\$2,084,416,023	86	\$78,652,359	1	\$1,632,812
Township of Lafayette	1,020	\$484,326,532	\$318,063,358	\$802,389,890	762	\$498,789,524	52	\$57,235,196	17	\$24,420,844
Township of Montague	1,972	\$550,631,281	\$307,800,350	\$858,431,631	1,820	\$728,492,793	50	\$43,829,062	6	\$9,876,075
Town of Newton	2,320	\$926,551,970	\$577,488,833	\$1,504,040,803	1,991	\$1,047,189,412	236	\$337,048,692	10	\$24,492,180
Borough of Ogdensburg	915	\$250,464,374	\$139,570,078	\$390,034,452	846	\$332,682,886	33	\$30,043,484	4	\$6,610,451
Township of Sandyston	1,136	\$359,643,031	\$229,219,539	\$588,862,570	912	\$391,270,476	50	\$44,661,616	6	\$8,642,549
Township of Sparta	7,447	\$3,083,993,131	\$1,647,607,612	\$4,731,600,744	6,980	\$4,309,156,557	290	\$220,551,680	38	\$62,046,857
Borough of Stanhope	1,468	\$557,098,000	\$302,686,778	\$859,784,777	1,391	\$763,233,667	53	\$67,828,244	5	\$11,429,684
Township of Stillwater	1,871	\$581,254,607	\$350,557,350	\$931,811,957	1,635	\$692,091,769	39	\$44,743,004	0	\$0
Borough of Sussex	579	\$259,651,457	\$165,026,376	\$424,677,833	468	\$283,875,243	65	\$88,319,473	3	\$4,898,436





SECTION 4: COUNTY PROFILE

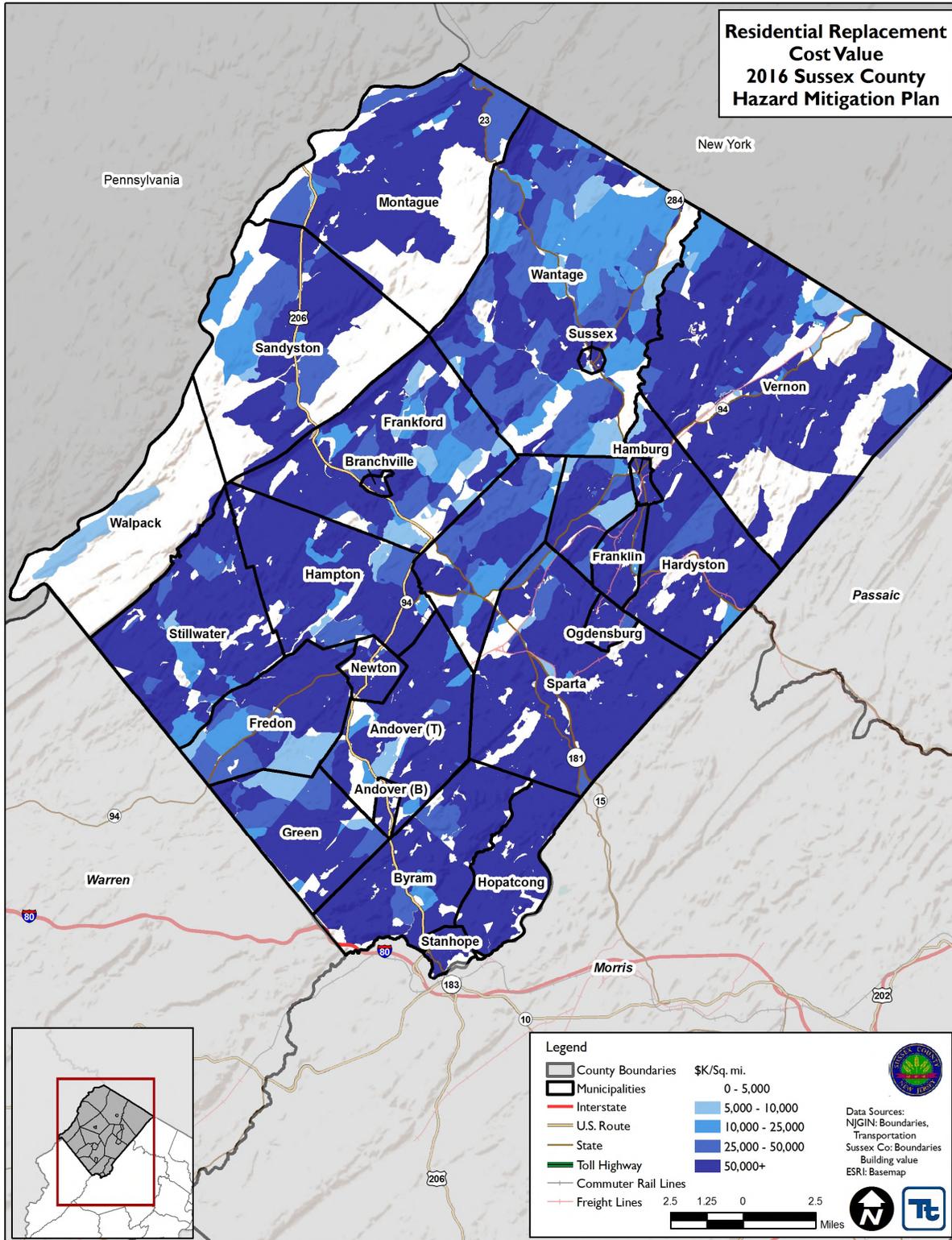
Municipality	All Occupancies				Residential		Commercial		Industrial	
	Count	Estimated Structure Value	Estimated Contents	Total (Structure + Contents)	Count	Total (Structure + Contents)	Count	Total (Structure + Contents)	Count	Total (Structure + Contents)
Township of Vernon	11,280	\$3,063,072,948	\$1,696,315,752	\$4,759,388,700	10,777	\$4,100,271,588	293	\$425,846,569	23	\$44,156,227
Township of Walpack	25	\$8,710,816	\$7,382,442	\$16,093,258	8	\$3,985,123	1	\$1,948,912	0	\$0
Township of Wantage	4,156	\$1,396,272,081	\$853,886,798	\$2,250,158,879	3,551	\$1,627,155,850	125	\$122,725,740	2	\$3,265,624
Sussex County Total	61,026	\$20,157,469,603	\$11,481,535,099	\$31,639,004,702	55,840	\$26,027,803,514	2,224	\$2,471,960,289	185	\$319,463,115

Source: Sussex County; NJ Department of the Treasury 2015





Figure 4-11. Distribution of Residential Building Stock and Value Density in Sussex County

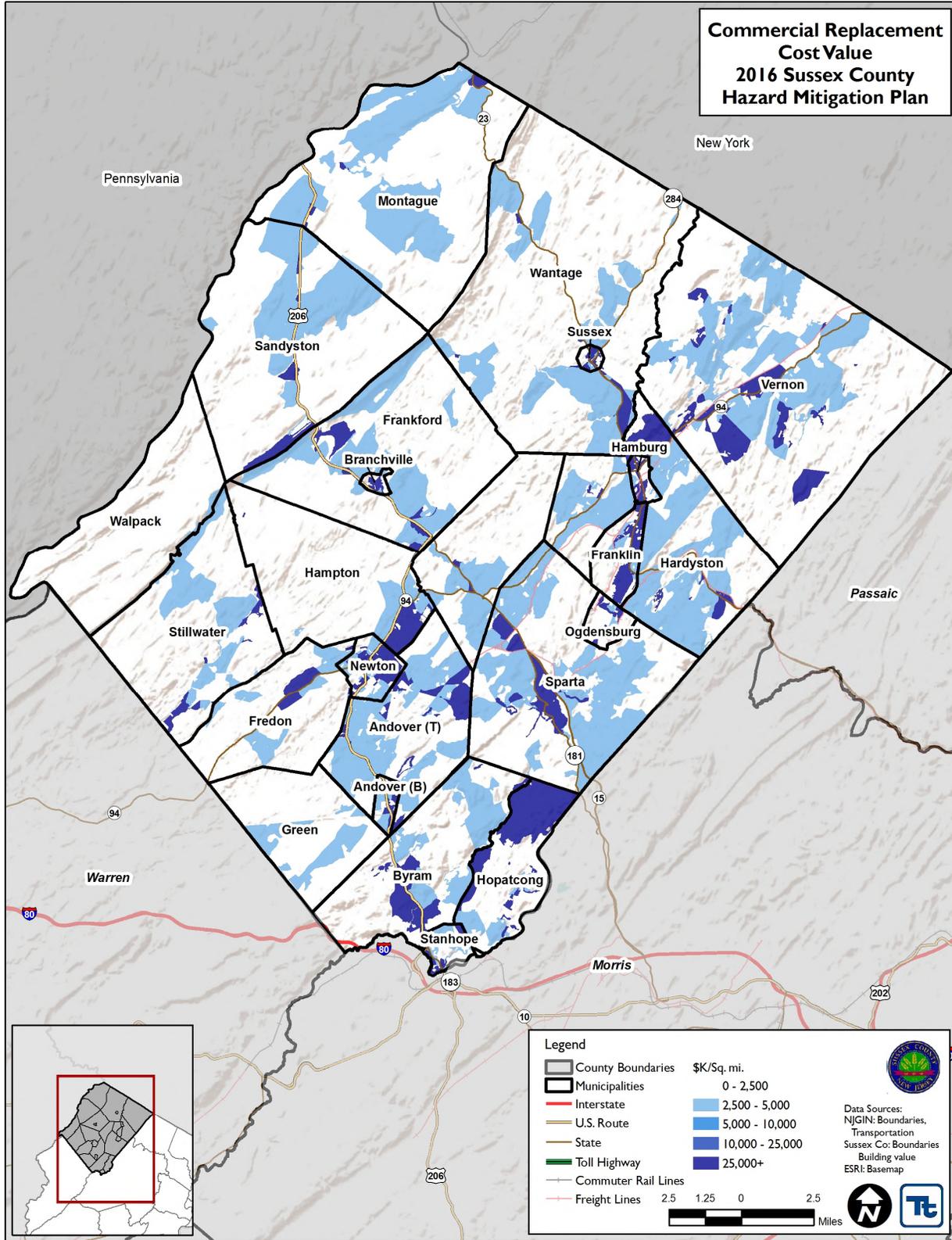


Source: Sussex County; NJ Department of the Treasury 2015





Figure 4-12. Distribution of Commercial Building Stock and Exposure Density in Sussex County

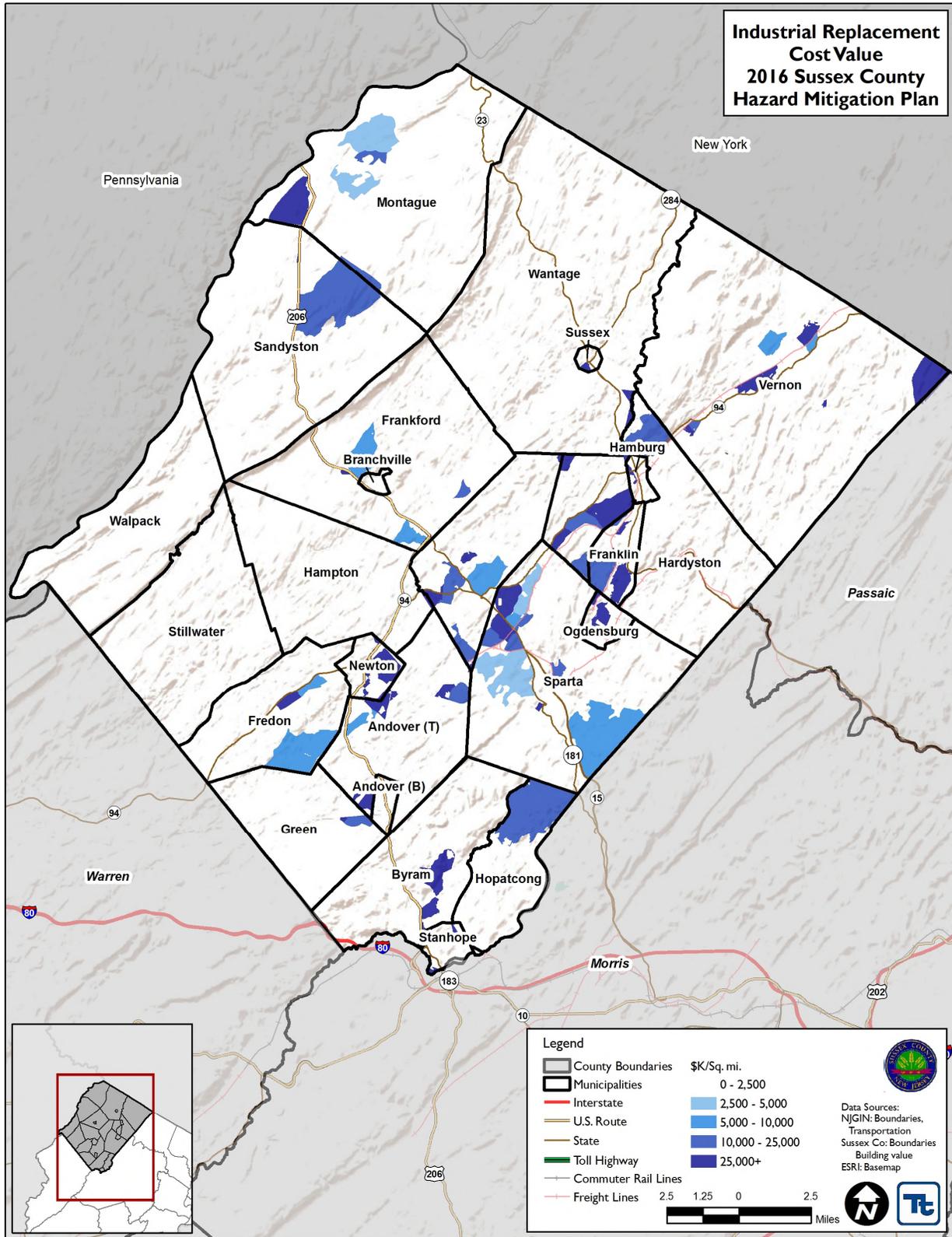


Source: Sussex County; NJ Department of the Treasury 2015





Figure 4-13. Distribution of Industrial Building Stock and Value Density in Sussex County



Source: Sussex County; NJ Department of the Treasury 2015





4.4 ECONOMY

As discussed in the Local Mitigation Handbook, after a natural hazard event, economic resiliency drives recovery. An understanding of the major employers and economic sectors in the county whose losses or inoperability would impact the community and its ability to receive from a disaster is essential.

Sussex County’s early industry and commerce were chiefly centered on agriculture, milling, and iron and zinc mining. The local economy expanded due to the introduction of the railroads, which helped the development of factories following the Civil War and continuing to the 1960s. While manufacturing in the county has declined since 2000 and earlier, the county is still home to several manufacturers including Ames Rubber Corp, a manufacturer of molded components, protective coatings, and dispensed gaskets for high-tech applications and ThorLabs, a manufacturer of high-tech components for the laser and fiber optics industry. Today, the fastest growing sectors of the economy are tourism and recreation. The industries represented by the 10 largest employers include recreation, healthcare, retail, education and government (Sussex County Strategic Growth Plan Update 2014); refer to Table 4-9.

Table 4-9. Top Ten Sussex County Employers

Employer	Location	Employment	Industry
Crystal Springs Golf and Spa Resort	Vernon/Hardyston	2,000	Recreation
Newton Medical Center	Newton	1,200	Healthcare
Selective Insurance	Branchville	900	Insurance
Mountain Creek Resort	Vernon	800	Recreation
County of Sussex	Newton	500	Government
Ames Rubber Corp.	Hamburg	445	Manufacturing
Shop Rite Supermarkets	Newton	301	Retail
Andover Subacute and Rehab Center	Andover	300	Healthcare
Sussex County Community College	Newton	300	Education
Raider Express	Andover	250	Trucking/Logistics

Source: Sussex County Strategic Growth Plan Update 2014

According to the 2014 Update of the County Strategic Growth Plan, the largest employment sector in Sussex County is Education and Healthcare, followed by Trade, Transportation, and Utilities, and Leisure and Hospitality. Sussex County appears to be under-represented in its share of employment in higher-paying industries such as Information, Financial Activities, and Business & Professional Services. These industries are typically considered export-based industries that bring money into the region and have a wealth creating impact on the local economy. The county is over-represented in lower paying industries such as Education and Healthcare, Leisure and Hospitality, and Personal Services. These industries are considered non-basic industries, and except for Leisure and Hospitality, do not bring money into the local economy and as a result have smaller multiplier impacts on the local economy (Sussex County Strategic Growth Plan Update 2014).

Sussex County employment has decreased in a majority of the industry sectors since 2000 with the exception of Education and Healthcare (25.8 percent), Leisure and Hospitality (28.5 percent), and Other Services (47.7 percent). All other industries are below their 2000 employment levels, with many industries significantly below, including Information (55.1 percent), Manufacturing (21.2 percent), and Professional and Business Services (20.8 percent) (Sussex County Strategic Growth Plan Update 2014).





4.5 DEVELOPMENT TRENDS AND NEW DEVELOPMENT

An understanding of population and 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. The DMA 2000 requires that communities consider land use trends, which can impact the need for, and priority of, mitigation options over time. Land use and development 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.

Local zoning and planning authority is provided for under the New Jersey Municipal Land Use Law, which gives municipalities zoning and planning authority. Refer to Sections 6 and 9 for further details on the planning and regulatory capabilities of the county and each municipality.

In the county, the Economic Development Partnership (SCEDP) facilitates the recruitment, retention, and expansion of businesses that will complement and be consistent with the character and environment of the county. Additionally, the Sussex County Planning Board is responsible for approving site plan and subdivision applications within their jurisdiction. A development review committee reviews all applications and acts on behalf of the Planning Board.

Potential future development in the next five years, as identified by each municipality, is noted in the following table and figure. Refer to Section 9 which evaluates the potential new development exposure to natural hazards.



Table 4-10. Potential New Development in Sussex County

Municipality	Property Name	Type	Number of Structures	Address/Block and Lot	Description/Status
Township of Byram	CVS Pharmacy (redevelopment)	Commercial	One	77 Route 206	CVS Pharmacy, demolition of old bldg. underway in prep. to build new CVS underway
Township of Byram	JTK Construction	Commercial	One + outside equipment storage	9 Lackawanna Drive	No date for construction of new building; heavy equip. stored on site
Township of Byram	Venture II (redevelopment)	Commercial	Small strip mall	9 Route 206	Site work begun; project to be revised.
Township of Byram	Village Center Zone	Mixed use	c. 130 homes; c.90,000sf comm.	Corner of Route 206 and Lackawanna Dr.	In Master Plan and governed by Village Center and Smart Growth ordinances; no developer yet.
Township of Byram	Jones Lane Recreational Fields within Tamarack Park	On Twp. open space.	Ballfields; parking.	12 Jones Lane	Planning complete; construction planned for fall 2015.
Township of Frankford	North Plains Holding / Wingles	Commercial	1	749 Route 565	Constructed and Occupied
Township of Frankford	Sussex Commons	Commercial	TBD	Ross' Corner (Route 206 / Route 565)	Site Plans Approved; State approved
Township of Frankford	Township Fire House	Emergency Response	1	390 Route 206 North B: 82 L: 7	Approved; In Progress – clearing land
Township of Frankford	Waste Water Treatment Plant for Branchville	WWTP	Multiple	Route 206	Site located in Township but actually owned/operated by Branchville and County
Township of Frankford	Bentley Assisted Living	Residential	20 units	3 Phillips Road	Approved; not started
Township of Frankford	911 Call Center	Government	1	135 Morris Tpke, Newton	Completed 2014
Borough of Franklin	Auto-Zone	Commercial	1	RT. 23	Completed
Borough of Franklin	Walgreens	Commercial	1	Rt. 23	Completed
Borough of Franklin	S.T.S. Tire store	Commercial	1	Rt. 23	Completed
Borough of Franklin	Taco Bell	Commercial	1	RT. 23	95% complete
Township of Green	Airport Road	Commercial	3	Airport Road Block 31 Lots 1.06, 1.08, 1.09	Lot 1.08 under construction
Township of Green	Hackettstown-Andover 12" Gas Line	Utility	-	Route 517	Gas Main
Township of Green	Airport Road	Commercial	3	Airport Road Block 31 Lots 1.06, 1.08, 1.09	Lot 1.08 under construction





Table 4-10. Potential New Development in Sussex County

Municipality	Property Name	Type	Number of Structures	Address/Block and Lot	Description/Status
Township of Green	Hackettstown-Andover 12" Gas Line	Utility	–	Route 517	Gas Main
Borough of Hamburg	Fairways at Wallkill	Residential	68	G/B Castle Road Block 11 Lot 30 and Block 11.01 Lot 1	On going
Township of Hampton	McGuire Chevrolet	Commercial	1	63 Hampton House Road	Complete
Township of Hampton	Lowe's – Block 3501, Lot 37	Commercial	1 or 2	39 Hampton House Road Lot/Lots in Front of Current Lowe's Store, Block 3501, Lot 37	Vacant
Township of Hampton	Hampton House Realty 3501, Lots 32,34, 35	Commercial	At Least 1	32-35 Hampton House Road	DEP Clean-up Almost Complete
Township of Hampton	Ephemeral Realty	Commercial	1	98 Hampton House Road 3602/5.03	Vacant. Approval granted for Commercial Bldg. Unknown
Township of Hampton	Stone Rows at Halsey Station	Residential	20	Block 2602/ Lots 2.03, 2.04, 2.06, 2.07, 2.08, 2.09, 2.10, 2.13, 2.14 ,2.16, 2.17	Lots Available for Sale
Township of Hardyston	Crystal Springs- Shotmeyer	Single Family	38	Coventry, Woodcott, Tarrington	Under construction
Township of Hardyston	Crystal Springs – Shotmeyer	Multi-Family	1 (18 Units)	Tarrington Road	Under construction
Township of Hardyston	Emerald Estates	Single Family	4	Emerald Drive/Ruby Court	Under construction
Township of Hardyston	Estell Manor	Single Family	3	Estell Drive	Under construction
Township of Hardyston	Crystal Springs – Balmorale	Single Family	2	Exeter Lane/Sutton Court	Under construction
Township of Hardyston	Ridgefield Commons	Single Family-Townhouse	8	Brookview	Under construction
Township of Hardyston	Brecia Farms	Single Family – Townhomes	2	Anthony Lane/Davon Court	Under Construction
Township of Hardyston	Crystal Springs- Shotmeyer	Single Family	50	Coventry, Woodcott, Tarrington	Under construction (approved 117 single family, 141 condos, 22 townhomes)
Township of Hardyston	Crystal Springs – Shotmeyer	Multi-Family	1 (18 Units)	Tarrington Road	Under construction
Township of Hardyston	Emerald Estates	Single Family	25	Emerald Drive/Ruby Court	Under construction (29 lot subdivision)
Township of Hardyston	Estell Manor	Single Family	17	Estell Drive	Under construction (20 lot subdivision)



Table 4-10. Potential New Development in Sussex County

Municipality	Property Name	Type	Number of Structures	Address/Block and Lot	Description/Status
Township of Hardyston	Crystal Springs – Balmorale	Single Family	15	Exeter Lane/Sutton Court	Under construction (28 lot subdivision)
Township of Hardyston	Ridgefield Commons	Single Family-Townhouse	172	Virginia, Highview, Brookview	Under construction (303 planned unit development)
Township of Hardyston	Brecia Farms	Single Family	18	Anthony Lane/Davon Court	Under construction (20 lot subdivision)
Borough of Hopatcong	Atkins/Hopatcong LLC	Residential	35 Units	16 Lawrie Road	Borough Approval-Waiting DEP
Borough of Hopatcong	Greentree at Hopatcong LLC	Residential and Commercial	15 Units/4,660 Residential	446 River Styx Road	Being Built
Borough of Hopatcong	Airport Road Properties	Commercial	2 Warehouses	6 Sparta-Stanhope Road	Borough Approval
Borough of Hopatcong	Greentree at Hopatcong LLC	Residential	9 Units	468 River Styx Road	Borough Approval
Township of Lafayette	Advanced Housing Group Home	Residential	20 Units	10-12 Route 94	Completed
Township of Lafayette	Restaurant / Market w/ waste water treatment plant	Commercial	3 structures	37 Route 15	Approved
Township of Lafayette	Carson Industries	Light Industrial	13 unit	173-175 Route 94	Approved
Township of Sparta	Roundtop at Sparta	Residential	124	Woodport Road	100% complete
Township of Sparta	Chapel Hill	Residential	30	Father John’s Lane	90% complete
Township of Sparta	Jersey Investors	Commercial	4	Town Center Drive	75% complete
Township of Sparta	Windsor Lake	Residential			
Township of Sparta	North Village	Mixed-Use	100+ Residence/8 Commercial	Rt. 15 North	Site Plan Approval
Township of Sparta	Millrace Village	Residential	54 Units	Glen Road	Site Plan Prelim
Township of Vernon	Mountain Creek Day Lodge	Commercial			
Township of Vernon	Urgent Care Center	Medical			
Township of Vernon	KDC Solar	Utility			
Township of Vernon	Theta 456	Residence			
Township of Vernon	CVS Pharmacy	Commercial			
Township of Wantage	Jared Builders	Residential	40	Libertyville Road	Approved; partially developed
Township of Wantage	Bicsak Site	Mixed	-	Blair Road	Conceptual
Township of Wantage	Lang	Residential	4	Ramsey Road	Approved





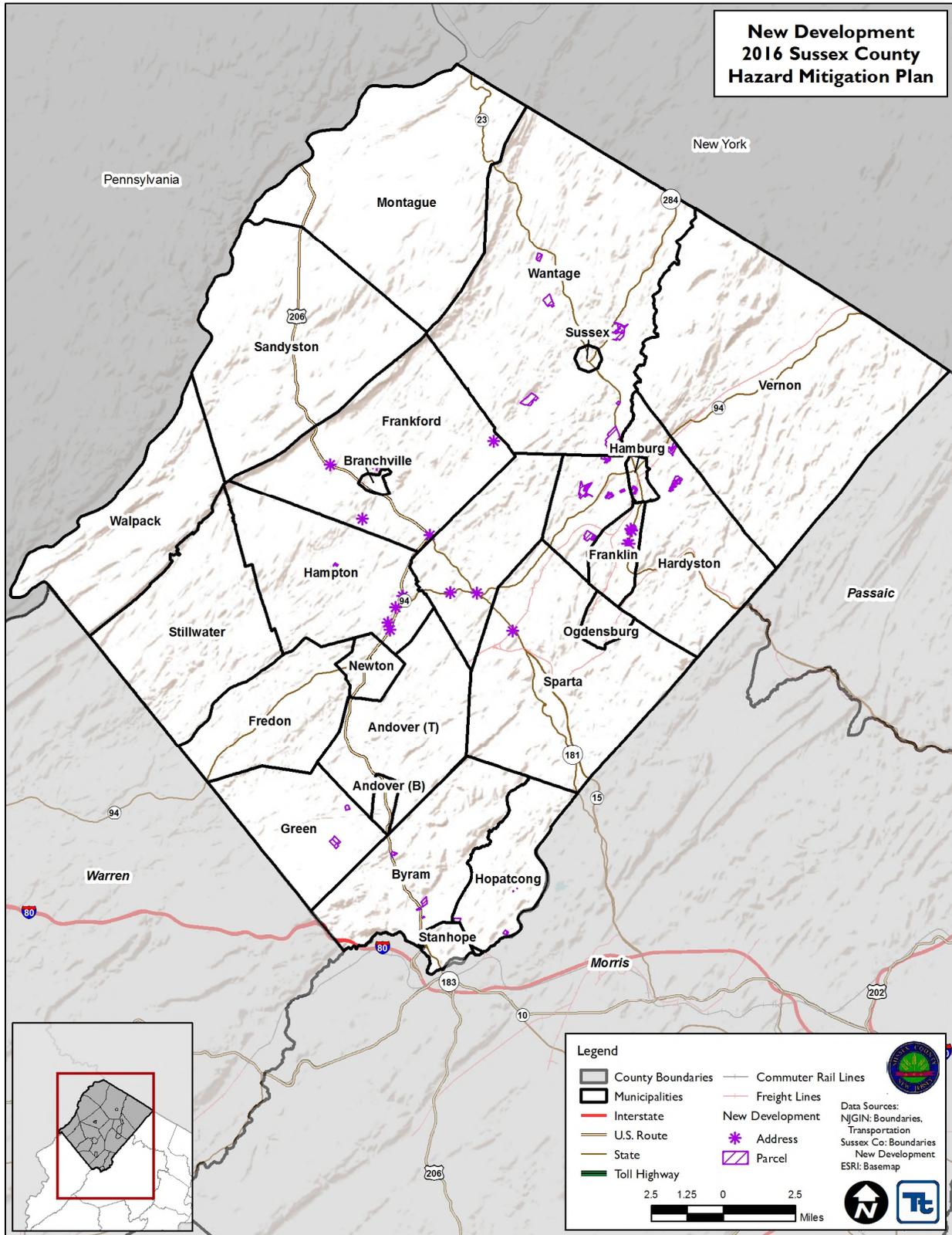
Table 4-10. Potential New Development in Sussex County

Municipality	Property Name	Type	Number of Structures	Address/Block and Lot	Description/Status
Township of Wantage	LGR Enterprises	Residential	11	Sherman Ridge Rd	Approved
Township of Wantage	Toll	Residential	38	Sterling Drive; Flagstone Hill Road	Developed
Township of Wantage	Christian Leone	Residential	15		Approved
Township of Wantage	Town Center At Wantage	Mixed	43	Route 23	Approved; phased development

Source: Planning Committee



Figure 4-14. Potential New Development in Sussex County



Source: Sussex County





4.6 CRITICAL FACILITIES

Critical and essential facilities are necessary for a community’s response to and recovery from natural hazard events. A comprehensive inventory of critical facilities in Sussex County was developed from various sources including the Sussex County DEM, Sussex County Division of Planning and individual municipalities, and used for the risk assessment in Section 5.

The inventory developed for the 2016 HMP update is considered sensitive information. It is protected by the Protected Critical Infrastructure Information (PCII) program and under New Jersey Executive Order 21. Therefore individual facility names and addresses are not provided in this HMP. A summary of the facility types used for the risk assessment are presented further in this section.

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 in 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, emergency medical services (EMS), emergency operations centers (EOCs), schools, shelters, senior facilities and medical facilities.

Emergency Facilities are for the purposes of this plan, emergency facilities include police, fire, EMS and EOCs.

4.6.1 Essential Facilities

This section provides information on emergency facilities, hospital and medical facilities, schools, shelters and senior care and living facilities. Figure 4-15 illustrates the inventory of these essential facilities in Sussex County.

Emergency Facilities

For the purposes of this HMP, emergency facilities include police, fire, emergency medical services (EMS) and emergency operations centers (EOC). Sussex County has a highly coordinated and interconnected network of emergency facilities and services at the county and municipal level. The Sussex County Sheriff Department’s Division of Emergency Management serves as the primary coordinating agency between local, state and federal agencies. In response to an emergency event, the Division will work with county and municipal health agencies and healthcare providers, emergency facilities and the Sheriff’s Office to provide aid to residents of the county.

Each municipality is responsible for maintaining its own fire department with the exception of Walpack Township who has a shared agreement with the Sandyston Township Volunteer Fire Department. Andover Township, Byram Township, Franklin Borough, Hamburg Borough, Hardyston Township, Hopatcong Borough, Newton Town, Ogdensburg Borough, Sparta Township, Stanhope Borough, and Vernon Township all maintain their own police department and provide support to surrounding municipalities. All of the municipalities also maintain their own emergency medical service facilities with the exception of Andover Borough, Branchville Borough, Hamburg Borough, Hampton Township, Sandyston Township, Sussex Borough, and Walpack Township.

Overall, there are 12 enforcement facilities, 45 fire and emergency medical services facilities and 10 emergency operation centers in Sussex County.

Hospital and Medical Facilities

Sussex County has a dynamic health care industry that includes hospitals, adult day care centers, and long-term care facilities. The two major health centers in the county are Newton Memorial Hospital in Newton Town and Saint Claire’s Hospital in Sussex Borough. Additionally, adult care and long-term care facilities are





located in Andover Borough, Andover Township, Hampton Township, Hopatcong Borough, Newton Town, and Sparta Township.

Schools

More than 50 schools, ranging from elementary to post-secondary education, service the county. Several municipalities have their own school systems, while several others are serviced by regional school districts. During an emergency event, many of these facilities can function as shelters. The primary higher education school in Sussex County is Sussex County Community College in Newton.

There is a total of 52 education facilities located in the county.

Shelters

There are 27 shelters identified in the county; many schools, community centers and municipal buildings may serve as a shelter during an emergency.

Senior Care and Living Facilities

It is important to identify and account for senior facilities, as they are highly vulnerable to the potential impacts of disasters. Understanding the location and numbers of these types of facilities can help manage effective response plan post disaster. There are 7 senior facilities located within the county.

Government Buildings

In addition to the facilities discussed, other county and municipal buildings and department of public works facilities are essential to the continuity of operations pre-, during and post-disasters. There are 49 government facilities located in the county.

4.6.2 Transportation Systems

One of the county's strongest assets is its transportation infrastructure. Air and land are available and major roadways include Interstate 80, State Routes 15, 23, 94, 181, and 284, and US Route 206. There are three private airports in the county, and 29 bus and park and ride locations. Figure 4-16 illustrates the transportation facilities in Sussex County.

Three organizations provide limited public transportation services within Sussex County, between the County and Morris County, and extended service to Newark and New York. New Jersey Transit (NJ Transit) provides bus service for County residents. Sussex County Transit provides deviated fixed route and demand response service for the general public and paratransit mobility options for elderly or disabled residents. Lakeland Bus Lines, under contract with NJ Transit, provides service between Sussex County and adjacent counties as well as commuter service to Newark and New York. There are also private agencies in the county that provide transportation for their clients who are either elderly or disabled (Sussex County Ten-Year Mobility Study)

Bus Service

The NJ Transit provides bus service to Sussex County residents. The NJ Transit directly operates some of the services that they provide and contracts out to local providers for other services. The NJ Transit provides one bus route in Sussex County through its Wheels program. The Sparta Diamond Express bus provides peak hour service between Sparta Township and Parsippany (Morris County) (Sussex County Ten-Year Mobility Study).

Lakeland Bus Lines, Inc. operates five routes that are available to county residents under contract by the NJ Transit. Two of the five routes are operated inside Sussex County. One is a local circulator and the other is a



commuter service to New York City. The other three routes provide commuter service to New York City starting in Dover (Morris County) (Sussex County Ten-Year Mobility Study).

Sussex County Transit provides both fixed route and demand response services in the county. The fixed routes are open to the public but the demand response paratransit service is only available to senior citizens and persons with disabilities (Sussex County Ten-Year Mobility Study).

Rail Service

Rail service does not enter Sussex County; residents travel to Morris and Warren Counties to use rail service (Sussex County Ten-Year Mobility Study).

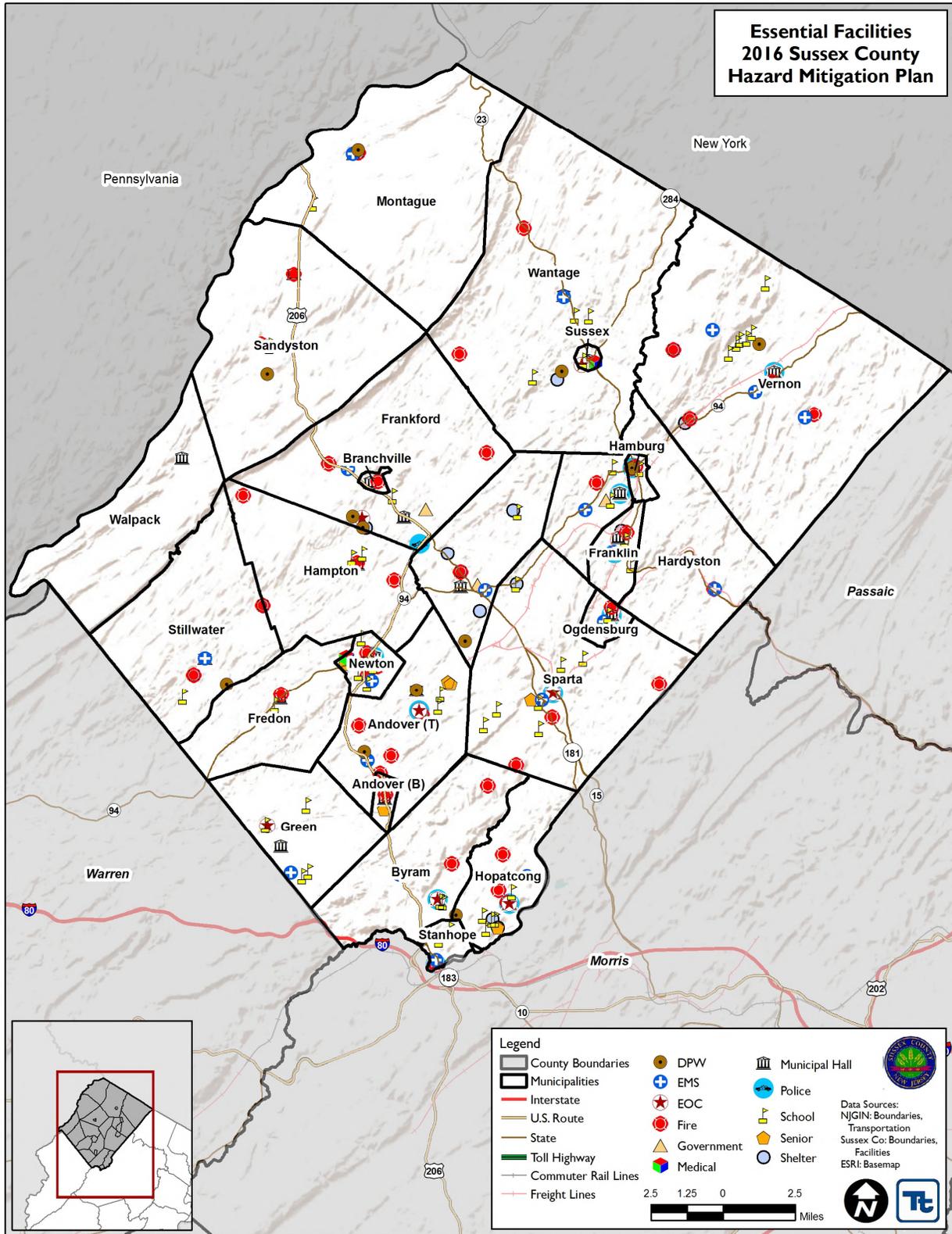
There are interstate highways located outside of Sussex County to the north and south, but within the county, the highways are primarily two-lane roads.

Sussex County Skylands Ride

The Sussex County Skylands Ride is a transportation service that provides five transportation services for Sussex County residents. During the week, the Skylands Connect service runs between the Sussex-Wantage Library and Hampton Township with stops in Hamburg Borough, Franklin Borough, Ogdensburg Borough, Sparta Township, and Newton Town; the Skylands Connect Saturday service is also provided and follows the same route. Skylands New Freedom services is offered on weekdays and runs between the Newton Park & Ride and Netcong train station. Skylands On-Request is provided to senior citizens, veterans, people with disabilities, and residents going to work, school, or training. The Shopper's Service provides scheduled transportation to various stores in the county. Depending on the day, the service is provided to varying communities throughout the county (Sussex County Skylands Ride).



Figure 4-15. Essential Facilities in Sussex County

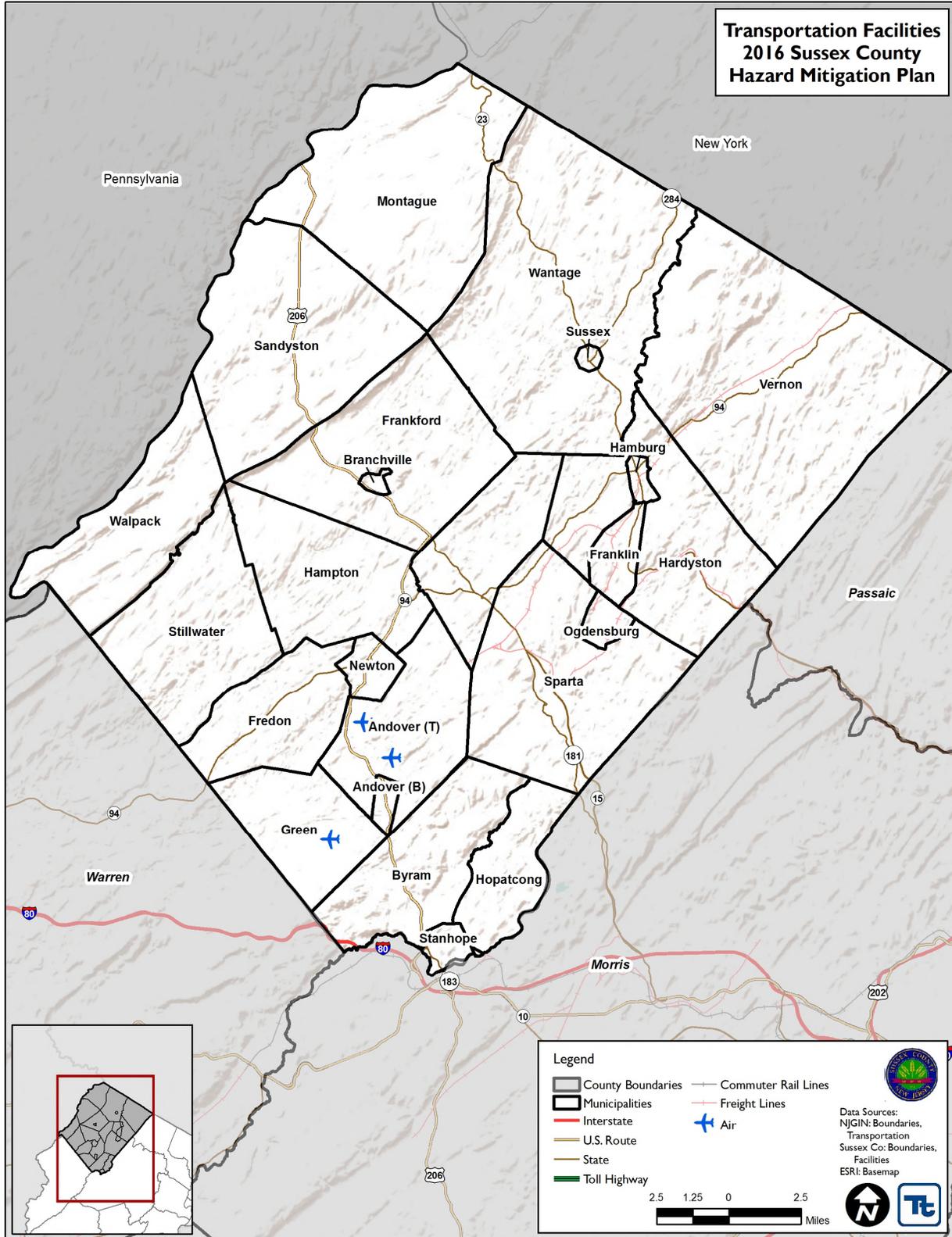


Source: Sussex County





Figure 4-16. Transportation Facilities in Sussex County



Source: Sussex County





4.6.3 Lifeline Utility Systems

This section presents communication, 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.

Communication

Sussex County has a network of communication facilities and cell towers. These facilities are controlled by both public and private institutions. The county identified six essential communication facilities identified in the county.

Potable Water

There are community water supply systems in Sussex County that serve municipalities and places with higher density development, and some lake communities. Twenty-one of the county's municipalities are partially or fully served by public water. The Townships of Lafayette, Sandyston, and Walpack do not have public water supply systems (Wastewater Management Plan 2015).

Approximately 95-percent of Sussex County residents rely on groundwater for consumption. It is pumped to county residents from aquifers through either private on-site wells, community wells, or municipal wells (Natural Resources Inventory 2014).

There are five surface water bodies that are used for potable water supply purposes in Sussex County:

- Morris Lake in Sparta Township – used by the Town of Newton
- Lake Rutherford in Wantage Township – used by the Borough of Sussex
- Branchville Reservoir in Frankford Township – used by the Borough of Branchville
- Franklin Pond in the Borough of Franklin – used by the Borough as an emergency water supply
- Lake Hopatcong – used as emergency water supply for several municipalities
- Canistear Reservoir in Vernon Township – located on the Newark water supply management lands
- Heaters Pond in Ogdensburg – used as an emergency water supply (Natural Resources Inventory 2014)

The county identified seven potable water pumps and 3 wells as critical.

Wastewater Facilities

The Sussex County Municipal Utilities Authority (SCMUA) operates the largest sewer treatment plant, located in Hardyston Township, in Sussex County. The SCMUA also operates other wastewater facilities in the county, including the Hampton Commons facility in Hampton Township. Additionally, the Town of Newton is the owner and operator of its own wastewater treatment plant. The Musconetcong Sewer Authority owns and operates a wastewater treatment plant located in Mount Olive (Morris County), which provides sewer service into Stanhope, Byram, and Hopatcong in Sussex County and portions of Morris County. There are smaller treatment plants located throughout the county that serve schools, commercial, and industrial sites. There are no combined sewers within Sussex County (Wastewater Management Plan 2015). There was one wastewater treatment plants and 12 wastewater pump station identified as critical within the county.



Table 4-10. Wastewater Districts, Franchise Areas and Municipalities

Wastewater Utility	Municipalities
Sussex County Municipal Utilities Authority	Andover Borough, Andover Twp., Branchville, Frankford, Franklin, Green, Hamburg, Hardyston, Lafayette, Montague, Ogdensburg, Sandyston, Sparta, Stillwater, Sussex, Vernon, Walpack, Wantage
Musconetcong Sewer Authority District	Byram, Hopatcong, Stanhope
Hardyston Township Municipal Utilities Authority	All of Hardyston Township, except Aqua NJ area
Town of Newton	Newton
Aqua NJ – Walkkill (owns Walkkill Sewer Company)	Portion of Hardyston Township
Andover Utility Company Inc.	Portion of Andover Township
Montague Sewer Company (owned by Utilities Inc.)	Portion of Montague
Vernon Township Municipal Utilities Authority	Portion of Vernon Township

Source: Sussex County Wastewater Management Plan 2015

Energy Resources

JCP&L is the primary electric and gas utility company in Sussex County with Sussex Rural Electric Cooperative also providing electric to many of the communities. A portion of the Susquehanna-Roseland line, owned by PSE&G, runs through Fredon, Andover Township, Byram, and Hopatcong in southern Sussex County (PSE&G). There were seven electric substations identified by the county as critical. Figure 4-17 illustrates the general location of the utility lifelines in Sussex County.

4.6.4 High-Potential Loss Facilities

High-potential loss facilities include dams, levees, chemical storage facilities and military installations. Figure 4-18 displays the general locations of dams in the county and are discussed further below.

According to the 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, there are 263 dams located in Sussex County, 37 of which are classified with a high-hazard potential.

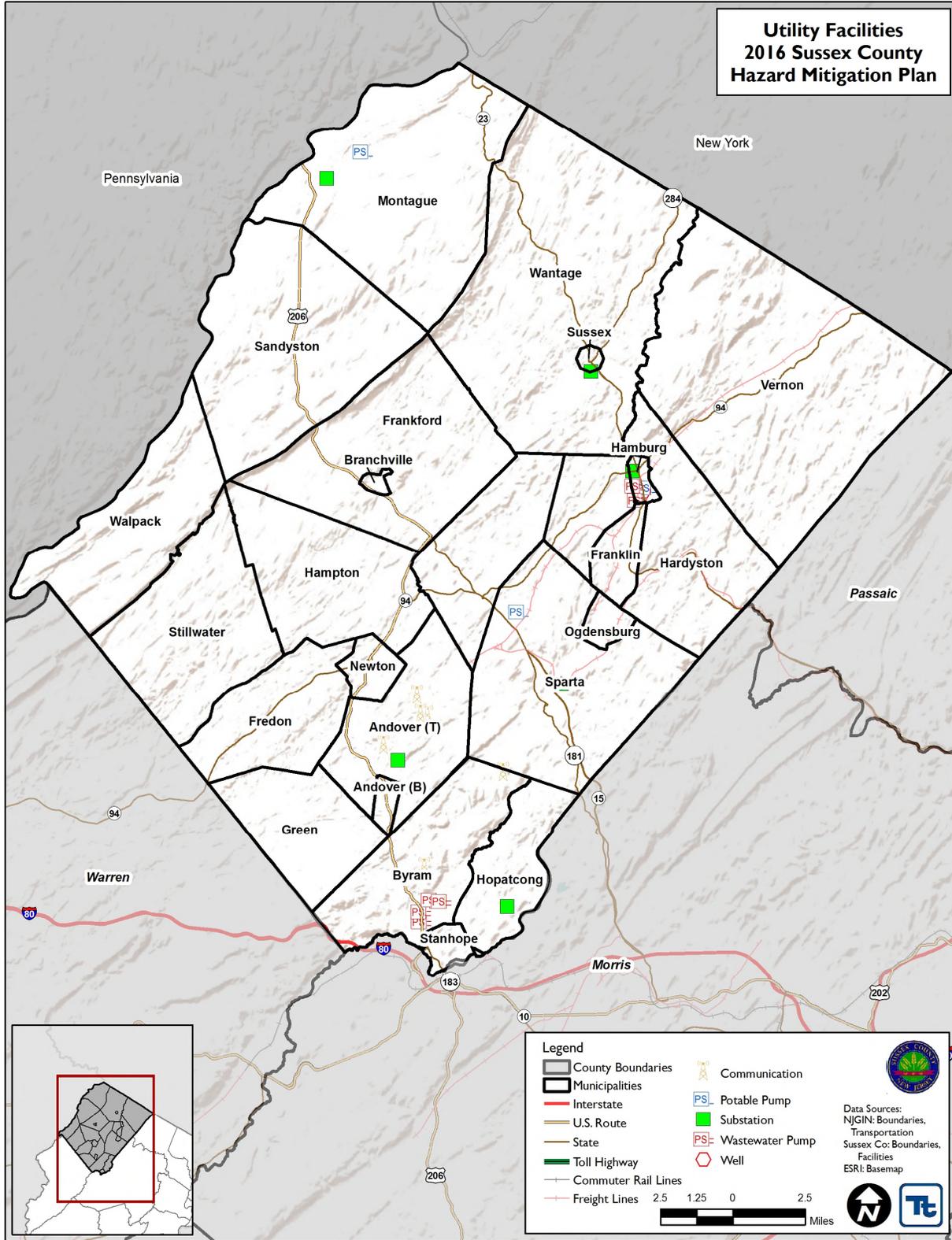
4.6.5 Other Facilities

The Planning Committee identified additional facilities (user-defined facilities) as critical. These facilities include one correctional facility and one public health facility. Figure 4-19 illustrates the general locations of these facilities in the county.





Figure 4-17. Utility Lifelines in Sussex County

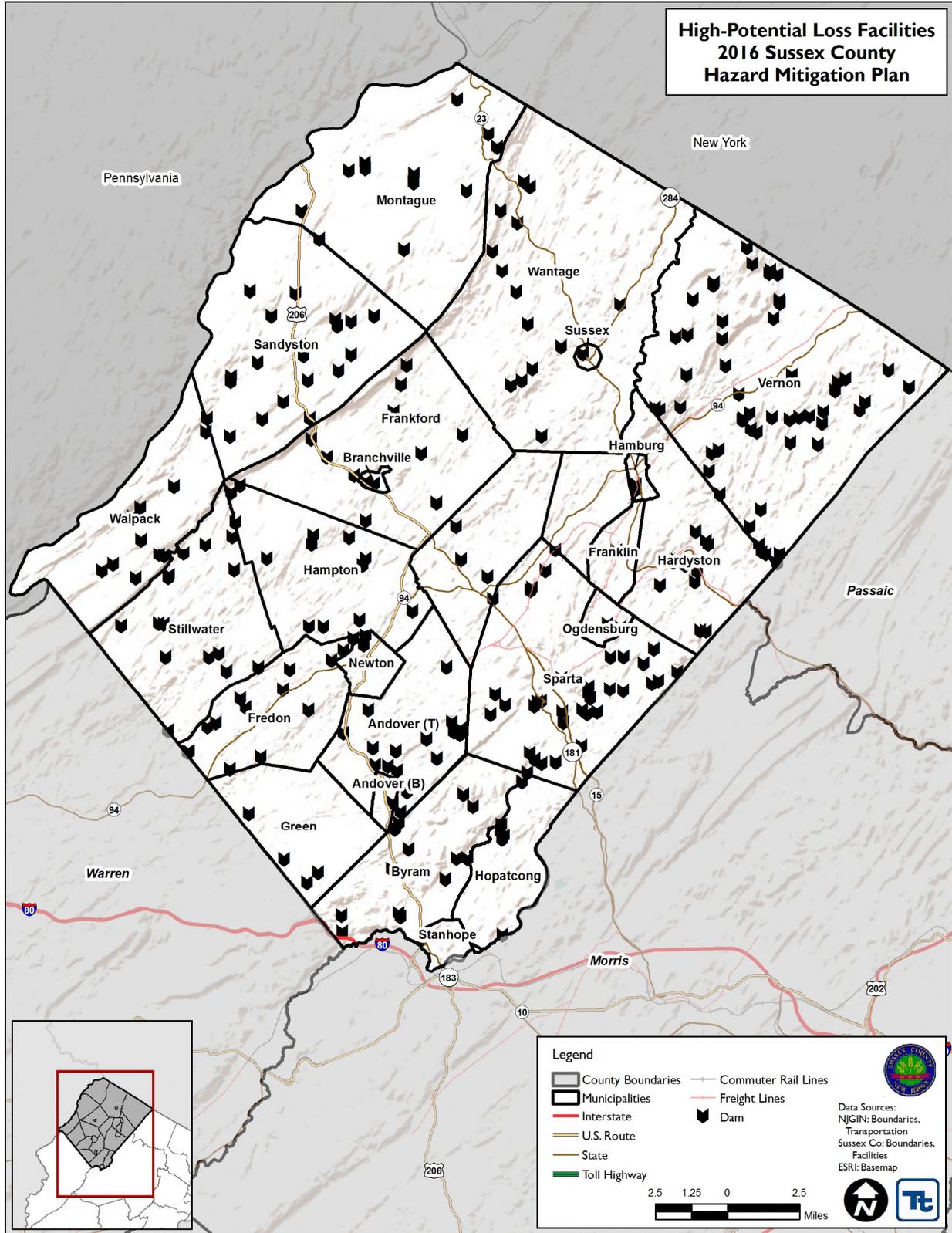


Source: Sussex County





Figure 4-18. High-Potential Loss Facilities in Sussex County

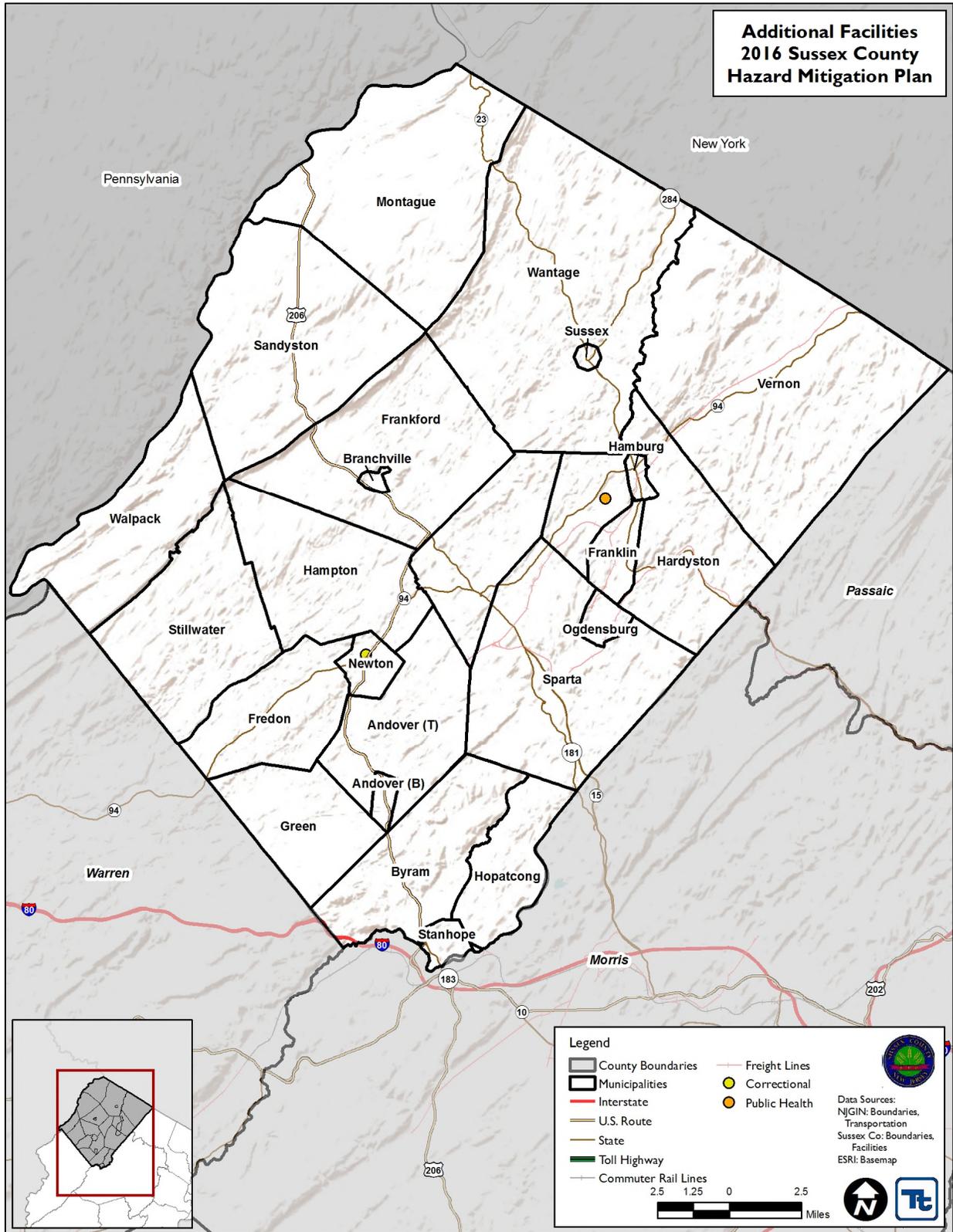


Source: Sussex County





Figure 4-19. Other Facilities in Sussex County



Source: Sussex County

