



SECTION 3 COUNTY PROFILE

This profile describes the general information of the County (physical setting, population and demographics, general building stock, and land use and population trends) and critical facilities/lifelines located in Mercer County. In Section 3, 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).

2021 HMP CHANGES

- The “County Profile” is now located in Section 3; previously located in Section 4. It contains updated information regarding the County's physical setting, population and demographics and trends, general building stock, land use and trends, potential new development and critical facilities. This includes U.S. Census American Community Survey (ACS) 2018 data and additional information regarding the New Jersey Highlands Region and NJDEP Sewer Service Areas in the Development Trends/Future Development subsection.
- The critical facility inventory was expanded to include community lifelines using FEMA’s lifeline definition.

3.1 GENERAL INFORMATION

Mercer County is known as New Jersey’s capital county and located in the central part of the state, between New York City and Philadelphia. Ten percent of the entire population of the United States is within 75 miles of Mercer County. The County has 12 municipalities that cover a total area of 226 square miles. According to the 2010 U.S. Census, the population of Mercer County was 366,513. The estimated 2019 population was 367,922, a 3.9 percent increase from the 2010 Census (American Community Survey [ACS] 2019). Mercer County is bounded to the north by Hunterdon and Somerset Counties, to the south by Burlington and Monmouth Counties, to the east by Middlesex County, and to the west by the Delaware River and Bucks County (Pennsylvania). Figure 3-1 illustrates Mercer County, its municipalities, and the surrounding jurisdictions.

Mercer County is named in honor of General Hugh Mercer and was officially founded in 1838. The history of the county dates back to the American Revolutionary War. General George Washington led the famous December crossing of the Delaware River into Mercer County. Once the Revolutionary War ended, the City of Trenton and Princeton Township served as the temporary Federal Capital (Mercer County 2016a).

3.1.1 PHYSICAL SETTING

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

Hydrography and Hydrology

There are numerous waterways that flow through the County. The Delaware River forms the western border; other bodies of water include: Assunpink Creek, Back Creek, Bear Creek, Beden Brook, Big Bear Brook, Bridegroom Run, Canoe Brook, Cherry Run, Crosswicks Creek, Doctors Creek, Duck Pond Run, Ewing Creek, Harrys Brook and Branches (1, 2, 2-1, and 2-2), Jacobs Creek, Little Bear Brook, Little Shabakunk Creek, Millstone River, Miry Run, Mountain Brook and Branch 2, New Sharon Branch, North Branch Pond Run, Pleasant Run, Rocky Brook, Sand Run, Shabakunk Creek, Shady Brook, Shipetaukin Creek, Stony Brook, Timber Run, Tributary A (Indian Run), Tributary A to Little Shipetaukin Creek, Tributary B to Shipetaukin

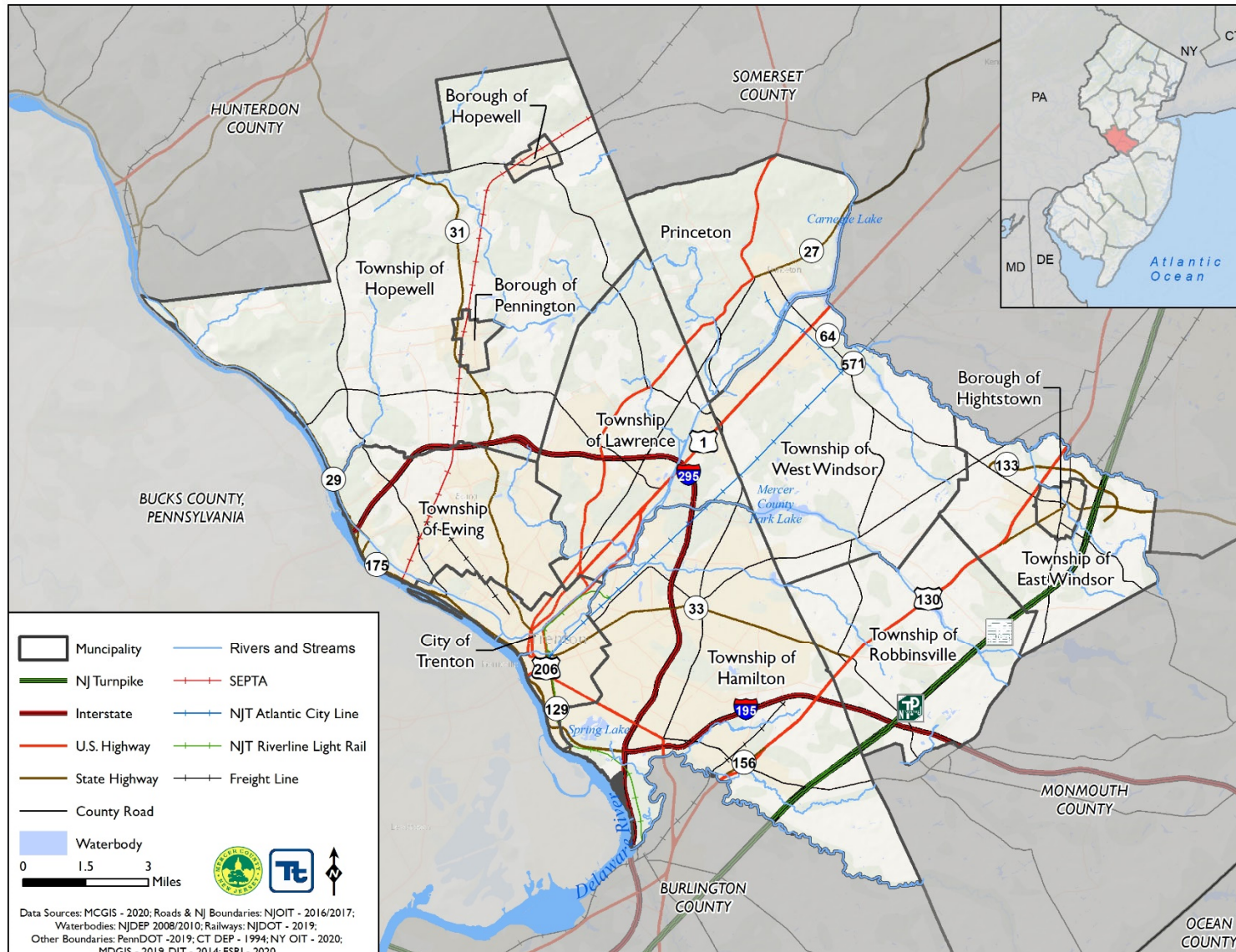


Creek, Tributary C to Shipetaukin Creek, Tributary to Van Horn Brook, Van Horn Brook, and West Branch Shabakunk Creek (Federal Emergency Management Agency [FEMA] 2016).

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Figure 3-1. Overview Map of Mercer County, New Jersey





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. Mercer County is located in three of the 20 WMAs that are discussed further below: Millstone River (WMA 10); Central Delaware (WMA 11); and Assiscunk, Crosswicks, and Doctors (WMA 20). Figure 3-3 illustrates the watersheds in Mercer County.

Watershed Management Area 10 – Millstone

WMA 10 includes the Millstone River and its tributaries. The Millstone River itself is a tributary to the Raritan River. This watershed lies in parts of Hunterdon, Somerset, Middlesex, Mercer, and Monmouth Counties. The Millstone River is 38 miles long and flows from Millstone Township in Monmouth County to the Raritan River near Manville and Bound Brook. Major tributaries include the Stony Brook, Cranbury Brook, Bear Brook, Ten Mile River, Six Mile River, and Bedens Brook. The largest impoundment is Carnegie Lake. Land use in the Millstone Watershed is primarily suburban development with scattered agricultural areas although there is extensive, recent development present in the upper portion of the watershed (NJDEP 2012).

Watershed Management Area 11 – Central Delaware

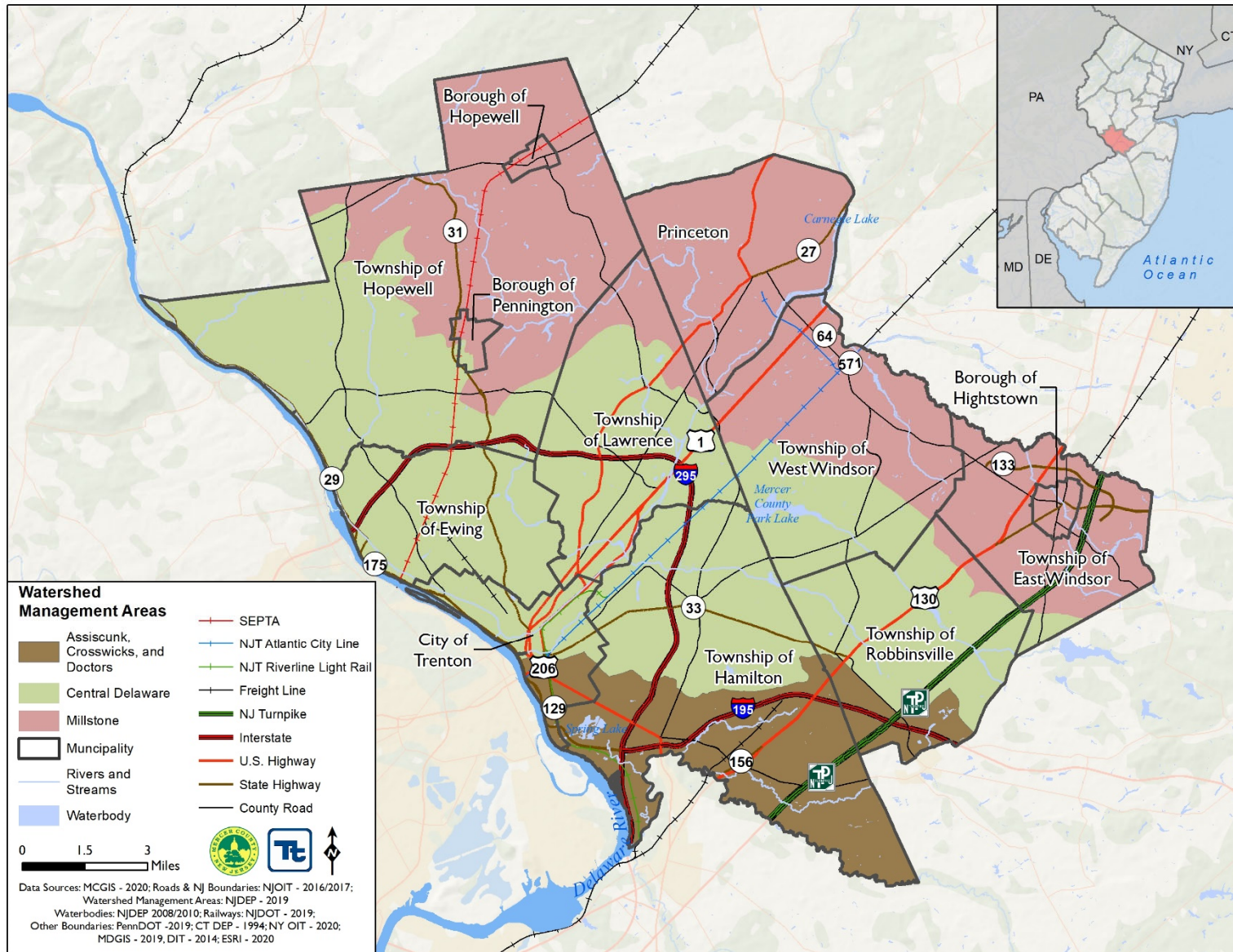
WMA 11, known as the Central Delaware Tributaries, affects the drainage in 24 municipalities within the counties of Hunterdon, Mercer, and Monmouth. The predominant drainage funnels to the Delaware River or the Delaware & Raritan (D&R) Canal. WMA 11 covers approximately 272 square miles and is dominated by the Assunpink Creek and its tributaries to the south and much smaller creeks in the northern portions. Land uses in this area range from agricultural to urban, most notably in the State Capital, the City of Trenton. The land area has also been heavily impacted by suburban development. There are four subwatersheds in WMA 11: Lockatong Creek/Wickecheoke Creek, Hakiwokake/Hariwokake/Nishisakawick Creek, Alexauken Creek/Moore Creek/Jacobs Creek, and Assunpink Creek (NJDEP 2012).

Watershed Management Area 20 – Assiscunk, Crosswicks, Doctors

WMA 20 includes the Assiscunk, Blacks, Crafts, Crosswicks, Doctors, Duck and Mill Creeks. This WMA includes 26 municipalities spanning four counties: Burlington, Mercer, Monmouth, and Ocean and covering an area of 253 square miles. Crosswicks Creek is 25 miles long and drains an area of 146 square miles to the Delaware River at Bordentown. Major tributaries include Jumping Brook, Lahaway Creek, North Run and Doctors Creek. Allentown Lake, Oakford Lake, Prospertown Lake and Imlaystown Lake are major impoundments in the Crosswicks Creek Watershed (NJDEP 2012).



Figure 3-2. Watershed Management Areas of Mercer County, New Jersey





Topography and Geology

Mercer County is generally flat and low-lying, with a few hills closer to the Delaware River. The topography varies and consists of gently undulating coastal plains with numerous swamps and sparse vegetation, and ranges in elevation from 100 to 130 feet above mean sea level in the Township of Hightstown to moderately sloping uplands with relatively narrow floodplains in the Township of Lawrence. Baldpate Mountain located near Pennington is the highest point in the county at 480 feet above sea level. The lowest point is the Delaware River which is at sea level.

Vegetative cover across Mercer County varies with topography and land use characteristics. Native woodlands found in the higher elevations are primarily hardwood with a predominance of oak and sweetgums. The flatter regions of the county support wooded swamps consisting primarily of maples and sweetgum and other water-tolerant vegetation.

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). Mercer County is located in the Northern and Central Climate Zones, which are 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).

The Central Zone has a northeast to southwest orientation, running from New York Harbor and the Lower Hudson River to the great bend of the Delaware River in the vicinity of the City of Trenton. This region has many urban locations with large amounts of pollutants produced by the high volume of automobile traffic and industrial processes. The concentration of buildings and paved surfaces serve to retain more heat, thereby affecting the local temperatures. Because of the asphalt, brick, and concrete, the observed nighttime temperatures in heavily developed parts of the zone are regularly warmer than surrounding suburban and rural areas. This phenomenon is often referred to as a "heat island" (ONJSC Date Unknown).

The climate of Mercer County is largely continental due primarily to the prevailing westerly winds. The mean annual rainfall is approximately 44 inches. Summer temperatures range from an average monthly high of approximately 84°F to an average monthly low of approximately 66°F. Winter temperatures range from an average monthly high of approximately 40°F to an average monthly low of approximately 26°F. Most storms that impact the County originate in the west, but occasionally a coastal storm moves in from the east (FEMA FIS 2016).



Land Use, Land Cover, and Land Use Trends

According to the Mercer County Comprehensive Farmland Preservation Plan, currently, the County contains few areas that resemble the agricultural landscape of its past. Suburban development with increasingly larger homes on larger lots are what is predominantly found in the outer suburban rings surrounding the City of Trenton. In the vicinity of Interstate interchanges, business parks and warehouse construction have occurred on former farmland (Mercer County Department of Planning 2020).

Over the last half of the 20th century, Mercer County shifted from primarily industrial production to a more service/professional employment-based economy. During this time period, the County’s residential and employment centers shifted from the City of Trenton to its suburbs, including the Townships of Ewing and Lawrence. This part of the County is home to four colleges/universities, a regional hospital, and primary employment centers (Urban Land Institute 2004).

In 2007, 49 percent of the land in Mercer County was designated as urban land. By 2015 there was a slight increase with approximately 50.5 percent of the County designated as urban. In 2015, 18.7 percent was forested land; 15.8 percent was wetlands land; 0.8 percent was barren land; and 14.2 percent was agricultural lands. Overall, there has been a decrease in agricultural land (-1.3 percent), wetlands (-0.2 percent), and barren land (-0.2 percent) while there has been a slight increase in forested land (0.2-percent). Refer to Table 3-1 and Figure 3-3 below.

Table 3-1. Land Use Summary for Mercer County, 2007 - 2015

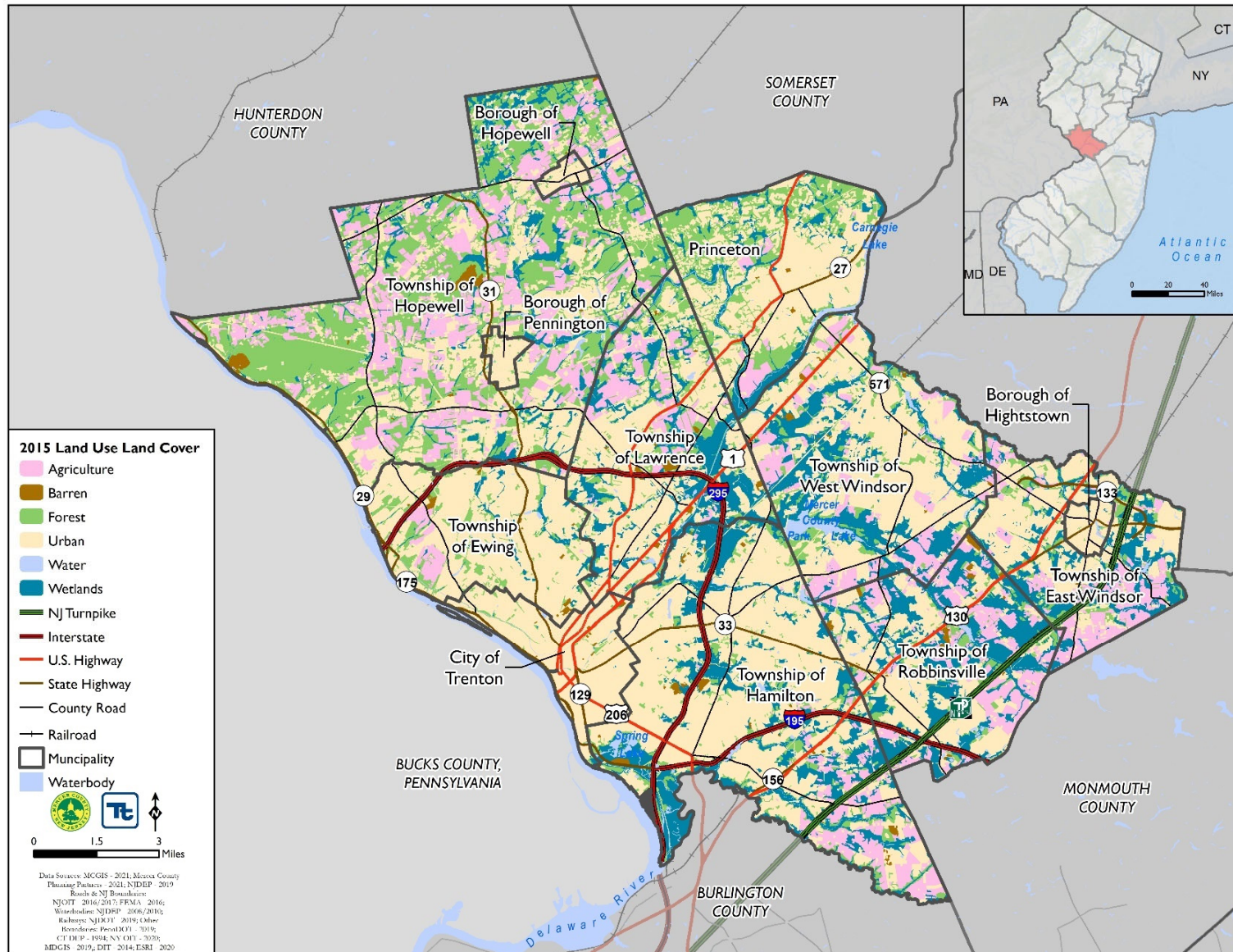
Land Use Category	2007 Data (Published 2010)		2012 Data (Published 2015)		2015 Data (Published 2019)	
	Acreage	Percent of County	Acreage	Percent of County	Acreage	Percent of County
Agriculture	22,166	15.5%	20,566	14.4%	20,289	14.2%
Barren	1,421	1.0%	1,661	1.2%	1,088	0.8%
Forest	26,468	18.5%	27,042	18.9%	26,793	18.7%
Urban	69,949	49.0%	70,934	49.6%	72,215	50.5%
Wetland	22,817	16.0%	22,708	15.9%	22,589	15.8%
Mercer County (Total)	142,823	100.0%	142,911	100.0%	142,973	100.0%

Source: NJDEP, 2019 (the 2015 LULC Updated edition)

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



Figure 3-3. 2015 Land Use Land Cover for Mercer County





Open Space

Almost one in five acres of Mercer County’s total land is preserved in some way. These lands are preserved as public parkland or nonprofit land, conservation easements with public access, or privately-owned preserved farmland. Mercer County has an open space and farmland preservation program that was initiated in 1989 when residents approved the first open space preservation tax. Prior to the tax, the County owned 4,530 acres of county parkland and 189 acres of preserved farmland. Today, there are an additional 5,270 acres of County owned- and operated-parkland (including conservation land with public access), 5,383 additional acres of preserved farmland, and 4,454 acres operated and maintained by the municipalities and/or non-profits. Overall, the County’s Open Space Preservation Tax has been leveraged to preserve 15,107 acres (Mercer County Master Plan 2010). Table 3-2 summarizes the acreage of open space by type in Mercer County.

Table 3-2. Parks and Open Space in Mercer County

Open Space Type	Total Acres
Conservation	2,522
County	8,654
Deed - Private	444
Deed - Restricted Farm	5,572
Golf	822
Municipal	9,829
Municipal Farm	733
Non-Profit	3,336
Non-Profit Farm	152
Small Municipal	1,344
State	4,483
State Deed Farm	1,945
Mercer County (Total)	39,836

Source: Mercer County 2021

Agriculture

A majority of agricultural land in Mercer County is found in the Township of Hopewell and the northern portion of the Township of Lawrence. Farmland is also found in the Townships of West Windsor, Robbinsville, and East Windsor. The Township of Hamilton, especially near its border with Burlington and Monmouth Counties, has significant acres of farmland. According to the 2017 Census of Agriculture, the total acreage of farmland in Mercer County was 25,230 acres, approximately 17.6% of the County’s total land area. There were 323 farms with an average farm size of 78 acres. The market value of agricultural products sold in Mercer County was nearly \$25 million (80 percent in crops and 20 percent in livestock, poultry, and their products) (USDA 2017). Table 3-3 summarizes the acreage of agricultural land in Mercer County.



Table 3-3. Agricultural Land in Mercer County in 2017

Number of Farms	Land in Farms (acres)	Total Cropland (acres)	Total Pastureland (acres)	Irrigated Land (acres)
323	25,230	15,895	2,523	1,008

Source: USDA 2017

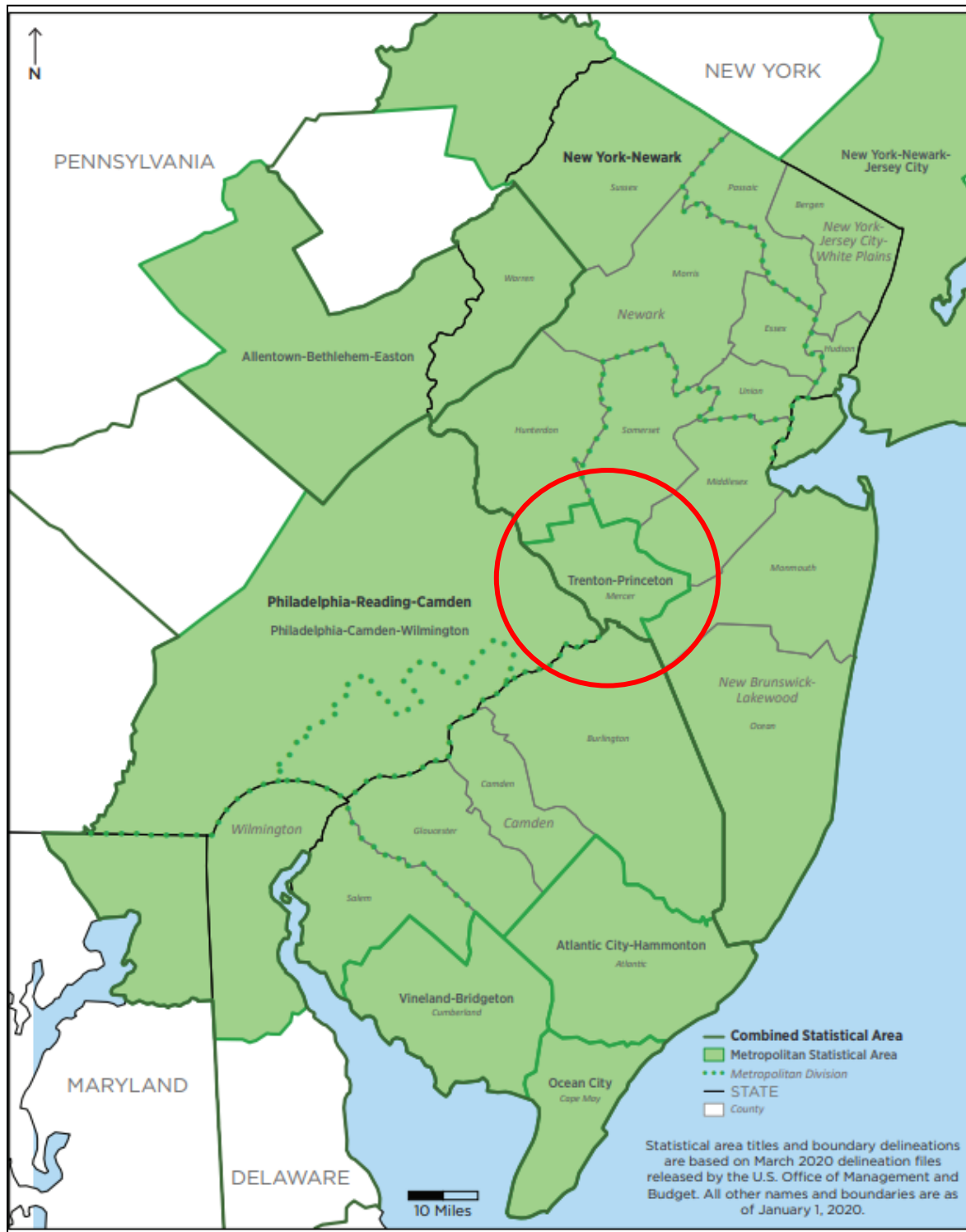
Metropolitan Statistical Area

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 (OMB 2010). Mercer County is located within the Trenton-Princeton MSA. Figure 3-4 illustrates the different statistical areas in New Jersey and parts of New York State.

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Figure 3-4. New Jersey: 2020 Core Based Statistical Areas and Counties



Source: U.S. Census 2020

Note: The red circle indicates the approximate location of Mercer County and the Trenton-Princeton MSA.



3.2 POPULATION AND DEMOGRAPHICS

Knowledge of the composition of the population, how it has changed in the past and how it may change in the future is needed to make informed decisions. Information about population is a critical part of planning because it directly relates to needs such as housing, industry, stores, public facilities and services, and transportation.

3.2.1 POPULATION CHARACTERISTICS

According to the 2010 U.S. Census, Mercer County had a population of 366,513 people. The 2019 5-Year ACS Population Statistics estimate for the County population was 367,922, a 0.4 percent increase from 2010. Table 3-4 and Table 3-5 present the socially vulnerable population statistics for Mercer County based on the 2010 U.S. Census data and the 2019 5-Year ACS Population Statistics respectively. Figure 3-5 illustrates the distribution of the general population density (persons per square mile) in 2019 by census tract. 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.

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Table 3-4. Mercer County 2010 Population Statistics

Jurisdiction	U.S. Census 2010				
	Total	Over 65	Percent Over 65	Population Under 5	Percent Under 5
East Windsor (Twp)	27,190	3,152	11.6%	1,898	7.0%
Ewing (Twp)	35,790	5,275	14.7%	1,492	4.2%
Hamilton (Twp)	88,464	13,956	15.8%	4,585	5.2%
Highstown (B)	5,494	530	9.6%	386	7.0%
Hopewell (B)	1,922	213	11.1%	124	6.5%
Hopewell (Twp)	17,304	2,449	14.2%	799	4.6%
Lawrence (Twp)	33,472	4,611	13.8%	1,830	5.5%
Pennington (B)	2,585	460	17.8%	130	5.0%
Princeton	28,572	1,746	6.1%	1,063	3.7%
Robbinsville (Twp)	13,642	497	3.6%	883	6.5%
Trenton (C)	84,913	3,006	3.5%	6,750	7.9%
West Windsor (Twp)	27,165	2,925	10.8%	1,613	5.9%
Mercer County (Total)	366,513	46,347	12.6%	21,553	5.9%

Source: U.S. Census 2010

Notes: B = Borough, C = City, Twp = Township, % = Percent

Table 3-5. Mercer County 2019 5-Year American Community Survey Population Statistics

Jurisdiction	2015-2019 American Community Survey 5-Year Estimates										
	Total	Over 65	Percent Over 65	Under 5	Percent Under 5	Population Below Poverty Level*	Percent Below Poverty Level	Disability	Percent with a Disability	Non-English Speaking	Percent Non-English Speaking
East Windsor (Twp)	27,245	4,104	15.1%	2,001	7.3%	2,019	7.4%	2,284	8.4%	5,116	18.8%
Ewing (Twp)	36,037	6,010	16.7%	1,892	5.3%	3,283	9.1%	3,766	10.5%	1,739	4.8%
Hamilton (Twp)	87,424	15,733	18.0%	5,190	5.9%	6,908	7.9%	9,678	11.1%	7,891	9.0%
Highstown (B)	5,375	965	18.0%	331	6.2%	565	10.5%	420	7.8%	1,222	22.7%
Hopewell (B)	1,915	267	13.9%	120	6.3%	121	6.3%	148	7.7%	52	2.7%
Hopewell (Twp)	18,067	3,030	16.8%	872	4.8%	446	2.5%	1,355	7.5%	763	4.2%





Jurisdiction	2015-2019 American Community Survey 5-Year Estimates										
	Total	Over 65	Percent Over 65	Under 5	Percent Under 5	Population Below Poverty Level*	Percent Below Poverty Level	Disability	Percent with a Disability	Non-English Speaking	Percent Non-English Speaking
Lawrence (Twp)	32,614	5,391	16.5%	1,501	4.6%	1,827	5.6%	2,497	7.7%	3,211	9.8%
Pennington (B)	2,531	599	23.7%	125	4.9%	65	2.6%	248	9.8%	39	1.5%
Princeton	31,000	5,201	16.8%	1,037	3.3%	2,007	6.5%	1,823	5.9%	2,995	9.7%
Robbinsville (Twp)	14,365	1,558	10.8%	499	3.5%	135	0.9%	1,029	7.2%	945	6.6%
Trenton (C)	83,412	8,421	10.1%	6,037	7.2%	23,101	27.7%	11,029	13.2%	17,746	21.3%
West Windsor (Twp)	27,937	3,662	13.1%	1,271	4.5%	503	1.8%	1,498	5.4%	2,957	10.6%
Mercer County (Total)	367,922	54,941	14.9%	20,876	5.7%	40,980	11.1%	35,775	9.7%	44,676	12.1%

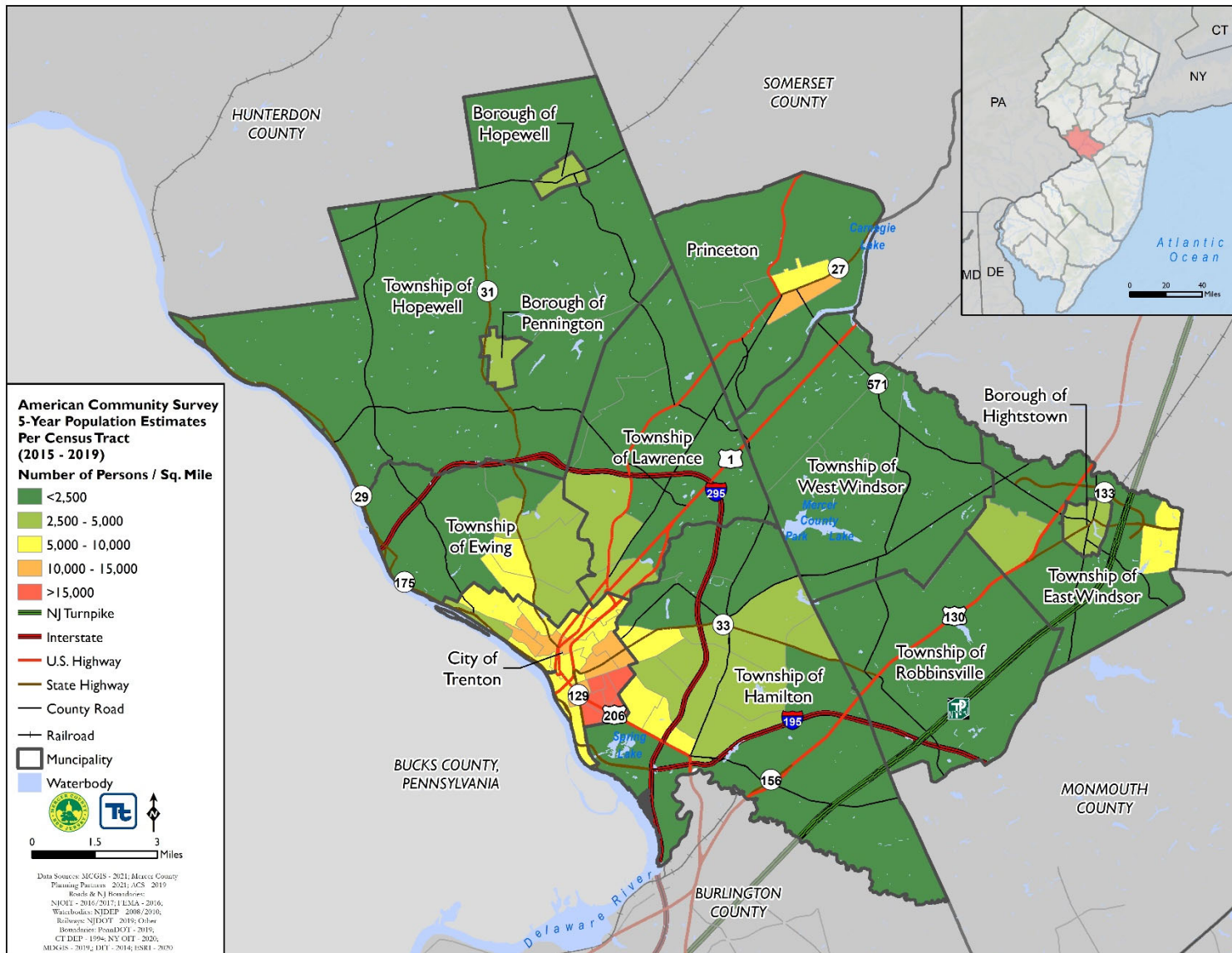
Source: American Community Survey 2019

Notes: B = Borough, C = City, Twp = Township, % = Percent





Figure 3-5. Population Distribution of Persons by Tract in Mercer County, New Jersey





3.2.2 VULNERABLE POPULATIONS

Research has shown that some populations, while they may not have more hazard exposure, may experience exacerbated impacts and prolonged recovery if/when impacted by a hazard event. This is due to many factors including their physical and financial ability to react or respond during a hazard. Identifying concentrations of vulnerable populations can assist communities in targeting preparedness, response and mitigation actions. For the purposes of this planning process, vulnerable populations in Hunterdon 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 is 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 is also more likely to live in senior care and living facilities where emergency preparedness occurs at the discretion of facility operators. Senior care and living facilities are also most vulnerable to hazards like pandemics in light of the close living arrangements combined with older populations with potentially weakened immune systems or pre-existing health issues that may be accentuated during an event like a pandemic.

According to the 2019 ACS, the median age in Mercer County was 38.8 years. Of the 2019 population, 14.9 percent (54,941 persons) of the population were age 65 and older, and 5.7 percent (20,876 persons) of the County population age 5 or younger; refer to Figure 3-6.

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 2015-2019 ACS the median household income was \$81,057. It is estimated that in Mercer County, 14.4-percent of households receive an income between \$50,000 and \$74,999 per year, and 14.9-percent of households receive over \$200,000 annually.

The 2015-2019 ACS estimates approximately 16.6 percent (21,569 households) of the households in Mercer County make less than \$25,000 per year and are therefore below the poverty level. According to the Census' 2019 poverty thresholds, the weighted average thresholds for a family of four in 2018 was \$25,701; for a family of three, \$19,985; for a family of two, \$12,784, and for unrelated individuals, \$13,016. Figure 3-6 shows the distribution of low-income persons in Mercer County.

It is noted that the 2010 Census data for household income provided in Hazus includes two ranges (\$0-10,000 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 updated ACS statistics; however, this difference is not believed to be significant for the purposes of this planning effort.

Physically or Mentally Disabled

The Center for Disease Control and Prevention (CDC) defines a disability as a “condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions)” (CDC 2020). These impairments may increase the level of difficulty that individuals may face during an emergency. Cognitive impairments may reduce an individual’s capacity to receive, process, and respond to emergency information or warnings.



Individuals with a physical or sensory disability may face issues of mobility, sight, hearing, or reliance on specialized medical equipment. According to the 2015-2019 ACS, 9.7 percent of residents of Mercer County are living with a disability. Figure 3-6 shows the geographic distribution of disabled individuals throughout Mercer County which includes individuals with hearing, vision, cognitive, ambulatory, self-care, and independent living difficulties.

Non-English Speakers

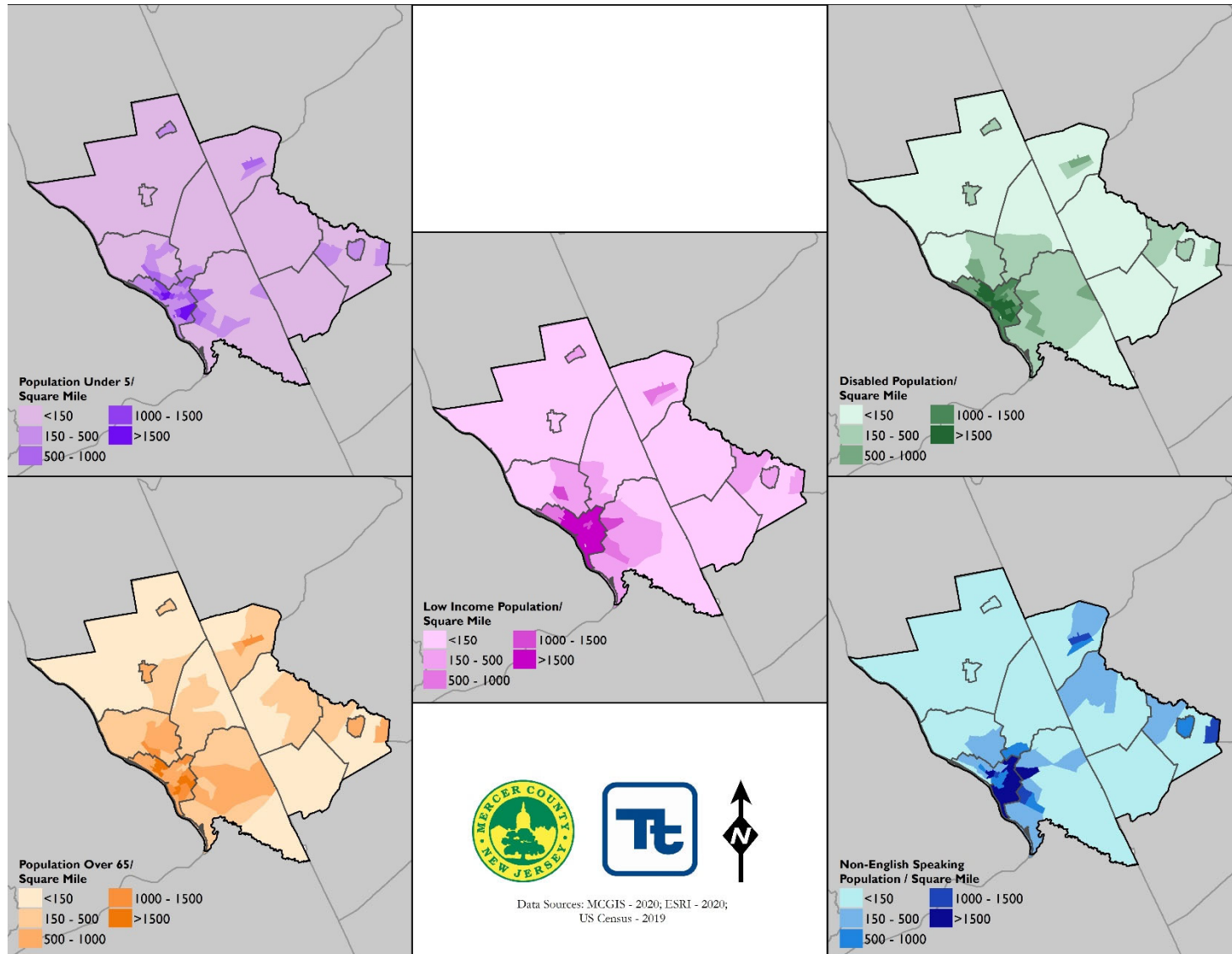
Individuals who are not fluent or have a working proficiency in English may be vulnerable to hazard events because they may have difficulty with understanding information being conveyed to them. Cultural differences can also add complexity to how information is being conveyed to populations with limited proficiency of English (CDC 2020).

According to the 2015-2019 ACS, 12.1 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's average of 30.3 percent. Figure 3-6 shows the geographic distribution of non-English speakers throughout Mercer County.

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Figure 3-6. Distribution of Socially Vulnerable Persons in Mercer County, New Jersey





3.2.3 POPULATION TRENDS

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. Between 1900 and 2010, the County experienced overall growth. The largest increase in population was between 1900 and 1910 when the population increased by 31.76 percent. The smallest increase has taken place recently. Table 3-5 displays the population changes from 1900 to 2019 in Mercer County.

Table 3-5. Mercer County Population Change, 1900 to 2014

Year	Population	Change in Population	Percent Population Change
1900	95,365	N/A	N/A
1910	125,657	30,292	31.76%
1920	159,881	34,224	27.24%
1930	187,143	27,262	17.05%
1940	197,318	10,175	5.44%
1950	229,781	32,463	16.45%
1960	266,392	36,611	15.93%
1970	304,116	37,724	14.16%
1980	307,863	3,747	1.23%
1990	325,824	17,961	5.83%
2000	350,761	24,937	7.65%
2010	366,513	15,752	4.49%
2014	371,537	5,024	1.37%
2019	367,922	-3,615	-0.97%

Source: U.S. Census Bureau 2016; New Jersey Department of Labor 2016, American Community Survey 2019
Note: N/A = Not Applicable
Change in population and percent in population change was calculated from available data.

Table 3-6 lists the 10 most populous municipalities in Mercer County. According to the 2015-2019 ACS, Hamilton Township has the greatest population, comprising 24.1 percent of the County’s total, followed closely by the City of Trenton.

Table 3-6. 10 Most Populous Municipalities in Mercer County (2019 American Community Survey)

Rank	Municipality	Population
1	Hamilton Township	87,424
2	Trenton City	83,412
3	Ewing Township	36,037
4	Lawrence Township	32,614
5	Princeton	31,000
6	West Windsor Township	27,937
7	East Windsor Township	27,245
6	West Windsor Township	27,937



Rank	Municipality	Population
7	Hopewell Township	18,067
8	Robbinsville Township	14,365
9	Hightstown Borough	5,375
10	Pennington Borough	2,531

Source: American Community Survey 2019

Note: Princeton Borough and Princeton Township merged as one community in 2013.

Table 3-7 shows the population trends in Mercer County, between 2010 and 2019. Between 2000 and 2019, Princeton experienced the largest growth in population (8.5 percent). During this same time period, six municipalities saw a decrease in their population: Hamilton Township (-1.18 percent), Hightstown Borough (-2.17 percent), Hopewell Borough (-0.36 percent), Lawrence Township (-2.56 percent), Pennington Borough (-2.09 percent), and the City of Trenton (-1.77 percent).

Table 3-7. Population Trends in Mercer County by Municipality

Municipality	2010 U.S. Census	2019 ACS	Change in Population	Percent Population Change
East Windsor Township	27,190	27,245	55	0.20%
Ewing Township	35,790	36,037	247	0.69%
Hamilton Township	88,464	87,424	-1,040	-1.18%
Hightstown Borough	5,494	5,375	-119	-2.17%
Hopewell Borough	1,922	1,915	-7	-0.36%
Hopewell Township	17,304	18,067	763	4.41%
Lawrence Township	33,472	32,614	-858	-2.56%
Pennington Borough	2,585	2,531	-54	-2.09%
Princeton Borough	12,307	31,000	2,428	8.50%
Princeton Township	16,265			
Robbinsville Township	13,642	14,365	723	5.30%
Trenton City	84,913	83,412	-1,501	-1.77%
West Windsor Township	27,165	27,937	772	2.84%

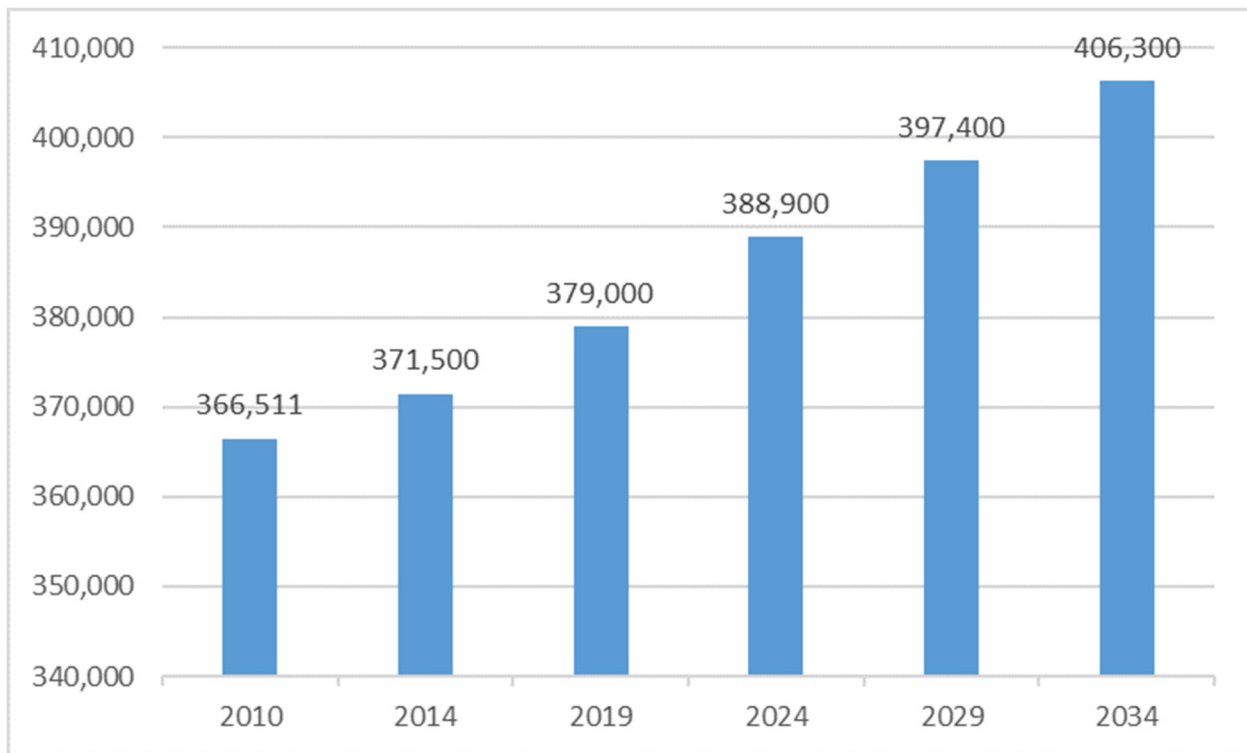
Source: U.S. Census 2010, American Community Survey 2019

Note: Princeton Borough and Princeton Township merged as one community in 2013 (after the 2010 Census); therefore, this table includes information for both the borough and township separately for the 2010 Census.

Over the next 15 years, from 2019 to 2034, Mercer County has a projected population growth of 7.2 percent. Based on New Jersey Department of Labor population projections, the County population is expected to reach 388,900 by 2024, and 406,300 by 2034 (Figure 3-7).



Figure 3-7. Mercer County Population Projections, 2014 to 2034



Source: New Jersey Department of Labor and Workforce Development 2017

3.3 GENERAL BUILDING STOCK

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 2000 U.S. Census data identified 125,807 households (133,280 housing units) in Mercer County (New Jersey Labor 2000). The 2010 U.S. Census data identified 133,155 households (143,169 housing units) in Mercer County (New Jersey Labor 2010). The 2019 5-year U.S. Census data identified 129,936 households (144,855 housing units) in Mercer County. Between 2000 and 2019, the County experienced a 3.3-percent increase in households and an 8.7-percent increase in housing units, respectively. The median price of an owner-occupied home in Mercer County was estimated at \$291,100 (ACS 5-Year Estimates 2019).

A custom building inventory was generated for this plan utilizing parcel, tax assessment data, and building footprints provided by Mercer County, and Microsoft Bing 2018 footprints. Refer to Section 4.2 (Methodology and Tools) for more information on the development of the building stock. This resulted in a building inventory with 103,579 structures in the County. The total estimated replacement cost of these buildings is approximately \$88.1 billion. Approximately 86.7-percent of the total buildings in the County are residential, which comprises approximately 43.8-percent of the total replacement cost value. Table 3-8 presents building stock statistics by occupancy class used to inform this planning process.



Table 3-8. Number of Buildings and Replacement Cost Value by Occupancy Class

Jurisdiction	All Occupancies				Residential		Commercial	
	Count	Replacement Cost Value (Structure Only)	Replacement Cost Value (Contents Only)	Total Replacement Cost Value	Count	Total Replacement Cost Value	Count	Total Replacement Cost Value
				(Structure + Contents)		(Structure + Contents)		(Structure + Contents)
East Windsor (Twp)	5,439	\$4,536,454,703	\$3,175,953,537	\$7,712,408,240	4,853	\$4,582,381,400	295	\$1,658,153,698
Ewing (Twp)	12,054	\$10,203,494,268	\$7,958,363,944	\$18,161,858,212	10,558	\$7,427,951,820	989	\$7,087,637,488
Hamilton (Twp)	29,515	\$17,546,798,111	\$13,332,130,589	\$30,878,928,699	26,825	\$14,652,813,502	1,757	\$9,907,129,182
Highstown (B)	1,624	\$1,018,152,318	\$849,392,469	\$1,867,544,787	1,362	\$571,915,632	146	\$559,393,921
Hopewell (B)	844	\$487,586,569	\$362,580,434	\$850,167,003	697	\$392,687,627	87	\$216,248,804
Hopewell (Twp)	7,719	\$7,010,959,532	\$4,698,141,644	\$11,709,101,176	5,695	\$7,092,374,950	405	\$1,651,025,917
Lawrence (Twp)	9,027	\$7,978,669,288	\$6,253,366,187	\$14,232,035,476	7,733	\$6,079,988,595	598	\$4,956,524,015
Pennington (B)	953	\$600,460,682	\$409,299,786	\$1,009,760,468	808	\$598,838,872	92	\$220,259,465
Princeton	7,527	\$7,326,718,155	\$5,281,675,604	\$12,608,393,758	6,571	\$7,032,651,556	422	\$2,550,112,205
Robbinsville (Twp)	4,162	\$3,676,588,802	\$3,491,042,380	\$7,167,631,183	3,538	\$2,288,613,539	220	\$997,362,304
Trenton (C)	17,152	\$19,841,364,451	\$16,762,947,381	\$36,604,311,832	14,242	\$9,993,336,687	1,966	\$19,813,533,815
West Windsor (Twp)	7,563	\$7,829,923,922	\$5,349,436,410	\$13,179,360,332	6,904	\$7,649,550,263	321	\$3,869,771,845
Mercer County (Total)	103,579	\$88,057,170,800	\$67,924,330,365	\$155,981,501,165	89,786	\$68,363,104,444	7,298	\$53,487,152,660

Source: Mercer County 2019/2020; RS Means 2021



The 2015-2019 ACS identified that the majority of housing units (48.6 percent) in Mercer County are one-unit detached units. The 2019 U.S. Census Bureau’s County Business Patterns data identified 9,694 business establishments employing 199,859 people in Mercer County. The professional, scientific, and technical service industry has the greatest number of establishments in the County, with 1,569 establishments. This is followed by the retail trade with 1,241 establishments, and the healthcare and social assistance industry with 1,206 establishments (U.S. Census 2019).

Figure 3-8 through Figure 3-10 show the distribution and exposure density of residential, commercial, and industrial buildings in Mercer 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, such as Figure 3-8 through Figure 3-10, can assist communities in visualizing areas of high exposure and in evaluating aspects of the study area in relation to the specific hazard risks.

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Figure 3-8. Distribution of Residential Building Stock Value in Mercer County

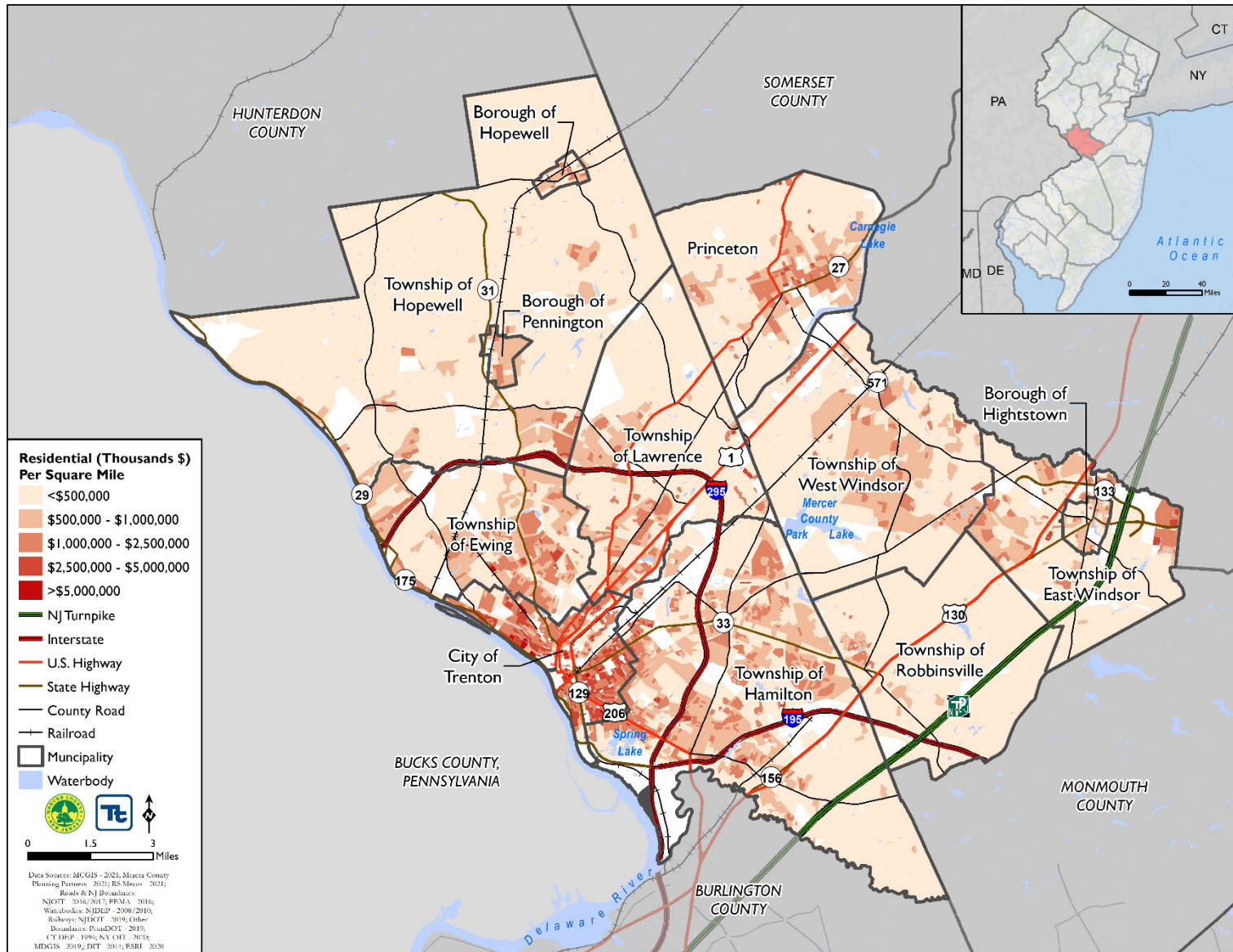




Figure 3-9. Distribution of Commercial Building Stock Value in Mercer County

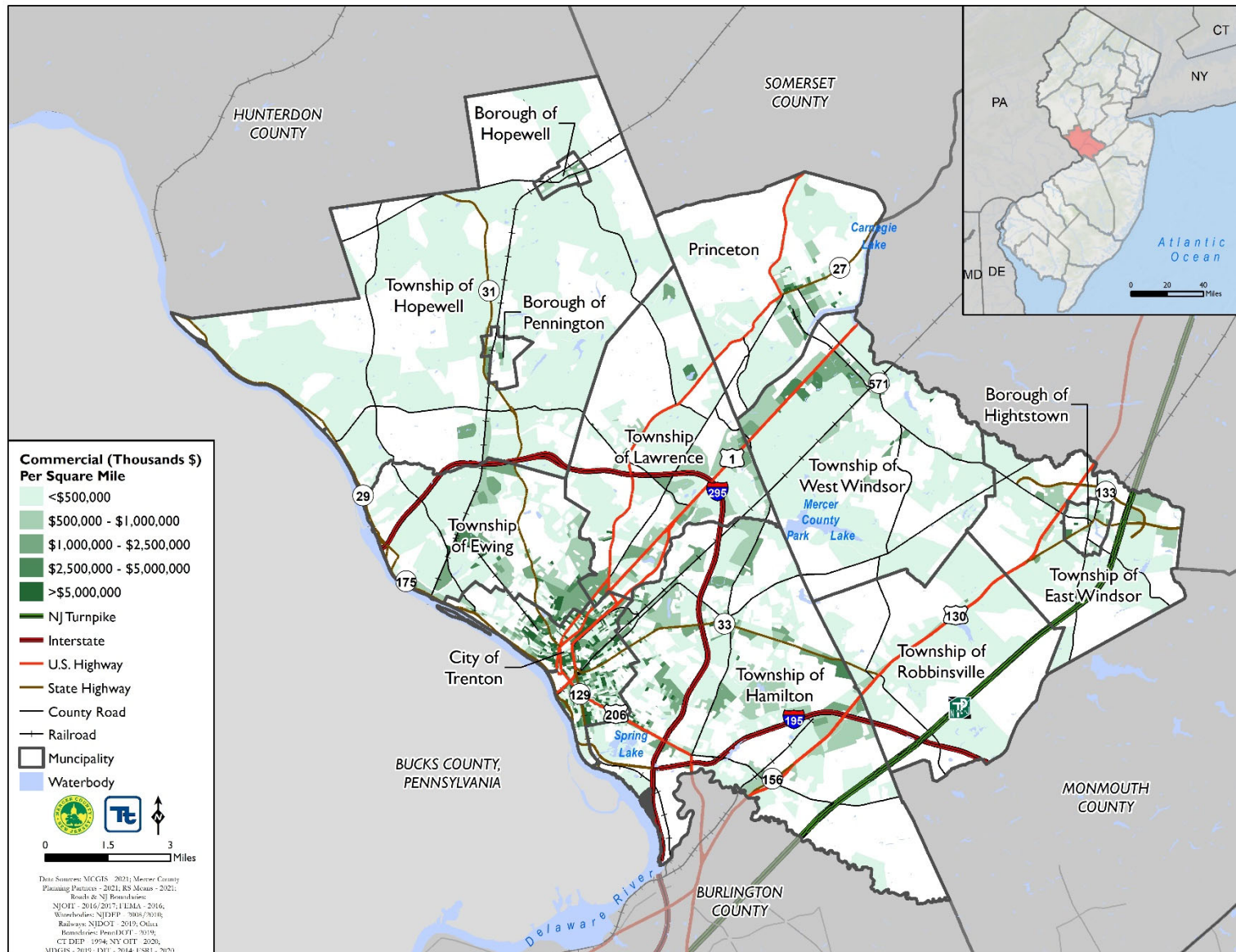
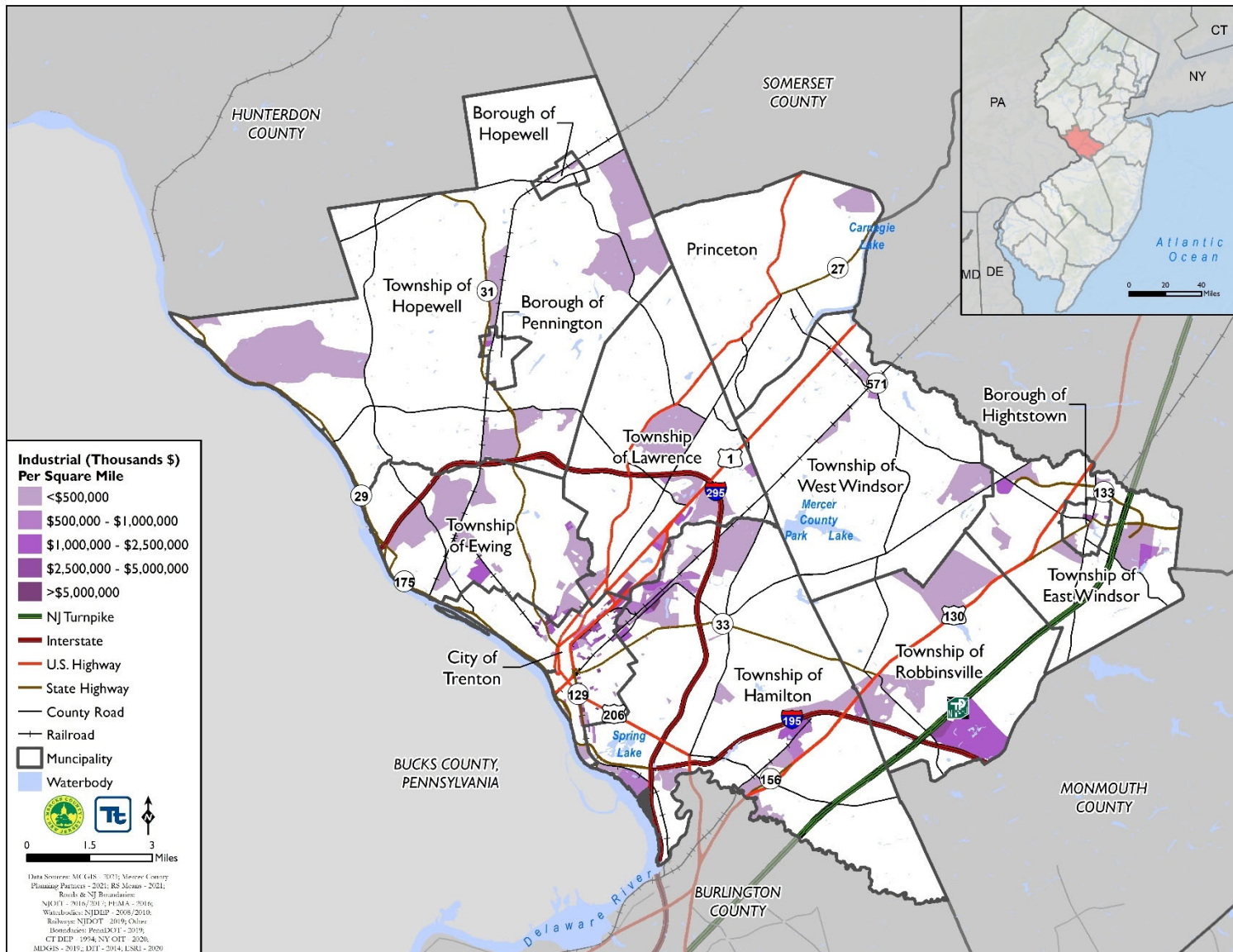




Figure 3-10. Distribution of Industrial Building Stock Value in Mercer County





3.4 ECONOMY

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

Mercer County is home to top higher education institutions, Fortune 500 companies, the New Jersey State Capital and a workforce that ranks among the most highly educated in the nation. The County offers its current and prospective employers an ideal location for their businesses due to its proximity to the New York and Philadelphia metropolitan areas. Mercer County features businesses from various industries including education, health services, business services, and leisure and hospitality. Additionally, Mercer County boasts a strong workforce in the professional, scientific and technical services industries. The top five industries, based on number of employees, in Mercer County includes: government; professional, scientific and technical services; health care and social assistance; educational services; and retail trade (Mercer County 2016b).

The City of Trenton serves as the New Jersey State Capital and the Mercer County Seat. More than 25,000 state government employees are located in Mercer County, more than one third of the state total (Civil Service Commission 2018).

3.5 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 and potentially vulnerable to that hazard.

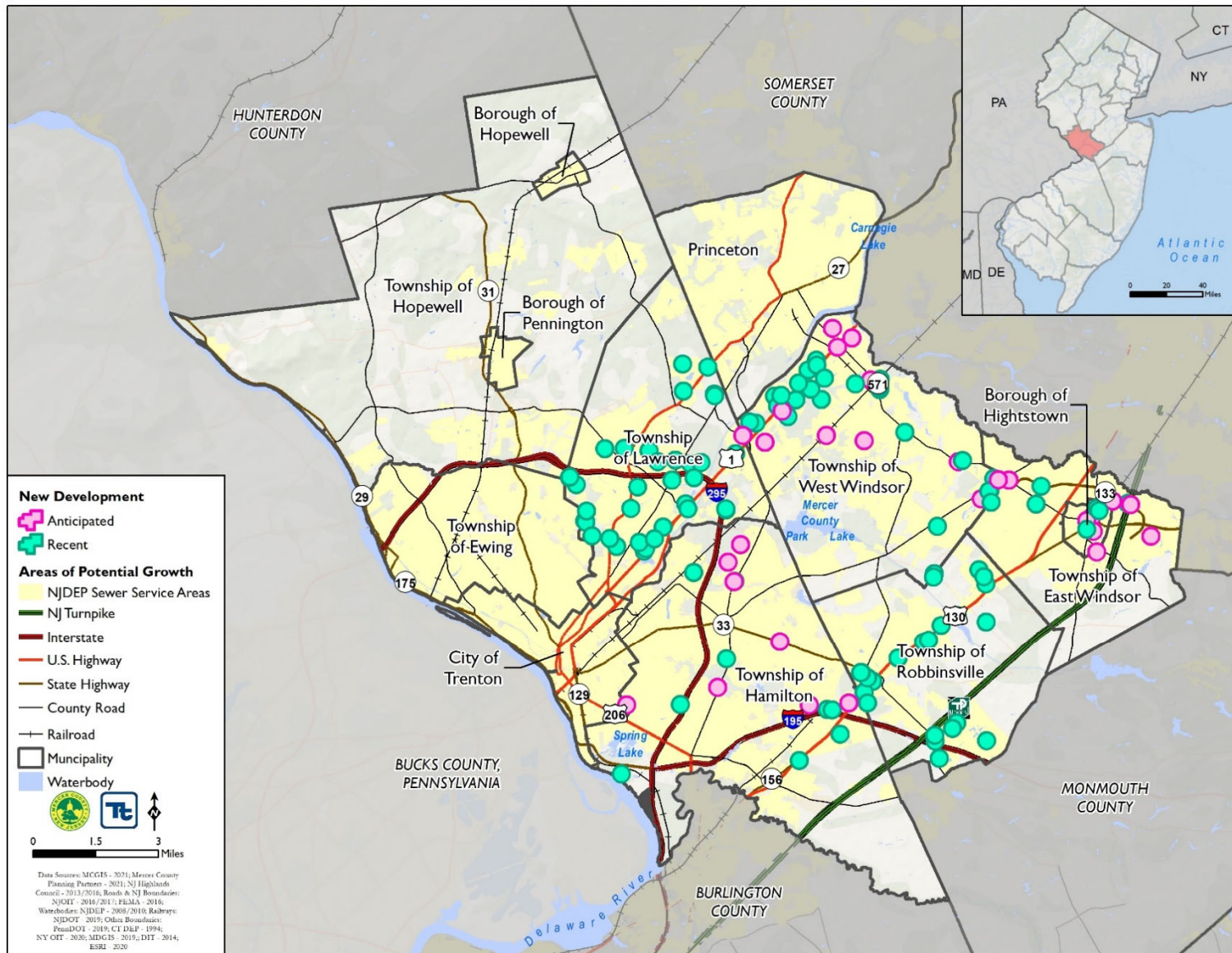
Local zoning and planning authority are provided for under the New Jersey Municipal Land Use Law, which gives municipalities zoning and planning authority. The Mercer County Planning Board conducts site plan review for land development along County roads or areas affecting county drainage facilities. For these types of projects, the County Planning Board must approve for development. The site plan review process is done at the municipal level for all other development. Refer to Sections 5 (Capability Assessment) and 9 (Jurisdictional Annexes) for further details on the planning and regulatory capabilities for the County and each municipality.

New development that has occurred in the last five years within the County and potential future development in the next five years have been identified by the County and each municipality. In addition, the NJDEP Sewer Service Areas may be areas of potential growth in the future. These areas show the planned method of wastewater disposal for specific areas, i.e. whether the wastewater will be collected to a regional treatment facility or treated on site and disposed of through a surface water discharge or groundwater discharge.

A hazard exposure analysis was conducted to determine the relationship between the identified potential new development and natural hazard areas evaluated in the HMP update. The results of this spatial analysis have been reviewed with each jurisdiction and are documented in Table 9.X-10 and illustrated on mapping presented in each jurisdiction's annex. In addition, the summary of this analysis and hazard-specific maps are included at the end of each vulnerability assessment (Section 4 – Risk Assessment). **Error! Reference source not found.** 11 illustrates the potential new development identified by each jurisdiction, as well as the NJDEP Sewer Service Areas which are areas of potential future growth in Mercer County.



Figure 3-11. Potential New Development in Mercer County





3.6 CRITICAL FACILITIES AND LIFELINES

Critical facilities and infrastructure provide services and functions essential to a community, especially during and after a disaster. Critical facilities include essential facilities, transportation systems, lifeline utility systems, high potential loss facilities and hazardous material facilities. Transportation systems include roadways, bridges, airways, and waterways. Utility systems include potable water, wastewater, oil, natural gas, electric power facilities, and emergency communication systems.

Critical facilities and infrastructure provide services and functions essential to a community, especially during and after a disaster. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities and hazardous material facilities.

A **community lifeline**, a type of critical facility, enables the continuous operation of government functions and critical business and is essential to human health and safety or economic security.

A comprehensive inventory of critical facilities in Mercer County was developed from various sources including the 2016 HMP and updated input from the Steering and Planning Committees. An enhancement to the 2021 HMP was the identification of community lifelines across Mercer County. Mercer County’s definition for a lifeline aligns with FEMA:

“a type of critical facility that provides indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security.” Identifying community lifelines will help government officials and stakeholders to prioritize, sequence, and focus response efforts towards maintaining or restoring the most critical services and infrastructure within their respective jurisdiction(s). Identifying potential impacts to lifelines can help to inform the planning process and determining priorities in the event an emergency occurs; refer to Appendix E for the FEMA fact sheet on lifelines.

The asset inventory developed for the 2021 HMP update was utilized in the risk assessment presented in Section 4 (Risk Assessment). The inventory 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.

3.6.1 ESSENTIAL FACILITIES

This section provides information on emergency facilities, hospital and medical facilities, schools, shelters and senior care and living facilities. Figure 3-12 illustrates the inventory of these essential facilities in Mercer County.

Emergency Facilities

For the purposes of this HMP update, emergency facilities include police, fire, emergency medical services (EMS) and emergency operations centers (EOC). Mercer County has a highly coordinated and interconnected network of emergency facilities and services at the county and municipal level. The Mercer County Office of Emergency Management serves as the primary coordinating agency between local, state and federal agencies.

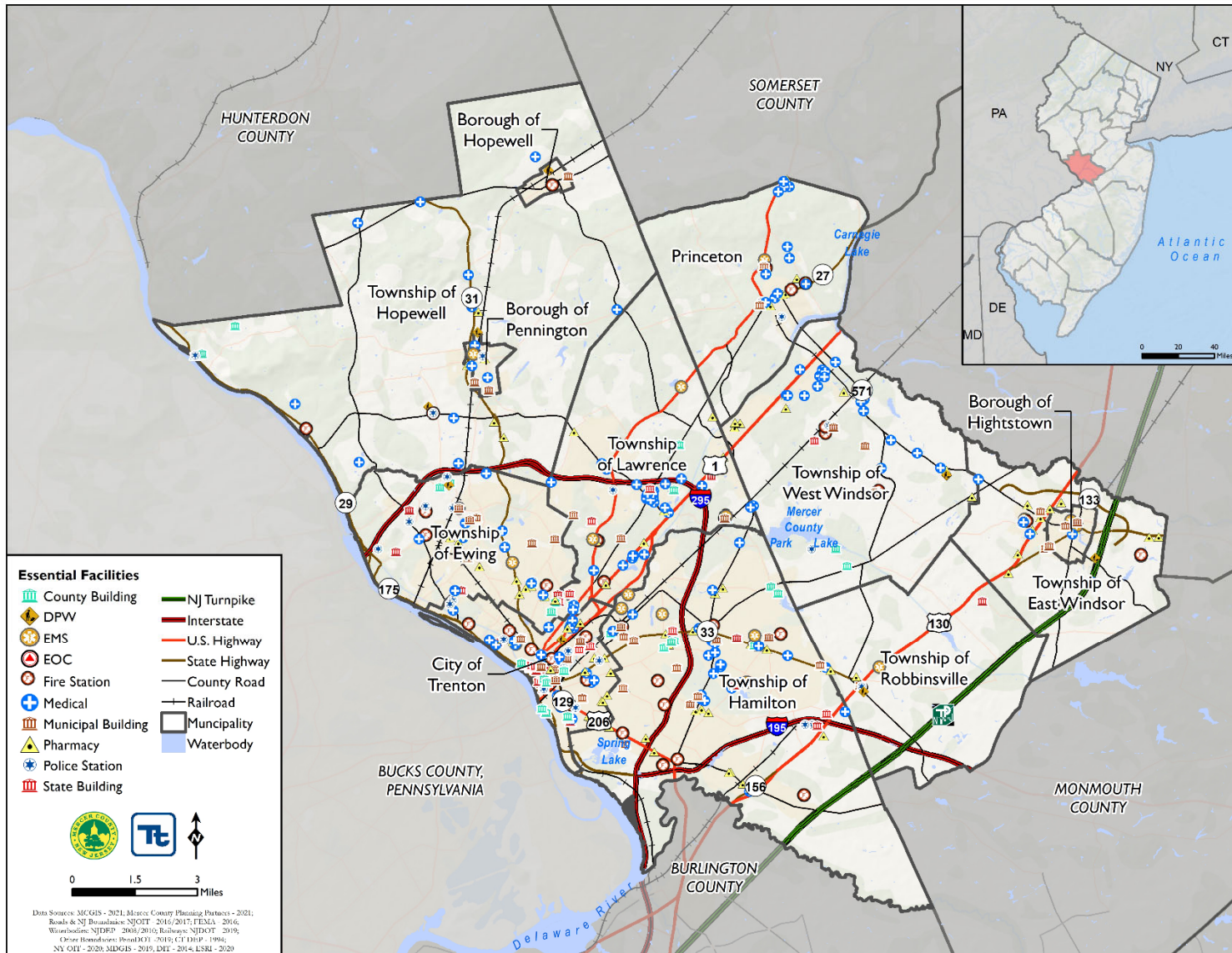
Each municipality is responsible for maintaining its own fire department. Each municipality also maintains its own police department, with the exception of Hopewell Borough, which receives police services from Hopewell Township. Additionally, each municipality maintains its own emergency medical service facilities.

Overall, there are 40 law enforcement facilities, 38 fire stations, 35 emergency medical services facilities, and 2 emergency operation centers in Mercer County.





Figure 3-12. Essential Facilities in Mercer County





Hospital and Medical Facilities

Mercer County has a dynamic health care industry that includes hospitals, adult day care centers, and long-term care facilities. The major health centers in the county are Capital Health Medical Center in Hopewell Township and Trenton, Robert Wood Johnson in Hamilton Township, St. Francis Medical Center in Trenton, and the Trenton Psychiatric Hospital. Additionally, adult care and long-term care facilities and other specialized medical centers are located throughout the county.

There is a total of 188 hospital and medical facilities located in Mercer County.

Schools

More than 230 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 schools in Mercer County are: The College of New Jersey; Rider University; Princeton University; Thomas Edison State University; and Mercer County Community College.

There is a total of 239 education facilities located in Mercer County.

Shelters

There are six identified shelters located within the county but many schools, community centers and municipal buildings may serve as a shelter during and after 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 plans post disaster. There are 70 identified senior living and assisted living 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 137 government facilities located in the County.

3.6.2 TRANSPORTATION SYSTEMS

One of Mercer County's strongest assets is its transportation infrastructure. Air and land are available and major roadways include Interstates 95, 195, and 295, State Routes 27, 29, 31, 33, 129, 156, and 175, US Routes 1, 130, and 206, and the New Jersey Turnpike. There are three airports in the County, as well as 23 heliports, two bus facilities, and 11 rail facilities. Figure 3-13 illustrates the transportation assets in Mercer County.

Bus Service

NJ Transit provides an extensive transportation service to the majority of the County. The Americans with Disabilities Act (ADA) requires that bus services supply on-demand transportation access within ¼ mile of each scheduled route; in addition to this service, the County's Transportation Resources to Assist the Disabled and Elderly (TRADE) also provides an on-demand transportation service to these residents (Mercer County Master Plan 2010).



Rail Service

NJ Transit and Amtrak provide passenger and commuter rail services to Mercer County. The Northeast Rail Corridor is the major commuter line for the County. CSX and Conrail also service two freight rail lines through the county.

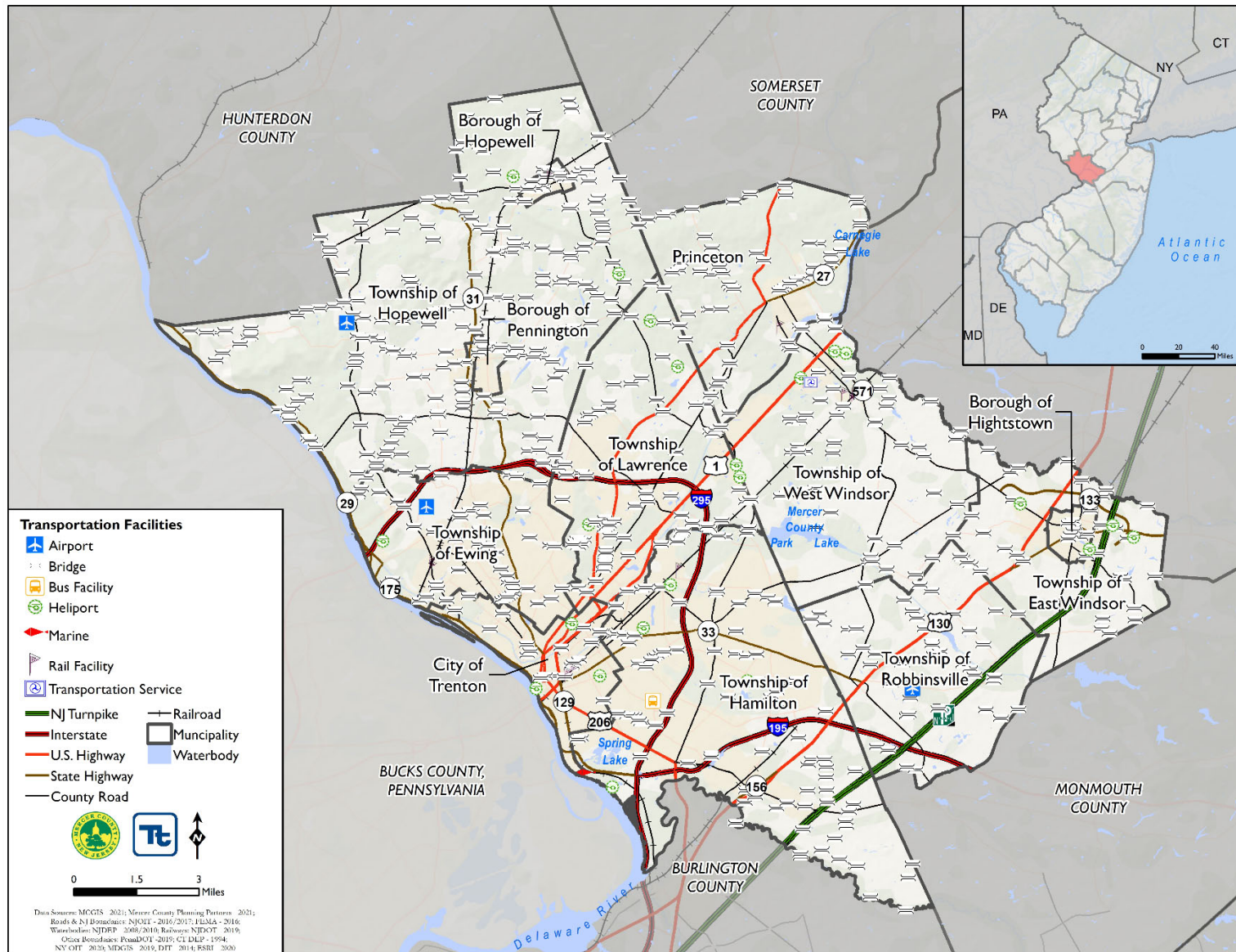
Air

There are three airports located in Mercer County. The Trenton-Mercer airport is an FFA-certified commercial airport. Though Newark International and Philadelphia International are the two major regional airports, the Trenton-Mercer airport is suited to provide regional support should they exceed their capacity (Mercer County Master Plan 2010).

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Figure 3-13. Transportation Facilities in Mercer County





3.6.3 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.

Potable Water

Mercer County relies on a combination of groundwater and surface water as its potable water supply. The Wastewater Management Plan (2013) details data from NJDEP to list the major water supplies for the County. These suppliers are summarized in Table 3-9. Mercer County identified four potable water pumps, 131 wells, and three water tower as critical.

Table 3-9. Major Water Suppliers

Water Supplier
East Windsor MUA
Aqua NJ - Hamilton Square
Hightstown WD
Hopewell Boro WD
Hopewell Twp Water and Sewer
Mercer County Correctional Center
Lawrenceville School
Aqua NJ - Lawrence
Pennington WD
Trenton Water Works
NJ American - Raritan

Source: Mercer County Wastewater Management Plan 2013

Wastewater Facilities

The major wastewater management planning areas in the County include, the Stony Brook Regional Sewerage Authority (SBRSA), East Windsor Municipality Utilities Authority, the Ewing-Lawrence Sewerage Authority, and the Trenton Sewer Utility. Table 3-10 summarizes wastewater utilities and the municipalities they serve.

Table 3-10. Major Wastewater Facilities and Municipalities Served

Wastewater Utility	Municipalities
Trenton Sewer Utility	City of Trenton
Ewing-Lawrence Sewerage Authority	Ewing Township, Lawrence Township, Hopewell Township
SBRSA – River Road STP	Princeton, West Windsor Township
SRBSA – Pennington STP	Pennington Borough, Hopewell Township
SBRSA – Hopewell STP	Hopewell Borough, Hopewell Township
Hamilton WPCF	Hamilton Township, West Windsor Township, Robbinsville Township
Hightstown AWWTP	Hightstown Borough
East Windsor MUA	East Windsor Township, Hightstown Borough, Robbinsville Township

Source: Mercer County Wastewater Management Plan 2013
SBRSA = Stony Brook Regional Sewerage Authority





Additional minor wastewater facilities that service single developments, sites or other properties are located in Hamilton Township, Hopewell Township, Lawrence Township, and West Windsor Township (Wastewater Management Plan 2013).

Energy Resources

PSE&G is the primary electric and gas utility company in Mercer County with JCP&L also providing electric to several of the communities. There were 17 electric power facilities, as well as eight electric substations identified by the County as critical. In addition to these facilities, the County also identified six natural gas facilities as critical. Figure 3-14 illustrates the location of the utility lifelines in Mercer County.

3.6.4 HIGH-POTENTIAL LOSS FACILITIES

Dams are considered high-potential loss facilities. Figure 3-15 displays the general locations of the dams in the County. 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, there are 88 dams located in Mercer County, eight of which are classified with a high-hazard potential (Class I).

3.6.5 OTHER FACILITIES

Mercer County OEM identified additional facilities (user-defined facilities) as critical. These facilities include cultural assets, a variety of public housing developments, parks and other recreation locations, correctional facilities, religious facilities, general transportation facilities, and post offices. Figure 3-16 illustrates the general locations of these facilities in the County.



Figure 3-14. Utility Lifelines in Mercer County

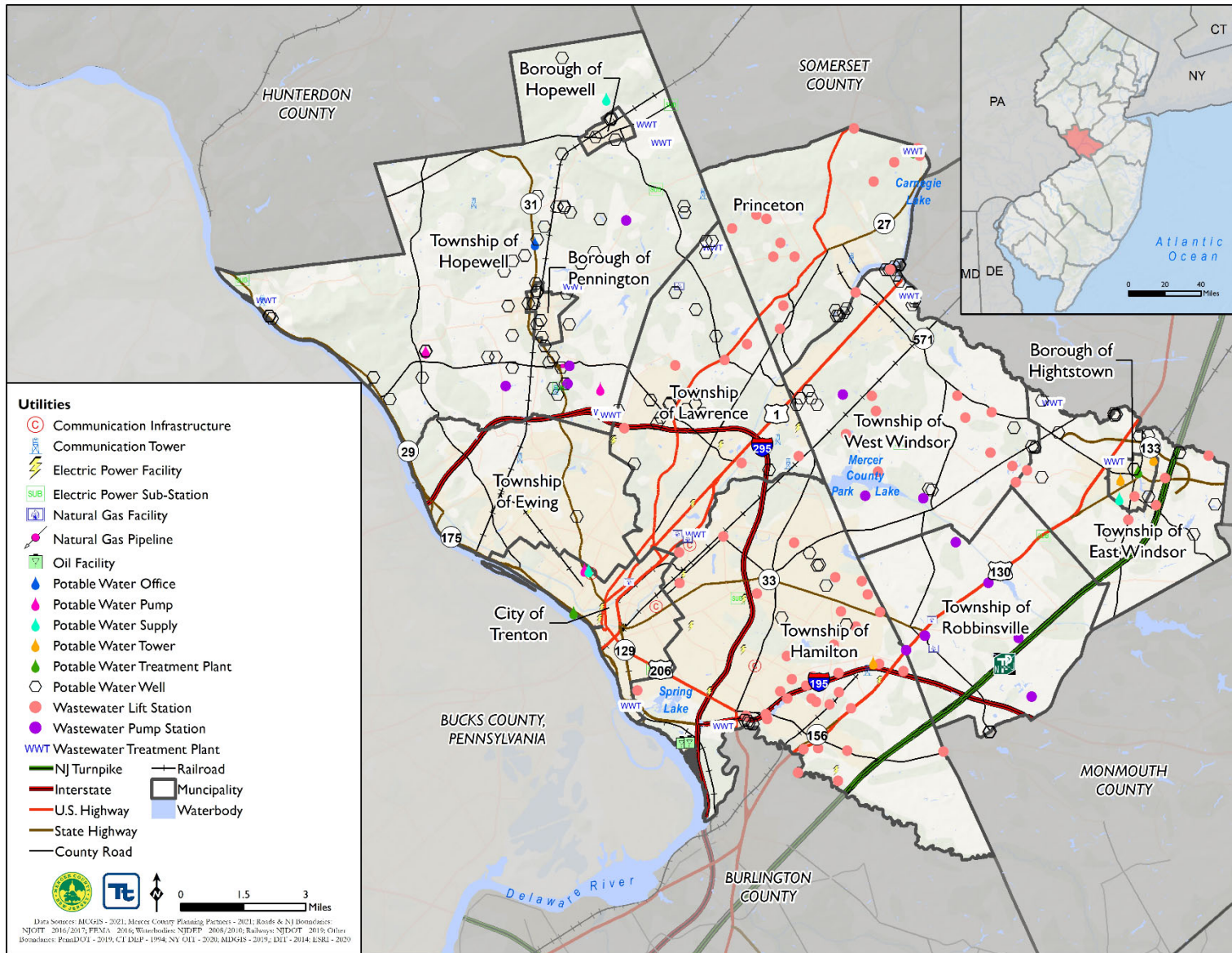




Figure 3-15. Dams in Mercer County

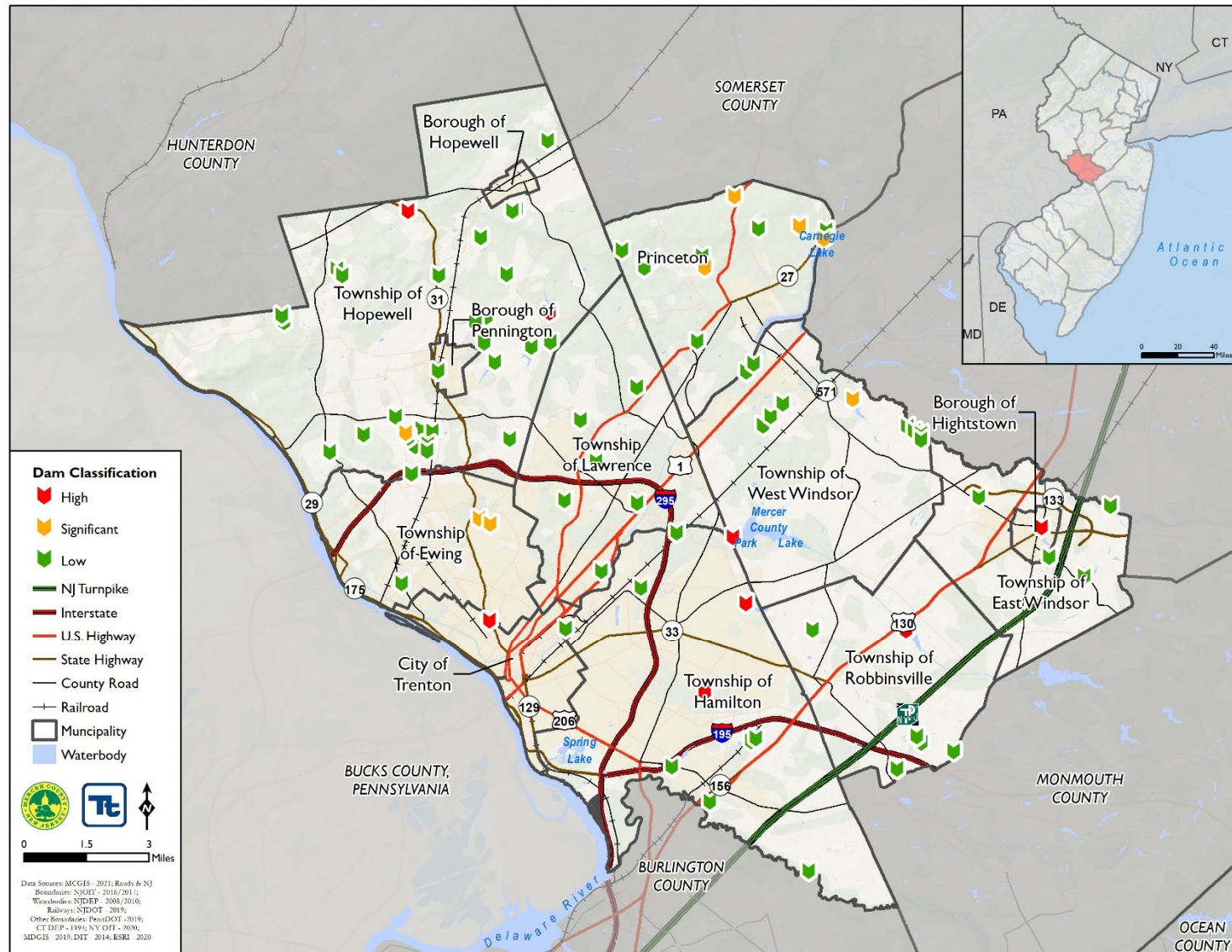




Figure 3-16. User Defined Critical Facilities in Mercer County

