

Town of North Castle

Westchester County, New York

PLANNING BASE STUDIES

A detailed study of existing conditions

May 2016



Robert P. Astorino, County Executive
Edward Boroughs, Commissioner
Department of Planning



These Planning Base Studies are a pilot project of ***Westchester 2025: Plan Together***, Westchester County's web-based, long range land use planning effort. Staff of the Westchester County Department of Planning has worked with the Town of North Castle to form this "comprehensive plan foundation." Each chapter utilizes county and non-county data and county GIS mapping resources. These materials are traditionally a substantial part of a comprehensive plan project, as well as a large part of the project's cost.

It is intended for the Town to pursue the next steps toward completing a comprehensive plan for North Castle. Interested residents and businesses can access these studies and begin to think about the issues and choices for the Town. Go to www.westchestergov.com/2025 to visit ***Westchester 2025*** and find out more about how our local communities are working together to envision our future.

Town of North Castle

Westchester County, New York

A detailed study of existing conditions

May 2016

WESTCHESTER COUNTY

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Town of North Castle, Westchester County, New York
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CHAPTER 1 INTRODUCTION

The Town of North Castle, New York is located in the eastern central section of Westchester County and is approximately 26 square miles in area. (see Map 1.1.) The Town stretches from the semi-urban area of North White Plains in the south, north through the parks and open spaces surrounding New York City watershed properties of the Kensico Reservoir, past the suburban hamlet and residential developments of Armonk and north east to the semi-rural portion of the Town near Banksville, also known as the Eastern District.

As utilized in the Town Comprehensive Plan Update of 1996, this report will refer to three areas of the Town; North White Plains, Armonk and the Eastern District. The hamlet of Banksville is located in the Eastern District (see Map 1.2).

North Castle is bordered by ten other municipalities. In the North White Plains area of the Town, the City of White Plains is directly adjacent to the south, its border running through commercial properties and a residential neighborhood, through the open spaces of the City of White Plains' watershed properties and Westchester County's Silver Lake Park. The Town of Greenburgh is located just to the west of North White Plains, across the Bronx River Parkway Reservation. The Town of Mount Pleasant shares much of the Town's western boundary, from the area of Kensico Dam Plaza through the Kensico Reservoir and Watershed lands. The Town of New

Figure 1-1. Town of North Castle Town Hall



Photo Source: Daniel Case - Licensed under CC BY-SA 3.0 via Wikimedia Commons



Castle lies to the northwest of the Armonk area. The Town of Bedford is along the northeast boundary of the Town. The Town of Pound Ridge located to the east; the Towns' common boundary is formed by the Mianus River, surrounded by nature preserves and watershed lands. In the Town's Eastern District, a small portion of the Town boundary is shared with the City of Stamford, while the Town of Greenwich bounds North Castle to the south in the Armonk area and south to the Westchester County Airport. At the Airport the Town shares a small boundary with the Village of Rye Brook. The Town/Village of Harrison shares a boundary with North Castle from the County Airport in the east, through the Kensico Reservoir and Watershed lands and into the small residential area of Quarry Heights, close to North White Plains (see Map 1-3).

Two major roads run through the Town of North Castle in a north-south direction. Route 22 is the historic, older route traversing the Town from White Plains, serving as a commercial corridor through North White Plains. It then runs past the Kensico Dam, through the New York City Watershed lands and into Armonk where it now bypasses the downtown business district of Armonk as it serves as the access to and from I-684 and the nearby office parks and commercial properties to the south of Armonk. East of I-684 the road is smaller in size as it heads to Bedford Village to the north.

Interstate 684 slices through the middle of the Town, with exits in the Town at the Westchester County Airport and at Armonk. I-684 has helped to better connect the Town to the greater region and allowed much of the commercial development in the Armonk area. It has also partly encouraged the significant residential development in the Armonk area since its construction in the 1960's. The Bronx River Parkway also connects North White Plains to the region.

The Town of North Castle's only rail transit access is at the Metro North Railroad's North White Plains station, located in the City of White Plains. Many North Castle residents park in the large lots at the station, though the Town also leases a small lot for Town residents near the station. See Chapter 7 for more information on the Town's road and transit infrastructure.

1.1 North Castle Today

Like many of Westchester's larger municipalities (North Castle is the sixth largest of 43 municipalities at 16,720 acres), the Town of North Castle includes a variety of hamlets, commercial areas, residential neighbor-

Map 1-1. Regional Location Map



Source: Westchester County Department of Planning

hoods, subdivisions and open spaces. While the Town's civic life centers around Town Hall in Armonk, the Town is divided among different school districts, hamlets, postal zip-codes and fire districts. Chapter 8 has further discussion and maps of these various overlapping boundaries and jurisdictions.

As mentioned above, this report will refer to three areas of the Town, each with unique land use characteristics.

A. North White Plains

Located in the southwest corner of the Town, North White Plains is the most dense and semi-urban portion of the Town. Well established residential neighborhoods are served by water and sewer in North White Plains and public sewer in Quarry Heights. The Town is exploring installing public water service along Old Orchard Street with the Town/Village of Harrison. The small residential area known as Quarry Heights is included in the North White Plains area. An industrial zone along Lafayette Avenue and Virginia Road includes a variety of commercial businesses. A mix of retail establishments are located along Route 22. The area is also separated from the other areas of the Town by the large New York City Watershed lands. Due to its geography and history, the area is sometimes more associated with neighboring the City of White Plains, the nearby Metro North railroad station and commercial areas in Mount Pleasant, such as the hamlet of Valhalla.

Figure 1-2. North White Plains



Photo Source: Westchester County

**Figure 1-3. Armonk****B. Armonk**

The central portion of the Town, stretching north from the New York City Watershed lands, includes areas near the Westchester County Airport, the mixed-use hamlet of Armonk, office and commercial areas close to the hamlet and the many residential developments, subdivisions and open spaces surrounding the hamlet. Access to the hamlet and nearby commercial developments, particularly several large office parks, is enhanced by the area's proximity to I-684 and the widened section of Route 22 between Route 120 and I-684. The immediate downtown area is served by water and sewer infrastructure

C. Eastern District

The far eastern portion of the Town is characterized by low-density residential development and various protected open spaces. Several commercial uses are centered in the Banksville area, along Bedford Banksville Road. This area also includes a wide variety of protected open spaces in the form of nature preserves and watershed properties. Many properties zoned for residential development are currently undeveloped and may be either developed or eventually become protected open spaces. The area is not served by water or sewer infrastructure. Banksville hamlet is split between New York and Connecticut. The area shopping center is located across the state line in the Town of Greenwich, Connecticut.

**Figure 1-4. Banksville**



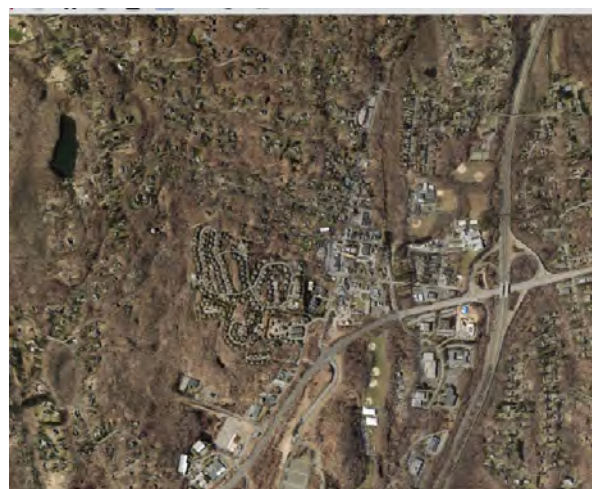
1947



1960



1990



2013

Figure 1-5. Historical Aerial Photographs

The images to the above show the Hamlet of Armonk.

Westchester County's historical aerial photo collection of the years 1947, 1960, 1976, 2004, 2007 and 2009 can be [viewed online](#) at the Mapping Westchester County webpage. Use the slider at top right of map to select year to display.

Aerial photos for the years 2000, 1995, 1990, 1986, 1980, 1976, 1970, 1965, 1960, 1954, 1947, 1940, 1926 and 1925 can be viewed at a computer kiosk in the County Planning Department. Call (914) 995-4400 for an appointment.

1.2 Government

Adapted from North Castle website:

A five member Town Board, made up of the Town Supervisor and four Councilpersons elected at large, is the governing body of the Town. The Supervisor's term is two years while the Council members serve four year terms. The Supervisor is the Chief Fiscal Officer and the Chief Executive Officer of the Town.

The Town Board is responsible for setting policy, adopting the annual Town budget, approving contracts and expenditure and enacting laws and resolutions. The Town Board usually meets twice a month.

The Town Administrator is the Town's chief operating officer and is appointed by and responsible to the Supervisor and Town Board. The Town Administrator oversees the day-to-day operation of the Town, its various departments and personnel.

The Town Clerk, elected for a four-year term, prepares and publishes Town Board agendas and supporting documentation, attends all Town Board meetings, records minutes and oversees video distribution of Town Board meetings, publishes legal notices and receives and opens bids for the purchase of Town materials, equipment and service providers. Among other responsibilities, the Town Clerk also manages active and archival town records and responds to Freedom of Information Law (FOIL) Requests.

The Town of North Castle Justice Court has jurisdiction over all civil actions, criminal cases and vehicle and traffic offenses occurring in the Town of North Castle.

The Town of North Castle is located in the 17th and 18th United States Congressional Districts, the 37th New York State Senatorial District, the 93rd New York State Assembly District and the 3rd Westchester County Legislative District.

1.3 Planning In North Castle

Throughout the years, the Town of North Castle has developed and adopted plans and studies related to land use planning, infrastructure, natural resources and open space. Listed below is a brief historic timeline of the more recent of these efforts and links to the applicable documents.

Town Comprehensive Plan Update1996. This 241-page comprehensive plan, prepared by Frederick P. Clark Associates, set forth the future development policy for the Town of North Castle. Prior plans for the Town were completed in 1958, 1967 and 1974. The 1996 Plan included a **Town Development Plan** Map which included color-coded set set of land uses proposed for the Town; residential land uses were also given a set of recommended density ranges. The Town Board, from time to time, has revised the Plan Map to reflect changes in existing and recommended future land uses.

The 1996 Plan helped the Town reinforce existing patterns of residential, commercial and open space land uses, guide the location and type of future development, and protect the suburban and rural character of the Town through open space preservation policies and efforts to protect and improve the character of the Town's downtowns and hamlet areas. The 1996 Plan also included the Town's **1997 Official Map**

Armonk Main Street Planning and Design Study—May 2001. Prepared by Frederick P. Clark Associates, this 25-page report addresses downtown Armonk and issues regarding parking, pedestrian safety, traffic flow, streetscape and building design and development potential in the area. Recommendations included in the study have helped guide development and planning decisions in the area.

Town of North Castle: Hamlet Design Guidelines—October 2011. This 31-page report, prepared by Sullivan Architecture, PC, provides design standards and recommendations for the Town's three hamlet areas: North White Plains, Armonk and Banksville. Guidance is intended to help applicants with properties in the three Hamlets prepare hamlet appropriate site, streetscape and building façade design.

Town of North Castle Open Space Study Committee Report—June 2003. The Open Space Study Committee of the Town prepared this 52-page report which examined 131 open space parcels in the Town for the purpose of prioritizing open space preservation efforts in the Town. The protection of water resources (groundwater, aquifers and reservoirs) is a most important goal for the future open space preservation. Visits were made by the Committee to 34 parcels; detailed fact sheets and ranking systems were detailed along with several color-coded maps of the parcels considered.

North Castle Biodiversity Plan—2007. This 39-page technical report was prepared by Danielle T. LaBruna and Michael W. Klemens of the Metropolitan Conservation Alliance of the Wildlife Conservation Society. Surveys were conducted on many of the properties in the 1,000 acre study area

located north of Armonk. Areas of high biodiversity value, or areas with significant habitats and rich assemblages of wildlife. Land preservation and wise development and use of land is recognized as critical to protecting and encouraging this diversity in the Town and region.

Assessment of Hydrogeologic Conditions, Town of North Castle—

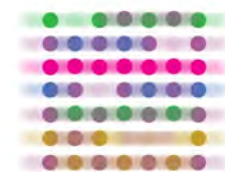
March 1990. Prepared by Blasland and Bouck Engineers, this 80-page report provides a comprehensive overview of groundwater conditions in the Town. Information is provided on the distribution and availability of groundwater, ways to develop and make use of these groundwater supplies and effects of land use practices on water quality. Accompanying this report is a Town-wide Aquifer Map and accompanying report, prepared by Geraghty and Miller, Inc in December 1996.

1.4 Base Studies Overview

The Town of North Castle Planning Base Studies provides detail and background to assist the Town in identifying key issues, data and tasks towards the completion of a Town-wide Comprehensive Plan. Data, maps, tables and background information has been assembled on a variety of topics from local, county, regional, state and federal sources. Much information was gathered from previous Town plans, studies and reports. Significant data and mapping resources were provided through Westchester County as part of *Westchester 2025: Plan Together*, the County's web-based, long-range planning policies update. These North Castle base studies should be updated, added to and amended as the Town pursues its comprehensive plan.

The following topic areas are included in the Planning Base Studies:

1. Introduction
2. External Influences: Regional Context
3. Population Characteristics
4. Natural Resources
5. Recreation and Open Space
6. Historic and Cultural Resources
7. Transportation
8. Public Facilities
9. Infrastructure and Utilities
10. Commercial Development
11. Residential Development
12. Land Use and Current Zoning
13. 'Build Out' Under Current Zoning



westchester 2025 /plan together
a partnership for Westchester's future

CHAPTER 2 EXTERNAL INFLUENCES — REGIONAL CONTEXT

2.1 External Influences – Regional Context

The Town of North Castle is part of a region, which is connected in many ways with its neighboring municipalities in Westchester. North Castle participates in the economy of the tri-state region. All Westchester municipalities are part of a:

- complex transportation network – roads, rails and trails
- common watersheds
- natural region of wildlife

North Castle is located in the eastern portion of Central Westchester County. (Map 2-1, Regional Map.) The town abuts portions of nine other communities including the Towns of New Castle and Bedford to the north, the Towns of Mount Pleasant and Greenburgh to the east, the City of White Plains, the Town/Village of Harrison and the Village of Rye Brook to the south and the Town of Greenwich and City of Stamford, Connecticut to the southeast.

The following is a summary of several other important regional issues, projects and planning efforts impacting the region and North Castle's future. Also included is a discussion of *Westchester 2025: Plan Together*, the County's long-range land use planning policies, as well as a brief description of the communities surrounding North Castle and the status of their recent planning efforts.

Map 2-1. Regional Map





2.2 Westchester 2025: Plan Together

The North Castle Planning Base Studies effort is part of *Westchester 2025: Plan Together*, the County’s web-based, long-range land use planning policies and “toolbox.” The Base Studies help communities more easily develop local comprehensive plans which, in turn, help the County better plan for the future of Westchester County.

Another tool of *Westchester 2025* is the “Zoning Build-Out Analysis,” developed by the Westchester County Department of Planning in cooperation with Town staff. It provides an understanding of local zoning that is not only an important tool for the Town, but is also an important tool for the County to understand existing and potential density county-wide and the many infrastructure issues related to future land development and densities.

For more information on *Westchester 2025*, its array of tools, data, services and efforts to bring our communities together to envision our future, go to the website at: westchester2025.westchestergov.com.

2.3 Surrounding Communities and Their Plans

While planning the future of North Castle, it is important to understand surrounding communities, their characteristics and plans for the future. Most North Castle residents visit outside communities regularly – for work, shopping, recreation, etc. Development near the Town’s borders may directly impact properties, infrastructure and views within the Town. Following is brief information on the nine communities directly adjacent to North Castle, listed alphabetically.

A. Town of Pound Ridge

The Town of Pound Ridge lies to the east of North Castle. The Mianus River forms the towns’ boundary, surrounded by lands of the Mianus River Gorge Preserve. No roads traverse the boundary between the two towns, however. Pound Ridge is characterized by low-density residential and open space land uses. Much of the County’s Ward Pound Ridge Reservation is in the north portion of the Town. The hamlet of Scotts Corners is located in the southern portion of the town, near the town’s boundary with New Canaan, Connecticut. The smaller hamlet area of Pound Ridge is located to the north of Scotts Corners. The Town updated its comprehensive plan in 2010.

Figure 2-1. Scotts Corners, Pound Ridge



Figure 2-2. Bedford Museum at the 1787 Bedford Court House

Source: Bedford Historical Society

**B. Town of Bedford**

Bedford sits to the north of North Castle; the towns are most directly linked by two roadways, Route 22 and I-684 which run through both towns. Two open space features straddle the towns' boundary: Byram Lake Reservoir, which serves as a water supply for the Town/Village of Mount Kisco and the Westmoreland Sanctuary.

Bedford contains three hamlets: Bedford Hills, Bedford Village and Katonah. It is also home to New York State's largest women's prison, the Bedford Hills Correctional Facility. Bedford Village contains a designated historic district and a number of historic landmarks dating back to the 1700s. Much of Bedford's commercial base is located in the variety of commercial uses along Route 117, north of Mount Kisco.

Bedford updated its comprehensive plan in 2002 to plan for changing land use issues associated with continued growth. Issues addressed within that plan include land use and open space protection, traffic congestion, and overall investment within the town.

C. Town of New Castle

The Town of New Castle lies to the northeast of North Castle, with the shared boundary in the area north of the Armonk hamlet. The Town is primarily residential in nature with a variety of open spaces including parks, golf courses and nature preserves throughout the town. Two hamlets in the town, Chappaqua and Millwood, include the town's main commercial areas, with a Metro-North train station located in Chappaqua. The Town's largest commercial property, the former campus of Readers Di-



Founded in 1916, the Bedford Historical Society is a non-profit, educational organization committed to preserving the historic Town and original Village Green, educating students of all ages and interpreting its collections for the benefit of residents and visitors alike.

(Source: BedfordHistoricalSociety.org)

Figure 2-3. Chappaqua, New Castle

King Street, Chappaqua
Source: Westchester County

Figure 2-4. Jacob Burns Center, Pleasantville

Source: Westchester County

Figure 2-5. Phelps Memorial Hospital, Mount Pleasant

Phelps Memorial Hospital Center is set on 69 rolling acres overlooking the Hudson River in Sleepy Hollow, New York, our 238-bed, not-for-profit acute care hospital provides medical and mental healthcare to the residents of Westchester and surrounding communities.

gest, is the site of a current proposal for redevelopment with residential, commercial and office uses. The town is also currently in the process of updating its comprehensive plan which was last updated in 1989.

D. Town of Mount Pleasant

The Town of Mount Pleasant is located west of North Castle and extends its border to the Hudson River to the west. The towns' boundary runs from the area of Kensico Dam Plaza through the Kensico Reservoir and Watershed lands. The Villages of Pleasantville and Sleepy Hollow are within the Town of Mount Pleasant's boundaries, as well as a portion of the Village of Briarcliff Manor. Hamlets within Mount Pleasant include Hawthorne, Thornwood, Valhalla and Pocantico Hills. While largely residential, Mount Pleasant also includes office park developments that are home to New York Life Insurance, PepsiCo, Inc., and Fuji Photo Film, and two major medical facilities, the Westchester Medical Center in Valhalla and Phelps Memorial Hospital in Sleepy Hollow. The Town last updated its comprehensive plan in 1987.

The Village of Pleasantville is located within the Town of Mount Pleasant. Metro-North's Harlem Line has a stop at Pleasantville. The village has a vibrant business and commercial district, including the Jacob Burns Film Center which draws crowds of film enthusiasts to the downtown shops and restaurants.

E. Town of Greenburgh

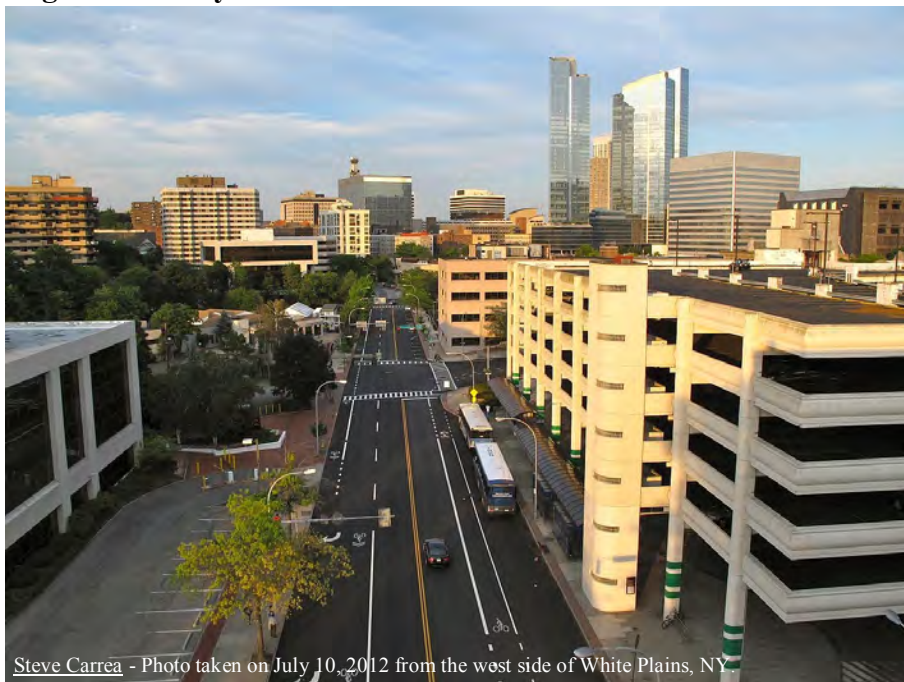
Greenburgh lies to the east, across the Bronx River, from the North White Plains section of North Castle. Six villages are located in the town: Elmsford, Tarrytown, Irvington, Dobbs Ferry and Hastings-on-Hudson. The unincorporated portion of the town includes the hamlet of Hartsdale and its train station as well as the significant commercial corridors along Route 119/Tarrytown Road and Central Park Avenue.

The Town of Greenburgh as recently drafted an update to its comprehensive plan. The plan includes recommendations to bolster densities along the corridors and hamlet areas, encourage redevelopment of several office park and research properties and protecting the character of residential neighborhoods.

F. City of White Plains

White Plains serves as county seat of government as well as the county's largest commercial center. Several retail malls and office buildings in downtown and office campus development along I-287 make the city significant employment center. Downtown is served by an under-sized transit center; the city is embarking on a planning study to assess future densities, uses and access in an around the train station area of downtown. Several new large residential buildings in the downtown in the 2000's also boosted the downtown's population. The city last updated its comprehensive plan in 2006.

Figure 2-6. City of White Plains



Steve Carrea - Photo taken on July 10, 2012 from the west side of White Plains, NY.

Figure 2-7. Town/Village of Harrison



Figure 2-8. Village of Rye Brook— 800 Westchester Ave.



The city's northernmost neighborhoods and commercial area directly abut the North White Plains section of North Castle. Both communities share use of the North White Plains train station. Reservoir lands of the city also directly abut North Castle in this area.

G. Town/Village of Harrison

North Castle's border with Harrison runs through the Westchester County Airport, Kensico Reservoir and Watershed lands and low density residential areas. Harrison adopted a new comprehensive plan in 2013, focusing on the downtown as well as the office campus area along I-287 known as the "Platinum Mile." Recent high office vacancy rates in Harrison and elsewhere in the County has spurred interest in the reuse and redevelopment of some of these office parks, including for uses other than traditional single-occupant corporate tenants. Recent new "non traditional" tenants in the area include the new 62,000 square foot Fordham University campus and the 209,000 square foot Lifetime Fitness facility on the site of the former Journal News office building. A proposed residential development of over 400 apartments is also being considered by Harrison on the site of an under-utilized office development on Corporate Park Drive.

H. Village of Rye Brook

Rye Brook shares a very small border with North Castle on the grounds of the Westchester County Airport. The Village adopted a new comprehensive plan in 2014 which focused on creating a more pedestrian-friendly downtown area currently characterized by unconnected strip shopping centers. The plan also recommended allowing more flexibility in uses permitted in several office and hotel properties along the I-287 corridor to encourage redevelopment during a time when the area is faced with under-utilized office buildings.

I. Town of Greenwich, Connecticut

North Castle is bounded to the south and east by the Town of Greenwich in Connecticut. This area of Greenwich is primarily low or moderate density single-family neighborhoods. To the east of the Westchester County Airport on King Street is the Brunswick School, which has been substantially expanded in the past decade with residences, ball fields and school buildings. The Greenwich American Center office development is located along King Street and adjacent to I-684. Much of the town near North Castle is low density residential and open spaces in character. Higher density commercial areas are in the southern portions of the town. The town last drafted an update to its comprehensive plan in 2009.

J. City of Stamford, Connecticut

Like the sections of the Town of Greenwich bordering upon North Castle, much of the City of Stamford near North Castle is lower density residential and open space in character. The businesses in the Banksville area of North Castle also serve the nearby residents of Stamford and Greenwich. The City is currently working to update its 2002 Master Plan.

Much of the eastern portion of North Castle is within the Mianus River drainage basin. While the Mianus River does not serve as a drinking supply for residents of North Castle, it does provide a significant amount of the drinking water supply for residents in Stamford and Greenwich through the Aquarion Water Supply Company.

2.4 Regional Transportation Planning

The New York Metropolitan Transportation Council (NYMTC) is the Metropolitan Planning Organization (MPO) for New York City, Long Island and the lower Hudson Valley. NYMTC provides a collaborative planning forum to address transportation-related issues from a regional perspective, undertakes studies for transportation improvements, forecasts future conditions and needs, pools the resources and expertise of its member agencies to plan for transportation and development in the region and makes decisions on the use of Federal transportation funds.

Staff of the Westchester County Departments of Planning and Public Works and Transportation (WCDPWT) represents Westchester's communities and their transportation needs at [NYMTC](#). For more information, go to the [website](#). Chapter 5, Transportation, includes information on public transportation (bus and rail) and the road network serving North Castle.

2.5 Watershed Planning

A. Croton Watershed

The Croton watershed includes a series of reservoirs and lakes in both Westchester and Putnam Counties, is a part of the New York City water supply system. *The Croton Plan for Westchester the Comprehensive Croton Watershed Quality Protection Plan (Croton Plan)* - 2009, is an intermunicipal planning effort of ten municipalities, including North Castle and some of its surrounding communities such as Bedford, Cortlandt, Mount Kisco, New Castle, Somers and Yorktown, as well as the New York City Department of Environmental Protection (NYC DEP) and Westchester County.

The ***Croton Plan*** assessed watershed conditions, identified water quality impacts and put forth strategies to reduce impacts, prevent water quality degradation and enhance community character. The Plan also incorporates policies and regulations that have been developed which aim to protect watershed lands and water quality with land acquisition and partnership initiatives.

C. Mianus River Watershed

Much of the eastern portion of the Town of North Castle is in the Mianus River drainage basin which serves as a significant drinking water source for residents in Stamford and Greenwich through the Aquarion Water Supply Company. Eighty-seven acres of open space directly adjacent to the Mianus in North Castle are owned by Aquarion for purposes of watershed protection and land conservation. For more information, check out the Mianus River Gorge/The Nature Conservancy at www.mianus.org.

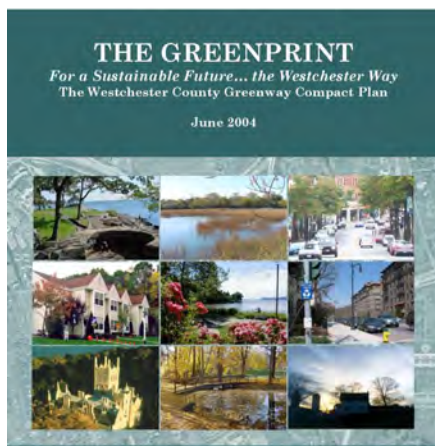
2.6 Hudson River Valley Greenway/National Heritage Area

The Hudson River Valley Greenway was created to continue and advance the State's commitment to the preservation, enhancement and development of the world-renowned scenic, natural, historic, cultural and recreational resources of the Hudson River Valley while continuing to emphasize economic development activities and remaining consistent with the tradition of municipal home rule. The Greenway includes most municipalities of Westchester County, including North Castle.

The Hudson River Valley National Heritage Area includes 250 communities in ten counties bordering the Hudson River for 154 miles of tidal estuary. This area is approximately three million acres of Hudson Highlands, Catskill Mountains, rolling farmland and compact Towns, small cities and hamlets. The region extends from the confluence of the Mohawk and Hudson Rivers, south to the northern border of New York City.

By Local Law No. 10 of the Year 2006, the Town of North Castle adopted the Westchester County Greenway Compact Plan. The Plan includes a statement of policies, principles, and guides to supplement other established land use policies in the Town. Actions by the Town should take into consideration the statement of policies, principles and guides, as appropriate.

A 1991 act established the Greenway Council, a New York State Agency, to:



For more information on Westchester County's Compact Plan,
The Greenprint for a Sustainable Future
[Click here](#)

- Work with local government to enhance local land use planning
- Create a voluntary regional planning compact for the Hudson River Valley
- Provide community planning grants, compact grants and technical assistance to help communities develop a vision for their future

For more information, go to the Greenway's website [click here](#).

CHAPTER 3 POPULATION CHARACTERISTICS

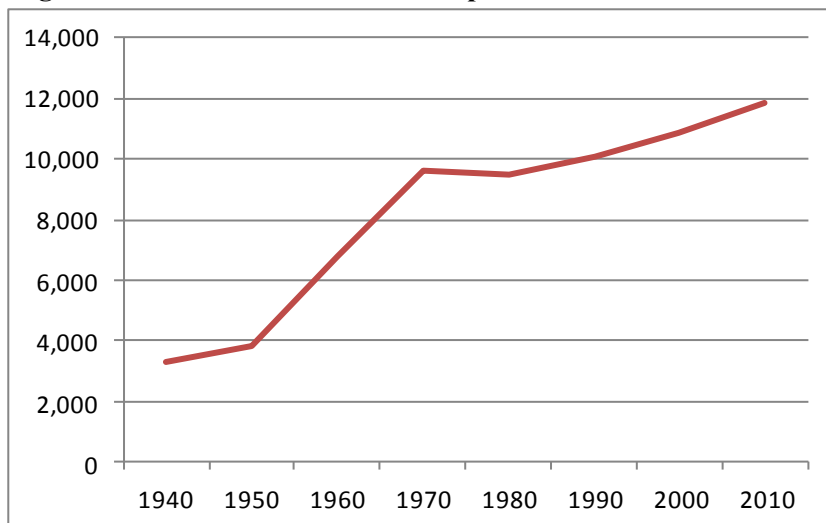
3.1 Overview

***Note:** The US Census Bureau conducts a decennial census of the population every ten years. While previous censuses have included a “long form” sent to a sample of the population, the Census Bureau split this program into the American Community Survey (ACS) beginning in 2005. Many common topics then were not included in the 2010 Census, which was based entirely on “100% data” from the simple 10-question form sent to every housing unit in the country. For this chapter, unless otherwise noted, data is from the decennial census.*

Like most other Westchester communities, North Castle’s population boom came between 1940 and 1970, nearly tripling from 3,306 to 9,591 in thirty years. The years following 1970 have seen much slower population growth, only increasing by 9% in the last decade.

North Castle’s population trends are similar to that of Westchester, with dramatic jumps in population during the 1950s, however, more visible in North Castle. The county experienced its biggest intercensal growth of the century between 1950 and 1960, growing 29% to 808,891, while North Castle grew by 76% during the same time frame. Figures 3-1 and 3-2 show these changes for North Castle, Westchester County and surrounding com-

Figure 3-1. Town of North Castle Population



Source: US Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

Figure 3-2. Total Population and Population Change by Municipality, 1940-2010

Municipality	1940		1950		1960		1970		1980		1990		2000		2010	
	Total	Percent Change	Total	Percent Change	Total	Percent Change	Total	Percent Change	Total	Percent Change	Total	Percent Change	Total	Percent Change	Total	Percent Change
Bedford	6,807	1%	8,471	24%	12,076	43%	15,309	27%	15,137	-1%	16,906	12%	18,133	7%	17,335	-4%
Cortlandt	5,573	0%	7,489	34%	17,505	134%	24,760	41%	26,775	8%	28,369	6%	28,672	1%	31,292	9%
Mount Kisco	5,941	16%	5,907	-1%	6,805	15%	8,172	20%	8,025	-2%	9,108	13%	9,983	10%	10,877	9%
Mount Pleasant	10,497	21%	12,014	14%	19,725	64%	22,462	14%	23,760	6%	25,242	6%	26,151	4%	26,176	0%
New Castle	7,903	16%	8,802	11%	14,388	63%	14,642	2%	15,425	5%	16,648	8%	17,491	5%	17,569	0%
North Castle	3,306	30%	3,855	17%	6,797	76%	9,591	41%	9,467	-1%	10,061	6%	10,849	8%	11,841	9%
Ossining Town	1,468	43%	1,952	33%	2,967	52%	4,846	63%	4,164	-14%	5,076	22%	5,514	9%	5,406	-2%
Pleasantville	4,454	-2%	4,861	9%	5,877	21%	7,110	21%	6,749	-5%	6,592	-2%	7,172	9%	7,019	-2%
Somers	2,406	59%	3,159	31%	5,468	73%	9,402	72%	13,133	40%	16,216	23%	18,346	13%	20,434	11%
Yorktown	3,642	34%	4,731	30%	16,453	248%	28,064	71%	31,988	14%	33,467	5%	36,318	9%	36,081	-1%
Westchester County	573,558	10%	625,816	9%	808,891	29%	894,104	11%	866,599	-3%	874,866	1%	923,459	6%	949,113	3%

munities.

3.2 Density

North Castle's population density as of 2010 was 452 people per square mile, which is the second least dense municipality in Westchester County. Only North Salem was less dense than North Castle. Figure 3-3 and Map 3-1 show population density in the Town and surrounding communities.

3.3 Age Characteristics

The age characteristics of North Castle's population have remained fairly stable between 1980 and 2010. According to the US Census Bureau, in 2010 the largest age group, children between the ages of 10 to 14, was 9.9% of the Town's population, followed by those between the ages of 45 to 49 which made up 9.49% of the Town's population. The numbers for children ages 5 to 14 were also higher, with 18.6%. This indicates that there is a strong family-centric population with school age children. This trend was also present during the 2000 Decennial Census, showing a strong familial trend of nearly one-third of the population under the age of 18.

Figure 3-3. Population Density By Municipality, Westchester County, 2010 Census

Municipality	Square Miles	2010 Population	2010 People per Sq. Mile	2010 Density Rank
Cortlandt	34.7	31,292	902	36
Mount Kisco	3.1	10,877	3,509	21
Mount Pleasant	24.1	26,931	1,117	34
New Castle	23.1	17,569	761	37
North Castle	26.2	11,841	452	39
Ossining Town	3.0	5,406	1,802	29
Somers	32.1	20,434	637	38
Yorktown	39.5	36,081	913	35
Pleasantville	1.8	7,019	3,899	19
Westchester	448.0	949,113	2,119	N/A

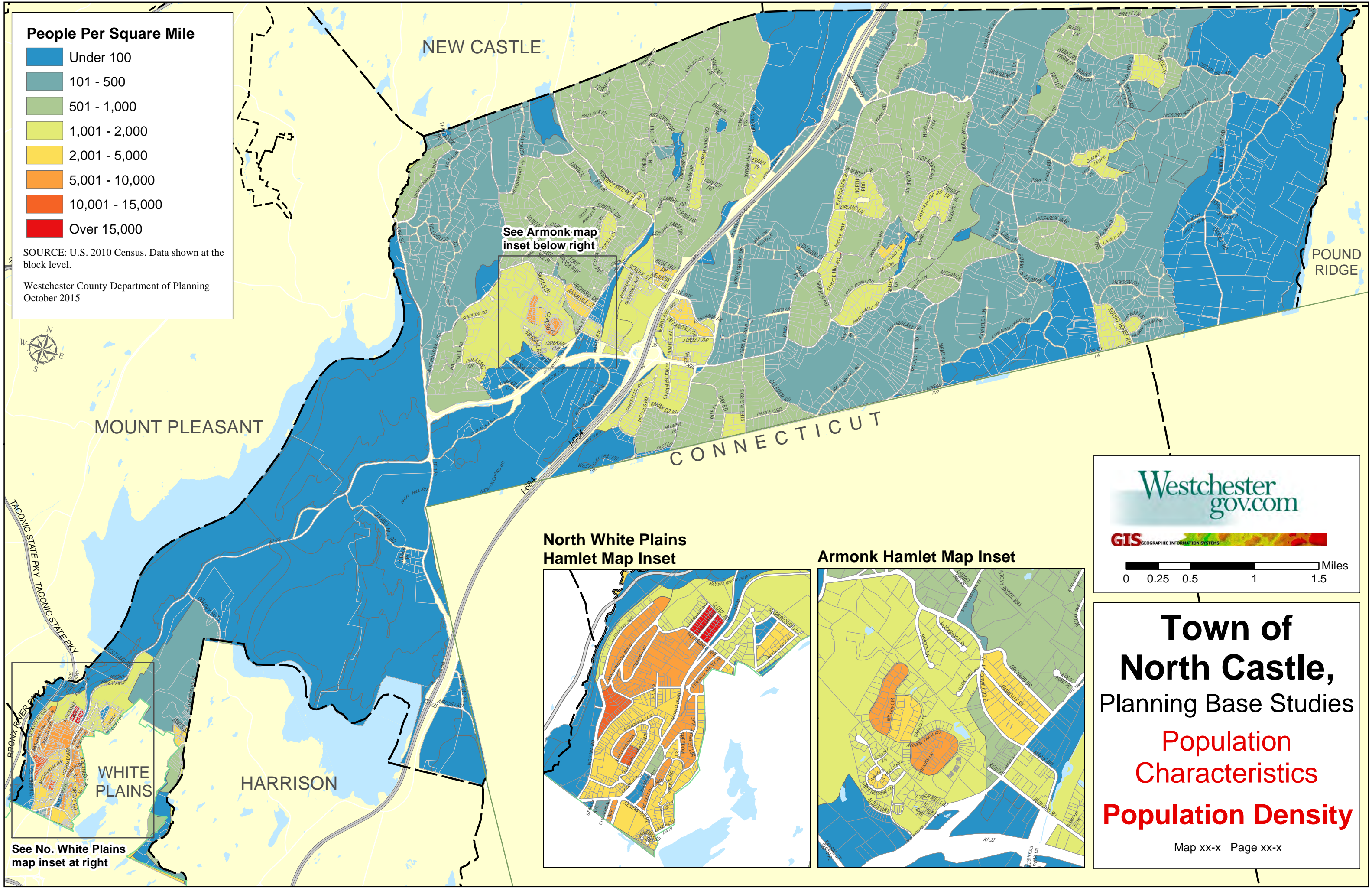
Source: US Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

People Per Square Mile

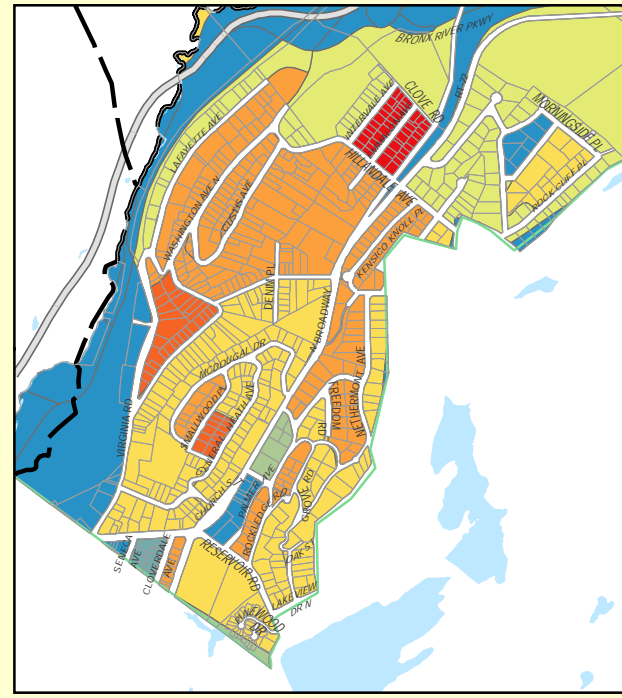
- Under 100
- 101 - 500
- 501 - 1,000
- 1,001 - 2,000
- 2,001 - 5,000
- 5,001 - 10,000
- 10,001 - 15,000
- Over 15,000

SOURCE: U.S. 2010 Census. Data shown at the block level.

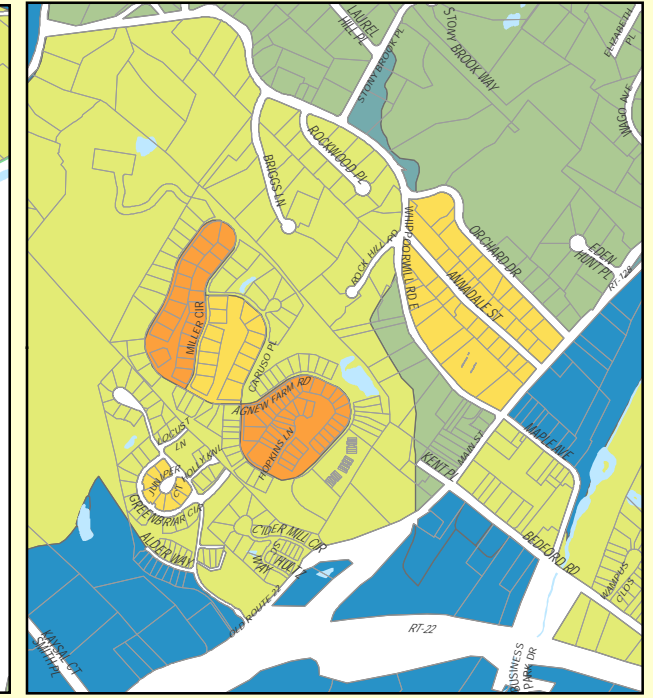
Westchester County Department of Planning
October 2015



**North White Plains
Hamlet Map Inset**



Armonk Hamlet Map Inset



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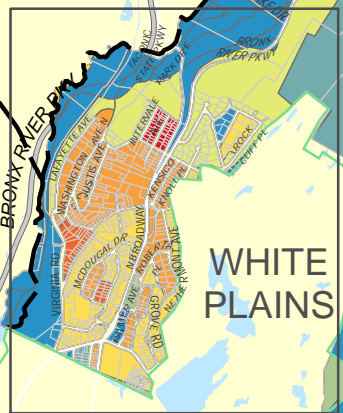
GIS GEOGRAPHIC INFORMATION SYSTEMS

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**Town of
North Castle,**
Planning Base Studies

**Population
Characteristics
Population Density**

Map xx-x Page xx-x



**See No. White Plains
map inset at right**

Seven things that you should know about Westchester County's population

In March of 2013, Joseph Salvo, the Director of the New York City Department of City Planning's Population Division, made a key **presentation at the 2013 Land Use Training Institute** ([link to presentation online](#)), hosted by the Westchester Municipal Planning Federation. Mr. Salvo and his team of demographers developed a list of seven things land use decision makers should know about the population of Westchester County. The following is just a brief summary of the points Mr. Salvo made in that presentation. The seven points included:

1. Westchester County is large and dynamic:

- There are over 3,100 counties in the U.S. and Westchester is 44th in size of population.
- If Westchester was considered a city, it would rank 9th in the nation in size.
- People leave the county, but others arrive. Many of the newcomers are from other countries, others from other parts of the United States.
- Other counties and cities would envy Westchester's dynamic shifts of populations.

2. The county possesses ethnic diversity, which is highest in the younger age groups

- Immigration is fueling a more diverse racial and ethnic mix in the county.
- The county's increase in Hispanics is also happening in New York City and all over the U.S.
- These new residents are younger.

3. It is becoming more diverse through immigration and births

- Like New York City and other "inner ring" counties surrounding the city, a growing proportion of residents are foreign-born (NYC at 37%, Westchester 24%)
- Many are from Latin America (38%), and these are from a variety of countries (e.g. Mexico, Dominican Republic, Guatemala, Colombia and Peru).
- Hispanic immigrants have the highest rate of births among immigrants.
- Foreign-born residents can be found in communities throughout Westchester.

4. It has a socioeconomic mix

- The proportion of adults over the age of 25 in the county with a Bachelor's degree or higher is 45%. New York City is 33%.
- Household income is also high compared with other areas.
- Some of those with lower education and income are clustered in some communities.
- A third of all workers in Westchester are foreign born; and they work in a variety of occupations.

5. It is projected to grow at a modest pace

- Projections for the county's population show modest growth over the coming decades.
- Such modest growth should be considered a positive.

6. It has an aging population

- Westchester's population is older than the general population of the U.S., which is a concern.
- The aging population is seen in communities throughout the county.

7. Putting it all together: Decisions that are demographically informed

- Immigrants have a very high employment rate. Some are at the bottom of the income ranges, while others are not.
- People are migrating into Westchester, while others migrate out of Westchester. Much of this is back and forth to New York City.
- While 9% of those leaving the county go to Florida, almost 8% of those coming from within the United States are from Florida.
- Overall, the "ins" and "outs" are almost equal.
- Migration is largely a phenomenon of the young.

Figure 3-4. Town of North Castle Age Characteristics, 1990-2010

Age Cohort	1990	Percent	2000	Percent	2010	Percent
Under 5 years	585	5.8%	810	7.5%	652	5.5%
5 to 9 years	672	6.7%	1,014	9.3%	1,028	8.7%
10 to 14	735	7.3%	918	8.5%	1,167	9.9%
15 to 19	666	6.6%	650	6.0%	854	7.2%
20 to 24	649	6.5%	323	3.0%	399	3.4%
25 to 29	598	5.9%	327	3.0%	384	3.2%
30 to 34	715	7.1%	588	5.4%	385	3.3%
35 to 39	818	8.1%	905	8.3%	667	5.6%
40 to 44	992	9.9%	1,087	10.0%	957	8.1%
45 to 49	846	8.4%	1,003	9.2%	1,112	9.4%
50 to 54	700	7.0%	873	8.0%	1,103	9.3%
55 to 59	588	5.8%	679	6.3%	905	7.6%
60 to 64	472	4.7%	511	4.7%	663	5.6%
65 to 69	415	4.1%	367	3.4%	531	4.5%
70 to 74	253	2.5%	313	2.9%	383	3.2%
75 to 79	174	1.7%	259	2.4%	283	2.4%
80 to 84	101	1.0%	143	1.3%	201	1.7%
85 years and over	82	0.8%	79	0.7%	167	1.4%
Total	10,061	100.0%	10,849	100.0%	11,841	100.0%

Figure 3-5. Age Characteristics, Town of North Castle and Westchester County, 2000-2010

Age Cohort	North Castle				Westchester County			
	2000	Percent	2010	Percent	2000	Percent	2010	Percent
Under 5 years	810	7.5%	652	5.5%	64,242	7.0%	57,199	6.0%
5 to 17 years	2,414	22.3%	2,868	24.2%	166,555	18.0%	170,801	18.0%
18 to 20	239	2.2%	253	2.1%	28,720	3.1%	34,119	3.6%
21 to 24	252	2.3%	327	2.8%	37,800	4.1%	42,868	4.5%
25 to 34	915	8.4%	769	6.5%	123,467	13.4%	108,013	11.4%
35 to 44	1,992	18.4%	1,624	13.7%	157,033	17.0%	132,984	14.0%
45 to 54	1,876	17.3%	2,515	18.7%	129,998	14.1%	149,032	15.7%
55 to 59	679	6.3%	905	7.6%	48,310	5.2%	61,788	6.5%
60 to 64	511	4.7%	663	5.6%	38,370	4.2%	53,187	5.6%
65 to 74	680	6.3%	914	7.7%	66,785	7.2%	68,766	7.2%
75 to 84	402	3.7%	484	4.1%	44,520	4.8%	47,629	5.0%
85 years and over	79	0.7%	167	1.4%	17,659	1.9%	22,727	2.4%

Source: U.S. Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

DataBook

The Westchester County Databook, features over 200 pages of descriptive data covering more than a dozen broad subject categories, ranging from Westchester's physical attributes and municipal organization to demographic and business statistics.

The Databook has proven to be a reliable statistical resource for government officials, new and expanding businesses, not-for-profit organizations and individuals interested in either specific or general information regarding Westchester County. You can access the information by individual chapters below or you can view the entire 2010 Databook in PDF format with bookmarks.



[Introduction and Credits](#)

[Transportation](#)

[History, Geography and Land Use](#)

[Utilities](#)

[Government](#)

[Education](#)

[Population](#)

[Child Care](#)

[Housing](#)

[Senior Programs and Services](#)

[Labor Force](#)

[Health and Emergency Services](#)

[Business, Office and Retail](#)

[Culture and Tourism](#)

[Income and Prices](#)

[Recreation](#)

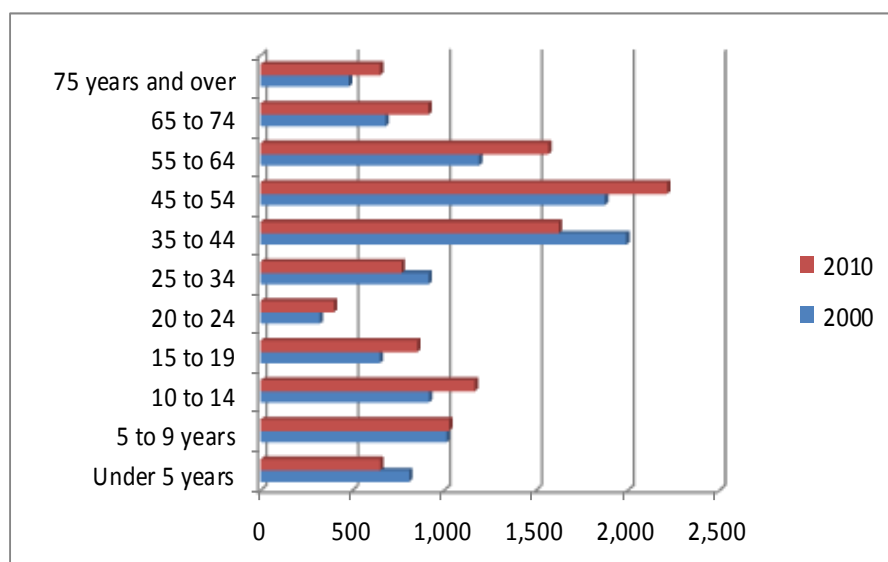
[Taxes](#)

[Economic Development Programs](#)

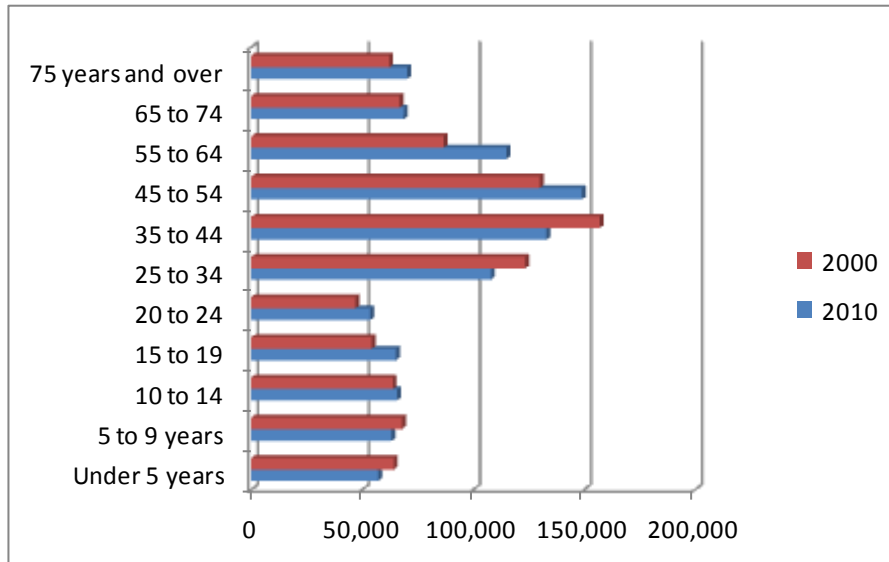
Figure 3-6: Change in Age Distribution, Town of North Castle and Westchester County, 2000-2010

Age Cohort	North Castle Change, 2000-2010		Westchester Change, 2000-2010	
	Count	Percentage	Count	Percentage
Under 5 years	-158	-19.5%	-7,043	-11.0%
5 to 9 years	14	1.4%	-4,781	-7.0%
10 to 14	249	27.1%	1,923	3.0%
15 to 19	204	31.4%	10,953	20.1%
20 to 24	76	23.5%	6,618	14.1%
25 to 34	-146	-16.0%	-15,454	-12.5%
35 to 44	-368	-18.5%	-24,049	-15.3%
45 to 54	339	18.1%	19,034	14.6%
55 to 64	378	31.8%	28,295	32.6%
65 to 74	234	34.4%	1,981	3.0%
75 years and over	170	35.3%	8,177	13.2%

Source: U.S. Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

Figure 3-7: Town of North Castle Age Distribution, 2000 and 2010

Source: US Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

Figure 3-8: Westchester County Age Distribution, 2000 and 2010

Source: US Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

3.4 Race and Ethnicity

North Castle, like most of the municipalities it borders, has remained a predominantly white community with a higher proportion of non-Hispanic white population (84%) than the county as a whole (57%). The non-Hispanic white population in North Castle dropped from 92% to 84% between 2000 to 2010, while there was an increase in the Hispanic population, rising from 4% to nearly 8% during the same decade. The non-Hispanic black population saw a slight decline from 1.8% in 2000 to 1.5% in 2010. (See Figure 3-9)

3.5 Place of Birth

The American Community Survey (ACS) data from 2010-2014 report the foreign born population estimate for North Castle as 1,510, or approximately 12.5% of the total population of the Town. The county averaged 25.2% foreign born during the same time frame. While the reported estimates are lower than the county average, the Town's population trends are consistent with most neighboring communities such as New Castle (13%), Bedford (16%), and Pound Ridge (10%). (See Figure 3-10)

3.6 Income

North Castle's average household income of \$159,031 was relatively high in the 2010-2014 ACS estimate. This compares with surrounding municipalities where median incomes span from \$81,743 in White Plains to \$186,493 in New Castle.

Municipal Profiles

One-page summaries are located at:

planning.westchestergov.com/municipal-profiles

of Westchester County and all 43 municipalities, including New Castle, have been assembled, showing various data from the Census Bureau's sample data program, the American Community Survey (ACS). Note that the ACS is now a separate program from the decennial Census, and is subject to a margin of error.

The Census Bureau provides data for small geographies by including sample data from five years of surveys (e.g. 2005 to 2009) to reduce this margin of error. Single-year ACS data is available for larger geographies (with greater than 65,000 people) at the Census Bureau's American [FactFinder website](http://factfinder.census.gov).

Figure 3-9. Race and Hispanic Origin

Town of North Castle				
Race and Hispanic Origin, 2000 and 2010 Census	2000	Percent	2010	Percent
Total population	10,849	100.0%	11,841	100.0%
Hispanic or Latino	449	4.1%	906	7.7%
Not Hispanic or Latino	10,400	95.9%	10,935	92.3%
White alone	10,022	92.4%	9,994	84.4%
Black or African American alone	191	1.8%	179	1.5%
American Indian and Alaska Native alone	3	0.0%	4	0.0%
Asian alone	430	4.0%	590	%
Native Hawaiian and Other Pacific Islander alone	5	0.0%	4	%
Some Other Race alone	68	0.6%	27	0.2%
Two or More Races	130	1.2%	144	1.2%
Westchester County				
Race and Hispanic Origin, 2000 and 2010 Census				
Total population	923,459	100.0%	949,113	100.0%
Hispanic or Latino	144,124	15.6%	207,032	21.8%
Not Hispanic or Latino	779,335	84.4%	742,081	78.2%
White alone	591,776	64.1%	544,563	57.4%
Black or African American alone	125,227	13.6%	126,585	13.3%
American Indian and Alaska Native alone	1,072	0.1%	1,141	0.1%
Asian alone	40,941	4.4%	51,123	5.4%
Native Hawaiian and Other Pacific Islander alone	232	0.0%	218	0.0%
Some Other Race alone	3,081	0.3%	3,757	0.4%
Two or More Races	17,006	1.8%	14,694	1.5%

Source: US Census, Decennial Census Summary File 1; Prepared by Westchester County Department of Planning

Figure 3-10. Foreign-born Population

Municipality	Native			Foreign-Born		
	Estimate	Margin of Error (+/-)	Percent	Estimate	Margin of Error (+/-)	Percent
Bedford	14,773	562	83.7%	2,870	562	16.3%
Greenburgh	69,893	1,159	77.5%	20,242	1,170	22.5%
Harrison	20,813	780	74.8%	7,009	774	25.2%
Mount Pleasant	35,353	709	79.9%	8,896	709	20.1%
New Castle	15,466	313	87.0%	2,320	316	13.0%
North Castle	10,544	248	87.5%	1,510	241	12.5%
Pound Ridge	4,651	231	90.0%	519	227	10.0%
White Plains	38,981	824	67.8%	18,524	823	32.2%
Westchester County	720,242	3,945	74.8%	242,077	3,945	25.2%

Source: American Community Survey 2010-2014, US Census Bureau; Prepared by Westchester County Department of Planning

The American Community Survey estimates that approximately 3.7% of residents in North Castle had income below the poverty level between 2010 and 2014.

Figure 3-11, Median Household Income, 2010-2014 shows these income figures for North Castle, Westchester County and surrounding communities. The higher incomes for some municipalities is consistent with higher levels of education as further described in Section 3.7.

3.7 Educational Attainment

With nearly 32% of its population having earned a Bachelor's Degree and almost 34% earning a Graduate Degree or higher, North Castle proves a highly educated community. Only 4.6% of residents over 25 do not have a high school diploma or GED. The percent of residents over 25 throughout Westchester without a high school diploma or GED was estimated at 12.4%.

Figure 3-11. Median Household Income 2010-2014 (in 2014 Dollars)

Municipality	Households	Families
Bedford	\$119,069	\$146,971
Greenburgh	\$112,216	\$139,689
Harrison	\$111,122	\$126,655
Mount Pleasant	\$105,820	\$129,040
New Castle	\$186,493	\$208,634
North Castle	\$159,031	\$185,417
Pound Ridge	\$173,839	\$241,818
White Plains	\$81,743	\$101,130
Westchester County	\$83,422	\$106,819

Source: U.S. Census Bureau American Community Survey 2010-2014. Data is based on a sample and contains a margin of error; Prepared by the Westchester County Department of Planning

Figure 3-12: Educational Attainment for the Population 25 and Over, 2010-2014

Municipality	Pop. 25 years and	No high school diploma	High school / GED	Bachelor's or higher	Master's or higher
Bedford	35,370	14.3%	49.9%	9.1%	4.6%
Greenburgh	63,039	6.7%	14.7%	26.8%	33.2%
Harrison	16,475	10.6%	20.0%	28.9%	21.1%
Mount Pleasant	29,035	9.8%	19.7%	26.5%	24.2%
New Castle	11,249	2.6%	5.3%	36.3%	46.1%
North Castle	7,743	4.6%	12.8%	32.0%	34.3%
Pound Ridge	3,528	2.3%	10.3%	31.4%	42.2%
White Plains	40,946	13.5%	20.2%	22.9%	24.8%
Westchester County	654,936	12.4%	20.9%	23.4%	22.7%

Source: U.S. Census Bureau American Community Survey 2010-2014. Data is based on a sample and contains a margin of error; Prepared by the Westchester County Department of Planning

CHAPTER 4 NATURAL RESOURCES

Natural resources provide many benefits for a community. Trees can increase property values, reduce stormwater impacts and improve air quality. Wetlands can protect against flooding and keep water clean. The Town of North Castle has a diversity of plants, animals and habitats — despite significant development — that contribute to the overall quality of life in the Town.

This chapter provides background on the natural resources located in the Town of North Castle. Important natural resources include soils, watersheds, wetlands, stormwater and floodplains. Environmental data is presented to illustrate a comprehensive picture of existing conditions, constraints and opportunities in the Town.

4.1 Topography

The land throughout North Castle is mostly upland river valleys with some slopes and ridges. The overall topography ranges from a low of approximately 182 feet above sea level to a high of approximately 758 feet above sea level. (See Map 4-2 Topography on page 4-3).

A. Steep Slopes

Approximately 31% of the land (5,221 acres) in North Castle contains steep slopes. Of these areas, 3,354 acres have slopes of 15-25% and 1,867 acres have slopes greater than 25%. Steep slopes are scattered throughout the Town (See Map 4-1 Environmental Features on page 4-2). The most significant concentrations of steep slopes are near rivers and the Kensico Reservoir.

Steep slopes may constrain land development due to the often difficult stabilization needed following soil disturbance, construction of structures, and establishment of new slopes through regrading. They also have generally higher rates of stormwater runoff and are susceptible to erosion and slope failure when their soils are disturbed or become extremely wet. The disturbance of steep slopes is regulated through the Town's Zoning Ordinance, Chapter 213-17 of the Town Code.

Slopes 15% to 25%

Slopes over 25%

NYSDEC Mapped Wetlands

National Wetland Inventory Wetlands

Hydric Wetland Soils

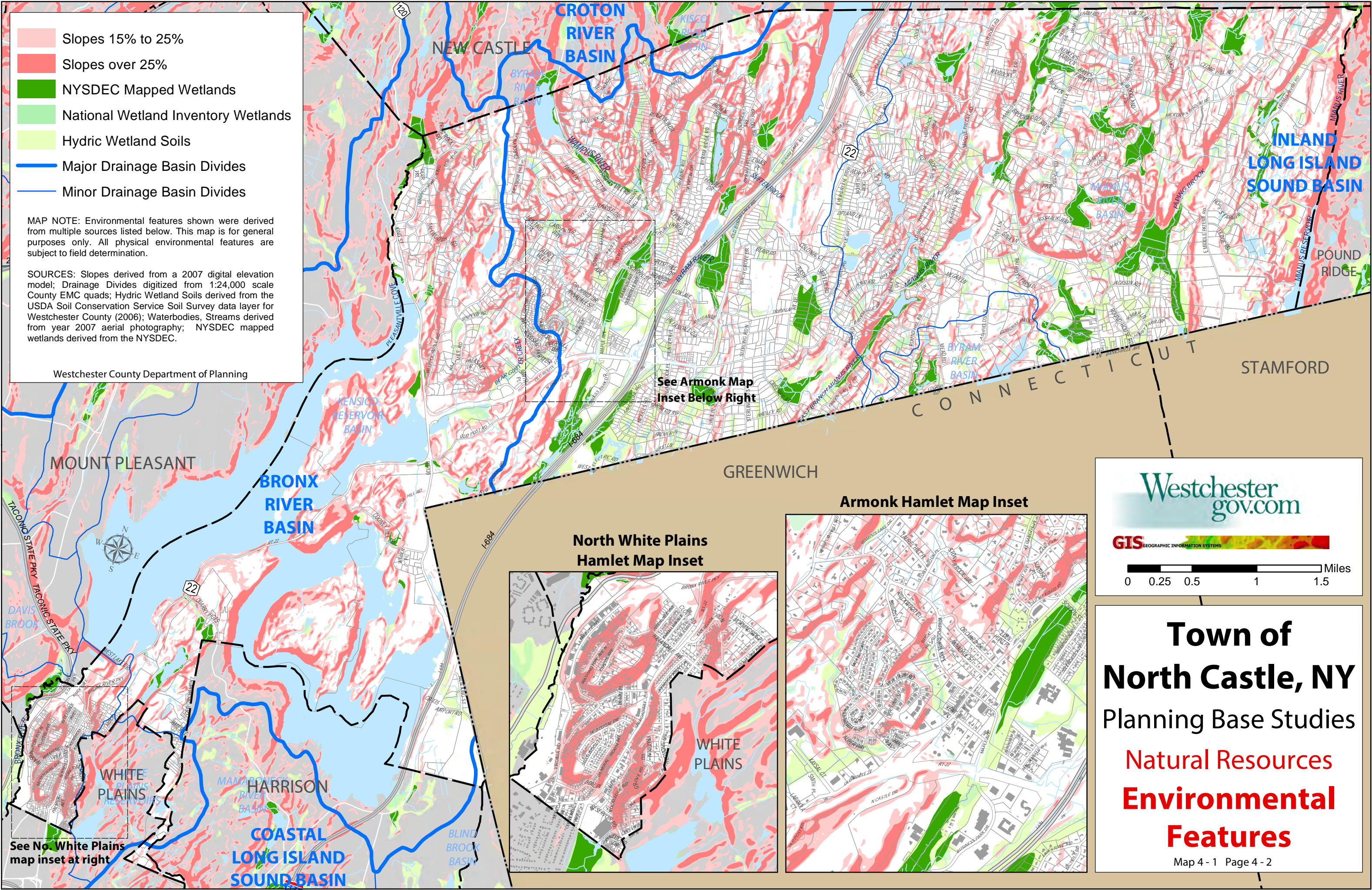
Major Drainage Basin Divides

Minor Drainage Basin Divides

MAP NOTE: Environmental features shown were derived from multiple sources listed below. This map is for general purposes only. All physical environmental features are subject to field determination.

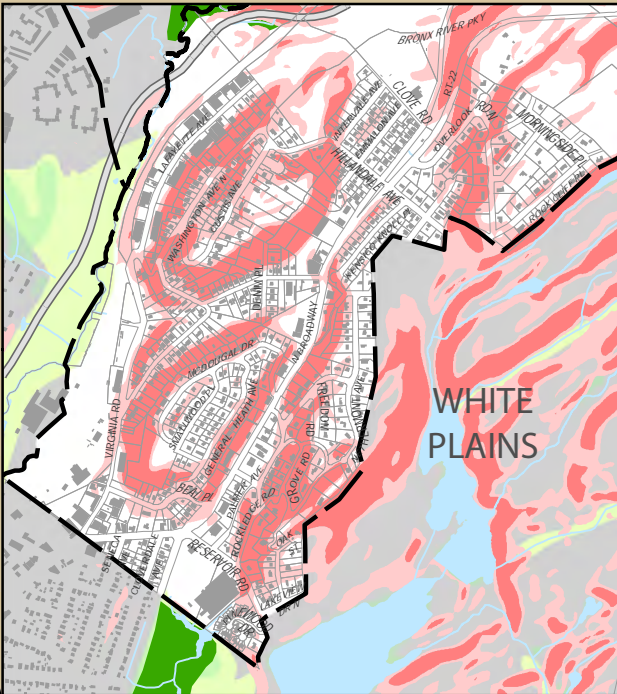
SOURCES: Slopes derived from a 2007 digital elevation model; Drainage Divides digitized from 1:24,000 scale County EMC quads; Hydric Wetland Soils derived from the USDA Soil Conservation Service Soil Survey data layer for Westchester County (2006); Waterbodies, Streams derived from year 2007 aerial photography; NYSDEC mapped wetlands derived from the NYSDEC.

Westchester County Department of Planning

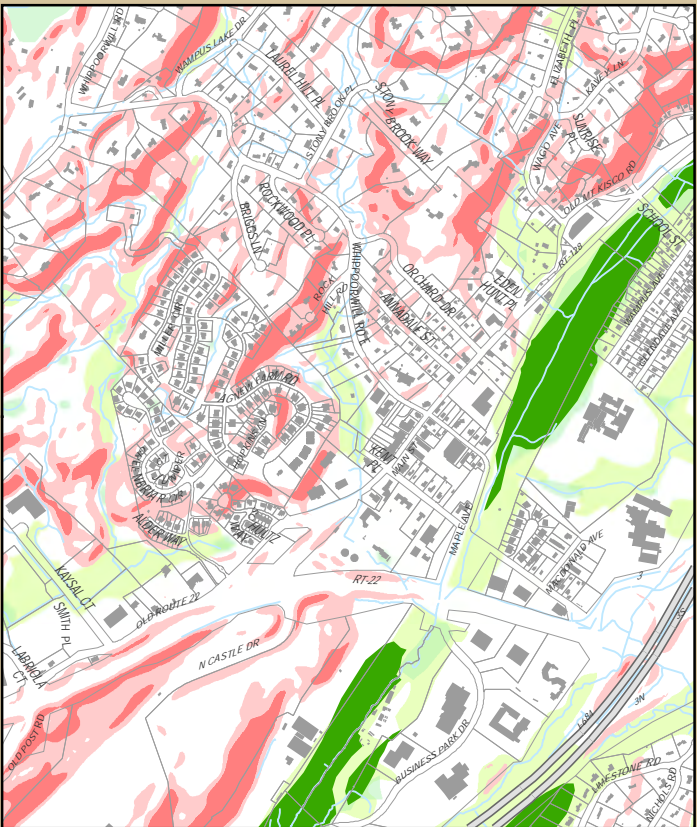


See Armonk Map
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North White Plains
Hamlet Map Inset



Armonk Hamlet Map Inset



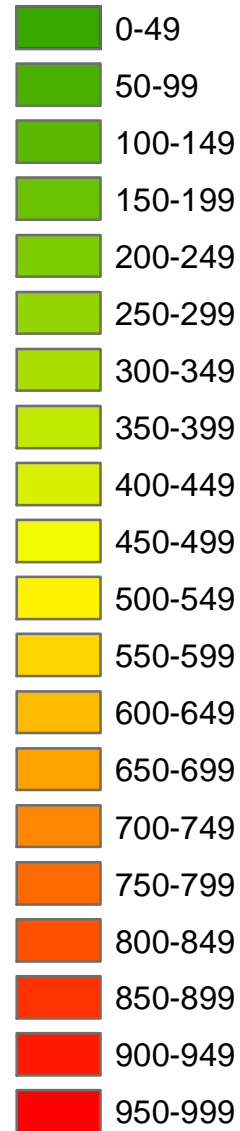
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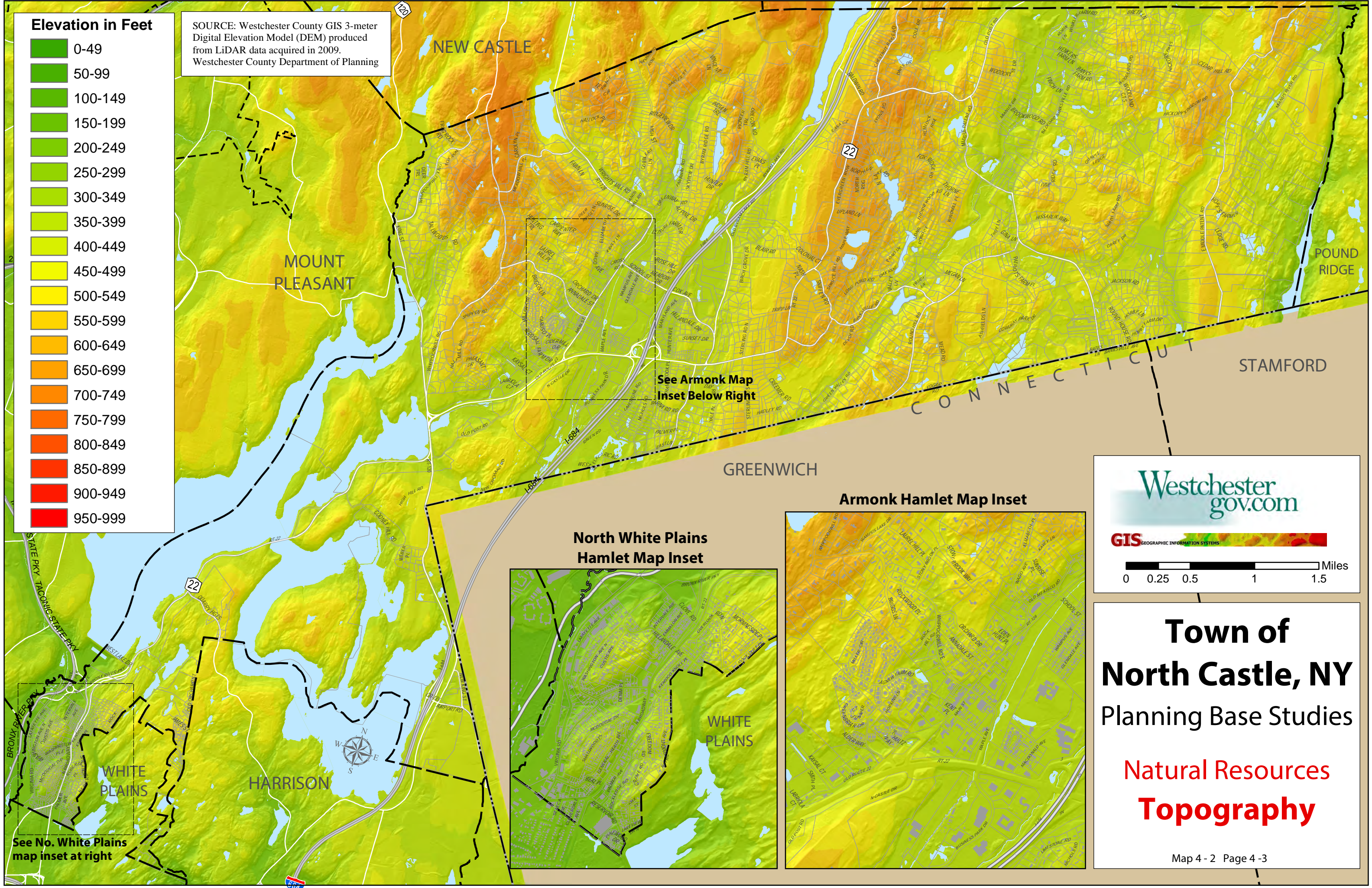
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**Town of
North Castle, NY**
Planning Base Studies
**Natural Resources
Environmental
Features**

Elevation in Feet

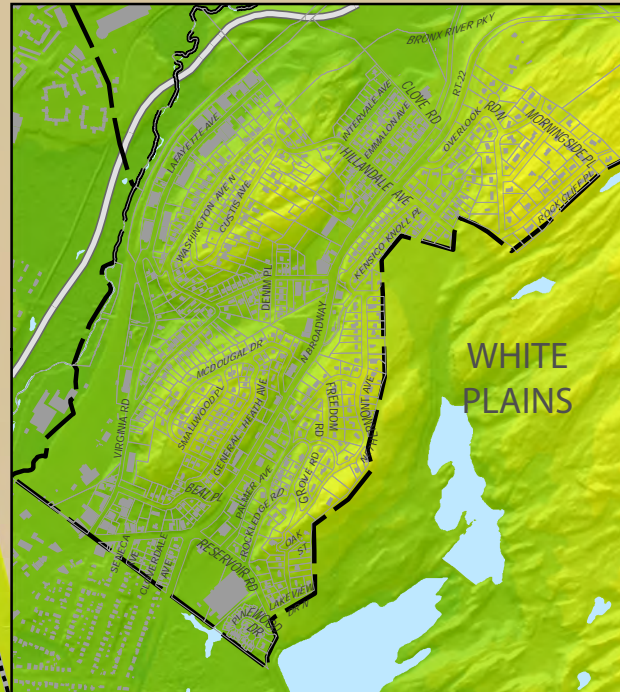


SOURCE: Westchester County GIS 3-meter Digital Elevation Model (DEM) produced from LiDAR data acquired in 2009.
Westchester County Department of Planning

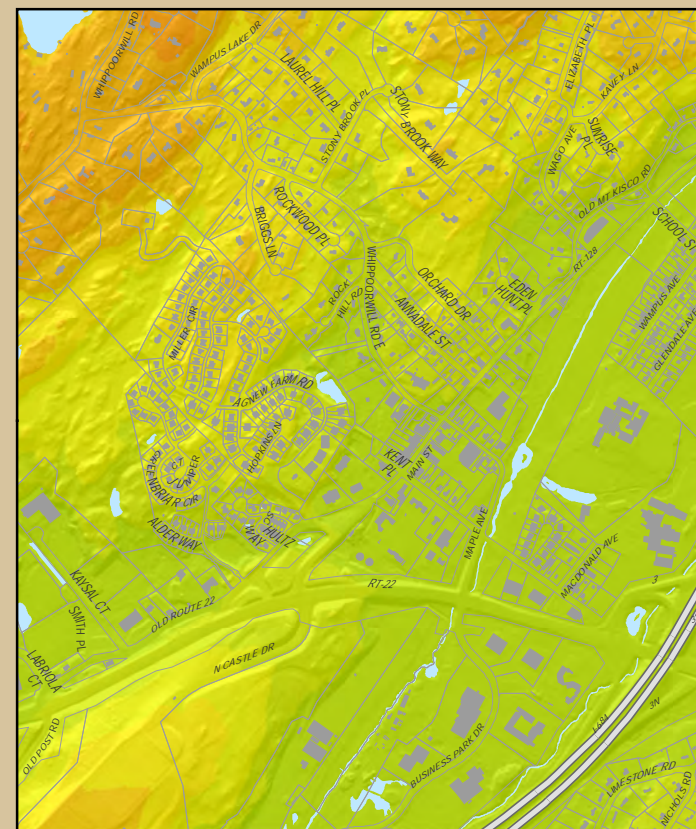


See Armonk Map Inset Below Right

North White Plains Hamlet Map Inset



Armonk Hamlet Map Inset



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GIS GEOGRAPHIC INFORMATION SYSTEMS



Town of North Castle, NY Planning Base Studies

Natural Resources
Topography

4.2 Soils

Soils absorb stormwater runoff, filter out pollutants carried by runoff, support structures and support varying plant and animal life.

A. Soil Categories

A list of soil types found in North Castle are shown in Map 4-3 and further identified and categorized in Figure 4-1. The information in the map and table has been derived from the U.S. Department of Agriculture-Natural Resources Conservation Service's (NRCS) 1994 Soil Survey of Putnam and Westchester Counties, New York.

It should be noted that the areas of these soils, as shown in Map 4-3 and Figure 4-1, are approximate due to the general nature of the soil survey, which is accurate only to plus or minus two acres. Furthermore, many of the dominant mapped soil units may include subordinate soils that have not been mapped because they are relatively small areas within larger soil units. Field work should be done for site-specific soil surveys when more precise soil information and boundary mapping are needed, usually in association with proposals for land development.

a. Charlton and Chatfield Soils

The predominant soils in North Castle are Charlton and Chatfield soils. There are approximately 5,859 acres of Charlton soils and 3,713 acres of Chatfield soils. These soils are well drained soils often found in upland areas.

b. Hydric Soils

Hydric soils are generally associated with wetlands because they are seasonally or permanently saturated or inundated with water. They also play a significant role in stormwater management for water quality and quantity purposes and ground and surface water recharge capabilities. Many land uses are not suitable in areas of hydric soils due to the wetness of the soil. Development on these soils should be closely regulated. Fourteen of the 60 soil types identified in the Town (Figure 4-1) are hydric soils.

For more detailed descriptions of the soil types listed in the table, including their limitations or benefits for certain land uses including septic suitability, please refer to the Soil Survey of Putnam and Westchester Counties, New York, in Appendix 4-1.

B. Hydrologic Soil Groups

Hydrologic soil groups classify soils according to their runoff-producing characteristics. These characteristics should be key to decisions made relevant to stormwater management and flood miti-

gation. The chief consideration in assigning a soil type to a hydrologic soil group is the capability of soil, bare of vegetation, to permit infiltration. Separate factors in predicting runoff include slope and the type of plant cover.

Soils are assigned to four hydrologic groups. Group A soils have a high infiltration rate and low stormwater runoff potential. They are well drained and often consist of relatively high concentrations of sand and/or gravel. Group D soils, at the other extreme, have a very slow infiltration rate and high runoff potential. They may have a layer of clay at or near the surface and a high permanent water table, or they may be shallow because they are over nearly impervious bedrock or other material. Most of the Town's soils are in Groups B and C, between the extremes of Groups A and D.

4.3 Water Resources

The Town of North Castle is located in four different major watersheds: Bronx River Watershed, Inland Long Island Sound Watershed, Croton River Watershed, and Coastal Long Island Sound Watershed.

A. Bronx River Watershed

The western and southern sections of North Castle are located in the Bronx River Watershed. This watershed makes up 5,241 acres or 31% of the area of the Town. All stormwater that runs over land within this section of the Town eventually makes its way into the

Hydric Soils in North Castle

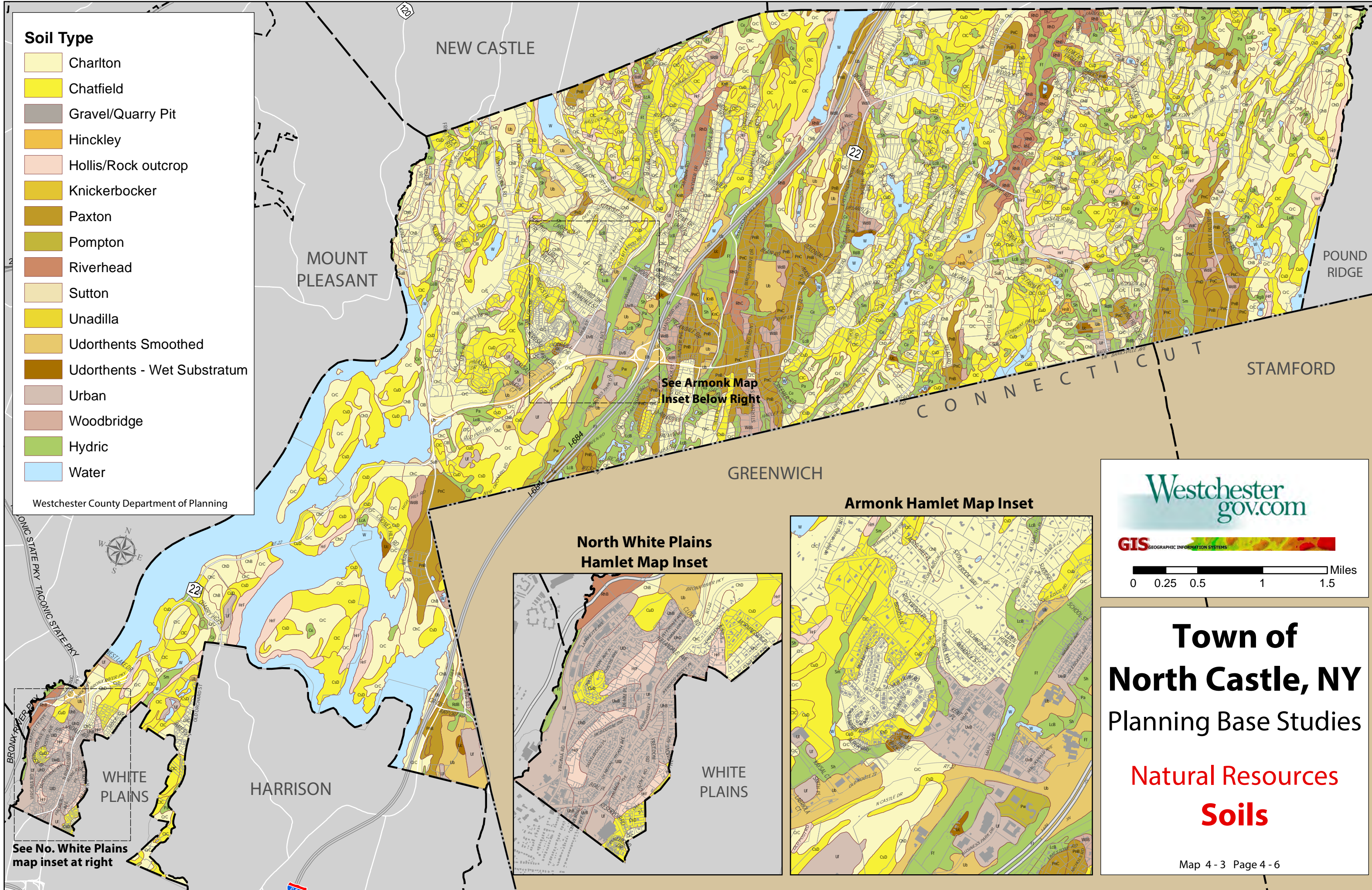
Hydric soils are formed under conditions of saturation, flooding, or ponding for a sufficient period of time during the growing season to develop anaerobic conditions in the upper part of the soil where the roots of plants are generally found. These wetland hydrologic conditions typically support plants that are most often found in wetlands. Hydric soils have developed characteristics of soil that is saturated or inundated with water during part of the year. Hydric soil types within the Town are:

- Carlisle muck (Ce)
- Fluvaquents-Udifuvents complex (Ff)
- Fredon silt loam (Fr)
- Leicester loam, 0-3 % slopes, stony (LcA)
- Leicester loam, 3-8 % slopes, stony (LcB)
- Leicester loam, 2-8% slopes, very stony (LeB)
- Palms muck (Pa)
- Palms and Carlisle soils (Pc)
- Raynham silt loam (Ra)
- Ridgebury loam, 0-3% slopes (RdA)
- Ridgebury loam, 3-8% slopes (RdB)
- Ridgebury loam, 2-8% slopes, very stony (RgB)
- Sun loam (Sh)
- Sun loam, extremely stony (Sm)

Soil Type

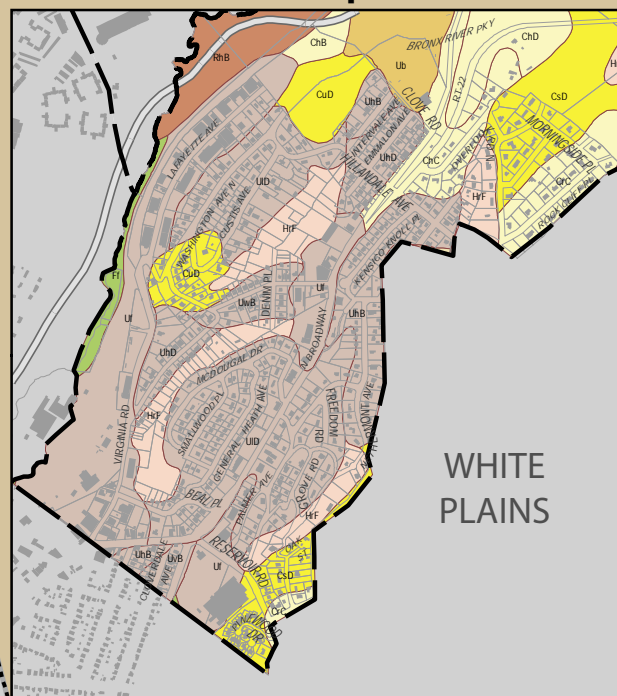
- Charlton
- Chatfield
- Gravel/Quarry Pit
- Hinckley
- Hollis/Rock outcrop
- Knickerbocker
- Paxton
- Pompton
- Riverhead
- Sutton
- Unadilla
- Udorthents Smoothed
- Udorthents - Wet Substratum
- Urban
- Woodbridge
- Hydric
- Water

Westchester County Department of Planning

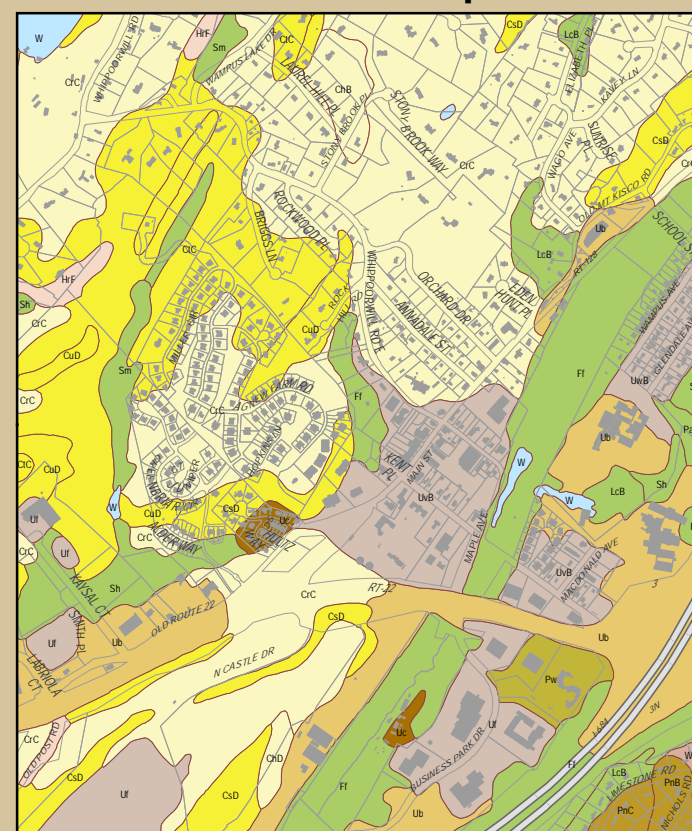


See Armonk Map
Inset Below Right

**North White Plains
Hamlet Map Inset**



Armonk Hamlet Map Inset



Westchester
gov.com

GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.25 0.5 1 1.5 Miles

Town of North Castle, NY Planning Base Studies Natural Resources Soils

Figure 4-1. Soils In the Town of North Castle

Soil Category	Soil Map Symbol	Soil Name and Description	Hydrologic Group	Acreage
Charlton				5,859
	ChB	Charlton loam, 2-8% slopes	B	539
	ChC	Charlton loam, 8-15% slopes	B	607
	ChD	Charlton loam, 15-25% slopes	B	253
	ChE	Charlton loam, 25-35% slopes	B	36
	CIB	Charlton loam, 2-8% slopes, very stony	B	42
	CIC	Charlton loam, 8-15% slopes, very stony	B	7
	CID	Charlton loam, 15-25% slopes, very stony	B	8
	CIE	Charlton loam, 25-35% slopes, very stony	B	11
	CIF	Charlton loam, 35-45% slopes, very stony	B	16
	CrC	Charlton-Chatfield complex, rolling, very rocky	B	4,338
Chatfield				3,713
	CsD	Chatfield-Charlton complex, hilly, very rocky	B	2,028
	CtC	Chatfield-Hollis-Rock outcrop complex, rolling	B/C	741
	CuD	Chatfield-Hollis-Rock outcrop complex, hilly	B/C	944
Dam	Dam	Dam	NA	2
Hinckley				19
	HnB	Hinckley gravelly loamy sand, 3-8% slopes	A	14
	HnC	Hinckley gravelly loamy sand, 8-15% slopes	A	2
	HnD	Hinckley gravelly loamy sand, 15-25% slopes	A	3
Hollis/Rock Outcrop	HrF	Hollis-Rock outcrop complex, very steep	C	446
Knickerbocker				38
	KnB	Knickerbocker fine sandy loam, 2-8% slopes	A	33
	KnC	Knickerbocker fine sandy loam, 8-15% slopes	A	5
Paxton				1,279
	PnB	Paxton fine sandy loam, 2-8% slopes	C	611
	PnC	Paxton fine sandy loam, 8-15% slopes	C	537
	PnD	Paxton fine sandy loam, 15-25% slopes	C	80
	PoB	Paxton fine sandy loam, 2-8% slopes, very stony	C	8
	PoC	Paxton fine sandy loam, 8-15% slopes, very stony	C	33
	PoD	Paxton fine sandy loam, 15-25% slopes, very stony	C	12
Pompton	Pw	Pompton silt loam, loamy substratum	B	31
Riverhead				268
	RhB	Riverhead loam, 3-8% slopes	B	126
	RhC	Riverhead loam, 8-15% slopes	B	45
	RhD	Riverhead loam, 15-25% slopes	B	84
	RhE	Riverhead loam, 25-50% slopes	B	12

Soil Category	Soil Map Symbol	Soil Name and Description	Hydrologic Group	Acreage
Sutton				209
	SuA	Sutton loam, 0-3% slopes	B	4
	SuB	Sutton loam, 3-8% slopes	B	205
Unadilla	UdB	Unadilla silt loam, 2-6% slopes	B	15
Udorthents, Smoothed	Ub	Udorthents, smoothed	Use group of soil type excavated into or filled upon	506
Udorthents, Wet Substratum	Uc	Udorthents, wet substratum	C	52
Urban				411
	Uf	Urban land	Treat as impervious	205
	UhB	Urban land-Charlton complex, 2-8% slopes	B (use for pervious areas)	26
	UhD	Urban land-Charlton complex, 15-25% slopes	B (use for pervious areas)	15
	UID	Urban land-Charlton-Chatfield complex, hilly, very rocky	B (use for pervious areas)	73
	UvB	Urban land-Riverhead complex, 2-8% slopes	B (use for pervious areas)	64
	UwB	Urban land-Woodbridge complex, 2-8% slopes	C (use for pervious areas)	27
Woodbridge				284
	WdA	Woodbridge loam, 0-3% slopes	C	3
	WdB	Woodbridge loam, 3-8% slopes	C	241
	WdC	Woodbridge loam, 8-15% slopes	C	40
Hydric				2,023
	Ce	Carlisle muck	A/D	240
	Ff	Fluvaquents-Udifluvents complex, frequently flooded	D	509
	Fr	Fredon silt loam	C	29
	LcA	Leicester loam, 0-3% slopes, stony	C	90
	LcB	Leicester loam, 3-8% slopes, stony	C	399
	LeB	Leicester loam, 2-8% slopes, very stony	C	108
	Pa	Palms muck	A/D	114
	Pc	Palms and Carlisle soils, ponded	Treat as impervious	4
	Ra	Raynham silt loam	C	26
	RdA	Ridgebury loam, 0-3% slopes	C	3
	RdB	Ridgebury loam, 3-8% slopes	C	155
	RgB	Ridgebury loam, 2-8%, very stony	C	23
	Sh	Sun loam	D	217
	Sm	Sun loam, extremely stony	D	108
Water	W	Water	NA	1,599
TOTAL				16,754

Source: U.S. Department of Agriculture-Natural Resources Conservation Service’s (NRCS) Soil Survey of Putnam and Westchester Counties, New York, 1994

Northern Westchester Watershed Committee (NWWC):

The Northern Westchester Watershed Committee (NWWC) is Westchester's forum to oversee implementation of the historic Memorandum of Agreement (MOA). It's an avenue within which the 12 Westchester County municipalities that have land area within the New York City Watershed can discuss issues related to watershed protection and local involvement. Any program or activity undertaken to protect drinking water quality for New York City's residents has a direct impact on each of these twelve communities.

(<http://planning.westchestergov.com/initiatives/croton/watershed-committee>)

Bronx River. It is located within the Kensico Reservoir, Upper Bronx River and White Plains Reservoirs subwatersheds. Map 4-1 on page 4-2 shows the locations of these subwatersheds.

B. Inland Long Island Sound Watershed

The northern and eastern sections of North Castle are located in the Inland Long Island Sound Watershed. This watershed makes up 11,305 acres or 67% of the area of the Town. All stormwater that runs over land within in this section of the Town eventually makes its way to the Long Island Sound. It is located within the Byram River and Mianus River subwatersheds.

C. Coastal Long Island Sound Watershed

A small section the southern section of the Town is in the Coastal Long Island Sound Watershed. This watershed makes up 37 acres or 0.2% of the area of the Town. It is located within the Mamaroneck River and Blind Brook subwatersheds.

D. Croton River Watershed

A small section of the northern section of the Town is located in the Croton River Watershed. The watershed makes up 175 acres or 1% of the area of the Town. It is located within the Kisco River subwatershed.

North Castle is one of 12 municipalities that make up the Northern Westchester Watershed Committee (NWWC). The NWWC acts as an advisory committee for watershed protection activities in the New York City Watershed. North Castle is also a member of the East of Hudson Watershed Corporation, a regional stormwater entity developed to implement MS4 stormwater retrofits for phosphorus reduction (www.eohwc.org).

E. Watercourses and Waterbodies

There are several major rivers and lakes in North Castle. The Ken-

New York State Classifications of Waterbodies

- Classifications AA or A are assigned to waters used as a source of drinking water.
- Classification B indicates a best usage for swimming and other contact recreation, but not for drinking water.
- Classification C is for waters supporting fisheries and suitable for non-contact activities.
- The lowest classification is D.

Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning (TS). Special requirements apply to sustain these waters that support these valuable and sensitive fisheries resources. Certain waters of the state are protected on the basis of their classification. Streams and small waterbodies located in the course of a stream that are designated as C(T) or higher (i.e., C(TS), B, or A) are collectively referred to as "protected streams," and are subject to the stream protection provisions of the Protection of Waters regulations.

sico Reservoir is located in the southern section of North Castle. The Byram River in North Castle is classified as B(T), C and C(T) under the Protection of Waters Program of the NYSDEC. The Bronx River is classified as C(T), the Mianus River and tributaries are classified as AA-S and the streams flowing to Kensico are A and AA. All waters of the State are provided a class and standard designation based on existing or expected best usage of each water or waterway segment.

F. Wetlands Definition and Background

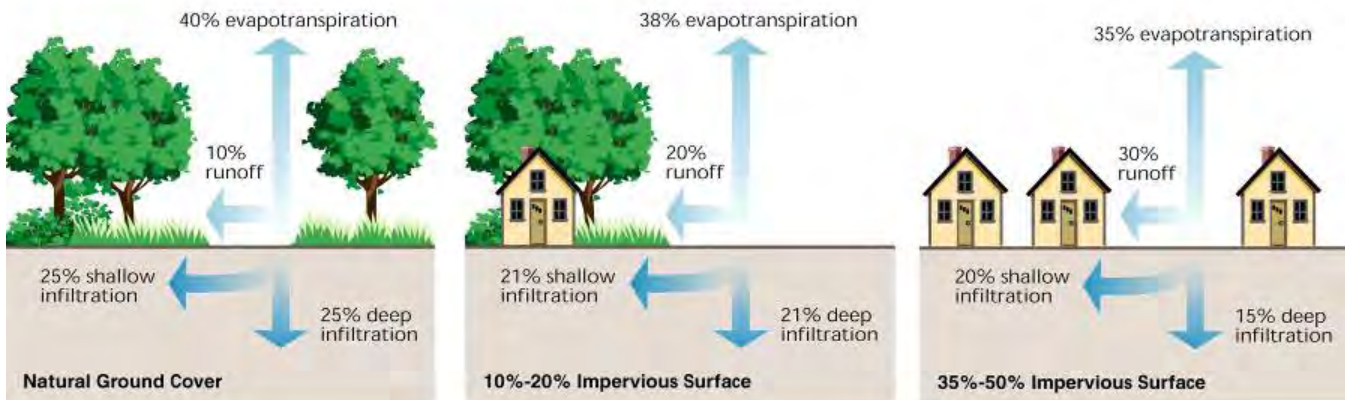
Per the Town's Wetlands and Watercourse Protection Law, Chapter 209 of the Town Code, wetlands are defined as "...those geographic areas of the Town of North Castle which meet the technical criteria, field indicators and other sources of information as outlined in the 'Federal Manual for Identifying and Delineating Jurisdictional Wetlands' (January 1989) published by Federal Interagency Committee for Wetland Delineation..." According to Chapter 209, Wetlands are "those areas that have a predominance of hydric soils and/or are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions. Wetlands possess three essential characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology."

Wetlands buffers are defined in the Town's Wetlands Law as "the area extending 100 feet horizontally away from and paralleling the outermost wetland boundary or bank of the watercourse." The Law states that "if, within such buffer area, there is an area of slope in excess of 25%, the buffer area shall be expanded to include the lesser of either 150 feet or the entirety of the area of twenty-five-percent or greater slope which drains down toward the wetland, wa-



The *Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989)* is available online at the U.S. Fish & Wildlife Service Conservation Library at:

<http://library.fws.gov/>



Source: *Stream Corridor Restoration: Principles, Processes, and Practices* (10/98), Federal Interagency Stream Restoration Working Group (FISRWG).

ter body or watercourse.” Due to its inland location, no tidal wetlands exist within the Town of North Castle.

G. Wetlands in North Castle

Wetlands, or areas most likely to contain wetlands, are shown on Map 4-1. Seventy-one DEC wetlands exist in North Castle. These wetlands have a total area of 897 acres and they are distributed throughout the Town.

Other, smaller wetlands have also been identified and mapped as part of the National Wetland Inventory (NWI). This non-regulatory mapping, which covers the nation, was prepared by the U.S. Fish and Wildlife Service. These wetlands are also identified on Map 4-1. The NWI characterizes each wetland by system, subsystem (if applicable), class, and subclass.

The NWI-mapped wetlands total approximately 2,229 acres. The NWI-mapped wetlands include freshwater ponds totaling approximately 216 acres, freshwater forested/shrub wetlands (swamps) totaling approximately 603 acres, freshwater emergent wetlands (marshes) totaling approximately 29 acres, lakes totaling approximately 1,379 acres and riverine wetlands totaling approximately 1 acre. Freshwater ponds are characterized as non-vegetated open waterbodies. Emergent wetland vegetation usually grows in standing water or, at minimum, water-saturated soils during much or all of the year. Forested shrub wetland vegetation often grows in standing water or, at minimum, water-saturated soils from late fall through early to mid-spring.

The NWI mapping does not identify all of the wetlands in the Town, nor anywhere else, so it must be used in conjunction with other mapping and field investigations.

Figure 4-3. Impervious Surfaces in North Castle

Surface	Acres	Percent of Total Area of Town
Roadways, Parking Areas, Sidewalks and Driveways	1,111	7%
Buildings and Structures	351	2%
Total Impervious Surfaces	1,462	9%

Source: WC GIS Data

In addition to State and federally mapped wetlands, the *Soil Survey of Putnam and Westchester Counties, New York*, prepared by the U.S. Department of Agriculture's Natural Resources Conservation Service, should be consulted to identify possible other, unmapped wetlands. As noted in Section 4.2, areas containing hydric or wetland soils can be identified as possible locations of additional wetlands. The Town contains approximately 2,023 acres of mapped hydric soils. It should be noted that not all areas of hydric soil are, in fact, wetlands. The soil survey is best used for general planning purposes and is only accurate to plus/minus two acres, and all soil types identified in the survey include inclusions that may be dissimilar to the dominate soil type. For example, an area of hydric soil in a given location may include non-hydric soil inclusions within it.

H. Impervious Surfaces

Impervious surfaces can be defined as any material that prevents the infiltration — soaking in — of water into the soil. Roads, rooftops, parking lots, driveways, tennis courts, and sidewalks are some easily identifiable impervious surfaces. As development occurs in a watershed, the percentage of land covered by impervious surfaces can increase. Map 4-4, Impervious Surfaces, shows these areas within the Town.

As shown in Figure 4-3, a total of approximately 1,462 acres, or approximately 9% of the Town's 16,758 acres, is covered with impervious surfaces including all buildings, parking lots, roadways, and sidewalks. Of this, approximately 1,111 acres is impervious coverage from roadways and parking lots which are subjected to leaking oils and grease and the metals they contain. Much of the land area in the Town is comprised of lawns and other human-influenced features that, although not impervious, foster a high degree of stormwater runoff in comparison with woodlands, meadows and similar natural features. Appendix 4-2, Impervious Surfaces, more fully describes the roles of impervious surfaces toward the

Figure 4-4. Swamp Milkweed

Source: Westchester Department of Planning

Septic Systems in North Castle

Many households in North Castle have septic systems. If septic systems are not maintained regularly, they can not treat wastewater properly and pollute nearby waterbodies and groundwater sources. For more information about septic systems, see Appendix 4-3 for “A Homeowner’s Guide to Operating and Maintaining a Septic System.”

Stormwater runoff collects and transports pollutants to lakes, ponds and reservoirs.

Although the amount of **pollutants** from a single residential, commercial, industrial or construction site may seem insignificant, the combined accumulation of pollution from multiple properties can **contaminate our** lakes, rivers, wetlands and **drinking water**.

Learn more about stormwater at:
westchestergov.com/stormwater

degradation of water quality, hydrology and stream habitat.

4.4 Stormwater and Flooding

A. Relationship Between Land Use and Stormwater

Adapted from [NYSDEC stormwater website](#)

Stormwater is water from rain or melting snow that does not soak into the ground but runs off into waterways or pipes. It flows from rooftops, over paved areas and bare soil, and through sloped lawns, picking up a variety of materials on its way. The quality of runoff is affected by a variety of factors and depends on the season, local meteorology, geography and upon activities which lie in the path of the flow.

As it flows, stormwater runoff collects and transports pollutants to surface waters. Although the amount of pollutants from a single residential, commercial, industrial or construction site may seem unimportant, the combined concentrations of contaminants threaten our lakes, rivers, wetlands and other waterbodies. Pollution conveyed by stormwater degrades the quality of drinking water, damages fisheries and damages habitat of plants and animals that depend on clean water for survival. Pollutants carried by stormwater can also affect recreational uses of waterbodies by making them unsafe for wading, swimming, boating and fishing. According to an inventory conducted by the United States Environmental Protection Agency (EPA), half of impaired waterways are affected by urban/suburban and construction sources of stormwater runoff.

Examples of pollution in stormwater:

- Nutrients such as phosphorus and nitrogen can promote the overgrowth of algae, deplete oxygen in the waterway and be harmful to other aquatic life.
- Bacteria from animal wastes and illicit connections to sewerage systems can make nearby lakes and bays unsafe for wading, swimming and the propagation of edible shellfish.
- Oil and grease from automobiles causes sheen and odor and makes transfer of oxygen difficult for aquatic organisms.
- Sediment from construction activities clouds waterways and interferes with the habitat of living things that depend upon those waters.
- Careless application of pesticides, herbicides and fertilizers affect the health of living organisms and cause ecosystem imbalances.
- Litter damages aquatic life, introduces chemical pollution, and diminishes the beauty of our waterways.

The best way to control contamination to stormwater is usually at

the source, where the contaminants can be identified, reduced or contained before being conveyed to surface water. It is often more expensive and difficult to remove the combination of contaminants that are present at the end-of-pipe where stormwater is finally discharged directly to a receiving water body. Significant improvements can also be made by employing stormwater best management practices or "BMPs" to reduce contaminants. See Appendix 4-4 for copies of the New York State Stormwater Management Design Manual and New York State Standards and Specifications for Erosion and Sediment Control, both of which identify appropriate BMPs.

Suburban watershed and stormwater management often lacks a unifying theme to guide the efforts of its participants—planners, engineers, landscape architects, scientists, and local officials. The lack of a theme has sometimes made it difficult to achieve a consistent result at either the individual development site or at the watershed scale.

A physically defined unit, imperviousness, might be a desired theme. Imperviousness is defined as the sum of roads, parking lots, sidewalks, rooftops, and other impermeable surfaces of the suburban landscape. This variable can be easily measured at all scales of development, as the percentage of area that is not "green."

Effectively planning for stormwater management practices best suited for the Town's land uses may begin with an evaluation of these uses so as to develop a strategy for implementing stormwater management practices having the best value derived from a cost-benefit relationship. This assessment may be guided by, or performed directly in accordance with, the Center for Watershed Protection's Unified Site and Subwatershed Reconnaissance (USSR), which is included in Appendix 4-5. Stormwater management practices, in accordance with the New York State Stormwater Management Design Manual and New York State Standards and Specifications for Erosion and Sediment Control, must be tailored to existing land uses or to any redevelopment of them.

The Town of North Castle has developed gross land coverage regulations (213-3 and 213-222) for one and two family lots that provide

B. Regulations and Planning for Stormwater

Adapted from NYS DEC stormwater website

a. **TMDLs** - The Croton River watershed is the subject of existing and pending water quality improvement requirements, including Total Maximum Daily Load (TMDL) thresholds for phosphorus.

Point Source and Non-Point Source Pollution

Point source pollution is easy to understand because it can be traced directly to its source. Think of it like this: if a sewage plant has a broken pipeline that leaks raw sewage into a river, you can "point" your finger at the exact source of the pollution. Point source pollution was a big concern in the past, but today stricter laws and regulations have drastically decreased the problem.

Non-point source pollution is a little more difficult to understand. Stormwater runoff pollution is a type of non-point source pollution. This means that the pollution cannot be traced back to a specific source, but instead comes from many different sources throughout the environment. Non-point source pollution is the primary cause of watershed pollution today. Non-point source pollution occurs when small amount of pollution from a large variety of sources is picked up by stormwater runoff and carried into water bodies. You can't point to the specific origin of the contamination; it comes from too many places and is difficult to trace.

Source: <http://www.swfwmd.state.fl.us/education/kids/stormwater.php>

This nutrient is the limiting factor in the development of oxygen-depleting algae in the Croton Reservoir; the greater the loading of phosphorus, the greater the degree of algal growth and, therefore, the greater the magnitude of oxygen depletion in the Croton Reservoir.

b. NYS Stormwater Regulations — The NYSDEC administers and enforces three State Pollutant Discharge Elimination System (SPDES) general permits required for activities associated with stormwater discharges:

- **Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activities** — This permit addresses stormwater runoff from certain industrial activities. It requires facilities to develop Stormwater Pollution Prevention Plans (SWPPPs) and report the results of industry-specific monitoring to the NYSDEC on an annual basis.
- **Municipal Separate Storm Sewer Systems (MS4s) Permit** — This permit is required for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas. The Town of North Castle and the County of Westchester are MS4s. Permittees are required to develop a

Types of non-point source pollution

Sediment (dirt, soil, sand): increases turbidity (a measure of water cloudiness) of a waterbody. Turbidity can block sunlight from reaching aquatic plants, making it impossible for them to grow. Without plants, animals lose a food source and it is more difficult to filter pollutants from the water. Instead, pollutants collect in the bottom of the waterbody and remain there indefinitely.

Nitrogen and Phosphorus: Nitrogen and phosphorus, can come from lawn fertilizers or natural sources, such as manure. Nutrients can cause algal and bacterial blooms, which reproduce rapidly. Algae will consume oxygen, increase turbidity in the water body and eventually die along with the fish and other aquatic life that need oxygen to live.

Pathogenic Bacteria and Microorganisms: Pathogens can be carried by stormwater into a waterbody. This creates health hazards to humans and can cause lakes and beaches to close and water supplies to be contaminated.

Debris: Plastic bags, bottles and cigarette butts can wash into a waterbody and interfere with aquatic life. It also isn't very pretty.

Hazardous substances: These include insecticides (chemicals used to control or kill insects), herbicides (chemicals used to kill unwanted plants), paint, motor oil and heavy metals. All of these items can cause illness not only to aquatic life, but also humans.

Stormwater Management Program (SWMP) and submit annual reports to the NYSDEC (please see Appendix 4-6 for copies of those from North Castle).

The United States Environmental Protection Agency (EPA) and NYSDEC have established six “minimum control measures” that must be included in every MS4 SWMP:

1. Public education and outreach on stormwater impacts
2. Public participation and involvement
3. Illicit discharge detection and elimination
4. Construction site runoff control
5. Post-construction stormwater management; and
6. Pollution prevention and good housekeeping for municipal operations.

These minimum measures are set up to prohibit and systematically eliminate pollution of waters by systems intended to transport only rainwater and natural runoff from rain storms. In doing so, they are requiring every affected community to be responsible for all activities that occur within their jurisdiction.

- **General Permit for Stormwater Discharges from Construction Activities** — This permit is required for construction activities disturbing one or more acres of soil. Permittees are required to develop a SWPPP to prevent discharges of construction-related pollutants to surface waters.

c. Watershed Based Zoning

Traditional zoning strongly emphasizes the regulation of buildings and where they must be located on a lot and their size, but does not focus on the location and size of driveways, roads and parking lots. For example, no more than one single-family home may be located on each acre of land in a given area but a wide range of impervious cover may be seen for the same zoning category.

According to analysis performed by the Center for Watershed Protection, the total runoff volume for a one-acre parking lot is about 16 times that produced by an undeveloped meadow. During a one-inch rain storm, runoff from a one-acre meadow would fill a typical size bedroom to a depth of about two feet (218 cubic feet). By way of comparison, if that same acre was completely paved, a one-inch rainstorm would completely fill three additional bedrooms.

Watershed based zoning can employ a mixture of land use and zoning options to achieve desired results. A watershed based zoning approach may include the following nine steps:

1. Conduct a comprehensive stream inventory and assessment.



Federal Emergency Management Agency (FEMA)

FEMA administers the National Flood Insurance Program (NFIP). The NFIP program goals are to reduce the risk of flood damage to properties and reduce federal expenditures for uninsured properties that are damaged by floods. The three components of NFIP are:

- Floodplain identification and mapping
- Floodplain management, and
- Flood insurance.

Floodplain identification and mapping is provided through the program to create awareness of flood hazards. The mapping provides data for flood management programs and flood insurance rates for new construction. Specifically, Flood Insurance Rate Maps (FIRM) delineate base flood elevations and identify flood risk zones including Special Flood Hazard Areas (SFHAs). The SFHA is the land area that is subject to a one percent or greater chance of flooding in any given year. These high risk areas are where the NFIP's floodplain management regulations must be enforced and where the mandatory purchase of flood insurance applies. Properties located outside of these high risk areas are still subject to flooding and owners have the option of purchasing flood insurance to protect themselves from flood risks.

2. Measure current levels of impervious cover.
3. Verify impervious cover/stream quality relationships.
4. Project future levels of impervious cover.
5. Classify subwatersheds based on stream management "templates" and current impervious cover.
6. Modify master plans/zoning to correspond to subwatershed impervious cover targets and other management strategies identified in the "subwatershed management templates" found at the Center for Watershed Protection.
7. Incorporate management priorities from larger watershed management units such as river basins or larger watersheds.
8. Adopt specific watershed protection strategies for each sub-watershed.
9. Conduct long-term monitoring over a prescribed cycle to assess watershed status.

By following these nine steps, this technique can be used to protect receiving water quality on the subwatershed scale by relocating development out of particular subwatersheds.

C. Flood Zones in North Castle

The Federal Emergency Management Association (FEMA) has developed flood zone maps (FIRMS) that indicate areas of flood risk. The 1% annual flood, i.e., 100-year flood or the base flood, has a 1% chance of being equaled or exceeded in any given year. The 0.2% annual flood, i.e., 500-year flood, has a 0.2% chance of being equaled or exceeded in any given year. Existing thresholds have the 100-year frequency storm in Westchester County at 7.5 inches of rainfall over a 24-hour period. For the 50-year and 25-year storms it is 7 inches and 6 inches, respectively. However, the rainfall amounts associated with these storms is currently being re-evaluated due to expected increases in rainfall intensity. During the significant April 2007 storm that caused widespread flooding, more than nine inches of rain fell in some areas of Westchester County.

Although Federal Emergency Management Agency (FEMA) designated flood zones typical of watercourses and waterbodies exist in North Castle, coastal flood zones with velocity hazard (wave action) are not present.

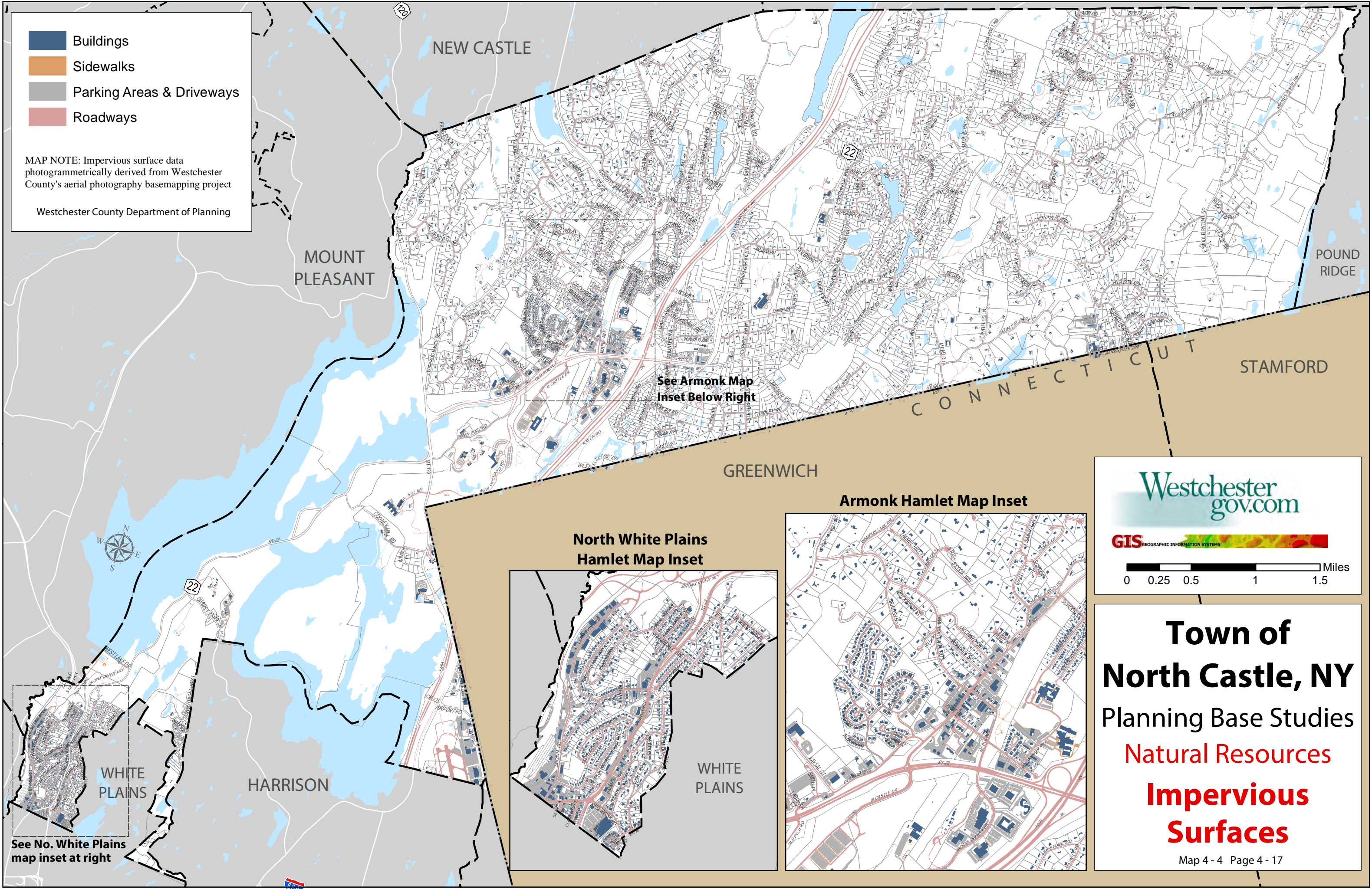
D. County Stormwater Reconnaissance Plans

The County enacted a Stormwater Management Law in 2011 requiring the County to develop "reconnaissance" plans that assess current conditions and identify cost-effective projects to directly address flooding and flood damage and impacts in Westchester.

- Buildings
- Sidewalks
- Parking Areas & Driveways
- Roadways

MAP NOTE: Impervious surface data
photogrammetrically derived from Westchester
County's aerial photography basemapping project

Westchester County Department of Planning



See Armonk Map
Inset Below Right

North White Plains
Hamlet Map Inset

Armonk Hamlet Map Inset

Westchester
gov.com

GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.25 0.5 1 1.5 Miles

**Town of
North Castle, NY**
Planning Base Studies
Natural Resources
**Impervious
Surfaces**

Hazard Mitigation Plans and FEMA

Hazard mitigation planning is one of the most important steps towards creating a disaster resilient community. Hazard mitigation plans identify natural and other hazards and propose measures to mitigate the impacts from such hazards. Because mitigation involves “long-term actions taken to eliminate or reduce the effects of disasters or emergencies,” it is appropriate to incorporate the recommendations included in a hazard mitigation plan into the comprehensive plan for a community.

In addition, in order to participate in the National Flood Insurance Program, a community must, as part of its long-range planning process, identify and address areas of significant flood damage (44 CFR Part 60.22). In order to receive funding through FEMA’s Hazard Mitigation Grant Program, a community must have prepared a Hazard Mitigation Plan and submitted such to FEMA for review and approval.

County projects to lessen the risks and impacts associated with flooding will be guided by these plans. A Stormwater Advisory Board created under the law began meeting in 2012, and is advising the County on flood-related matters, including the development of the reconnaissance plans and on projects to better manage stormwater.

Under Stormwater Management Law, the County Department of Planning is charged with developing these flood-related stormwater Reconnaissance Plans for each of the county’s major watersheds or drainage basins. Working with the municipalities in each of these watersheds as well as the County’s Department of Public Works and Transportation, Planning has completed plans for the Saw Mill River-Pocantico River Watershed, the Bronx River Watershed, the Coastal Long Island Sound Watershed, the Peekskill-Haverstraw Bay Watershed, and Croton River and Inland Land Island Sound Watersheds. For more information about these plans, go to: <http://planning.westchestergov.com/flooding>.

E. Hazard Mitigation Plan

The Town of North Castle is participating in the Westchester County Hazard Mitigation Plan. There are a total of 17 different mitigation strategies listed in the Plan for the Town. For more information about the plan to see a complete copy of this plan, go to <http://planning.westchestergov.com/HMP>.

F. Dams

There are eleven regulated dams in North Castle: Kensico Dam, North Lake Dam, Long Pond Dam, Nichols Preserve Dam, Sandsmill Dam, Wampus Lake Dam, Byram Ridge Dam, Paterno Dam, Windmill Lake Dam, Gifford Pond Dam, and Lake in the Ledges Dam.

4.5 Plants and Animals

A. Plants

The NYSDEC has divided the state into different ecological zones that have similar vegetation, topography and land use. North Castle is located in NYSDEC’s Manhattan Hills ecological zone. The vegetation in the Town is predominantly pioneer hardwoods and oaks.

a. Trees

Trees are an important natural resource in a community. Research has shown that trees in urbanized areas provide several important functions, including the modification of microclimates by shading expanses of pavement and thus keeping temperatures lower and re-

ducing energy use. While trees use carbon dioxide in the atmosphere and turn it into life-giving oxygen, those planted around a home can cut air conditioning costs in summer months by providing shade and reduce heating costs in the winter by serving as wind-breaks. Trees also filter air pollution, prevent soil erosion and reduce noise pollution.

Many of Westchester's municipalities have recognized the aesthetic and environmental importance of trees, particularly existing, healthy trees, by adopting regulations covering the removal, planting and maintenance of trees, both on public land and private property. The Town of North Castle has an adopted tree ordinances that protect trees on both public property (Town's Tree Law, Chapter 191 of the Town Code) and private property (Town's Tree Preservation Law, Chapter 192 of the Town Code). The following is a summary of the ordinance requirements:

- Permits are required for tree removal within a property's regulated setback zone or landscape buffer zone.
- Permits are required for removal of significant trees, defined as trees with a DBH of 24 inches or greater at 4.5 feet.
- Permits are required for removal of any tree in wetlands, within clearing lines or conservation easements.
- Tree removal without a required permit can result in fees and other penalties.
- Removal of a tree is permitted by right under actual or ongoing emergency conditions.
- Prior approval of the Town is required for any removal of public street trees.

b. Invasive Plants

Invasive plants are a problem throughout Westchester County, including in North Castle. The most predominant invasive plants in the County are:

- Porcelain berry
- Wild grape
- Mile-a-minute
- Kudzu
- Burning bush
- Mugwort
- Japanese knotweed

For more information about invasive species in New York, [click here](#).

B. Animals

Wildlife, such as coyotes, skunks, raccoons, squirrels, mice, crows or rabbits, can sometimes be a nuisance to residents. DEC defines

Dam Safety & the DEC

To protect people against loss of life and property from flood and dam failure, DEC is entrusted with the regulatory power over dams. The Department also provides technical support to local governments and owners of dams, and promotes floodplain management in communities across the state.

What is a Dam?

Dams are man-made barriers constructed to impound water. Dams are usually designed with timber, rock, concrete, earth, steel or a combination of these materials. The Department conducts technical reviews of proposed dam construction or modification, performs periodic safety inspection of dams, and works with communities on emergency preparedness. To prevent costly failure, DEC oversees dam maintenance, operation and repair, and monitors remedial work for compliance with dam safety criteria.

(Excerpt from DEC website)

Learn more about dams at the [DEC website](#).



More information about invasive species in New York, can be found at: www.invasiveplantatlas.org

North Castle Biodiversity Plan

The North Castle Biodiversity Plan was developed in 2007 by the Town and Metropolitan Conservation Alliance through the Wildlife Conservation Society.

For more information about the Plan, go to:

http://www.northcastleny.com/sites/northcastleny/files/file/file/nocastle_report_final_071226_2.pdf

nuisance species as any wildlife that cause health and safety concerns or cause property damage. DEC provides educational information to residents on how they can effectively and appropriately remove wildlife that are a nuisance. For more information about nuisance species, go to [NYSDEC's website](http://www.nysdec.org).

a. Deer

Without many natural predators, white-tailed deer have grown exponentially in Westchester County. Deer overpopulation has resulted in an increase in car accidents and destruction of the forest understory. In 2006, Westchester County created a Citizens' Task Force on White-tailed Deer and Forest Regeneration to address deer overpopulation issues throughout the County. The Task Force found that white-tailed deer caused significant damage to forests in Westchester County. The Task Force developed a report that provided recommendations for how to implement an Adaptive Deer Management Program of population control, monitoring and public education. The Mohonk Mountain House created a list of rarely eaten plants by white-tailed deer which is included in Appendix 4-8.

Figure 4-5. White-tailed Deer



Photo Source: http://commons.wikimedia.org/wiki/File:White-tailed_Deer-27527-2.jpg

As noted by Mohonk Mountain House, deer will eat almost anything during harsh winters and when food is scarce. For more information about deer in Westchester, refer to the Deer Task Force Report in Appendix 4-9.

b. Coyotes

According to the NYSDEC, the Eastern coyote is firmly established in New York. They live in New York as an integral part of our ecosystem and have been attributed to controlling deer populations. Coyotes also provide a great deal of benefits to New Yorkers through photography, hunting and trapping; however, not all interactions are pleasant. Some coyotes in suburbia have lost their fear of people. This can result in a dangerous situation. A coyote who does not fear people should be considered dangerous. Coyotes in residential areas quickly learn to associate food with people. Suburban coyote food (garbage, pet food, pets) is saturated with human odor. Human behavior has often changed to be non-threatening to coyotes (running into your home after seeing a coyote is behaving like prey). In short, food smells like people and people behave like prey. Add to the mix people intentionally feeding coyotes and the potential for a coyote attack becomes very real. Potential does exist for coyote attacks in New York. However, a little perspective may be in order. Nationwide, only a handful of coyote attacks occur yearly. For more information about coyotes in New York, go to the [NYSDEC's website](#). The Town of North Castle asks residents to report any coyote sightings to the Town Police.

c. Rabies

Rabies is a deadly virus that lives in the saliva and brain tissue of infected animals. Rabies can make an otherwise wild animal act unusually aggressive or tame. Rabies is spread mainly through bites from infected animals. But, the virus can also be spread by scratches and contact with an infected animal's saliva. Rabies is carried mainly by wild animals, such as: raccoons, skunks, bats and foxes. However, stray dogs and cats may also carry rabies.

Education of how to behave around pets and wildlife is important to minimize contact with rabid animals. Some key points to convey are:

- Never feed, rescue or handle any wild animals.
- Avoid strays and unknown pets, they can also have rabies.
- Call the police department (911) if a sick, injured or abandoned animal is seen.
- Wild animals never make good pets and baby animals can be rabid.
- If bitten, scratched or have some other exposure immediately

Figure 4-6. Eastern Coyote



Coyote Safety Tips **Keep coyotes from your property:**

- Bring pet food and dishes inside.
- Do not put out food for birds.
- Do not leave food outside unattended; scrape your grill and burn off food residue.
- Cover garbage cans securely.
- While outside, have handy a loud horn, noisemakers, or pots or pans to bang on and also things that can be thrown at coyotes.

If a coyote approaches you:

- Be aggressive: stand tall, shout in a loud voice, throw things at coyote, maintain eye contact and wave arms to scare it away and head indoors or to a more populated area.
- Do not turn your back and run, as the coyote will then view you as prey and give chase.
- Call 911. Do not try to catch the coyote unless you are a trained animal trapper.

Prevent Rabies

- Vaccinate pets
- Avoid contact with wildlife and stray animals
- Bat-proof homes
- Keep dogs on a leash
- Keep cats inside
- Don't provide food or harborage for wildlife

If exposure does occur, the Westchester County Department of Health should be called immediately at 914-813-5000.

wash the area with warm soapy water and call a doctor or hospital.

- Call the Westchester County Health Department at (914) 813-5000 24 hours a day seven days a week for assistance. Whether this assistance is in the form of a referral or action by the department will depend upon the circumstances.

d. Birds

Between 2000 - 2005, DEC staff and volunteers completed a survey of breeding birds in New York State. Two birds of Special Concern were found in North Castle: **Cooper's Hawk** and **Sharp-Shinned Hawk**. More information can be found about DEC's Breeding Bird Atlas, including detailed maps of the survey regions.

e. Invasive Insects

According to the NYSDEC, "invasive species are non-native species that can cause harm to the environment or to human health. As a threat to our biodiversity, they have been judged second only to habitat loss. Invasives come from all around the world; the rate of invasion is increasing along with the increase in international trade that accompanies globalization." The Asian Longhorned Beetle and the Emerald Ash Borer are destructive invasive insects that have been found in New York State. The Asian Longhorned Beetle burrows and destroys hardwood species. The DEC is particularly concerned about the effects of the Asian Longhorned Beetle on maple

Identifying Deer Ticks

Everyone living in Westchester needs to be able to identify a deer tick, even if you do not spend a lot of time outdoors. Know the difference between the deer tick which carries Lyme Disease, and a dog tick, which does not carry the disease.

More information can be found at the [County Health Department website](#).



Left to right: adult male, adult male dorsal side, nymph, larva. Note that the adult dog ticks are somewhat larger than adult deer ticks, and have characteristic white markings on the dorsal (top) side.

Bottom Row: the deer tick which transmits Lyme Disease. Left to right: adult female, nymph, younger nymph, larva. Adults appear in the fall and early spring.



An American dog tick



An adult deer tick (left) and an engorged deer tick filled with blood (right).

species. The Emerald Ash Borer destroys all species of ash trees and can be spread through affected firewood. While the Asian Longhorned Beetle is found in Westchester County, the Emerald Ash Borer has not yet been detected in the County. These invasive species may be a regional problem in the coming years. Residents and municipal officials should make sure to plant a diversity of plant species so that large tracts of forests are not susceptible to infestation. For more information, [click here](#).

f. List of Endangered Species

NYS promulgated through State legislation the List of Endangered, Threatened and Special Concern Fish and Wildlife Species that includes those endangered species which meet one or both of the criteria specified in section 182.2(g) of 6NYCRR Part 182 and which are found, have been found, or may be expected to be found in New York State. Some of these species have been found in North Castle. For more information about the list, [click here](#) or it can be found in Appendix 4-10.

Figure 4-7. Cooper's Hawk



Figure 4-8. Asian Longhorned Beetle



Photo Source: Kenneth R. Law,
USDA APHIS PPQ,
www.forestryimages.org

Figure 4-9. Emerald Ash Borer



Photo Source: David Cappaert,
<http://www.forestryimages.org>

CHAPTER 5 RECREATION AND OPEN SPACE

5.1 Overview

The Town of North Castle has over 8,645 acres of open space, which is found in the form of local parks and open space, county parks and parkway lands, nature preserves, private recreation and water supply lands. These areas are variably designated for both active and passive recreation, open or limited access, or for resource conservation. North Castle's parks and open spaces serve as places of recreation and respite, as community gathering places, centers of learning, and as reflections of its culture and history.

Publicly owned parks and open space account for 6,348 acres, or approximately 1/2 acre per resident. The Town is located in a region that is rich in recreational resources. The Town's central location within the County affords North Castle residents access to a significant number of County parks, historic sites and nature preserves.

A. Recreational Resources

Public parks provide a large portion of the outdoor recreational resources within the Town of North Castle; however, other opportunities for outdoor recreation include:

- Nature preserves
- Community centers
- Schools
- Golf courses
- Private swim and tennis clubs
- Private equestrian facilities

B. Open Space

The New York State Department of Environmental Conservation defines open space as, "An area of land or water that either remains in its natural state or is used for agriculture, free from intensive development for residential, commercial, industrial or institutional use. Open space can be publicly or privately owned. It includes agricultural and forest land, undeveloped coastal and estuarine lands, undeveloped scenic lands, public parks and preserves. It also includes water bodies such as lakes and bays. The definition of open space depends on the context. In a big city, a vacant lot or a small marsh can be open space. A small park or a narrow corridor for



Figure 5-1. Wampus Brook Park
Source: AngelaLL, TrekEarth, 2008

Figure 5-2. Major Open Spaces and Recreation Resources

Name	Acres
Local Parks and Open Space	
Betsey Sluder Preserve	93
Cat Rocks Park	113
Cedar Hill/Huntwood Park	19
Clove Road Park	15
Fountains Park	15
Johnson Tract	10
John A. Lombardi Park	20
Miller Park	1
North Castle Community Park	47
Quarry Park	1
Strauss Park	9
Town Hall and Legion Field	8
Wampus Brook Park	55
Winkler Park	4
County Parks and Parkway Lands	
Bronx River Parkway Reservation*	27
Cranberry Lake Preserve*	156
Kensico Dam Plaza*	65
Miller Hill	3
Silver Lake Park*	57
Wampus Pond Park*	82
Washington's Headquarters/Miller House	1
Nature Preserves	
Byram Lake Preserve	29
Eugene and Agnes Meyer Preserve*	259
Mianus River Gorge Preserve*	564
Nature Conservancy (Middle Patent Rd., Mianus River Rd.)	46
Nichols Preserve*	81
Westmoreland Sanctuary*	622

Name	Acres
Private Recreation	
A.L. Ehrman Recreation Center	11
Breezemont Day Camp	13
Brynwood Golf and Country Club	155
Fishing Club of White Plains	15
Lindeman Farm	51
Whippoorwill Country Club*	175
White Birch Farm	25
Windmill Club	25
Institutional and Public Assembly	
Byram Hills High School	64
Byram Hills School District Property, Round Hill Road	14
Coman Hill Elementary School	13
Crittenden Middle School	19
Jennie Clarkson Campus	37
Louis Calder Center, Fordham University	109
St. Patrick's Church	13
Wampus Elementary School	25
Water Supply Lands	
Byram Lake/Mount Kisco Water Supply Lands*	293
Greenwich/Port Chester Waterworks Lands*	195
New York City Water Supply Lands*	4,851
Windmill Water District	73
Nurseries	
Roth Nursery	25
Troy's Garden Nursery	28
Cemeteries	
Middle Patent Cemetery	14

* Portion of property located in the Town of North Castle.

walking or bicycling is open space, though it may be surrounded by developed areas. Cultural and historic resources are part of the heritage of New York State and are often protected along with open space.” (source: <http://www.dec.ny.gov/lands/317.html>).

Figure 5-1 *Major Open Spaces and Recreational Resources* lists several types of open spaces and recreation facilities in Town, including Town and County park lands, water supply lands, schools which include open space and recreational resources, nature preserves and private facilities such as golf courses, swim clubs and private equestrian facilities and schools.

5.2 Town of North Castle Parks

The Town of North Castle has 15 main municipal parks within its borders, listed below by the portion of the Town in which they are located (Sources: Town website, Westchester County Open Space Map and 1996 Town Comprehensive Plan Update).

North White Plains

- **Clove Road Park** (15 acres) is located at North Broadway and Clove Road. The complex includes the North Castle Community Center with a gymnasium, game room, branch library and reading room, a playground area, multi-purpose field and Little League baseball field. The park is also adjacent to the County’s Bronx River Parkway Reservation and pathway.
- **Miller Park** is located at northeast corner of North Broadway and Reservoir Road. This small landscaped park, under one acre in size, serves as a gateway to the Town at a busy intersection and includes historical monuments and small seating areas.



Figure 5-3. Clove Road Park,
North White Plains
Source: Bing Maps



Figure 5-4. Miller Park, North Broadway and Reservoir Road, North White Plains
Source: Google Maps

- **Quarry Park** is accessed from William Street and Old Orchard Street in the Quarry Heights neighborhood. This small neighborhood park, under one acre in size, includes a playground and a grass play area.
- **Strauss Park** (9 acres) is located on Old Orchard Street in the Quarry Heights neighborhood. This park, mostly wooded with an open grass ball field near Old Orchard Street, is adjacent to the County's Cranberry Lake Preserve.
- **Fountains Park** (15 acres) is a wooded area located adjacent to and south of Clove Road Park. Accessible from Hillandale Avenue, it is bisected by Washington Avenue North and is adjacent to the Bronx River Parkway Reservation.

Armonk

- **John A. Lombardi Park** (20 acres) is located at 85 Cox Avenue. This park contains a Little League field, known as Clark Field, two multi-purpose ball fields, a fitness trail, basketball and tennis courts, a playground, a picnic pavilion and parking areas. The Town's Parks and Recreation Maintenance Facility is also located at the park. The park is adjacent, and connected by a walking trail, to the Wampus Elementary School and Crittenden Middle School facilities.
- **North Castle Community Park** (47 acres) is located on Business Park Drive, south of downtown Armonk. Facilities at the park include several softball and baseball fields, soccer fields, a walking and running track, platform tennis courts, a playground and picnic pavilion. An indoor sports and tennis facility is privately operated at the park.

Figure 5-5. Quarry Park, William Street, Quarry Heights
Source: Google Maps



Town of North Castle Recreation Department

Hergenhan Recreation
Center, 40 Maple Avenue
Armonk, New York 10504
(914) 273-3325
recreation@northcastleny.com

North Castle Recreation & Parks is dedicated to providing superior quality recreation programs and services to all residents of the Town regardless of age, economic or social status. Through our programs, we seek to strengthen families, promote wellness, build self-esteem and enhance the quality of life for all of the participants in our community.

- **Johnson Tract** (10 acres) is located at 45 North Greenwich Road. This site is currently a wooded open space parcel in a residential area.
- **North Castle Town Hall and Legion Field** (8 acres) is located at 15 Bedford Road. Much of the site is occupied by Town facilities such as Town Hall office and court buildings, a Town garage and parking lots. The Legion Field, a non-regulation sized softball diamond, is at the center of the site.
- **Wampus Brook Park** (55 acres) follows a route along the Wampus Brook through Armonk, beginning in the north along Route 128 and down to Route 22 at its southern end. Access in the downtown area is along Maple Avenue. The park contains a gazebo bandstand for concerts, sitting areas, a pathway system and pond. The Town's Hergenhan Recreation Center, located at 40 Maple Avenue, is directly adjacent to the park. A small portion of the park, between Bedford Road and Route 22, was recently cleared of trees after a storm; the Town is considering potential recreational uses on the site.
- **Betsy Sluder Nature Preserve** (93 acres) is located off of Old Route 22, east of downtown Armonk. This conservancy is wooded with trails for hiking, bird-watching and nature observation. A small parking lot allows access on Old Route 22 and access is also permitted from Shippen Lane.

Eastern District

- **Cat Rocks Park** (113 acres) is located on Bedford Banksville Road with trail access from Hissarlik Way. Designated as a nature preserve, the park includes hiking trails and areas for wildlife observation. The eastern end of the park is across Smith Farm Road from a portion of the Mianus River Gorge Preserve.
- **Cedar Hill/Huntwood Park** (19 acres) is a natural, wooded site located on Cedar Hill Road.
- **Winkler Park** (4 acres) is located on Bedford Banksville Road. The site includes a parking area, playground, basketball court, two tennis courts and a viewing area on an adjacent pond.

Un-Named Town Parks

Several parcels of land throughout the Town of North Castle have been set-aside as Town Parks often as open space set-asides resulting from the approval process for residential developments. These parks, shown on Map 5-1, are open to the public and are often unimproved, wooded and include environmentally sensitive features. Others may have small recreation areas set aside for public use. For example, a small ball field is used by local adult softball leagues on a small Town Park parcel within the Windmill Club development off of Route 22.

Figure 5-6. John A. Lombardi Park, Armonk
Source: Bing Maps

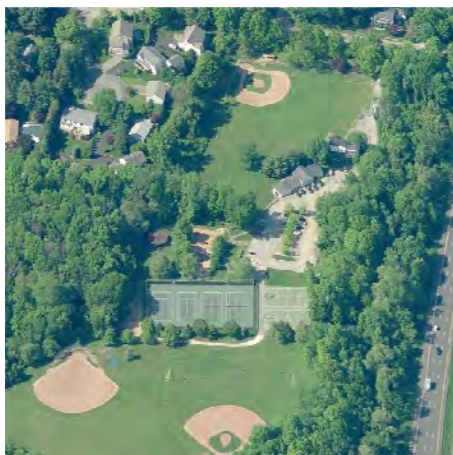




Figure 5-7. Winkler Park,
Bedford Banskville Road and
Winkler Farm Road.
Source: Bing Maps

5.3 Town Recreation Facilities—Non-Open Space

- **Hergenhan Recreation Center**—located at 40 Maple Avenue, is directly adjacent to the Wampus Brook Park in Armonk. The Center includes multi-purpose rooms, craft room, conference room, kitchens and a dance studio. The Center also houses the offices of the Town’s Recreation Department.
- **The North Castle Public Library** is located at 19 Whippoorwill Road East at Kent Place in downtown Armonk. The library also includes a community meeting space and an auditorium. Both spaces can be rented for a variety of activities.
- **North Castle Community Center** is located on the grounds of the Clove Road Park on North Broadway and Clove Road in North White Plains. The center includes a gymnasium, game room, a branch of the North Castle Public Library and a North Castle Police Department sub-station. The full park complex also includes a playground area and ball fields.

5.4 School Facilities

- **Wampus Elementary School** (25 acres) is located on Wampus Avenue and McDonald Avenue in Armonk and is adjacent to the Crittendon Middle School and John A. Lombardi Park. Facilities at the school include soccer and baseball/softball fields, a playground and a gymnasium.
- **Coman Hill Elementary School** (13 acres) is located on Route 22, east of Armonk and adjacent to the Brynwood Golf and Country Club. Facilities at the school include a playground, a soccer field and a gymnasium.
- **Crittenden Middle School** (19 acres) is located on McDonald Avenue in Armonk and is adjacent to the Wampus Elementary School and John A. Lombardi Park. Recreation facilities include several soccer fields and a gymnasium.
- **Byram Hills High School** (64 acres) is located on Tripp Lane

Figure 5-8. North Castle Public Library, Armonk
Source: Armonk Daily Voice



off of Route 22 in Armonk. Recreation facilities include baseball and softball fields, tennis courts, soccer fields, an artificial turf field with outdoor track and field facilities, a cross country running course, basketball hoops and a gymnasium.

- **Byram Hills School District** also owns a vacant, wooded property, 14 acres in size, on Round Hill Road in the Town's eastern district.

5.6 Water Supply Lands

Several municipal and private water supplies own properties throughout North Castle. The largest is New York City Water Supply Lands with 4,851 acres in the western portion of the Town between Armonk and North White Plains and parcels in the Quarry Heights section of Town. The Windmill Water District owns 73 acres land adjacent to the Windmill Club residential development. The Greenwich/Port Chester Waterworks owns 195 acres of property in the Eastern District adjacent to Mianus River Gorge Preserve. The Town/Village of Mount Kisco owns the Byram Lake/Mount Kisco Water Supply Lands, 293 acres of which are in North Castle with additional lands located in the Town of Bedford. Access and activities on all these water supply lands are limited. Fishing is allowed on the New York City Reservoirs through permits obtained by the New York City's Department of Environmental Protection. Similarly, fishing is permitted at Byram Lake/Mount Kisco Water Supply through the Town/Village of Mount Kisco.

5.7 Golf Courses—Public and Private

- **Brynwood Golf and Country Club**—Located on 155 acres along Route 22 and adjacent to I-684, east of Armonk, this club includes an 18-hole golf course, tennis courts, a clubhouse and banquet facilities. The property is recently the subject of a pro-

posals to develop a 73-unit residential golf community. The club is also adjacent to the Coman Hill Elementary School.

- **Whippoorwill Club** — Located along Whippoorwill Road and partly located in the Town of North Castle in Armonk, this private 18-hole golf course facility was first constructed in the early 1920's and expanded upon over the years, including a golf course, club house, and incorporating residential development surrounding the course. The Club includes 175 acres in North Castle and the remainder is in the Town of New Castle.

5.8 Nature Preserves

A variety of protected, natural open spaces are located throughout the Town of North Castle. These are listed in **Figure 5-1. Major Open Spaces and Recreation Resources**. These properties are managed by a variety of non-profit organizations; the properties are often open to public for hiking, walking and nature observation. Several of these have portions of the properties also located in adjacent municipalities, such as Westmoreland Sanctuary which has large portions within the Town of Bedford, the Nichols Preserve with lands also in Greenwich, CT and the Mianus River Gorge Preserve with lands also in the Town of Pound Ridge.

5.9 Other Private Clubs and Institutional Open Spaces

Several larger private recreation and institutional open spaces are located throughout the Town and are also listed in Figure 5– 1.

- **The Anita Louise Ehrman (ALE) Recreation Center** in Armonk is a 11 acre private membership club located on Greenway Road adjacent to Wampus Brook Park. Membership is available to residents of North Castle and the Byram Hills School District. The Town has operated the pool as a Town pool since 2015.
- Two private equestrian, or horse riding facilities are located in the Town's eastern district. Lindeman Farm (51 acres) is located on Mead Road and White Birch Farm (25 acres) is located on Bedford Banksville Road.
- While not all shown on Map 5-1 or Figure 5-1, several smaller private recreation facilities in the Town include the Armonk Tennis Club on Route 22 and adjacent to the Coman Hills Elementary School, the Daniel Grey Fishing Club of White Plains located across Middle Patent Road from the Windmill Water District lands, the Grand Slam Health and Tennis Club on Bedford Banksville Road in Banksville, Breezemont Day Camp on Cox Avenue in Armonk and the Windmill Club, part of the Windmill Farms residential development east of Armonk.
- In addition to several properties associated with houses of worship, one larger private institutional property is the 37 acre Jen-

nie Clarkson Home for youth in North White Plains which also is home to the St. Christopher's School and the REACH Academy, adjacent to the New York City Water Supply Lands and the BOCES campus.

- The 109 acre Louis Calder Center, Fordham University's Biological Field Station, is located in Armonk on Whippoorwill Road.

5.10 Westchester County Parks—the county operates several park facilities in North Castle. Additional information on these county facilities can be found at <http://parks.westchestergov.com>.

- **Bronx River Parkway Reservation**— this county park and parkway runs south from Kensico Dam Plaza with the 27 acre portion of the reservation in North Castle bordering the Towns of Mount Pleasant and Greenburgh and the City of White Plains. Just south of Kensico Dam Plaza, a paved bicycle and pedestrian pathway runs through the North Castle section of the reservation adjacent to Clove Road Park and Fountains Park.
- **Kensico Dam Plaza**—the recently renovated "Central Park" of Westchester County" is in both the Towns of North Castle and Mount Pleasant with 65 acres in North Castle. Walking and biking pathways in the plaza, and connecting to the top of the historic dam, are accessed from the Bronx River Parkway and local roadways. The paths are also connected to the Bronx River Parkway Reservation pathway and the plaza is walking distance from the Valhalla train station. The plaza also contains a playground and is host to various events and festivals.
- **Cranberry Lake Preserve**—this wooded park includes hiking trails, lakes and former quarries. Approximately 156 acres are in North Castle with a small portion also in the

Figure 5-9. Standards for Parkland, National Recreation and Parks Association

Park Type	Acres/1000 Population	Minimum Size	Service Area Radius
Mini-Park	0.25-0.50	1 acre or less	< .25 mile/5 minute walk
Neighborhood Park	1.0-2.0	15 acres	.5 mile/12 minute walk
Community Park	5.0-8.0	25 acres	1-2 miles/5 minute drive
Regional Park	Variable	200+ acres	30 miles/1 hour drive

For more information on parkland and recreational standards for municipalities, see:
<http://www.nrpa.org/Professional-Development/Accreditation/CAPRA/CAPRA-Standards/>

Town/Village of Harrison. The preserve's Nature Center hosts family-oriented educational programs.

- **Miller Hill**—this 3 acre park is located on McDougal Drive in North White Plains and is also listed on the Westchester County Inventory of Historic Places. It is the only Revolutionary War battle site in its natural setting. Earthworks on Miller Hill protected General Washington's right wing during the Battle of White Plains.
- **Silver Lake Park**—only 57 acres of this county park are located in the Quarry Heights section of the Town. The main access points into the park are from Lake Street in the City of White Plains and Old Lake Street in the Town/Village of Harrison. The park includes mostly wooded areas with hiking trails.
- **Wampus Pond Park**— 82 acres of this park is located in North Castle with the remainder in the Town of New Castle. Row boats and fishing are permitted on lake with access from Route 128.
- **Washington's Headquarters**— also known as the Miller House, is approximately one acre in size and is listed both as a Town Landmark and is on the National Register of Historic Places. The site is currently closed and has fallen into a state of disrepair. Discussions continue between the Town and the County on the future of the facility.



Figure 5-10. Miller Hill
County Park
Source: Westchester County

5.11 Undeveloped Land

A large portion of open space remains as undeveloped land in the Town. The 1,387 acres categorized by the Town as Vacant/Undeveloped is approximately 0.08% of the Town's land area. These properties vary from privately owned lands that may someday be developed to Town-owned, non-park properties that are currently undeveloped and may serve as open space resources.

5.12 Open Space and Recreation Plans

In 2003 the Town's Open Space Committee published its Town of North Castle Open Space Study Committee Report which evaluated, the potential purchase and protection of 131 privately-owned parcels in the Town. The Report, included in Appendix 5-1, prioritized the parcels with the highest level of open space value and need for protection. The Town's most recent plan for its Recreation Department was the 1990 Recreation Development Plan.

5.13 National Recreation & Park Association Standards

A. Mini-Parks

These small parks focus on limited, unique, or isolated recreational needs. They are specialized facilities that serve a concentration or

Figure 5-11. North Castle Community Park
Source: Westchester County



limited population or specific group such as tots or senior citizens.

- Service Area: Less than ¼ - mile radius, Desired Size: one acre or less
- Acres per 1,000 Population: ¼ to ½ acres
- Desired Site Characteristics: These parks should be situated within neighborhoods and in close proximity to apartment complexes, townhouse development, and/or housing for the elderly. Users should be able to see the opposite end of a mini-park.

B. Neighborhood Parks

Small and large neighborhood parks offer similar recreation opportunities; however, the larger neighborhood parks generally feature between five and 10 acres in size. (This is a modification of the previous NRPA standard for neighborhood parks that calls for one to two acres of parkland per 1,000 people.) Small and large neighborhood parks can provide both passive and active recreation. In general, they feature areas for intense recreational activities, such as ball field games, court games, crafts, playground equipment, skating, picnicking, and more. Undeveloped natural areas are also desirable in these parks.

Figure 5-12. Mianus River Gorge Preserve
Source: Westchester County

- Service Area: ¼ to ½ mile radius, Desired Size: Small: one to five acres; Large: five to ten acres



- Acres per 1,000 Population: one to two acres
- Desired Site Characteristics: These parks should be suited for intense development and be easily accessible to the neighborhood. Ideally, they should be geographically centered with safe walking and bike access. These parks can be developed as school – park facilities.

C. Community Parks

These park components focus on serving larger, community-wide outdoor recreational needs.

- General Use: These parks have areas of diverse environmental quality. They may include areas for intense recreational facilities, such as athletic complexes for organized sports, large group picnicking, and community gatherings. They may also feature areas of natural quality for activities such as walking, biking, and viewing that are supported by trail systems.
- Service Area: Several neighborhoods - One to two mile radius, Desired Size: 30 to 50 acres
- Acres per 1,000 population: five to eight acres
- Desired Site Characteristics These parks should be easily accessible to the neighborhoods that are served and include areas for intense outdoor recreational development. Other desirable components include natural features such as water bodies.



Figure 5-13. Eugene and Agnes Meyer Nature Preserve
Source: Westchester County

D. Special Purpose Parks

These park system components focus on a single use, such as historic preservation or downtown open space. The NRPA has no specific standards for special purpose parks as they are unique to each community.

- General Use: These parks are centered on a specific environmental feature, historical event or setting and offer a unique place that assists in creating a sense of place in the community.
- Service Area: No applicable standard, Desired Size: Varies
- Acres per 1,000 population: Varies
- Desired Site Characteristics: These parks cater to a cultural, historic, or social recreational needs.

E. Urban Green Space

- These park system components are typically made up of lands set aside for preserving drainage corridors, wetlands, or other significant community natural resource areas. The NRPA has no specific standards for these areas.
- General Use: These features are generally open to the public, but usually do not contain many facilities beyond access points and trail systems.

- Service Area: No applicable standard, Desired Size: Varies
- Acres per 1,000 population: Varies
- Site characteristics vary based on the resource being conserved or protected. Typically, these areas should have nature-based, low impact recreational facilities. These park system components are typically made up of lands set aside for preserving drainage corridors, wetlands, or other significant community natural resource areas. The NRPA has no specific standards for these areas.

CHAPTER 6 HISTORIC AND CULTURAL RESOURCES

6.1 Town History

Adapted from the websites of the Town of North Castle and the North Castle Historical Society web sites.

The Town of North Castle was home to the Native American tribe the Siwanoy, who were part of the Wappinger Confederacy. Many places and names in Town derive from the Native American chiefs who once controlled the North Castle area. Some names that have been named after the Siwanoy chiefs include the Mianus Gorge (stems from Chief Mianoyano), the Kensico Reservoir (from chief Cokenseko) and the Coman Hill School (from the name Cohamong).

In 1701 King William III of England, gave some of his favorite lords the areas called the Middle Patent and the West Patent, each respectfully known today as the eastern and western part of North Castle. People from the Massachusetts and Connecticut areas settled in the eastern part of North Castle while Quakers from Long Island and Rye New York inhabit-

North Castle Historic Society

The North Castle Historical Society is headquartered in the historic Smith's Tavern on 440 Bedford Road in Armonk New York. The society is a non-for-profit organization dedicated to preserving historic sites, educating the community and celebrating local traditions. To find out more information about North Castle and its rich history, the society encourages people to visit the North Castle library and to read the multiple historical documents found on their website. Learn more at northcastlehistoricalsociety.org



Smith's Tavern Source: tvocphoto.com

ed the area known today as Armonk. The name North Castle derives from an old Indian fortress that was located on the hill where the IBM World Headquarters now resides. This fortress to the settlers resembled a European Castle and they decided to call the area North Castle.

In 1788 North Castle officially became a town of New York when the State passed an act that divided the counties of New York State into multiple towns. North Castle was once much bigger than it is today and in 1791 North Castle was divided and the upper area became known as New Castle.

Figure 6-1. Miller Hill, site of Washington's Army encampment following the Battle of White Plains.



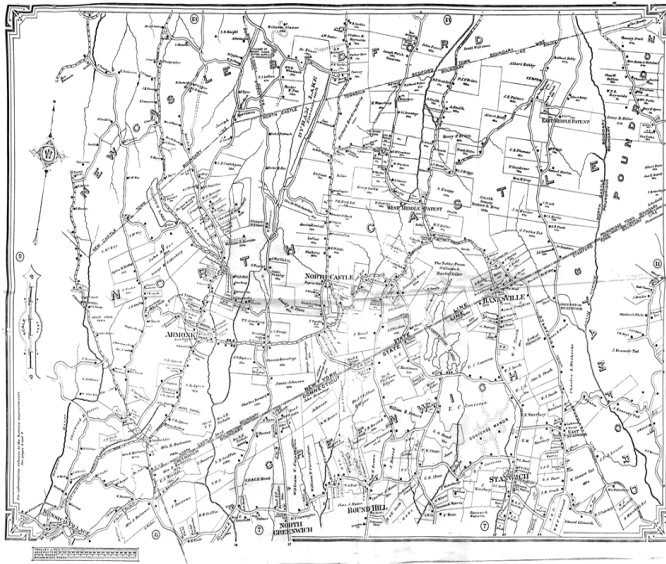
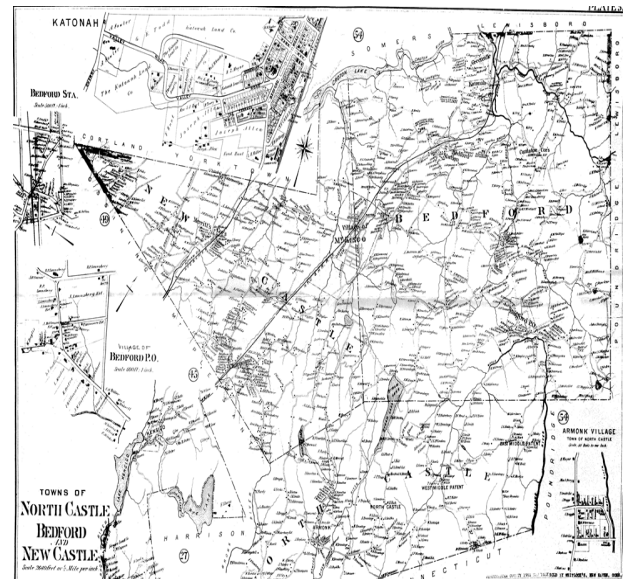
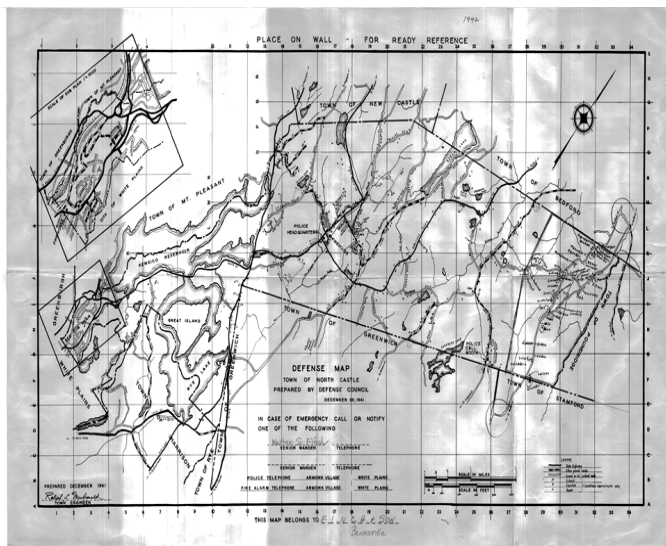
Photo Source: Westchester County

During the American Revolution, the town of North Castle was regarded as a neutral territory between the colonies and the British. During the battle of White Plains New York, General George Washington positioned his army on top of the hills of North Castle, where his men would strategically fire down at Britain's General Howe and his army. General Washington successfully stopped Howe from advancing and many regard this stand as a major turning point in the Revolution. Remnants of this battle can be found at Miller Hill in North White Plains.

Towards the beginning of the 19th century, most residents of North Castle were farmers. In the 1840s many inhabitants began to turn to the shoe-making industry to make extra money. Around 300 households in North Castle were involved in creating shoes. The mid-1800s brought massive change as the industrial revolution introduced trains to the region, brought an end to "cottage industries" in the Town and contributed to the decline



Photo Source: Westchester County

**1881 Town Map****1901 Town Map****1941 Emergency Defense Map****Portion of 1932 Zoning Map****Figure 6-2. Historical Maps**

The images to the above show various maps of North Castle throughout it's history.

All maps shown above can be found on the town of North Castle's official website. Along with the various maps provided, the website offers pdf files of all the North Castle Historical Society's booklets. All can be accessed on <http://www.northcastleny.com/planning/pages/historical-society-documents>.

Links to Historic Resources

[North Castle Historical Society](#)

[Westchester County Historical
Society](#)

[New York State Office of
Parks, Recreation and Historic
Preservation](#)

[National Trust for Historic
Preservation](#)

of agriculture in the area. North Castle was not directly on a train line so many traveled to and from the trains by stagecoaches. Homes were built on the “Bedford Road Historic District” in the hamlet of Armonk, along the Post Road between White Plains and Bedford, which is now listed on the National Register of Historic Places. During the late 19th century North Castle suffered economically and the population declined from around 2,200 to 1,470.

In the beginning of the 20th century many New York City businessmen wanted to create country estates in the North Castle area. The area was ideal for estates; businessmen would be able to commute to and from the train to New York City. In 1909 the thriving hamlet of Kensico stood in the way of new plans to create a Kensico Reservoir to provide fresh water to New York City. The hamlet of Kensico was destroyed in order to create the reservoir and many inhabitants moved to Valhalla and North White Plains. The reservoir dam was constructed during the years 1909-1917. The construction brought in many immigrants from Europe who specialized in masonry for the dam.

6.2 Historic Preservation

A. Landmark Preservation Policies

Chapter 195 of the Code of the Town of North Castle establishes the Town’s “Landmark Preservation” policies. The chapter’s purpose is the protection, enhancement and perpetuation of structures, landmarks and preservation districts of special character or special historical or aesthetic interest or value. A Landmarks Preservation Committee is established to designate landmark structures, sites and districts as well as administer the landmark preservation rules and policies of the Town. The Committee also reviews applications for “certificates of appropriateness” for proposals to make changes to the appearance of designated landmarks.

B. Town Landmarks

Seven sites or structures have been designated as Town Landmarks by the Town of North Castle Landmarks Preservation Committee. These are listed in Figure 6-4. Of the seven Town Landmarks, the Smith’s Tavern Complex in Armonk and the Miller House/Washington’s Headquarters in North White Plains are on the National Register of Historic Places. A large portion of the Town’s Historic District #1 in Armonk is also on the National Register of Historic Places as the Bedford Road Historic District.

- Historic District #1, which includes
 - Bedford Road Historic District* (see below for properties in this National Register Historic District)
 - North Castle Town Hall Complex, including the Cornell-Birdsall House
 - Armonk United Methodist Church
- Smith's Tavern Complex*, 440 Bedford Road/Route 22
- Miller House/Washington's Headquarters*, 140 Virginia Rd
- Zia/Graf Building, 85 Round Hill Road
- Brundage House, 481 Bedford Road/Route 22
- Lyon House, 336 Bedford Banksville Road,
- Breezemont Hotel, 62 Cox Avenue

Bedford Road Historic District*

12 Bedford Road
16 Bedford Road
24 Bedford Road
30 Bedford Road
40 Bedford Road
44 Bedford Road
St. Stephens Cemetery
St. Stephens Episcopal Church

Figure 6-4. Breezemont Hotel



Figure 6-3. Bedford Road Historic District



Photo Source: "Buildings of Bedford Road Historic District, Armonk, NY" by Daniel Case, Wikipedia

The Smith's Tavern Complex in Armonk, designated as a Town Landmark and listed on the National Register of Historic Places, includes several historic structures on one parcel of land. The offices of the North Castle Historical Society are also located at the Smith's Tavern complex.

The Miller House, also known as Washington's Headquarters, is listed both as a Town Landmark and is on the National Register of Historic Places. The county-owned site is currently closed and has fallen into a state of disrepair. Discussions continue between the Town and the County on the future of the facility.

An additional site, Miller Hill Park on McDougal Drive in North White Plains, is also listed on the Westchester County Inventory of Historic Places. Miller Hill is the only Revolutionary War battles site in Westchester County that survives in its natural setting and was also the site of Washington's Army encampment following the Battle of White Plains.

The Bronx River Parkway Reservation, including the Kensico Dam Plaza and partly located in North Castle, is listed on the National Register of Historic Places.

Source: Town of North Castle Historical Society (Link: <http://www.northcastleny.com/planning/pages/historical-society-documents>, Westchester County Inventory of Historic Places, 2015 (Link: <http://planning.westchestergov.com/images/stories/MapPDFS/HistoricSitesMap2015.pdf>)

C. Historical Markers—during the National Bicentennial year of 1976, five historic sites were given permanent metal historical markers: Thomas Wright's Mills— Major John Andre Monument; Miller House/ Washington's Headquarters; Miller Hill Revolutionary War Battle Site; Historic Smith's Tavern and Middle Patent Rural Cemetery.

D. Historic District #1 and the Bedford Road Historic District - The Town's Historic District #1 is located along Bedford Road in the hamlet of Armonk. A large part of the Town's Historic District #1 includes properties that make up the Bedford Road Historic District which is listed on the National Register of Historic Places. The Bedford Road Historic District includes eight structures including St. Stephen's Church and cemetery. The District is distinct because of the uniform

State and National Register of Historic Places

The State and National Registers of Historic Places are the official lists of buildings, structures, districts, objects, and sites significant in the history, architecture, archeology, engineering, and culture of New York and the nation. The same eligibility criteria are used for both the State and National Registers. The National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980 established the National and State Registers programs. In New York, the Commissioner of the New York State Office of Parks, Recreation and Historic Preservation, who is also the State Historic Preservation Officer (SHPO), administers these programs.

Benefits of being listed on the Registers:

- Registered properties and properties determined eligible for the Registers receive a measure of protection from the effects of federal and/or state agency sponsored, licensed or assisted projects through a notice, review, and consultation process.
- Owners of depreciable, certified historic properties may take a 20 percent federal income tax credit for the costs of substantial rehabilitation as provided for under the Tax Reform Act of 1986.
- Municipal and not-for-profit owners of listed historic properties may apply for matching state historic preservation grants.

There are no restrictions placed on private owners of registered properties. Private property owners may sell, alter or dispose of their property as they wish.

Source: New York State Office of Parks, Recreation and Historic Preservation. For more information, go to NYS OPRHP website: <http://nysparks.com/shpo/national-register/>

Environmental Review Program

The Environmental Review program is a planning process that helps protect New York's historic cultural resources from the potential impacts of projects that are funded, licensed or approved by state or federal agencies. Under Section 106 of the National Historic Preservation Act and Section 14.09 of the New York State Historic Preservation Act, the SHPO's role in the review process is to ensure that effects or impacts on eligible or listed properties are considered and avoided or mitigated during the project planning process. In addition, the SHPO advises local communities on local preservation environmental reviews, upon request, under the provisions of the State Environmental Quality Review Act. For more information go to: <http://nysparks.com/shpo/environmental-review/>



Figure 6-5. Site of Thomas Wright's Mill

Photo Source: Westchester County

spacing between buildings, the uniform setbacks, and the regularity of the Federal and Greek Revival buildings. St. Stephens Church was the first building erected in the hamlet, originally known as Mile Square.

The properties in the Town Historic District #1 that are outside the Bedford Road Historic District include the Town Hall Complex on Bedford Road (which includes the historic Cornell-Birdsall House) and the Armonk United Methodist Church at the corner of Bedford Road and Main Street.

Link to map of Town of North Castle Historic District #1:

<http://www.northcastleny.com/sites/northcastleny/files/file/file/hd1.pdf>

Link to map and information on Bedford Road Historic District:

http://www.northcastleny.com/sites/northcastleny/files/file/file/bedford_road_historic_district.pdf

Source: Town of North Castle Historical Society.

Figure 6-6. St. Stephen's Church and Cemetery



Photo Source: The Episcopal Cemetery Project

Figure 6-7. Mile Square marker



Photo Source: allaboutarmonk.com

CHAPTER 7 TRANSPORTATION

This chapter provides background on transportation elements affecting residents, commuters and businesses in the Town of North Castle. These elements include the road system, public transportation and Westchester County Airport (HPN). The moving of people and goods is essential for any community. Community transportation assets, traffic conditions and census data are presented here to allow the full transportation picture for the Town of North Castle.

7.1 Road System

The road system in the Town of North Castle includes principal arterials, minor arterials, major collector roadways, and local streets. Each roadway is designed to serve a different function to move people and goods in an efficient manner. Although some roads in North Castle may appear rural in character, all roads in the Town of North Castle and Westchester County are considered urban roads from a transportation planning classification standpoint. Map 7-1, Road Network, on page 7-2 shows roadways in the Town.

A. Principal Arterial

The classification of principal arterials consist of limited access roadways that do not have many access points except at major roadway intersections, or in the case of interstates or parkways, only have access through controlled interchanges. Some of these roadways exclude certain vehicles, such as commercial trucks and/or buses. The Town of North Castle has one principal arterial:

a. Interstate 684 - (I-684) is a north-south limited access Interstate highway that connects Interstate 287 (I-287) to Interstate 84 (I-84). The 28 mile I-684 begins at two spurs in central Westchester County at intersections with I-287 and the Hutchinson River Parkway. There are two interchanges in North Castle: Exit 2, NYS Route 120 and Westchester County Airport and Exit 3, NYS Route

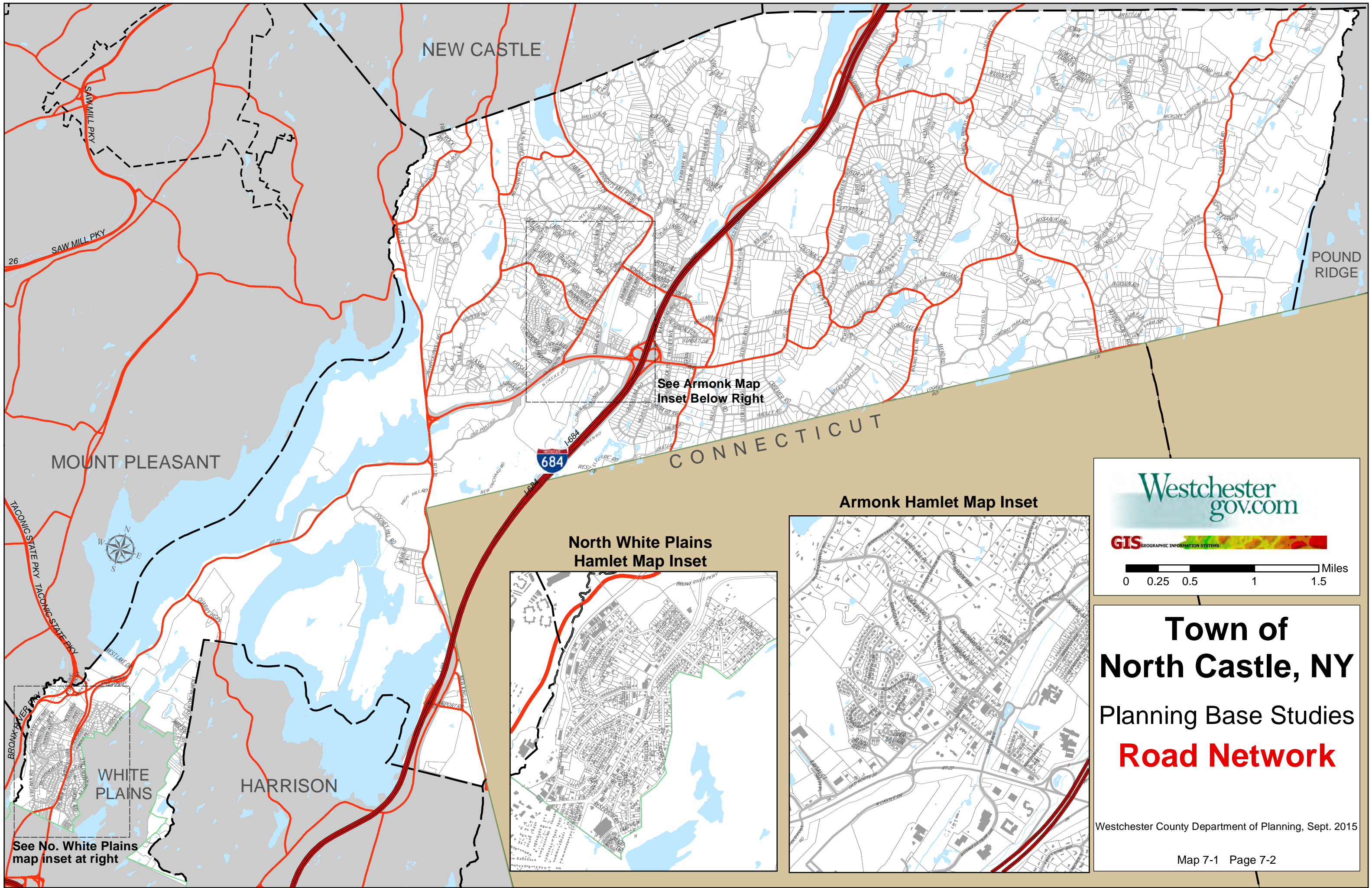


Image source: Licensed under Public Domain
via Wikimedia Commons

Highway Touring and Reference Routes

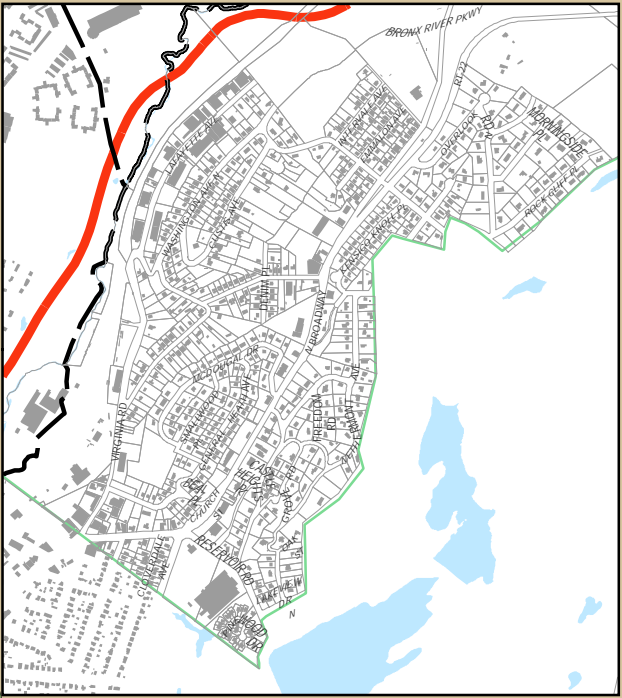
The Interstate (I) and Federal (US) touring route systems are numbered by the American Association of State Highway and Transportation Officials upon recommendations of the state (NYS). NYS *Touring route* and *Reference route* number systems are numbered by the NYS Department of Transportation (NYSDOT). *Touring routes* are signed with route markers. *Reference routes* are not generally signed with route markers.

~ NYSDOT

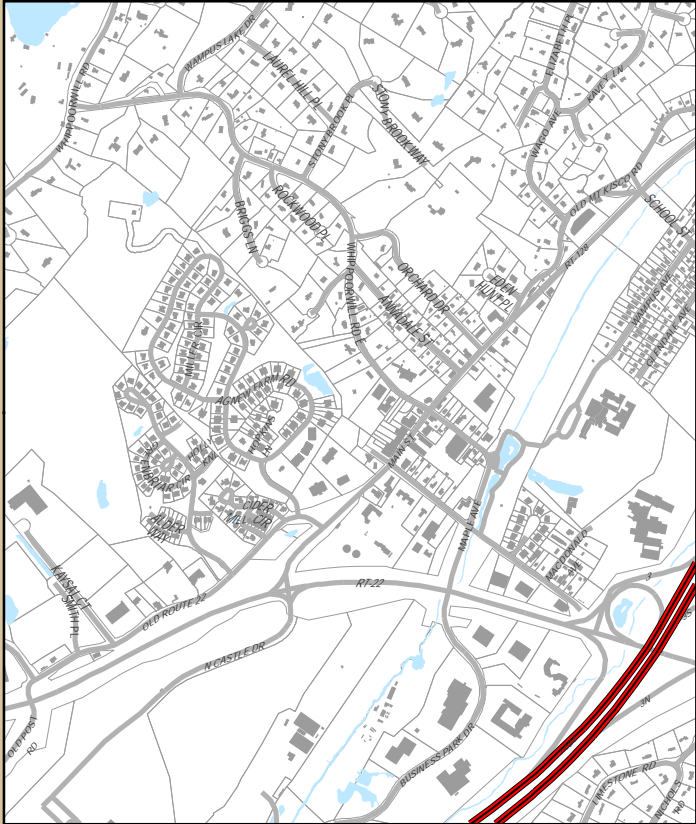


See Armonk Map
Inset Below Right

North White Plains
Hamlet Map Inset



Armonk Hamlet Map Inset



Westchester
gov.com

GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.25 0.5 1 1.5 Miles

Town of North Castle, NY

Planning Base Studies

Road Network

Westchester County Department of Planning, Sept. 2015

See No. White Plains
map inset at right

What is a Scenic Byway?

A scenic byway is a road, but not just a road. It's a road with a story to tell. A scenic byway might offer magnificent views or fascinating historical sites or amazing wildlife. It might offer access to an exhilarating array of outdoor activities or reveal captivating cultures, spellbinding art or spectacular structures.

Whether a scenic byway offers one or many of these things, it always offers a great experience.

A scenic byway is a "win/win" arrangement for the travelers who use it and the communities that adjoin it. Travelers are treated to an uncommonly exiting, educational or entertaining trek. Communities profit by an organized management plan that protects and enhances the byway corridor while encouraging increased tourism. To learn more about these wonderful locations, visit [Lists of NYS Byways](https://www.dot.ny.gov/display/programs/scenic-byways).

<https://www.dot.ny.gov/display/programs/scenic-byways>

22 Bedford and Armonk.

B. Minor Arterial

Minor arterial roadways serve as principal through roads that connect routes, areas or principal traffic generation sources and are accessible to both passenger cars and commercial vehicles. There are three minor arterial roadways in North Castle:

NYS Route 22 (Armonk Bedford Road) — is an north-south route with a terminus in The Bronx to the south and Mooers near the US/Canadian border in the north. The road is 340 miles long with 11.6 miles located in the Town. The road is primarily a split four lane road with turning lanes south of I-684. The road is primarily a two lane road with painted with a double yellow center line and edge of lane white lines going north of the interchange area of I-684.

Figure 7-1. Intersection of NYS Route 22 and 120

NYS Route 120 (King Street) — southern terminus is located in the Village of Rye Brook at the intersection with NYS Route 1 and the northern terminus is located in the Town of New Castle at the intersection with NYS Route 100 in Millwood. The road serves as a direct route for residents of the Town to the Westchester County Airport which is located on NYS Route 120 in the southeast area of the Town.

Figure 7-2. View of Bedford Road and NYS Route 128 (Main Street) in Armonk.

NYS Route 128 (Main Street) — is a 5.5 mile long north-south road with its southern terminus is located in Armonk at the intersection with NYS Route 22. The road is also known as Main Street until it becomes Armonk Road in New Castle. The northern terminus is located at the intersection with NYS Route 117 in New Castle.

NYS Route 433 (North Greenwich Road) — one of New York's shortest state roads at less than a mile long running from the Connecticut border to its northern terminus at NYS Route 22. In Connecticut the road becomes Riversville Road and continues 5.8 miles to its southern terminus at Weaver Street in Greenwich.

C. Collector Roadways

Collector roadways serve as links between major and local roadways. Within the Town, these roadways primarily move traffic within residential and commercial areas. Some of these streets, constructed as local streets, have had increased usage resulting in heavy traffic for the original design capacity. Common characteristics of these roads used with heavy traffic include narrow lanes with little

or no shoulder. These roads often have many homes and driveways. The collector roadways in North Castle are:

Bedford-Banksville Road is a County Road in Bedford and North Castle. The road is 3.2 miles long in North Castle. It becomes Greenwich Road for 1.9 miles in Bedford until terminating at Route 22 in at its northern terminus in Bedford Center. At the Connecticut-New York border, the road becomes North Street in the town of Greenwich. From the border, it is 3.3 miles to the Merritt Parkway and 7.5 miles to the southern terminus at Maple Street in Greenwich. In North Castle the speed ranges from 30 to 40 mph. The road is painted with yellow double middle line and white edge of lane line. The shoulder ranges from 1-3 feet and some sections have guard rails.

Banksville Road's western terminus intersects with NYS Route 22. The eastern terminus intersects with Round Hill Road. The road is 1.6 miles long and the speed limit is 30 mph. The road is painted with a double yellow line and edge of lane white line. Guard rails are present on some sections and multiple residential driveways have curb cuts on the road.

Byram Lake Road's southern terminus ending at the intersection with Cox Avenue in North Castle. The northern terminus is located in Mount Kisco at Main Street. The road is 6.3 miles long of which 3.2 is located in North Castle. The portion from the southern end of Byram Lake to Cox Avenue is a County Road. This section of the road has guard rails and is painted with a double middle line and white edge of lane line. The North Castle section of the road does not have painted lines. The road is a dirt road in the Town of Bedford section.

Creemer Road's northern terminus is at NYS Route 22. The southern terminus is at Round Hill Road in the Town of Greenwich. Creemer Road is 1.1 miles long of which 0.7 is located in North Castle. The road was painted with a yellow double middle line and white edge of lane line. At the time of this report, the paint was covered with asphalt patch and/or extremely faded.

Figure 7-3. Bedford-Banksville Road



Photo Source: Google Maps

Figure 7-4. Byram Lake Road transition from County to Town road

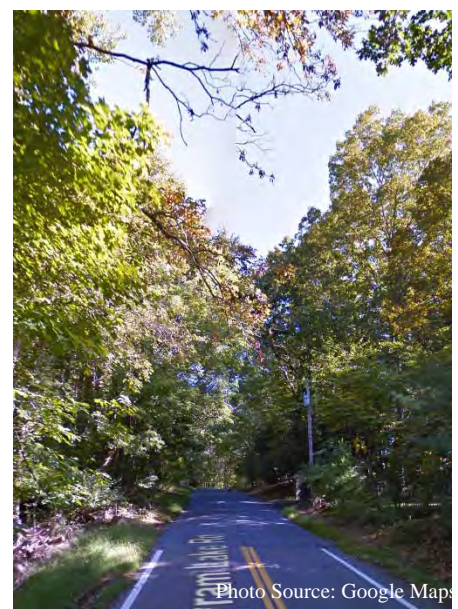


Photo Source: Google Maps

§ 213-17.1 Scenic Roadscape Preservation

The Town of North Castle passed Local Law No. 5 for the Year 2013 so as to add standards designed to preserve the visual character and views along three of the Town's scenic roadways through a process of site plan review and approval by the Town Planning Board.

Scenic Roadways

Town Board specifically identifies the following as scenic roadways

- 1 East Middle Patent Road
- 2 Mianus River Road
- 3 St Msary Church Road

See Appendix XX for the complete Local Law.

High Street's southern terminus is at School Street. The road becomes Sheather Road at the border in New Castle and ends at NYS Route 128. High Street is 1.3 miles long and Sheather Road is 2.7 miles long. High Street is painted with a yellow double line but at the time of this report was very faded or has been covered over with asphalt patch. There was not evidence of the road being painted with a white edge of pavement line.

Middle Patent Road is 1 mile long and is painted with a yellow double line that was very faded at the time of this report. The road's northern terminus is at NYS Route 22 and southern terminus is at Bedford-Banksville Road. The 1996 Comprehensive Plan recommended that this road be widened and have minor realignments. In 2013 a scenic roads local law was passed to preserve the character of Middle Patent Road.

Orchard Street's southern terminus is at North Broadway in the City of White Plains. The northern terminus is at Old Orchard Street in North Castle. The road is 2.7 miles long with less than a mile located in the Town. The road is painted with a yellow double line.

Round Hill Road's northern terminus is at Bedford-Banksville Road. The southern terminus is located at Lake Avenue in Greenwich Connecticut. The road is 8 miles long with 1.8 miles being located in the Town of North Castle. In Greenwich, the road intersects with the Merritt Parkway (Exit 28). The road is painted with a double yellow line and edge of lane white line. The edge of pavement is one foot or less to the edge of lane line. At the time of this report, the paint was very faded. The speed limit is 30 mph. There are multiple residential driveways with curb cuts on the road.

Virginia Road's southern terminus is at North Broadway (NYS Route 22) at the border of the City of White Plains and hamlet of North White Plains. The northern terminus is located at Grasslands Road (NYS Route 100) at the border of the Towns of Mount Pleasant and Greenburgh. Virginia Road is a County road and intersects with the Bronx River Parkway. The portion of Virginia Road in North Castle extends from the intersection with North Broadway and the bridge over the Bronx River. Within the town there is an at-grade railroad crossing. Virginia Road also connects to Lafayette

Figure 7-5. North Broadway



Figure 7-6. Whippoorwill Road

Avenue, a road that is characterized by industrial and warehouse uses. The west side of Virginia Road east of the Bronx River Parkway is dominated by Byram Concrete and Supply, a ready mix concrete plant and commercial uses closer to the City of White Plains. To the east is the historic Miller House and Miller Hill (see Chapter 6 for more information). The road is painted with a yellow double line and white edge of pavement line.

Whippoorwill Road's southern terminus is at Kings Street (NYS Route 120) in North Castle. The northern terminus is at Bedford Road (NYS Route 117) in the Town of New Castle. Whippoorwill Road is 4.7 miles long with 2.4 miles being located in North Castle. The road is painted with a double yellow line and no edge of pavement line. The Town recently reduced the speed limit on from 30 MPH to 25 MPH.

E. Local Streets

Connecting to the collector roadways, local streets serve as direct vehicular and pedestrian access to most properties in the Town. The

majority of the roadways in the Town are local residential streets. These roads are often narrow with no shoulder.

7.2 Current Traffic Conditions

A. Traffic Volume

Figures 7-7 to 7-9 provides data on the Annual Average Daily Traffic Counts for certain County, Town and State roads in the Town. Interstate 684 is by far the busiest road in North Castle.

Traffic volume is graphically shown in Map 7-2. The Average Annual Daily Traffic (AADT) count shows that traffic is heaviest on the portion of I-684 south of the intersection with NYS Route 22. Many of the Town Roads have traffic counts that rival those of State and County roads in the Town.

The U.S. Department of Transportation Federal Highway Administration published highway guidelines for road classifications in the 2013 report, *Highway Functional Classification Concepts, Criteria and Procedures* (see Appendix 7-2), that is summarized in Figure 7-10. The chart provides guidance on the physical characteristics and capacity ranges for road function classifications.

The NYSDOT defines road function classification as “the process by which roads, streets, and highways are grouped into classes according to the character of service they provide.” Functional classification is also used to determine which roads are eligible for project funding under the Surface Transportation Program (STP) administered by the Federal Highway Administration. In Westchester County, all roads are classified as Urban Roads.

C. Traffic Safety

The Town’s traffic accident history from January 2011 through December 2014 was obtained from the North Castle Police Department. Data in the traffic accident reports was compiled into a single spreadsheet that can be found in Appendix 7-3. There were 1,654

Figure 7-7. County Roadway Average Annual Daily Traffic (AADT) Counts

Name	From	To	AADT	Year
BANKSVILLE RD	ROUND HILL RD	MIDDLE PATENT RD	4,375	2011
BEDFORD BANKSVILLE ROAD	MIDDLE PATENT	OLD FARM RD	3,063	2013
BEDFORD BANKSVILLE ROAD	CONN LINE	ROUND HOUSE RD	3,489	2013
BEDFORD BANKSVILLE ROAD	OLD FARM RD	BEDFORD LINE	3,063	2013
BEDFORD BANKSVILLE ROAD	ROUND HOUSE RD	ROUND HILL RD	3,489	2013
BROADWAY	MR PLEASANT LN	CR68	16,608	2013
BROADWAY	N BROADWAY	RT22	14,049	2013
BRONX RIVER PARKWAY	NO CASTLE LN	KENSICO DAM PL	18,278	2011
BYRAM LAKE RD	COX/BYRAM LK PT	BYRAM LAKE RD	2,824	2010
COUNTY AIRPORT ACCESS ROAD	RT 120	NORTH CASTLE TL	9,303	2013
COX AVE	RTE 22	COX / BYRAM LK PT	2,824	2010
TACONIC PARKWAY EB	CR68 MERGE/SPL	LANE TAPER	6,802	2011
TACNIC PARKWAY WB	RT 22	CR68 MERGE/SPLIT	3,120	2013
TACONIC PARKWAY RD	KENISCO CIR	CR68 MERGE/SPLIT	6,802	2011
TACONIC PARKWAY RD EB	LANE TAPER	RT 22	6,802	2011
VIRGINIA RD	RT22	WASHINGTON HQ	6,966	2014

Figure 7-8. Town Roadway Average Annual Daily Traffic (AADT) Counts

Name	From	To	AADT	Year
COX AVE	BYRAM RIDGE RD	NYS ROUTE 128	1,767	2014
COX AVE	CR 133	BYRAM RIDGE RD	3,080	2013
CREEMER RD	CONNECTICUTT S/L	NYS ROUTE 22	1,002	2013
MIDDLE PATENT RD	NYS ROUTE 22	BEDFORD BANKSVILLE RD	1,858	2014
OLD ORCHARD ST	HARRISON T/L	NYS ROUTE 22	1,392	2014
ROUND HILL RD	CONNECTICUTT S/L	BEDFORD/BANKSVILLE	700	2014
SCHOOL ST	MAIN ST	COX AVE	2,905	2014
VIRGINIA RD	WASHINGTON HQ	GREENBURGH T/L	6,565	2014
WHIPPOORWILL RD	NYS ROUTE 120		956	2014
WHIPPOORWILL RD E	WHIPPOORWILL RD	NYS ROUTE 128	1,864	2014

Notes: AADT = Average Annual Daily Traffic, T/L = Town Line, V/L = Village Line, S/L = State Line

Sources: <http://publicworks.westchestergov.com/north-castle>

and NYS DOT website: <http://gis.dot.ny.gov/tdv/> on October 25, 2013

Figure 7-9 Annual Average Daily Traffic Counts for State Roads in North Castle, Selected Years 1999-2014

Name	From	To	Lanes	Divided	AADT	YEAR
I-684	ACC RT 120	CONNECTICUT STATE LINE	6	Y	60,183	1999
I-684	NEW YORK STATE LINE	RT 22 UNDER	6	Y	60,183	1999
I-684	RT 22 UNDER		6	Y	59,958	2000
I-684		ACC RT 120	6	Y	68,494	2004
KING ST	CONNECTICUT STATE LINE	RT 120 END RT 120A	2		4,165	2011
NYS ROUTE 120	ACC RT 684I		3		11,063	2013
NYS ROUTE 120	END 22/120 OLAP		4		4,055	2011
NYS ROUTE 120	RT 120A	RT 684I UNDER	2		8,499	2013
NYS ROUTE 120	START 22/120 OLAP		4	Y	15,995	2008
NYS ROUTE 120	HARRISON/NORTH CASTLE BORDER	ACC RT 684I	4		7,772	2008
NYS ROUTE 120		END 22/120 OLAP	4		15,995	2008
NYS ROUTE 120		BORDER NORTH CASTLE/MT. PLEASANT	2		4,055	2011
NYS ROUTE 120		RT 120A	2		11,063	2013
NYS ROUTE 120		START 22/120 OLAP	2		8,499	2013
NYS ROUTE 128	LEISURE FARM RD	NORTH CASTLE TL / NEW CASTLE TL	2		4,151	2013
NYS ROUTE 128	RT 22 ARMONK		2		7,463	2013
NYS ROUTE 22	CHESTNUT RIDGE RD	BORDER NORTH CASTLE/ BEDFORD	2		3,877	2013
NYS ROUTE 22	CR 150 CENTRAL W PKWY	N BROADWAY	4		22,638	2011
NYS ROUTE 22	END 22/120 OLAP		4	Y	16,311	2013
NYS ROUTE 22	KENSICO DAM	ORCHARD DR	4		10,934	2011
NYS ROUTE 22	RT 128		4	Y	18,072	2011
NYS ROUTE 22	RT 433		2		6,338	2014
NYS ROUTE 22	RT 684I	RT 433	4		16,595	2008
NYS ROUTE 22	START 22/120 OLAP		4	Y	15,995	2008
NYS ROUTE 22	WHITE PLAINS/NORTH CASTLE BORDER	CR 150 CENTRAL W PKWY	4		12,362	2008
NYS ROUTE 22		START 22/120 OLAP	4		10,934	2011
NYS ROUTE 22		RT 684I	4	Y	18,072	2011
NYS ROUTE 22		RT 128	4	Y	16,311	2013
NYS ROUTE 22		CHESTNUT RIDGE RD	2		6,338	2014
NYS ROUTE 433	CONNECTICUT STATE LINE	RT 22 END RT 433	2		5,558	2013

Source: 2010 Traffic Volume Report, New York State Department of Transportation. Prepared by Westchester County Department of Planning
Notes: AADT = Annual Average Daily Traffic Count,; Dash line means information not available (traffic counts were not estimated every year)

accidents during this time period which averages out to 413 per year.

Accidents from January 2011 to December 2014 are summarized in Figure 7-11. New York State highways were found to have the most amount of accidents in North Castle with NYS Route 22 having the highest amount of accidents for this time period. Bedford Road and Bedford-Banksville Road had the highest amount of accidents for a non-state road.

Roads with more than 20 accidents during the data period may warrant further study. The 14 roads that had more than 20 accidents include:

- NYS Route 22
- North Broadway
- Main Street
- NYS Route 120
- Bedford Road
- Bedford-Banksville Road
- Virginia Road
- Business Park Drive
- King Street
- Whippoorwill Road/Whippoorwill Road East
- Bronx River Parkway Access Road
- Maple Avenue
- Round Hill Road
- NYS Route 128

Appendix 7-5 includes further breakdown of traffic accidents on each road. Certain areas on these roads appear to be “hot spots” and may warrant further study.

- Intersection of NYS Route 22 and NYS Route 120
- NYS Route 22 near the Bronx River Access Road
- Intersection of NYS Route 22 and Business Park Drive
- North Broadway between the intersection of North Broadway and Central Westchester Parkway and Sir John’s Plaza
- Intersection of North Broadway and Central Westchester Parkway

Figure 7-10. Traffic Accidents: January 2011—December 2014

ROAD	NUMBER OF ACCI-
NYS RT 22	418
North Broadway	339
Main Street	135
NYS RT 120	118
Bedford Road	47
Bedford Banksville Road	39
Virginia Road	31
Business Park Drive	30
King Street	27
Whippoorwill Road & East	24
Bronx River Parkway Access Road	23
Maple Avenue	23
Round Hill Road	22
NYS RT 128	22
Banksville Avenue	17
Middle Patent Road	15
Tripp Lane	14
Cox Avenue	12
Hillandale Avenue	12
Old Post Road	12
Reservoir Road	11
Old Orchard Street	10
Kensico Dam Plaza	9
I-684	8
LaFayette Avenue	8
Byrum Lake Road	7
Central Westchester Parkway	7
Hickory Kingdom Road	7
High Street	7
Old Mount Kisco Road	7

- NYS Rt. 120 intersection with Nanny Hagen Road
- Intersection of NYS Route 120 and Airport Access Road
- Intersection of NYS Route 120 and New King Street
- Intersection of NYS Route 120 and Whippoorwill Road
- Intersection of Main Street and Bedford Road
- Intersection of Middle Patent and Bedford-Banksville Road
- Intersection of Round Hill Road and Bedford-Banksville Road

At first glance there appears to be some common elements of the apparent “hot spots” which include:

- Roads with little or no shoulders
- Narrow roads
- Limited visibility at intersections due to trees, shrubs, utility poles, fences and signage
- High traffic volume

Some roads, like Middle Patent and Whippoorwill Road, are old local roads that have evolved to carrying traffic volumes of major roads. Some roads were constructed as narrow roads and only a few parcels had access on them. Over years, development occurred, dividing larger parcels into numerous small parcels increasing the number of driveways that have direct access to the road. Trees and shrubs over time can begin to fill in and encroach into the paved area, narrowing the roads.

Road standards and elements in the road right-of-way that contribute to traffic safety can include:

- Lane width standards
- Shoulder width standards
- Visibility sight triangles
- Signage standards

Local laws that can have a direct impact traffic safety include subdivision regulations, site plan review and sign regulations. Currently the Town’s local laws regarding roads are design standards for streets are found in Chapter A216: Subdivision of Land, Article IV: General Requirements for Subdivision Design (a full copy of the laws are found in Appendix 7-6).

Figure 7-11. Town Law Regarding Speed Limits.

§ 123-17 Speed Regulations Maximum speed limits established.

The maximum speed at which vehicles may proceed on or along any streets or highways within the Town is hereby established at 30 miles per hour, except that the speed limit for vehicles proceeding on or along those streets or parts of streets described in Schedule IX (§ [196-49](#)) shall be as indicated in said schedule.

In accordance with the provisions of § 196-16, the following speed limits shall be indicated on the streets or parts of streets described below:

Wampus Avenue

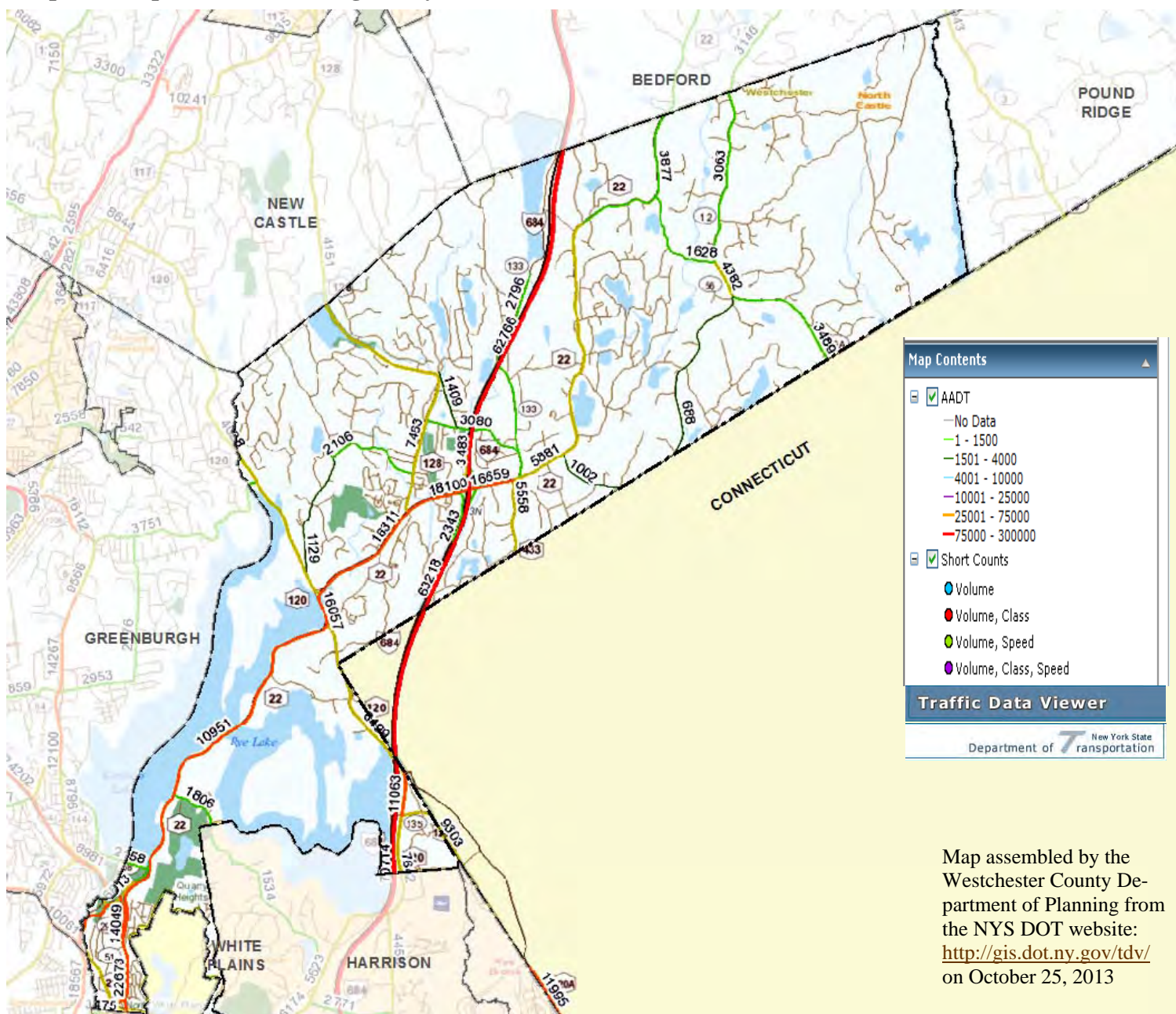
[Added 5-13-1993 by L.L. No. 3-1993]

Between School Street and the terminus of Wampus Avenue, a distance of 0.3 miles: 25 MPH.

Whippoorwill Road

[Added 5-30-2007 by L.L. No. 8-2007]

Entire length: 25 MPH

Map 7-2. Map of Annual Average Daily Traffic Counts

Although some roads may have an appearance of rural character, all roads in Westchester County are classified as Urban Roads based on the level of development in the County. The American Association of State Highway and Transportation Officials *A Policy on Geometric Design of Highways and Streets* created guidelines for a range for lane and shoulder widths for various types of roadways (see Figure 7-12). Most roads under the jurisdiction of the Town

Figure 7-12. Highway Guidelines by Function Class, U.S. Department of Transportation Federal Highway Administration

Typical Characteristics	ARTERIALS				COLLECTOR		LOCAL
	Interstate	Freeway & Expressway	Principal Arterial	Minor Arterial	Major	Minor	
Lane Width	12 feet	11-12 feet	11 - 12 feet	10 - 12 feet	10 - 12 feet	10 - 11 feet	8 - 10 feet
Inside Shoulder Width*	4 - 12 feet	0- 6 feet	0 feet	NA	NA	NA	NA
Outside Shoulder Width	10 -12 feet	8 -12 feet	8 - 12 feet	4 - 8 feet	1 - 6 feet	1 - 4 feet	0 - 2 feet
AADT Rural	12,000 - 34,000	4,000 -18,500	2,000 - 8,500	1,500 - 6,000	300 - 3,600	150 - 1,110	15 - 400
AADT Urban	35,000-129,000	13,000 - 55,000	7,000 – 27,000	3,000 - 14,000	1,100 - 6,300	1,100 - 6,300	80 - 700
Divided/Undivided	Divided	Undivided/Divided	Undivided/Divided	Undivided	Undivided	Undivided	Undivided
Access	Fully Controlled	Partially/ Fully Controlled	Partially/ Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled
Qualitative Description - Urban	<ul style="list-style-type: none">• Serve both land access and traffic circulation in higher density residential, and commercial/industrial areas• Penetrate residential neighborhoods, often for significant distances• Distribute and channel trips between local streets and arterials, usually over			<ul style="list-style-type: none">• Interconnect with and augment the principal arterials• Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials• Distribute traffic to smaller geographic areas than those served by principal arterials• Provide more land access than principal arterials without penetrating identifiable neighborhoods• Provide urban connections for rural collectors	<ul style="list-style-type: none">• Serve both land access and traffic circulation in higher density residential, and commercial/industrial areas• Penetrate residential neighborhoods, often for significant distances• Distribute and channel trips between local streets and arterials, usually over a distance of greater than three-quarters of a mile	<ul style="list-style-type: none">• Serve both land access and traffic circulation in lower density residential, and commercial/industrial areas• Penetrate residential neighborhoods, often only for a short distance• Distribute and channel trips between local streets and arterials, usually over a distance of less than three-quarters of a mile	<ul style="list-style-type: none">• Provide direct access to adjacent land• Provide access to higher systems• Carry no through traffic movement
Qualitative Description - Rural	<ul style="list-style-type: none">• Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel• Serve all or nearly all urbanized areas and a large majority of urban clusters areas with 25,000 and over population• Provide an integrated network of continuous routes without stub connections (dead ends)			<ul style="list-style-type: none">• Link cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) and form an integrated network providing interstate and inter-county service• Spaced at intervals, consistent with population density, so that all developed areas within the State are within a reasonable distance of an arterial roadway• Provide service to corridors with trip lengths and travel density greater than those served by rural collectors and local roads and with relatively high travel speeds and minimum interference to through movement	<ul style="list-style-type: none">• Provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators of equivalent intra-county importance such as consolidated schools, shipping points, county parks, important mining and agricultural areas• Link these places with nearby larger towns and cities or with arterial routes• Serve the most important intra-county travel corridors	<ul style="list-style-type: none">• Be spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within reasonable distance of a minor collector• Provide service to smaller communities not served by a higher class facility• Link locally important traffic generators with their rural hinterlands	<ul style="list-style-type: none">• Serve primarily to provide access to adjacent land• Provide service to travel over short distances as compared to higher classification categories• Constitute the mileage not classified as part of the arterial and collectors systems

*Only exists on divided highways
Summarized from *Highway Functional Classification Concepts, Criteria and Procedures*, U.S. Department of Transportation Federal Highway Administration, 2013

Highway Function Classification

Functional classification is the process by which roads, streets, and highways are grouped into classes according to the character of service they provide. Individual roads and streets do not serve travel independently but as part of a network of roads through which the traffic moves. Functional classification defines the nature of this movement by defining the part that any particular road or street should play in serving the flow of trips through a highway network and the type of access it provides to adjacent properties. Functional classification describes the importance of a particular road or network of roads to the overall system and, therefore, is critical in assigning priorities to projects and establishing the appropriate highway design standards to meet the needs of the traffic served. Functional classification is also used to determine which roads are eligible for project funding under the Surface Transportation Program (STP) administered by the Federal Highway Administration.



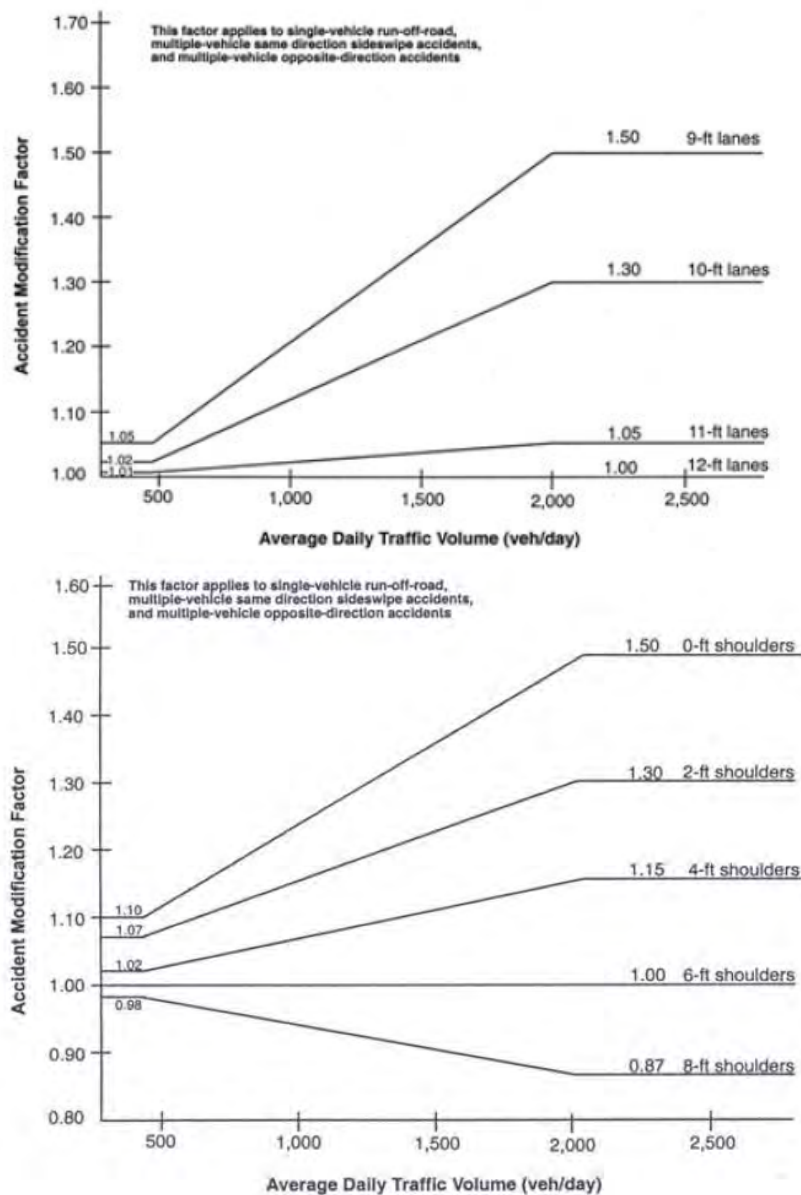
Urbanized Area

There are currently seven functional classifications which are further distinguished as urban and rural yielding fourteen distinct designations. All of the classifications are Federal Aid eligible except three: Urban Local, Rural Minor Collector, and Rural Local (codes 19, 08, and 09, respectively). Federal Aid (STP) may also be used for projects on Rural Minor Collectors (08) although they are not typically considered to be part of the Federal Aid eligible system. The respective classes and codes are shown below (the FHWA codes do not contain the urban/rural distinction).



Map assembled by the Westchester County Department of Planning from the NYS DOT website: <http://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services/functional-class-maps>

<https://www.dot.ny.gov/divisions/engineering/technical-services/highway-data-services/functional-class-maps>

Figure 7-13. Accident modification factors

would fall into “Collector” or “Local” roads.

The Town has laws that establish the speed limit for motor vehicles upon county roads and Town highways at 30 miles per hour except for the Whippoorwill Road and Wampus Avenue that have limits at 25 miles per hour.

Vehicle Weight

The average **vehicle weight** of different models for some of the more common classes of cars:

- Compact cars (Honda Civic) should weigh between 3,000 to 4,500 pounds.
- Midsize cars (Ford Taurus) usually weigh between 4,500 pounds to 5,500 pounds.
- Full size cars (Mercedes S Class) average between 5000 and 6000 pounds.
- Minivans or Crossovers (Dodge Caravan) mostly fall between 5500 and 6500 pounds.
- Light trucks and SUV's (Ford Explorer) between 5000 and 7000 pounds.
- Full size pickups and SUV's (Toyota Tundra) can weigh between 7,500 to 12,000 pounds.

D. Goods Movement

The movement of goods in Westchester is dependent upon truck deliveries. Trucks are permitted to drive on all county and state roads. Any commercial land use is usually dependent upon truck access. Trucks that are delivering goods are getting larger and consideration should be given as to how trucks navigate through the Town and the greater region. See Maps 7-3 and 7-4.

Trucks also carry goods such as home heating oil, septic pump out, delivery of large goods to homes. Trucks are also continuously used for property maintenance in the Town. Figure 7-14 provides a visual representation of truck types and their typical weight class. Chapter 196, Section 196-50 lists three streets in the Town where trucks over five tons are prohibited. See Figure 7-13.

E. Mass Transit Growth

Trends for the railroad (Metro-North Railroad) serving the Town via nearby rail stations show growth trends. Metro-North estimates it lost 1.8 million rides in 2012 due to Super Storm Sandy. Had Sandy not occurred the railroad was on track for a new record of 84.9 million rides, surpassing the previous system peak in 2008 when the system peaked at 83 million passengers. The 2010 passenger count of 81 million passengers was the second highest year on record. With continued use of commuter rail in the Town

Figure 7-14. Truck Exclusions

Chapter 196. VEHICLES AND TRAFFIC: Article VI. Schedules

§ 196-50. Schedule X: Truck Exclusions. [Amended 1-7-1999 by L.L. No. 1-1999]

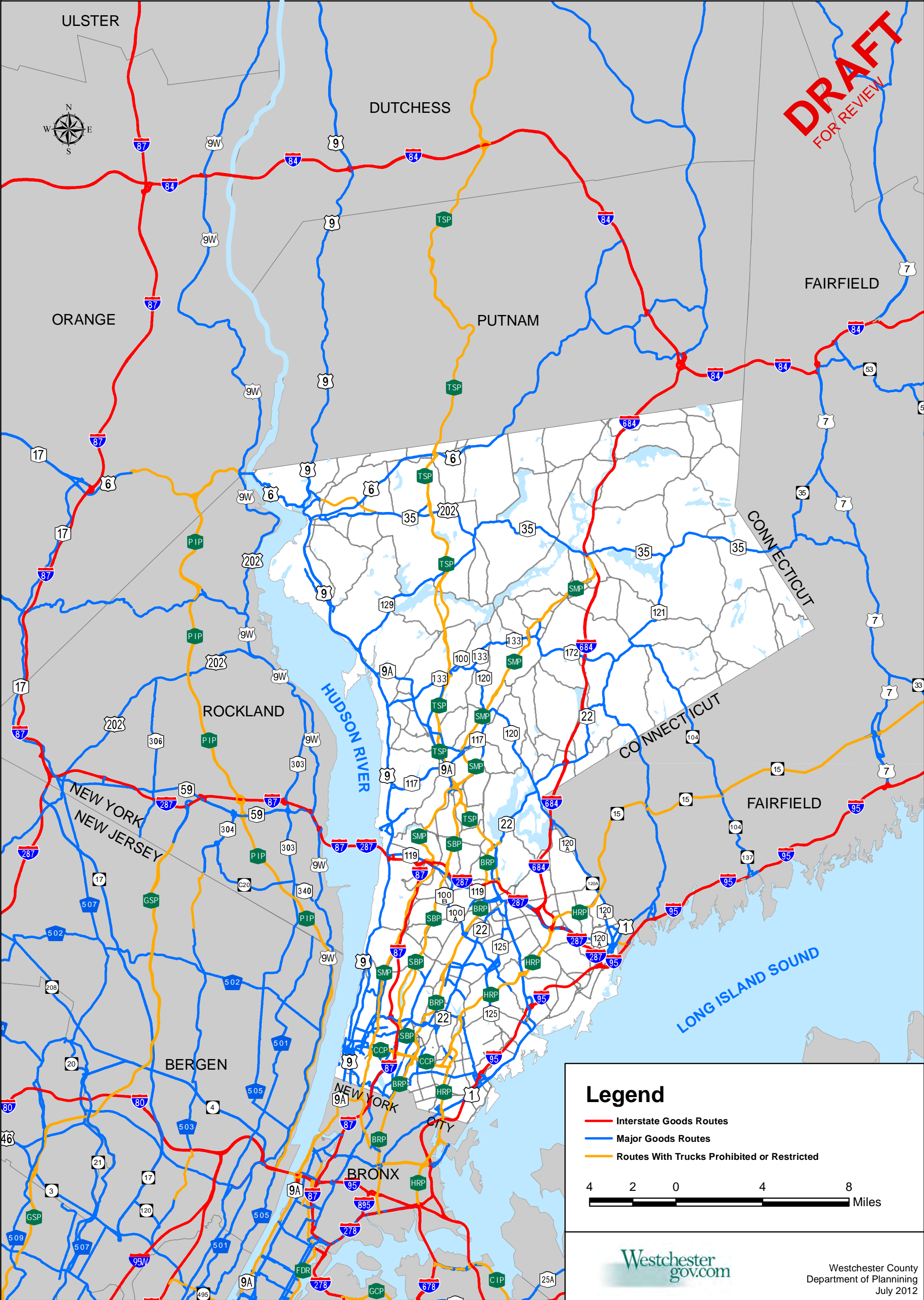
In accordance with the provisions of § [196-17](#), all trucks, tractors and tractor-trailer combinations in excess of the gross weights indicated are excluded from the streets or parts of streets described below:

Name of Street	Gross Weight (tons)	Location
Beal Place	5	Entire length
General Heath Avenue	5	Entire length
Washington Avenue	5	Entire length

Map 7-3

Regional Goods Movement

WESTCHESTER COUNTY, NEW YORK



Map 7-4

Goods Movement Routes

Westchester County, New York

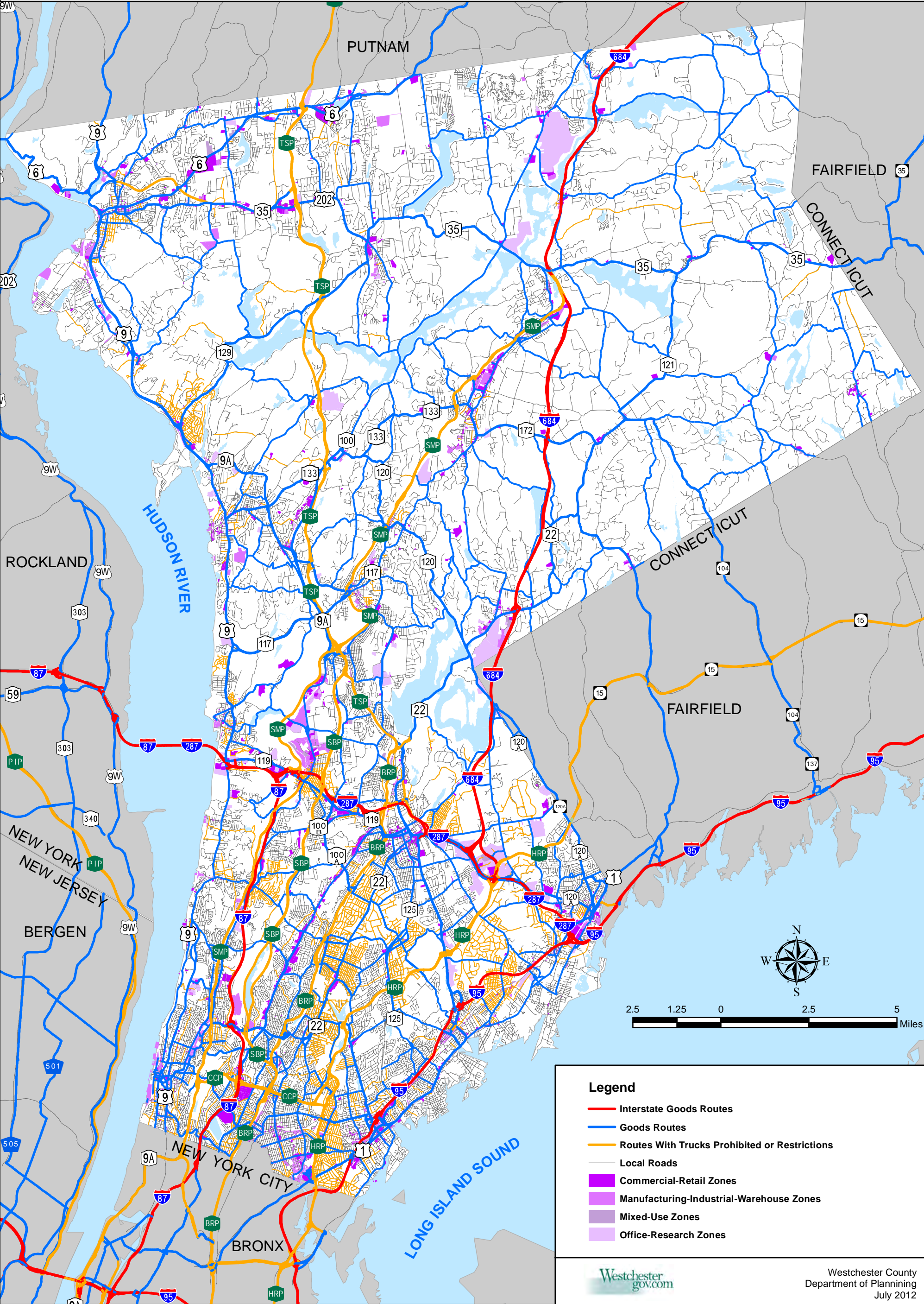






















































Figure 7-15. Truck Type and Weight Class.

TRUCK TYPE AND WEIGHT CLASS

The vehicle icons on the following page depict examples of vehicles in each DOT classification 1-8 with corresponding load ranges. These classifications are guidelines in understanding the type of vehicle used for different applications by vehicle class.

CLASS ONE 6,000 lbs. or less	 Full Size Pickup	 Mini Pickup	 Minivan	 SUV	 Utility Van	
CLASS TWO 6,001 to 10,000 lbs.	 Crew Size Pickup	 Full Size Pickup	 Mini Bus	 Minivan	 Step Van	 Utility Van
CLASS THREE 10,001 to 14,000 lbs.	 City Delivery	 Mini Bus	 Walk In			
CLASS FOUR 14,001 to 16,000 lbs.	 City Delivery	 Conventional Van	 Landscape Utility	 Large Walk In		
CLASS FIVE 16,001 to 19,500 lbs.	 Bucket	 City Delivery	 Large Walk In			
CLASS SIX 19,501 to 26,000 lbs.	 Beverage	 Rack	 School Bus	 Single Axle Van	 Stake Body	
CLASS SEVEN 26,001 to 33,000 lbs.	 City Transit Bus	 Furniture	 High Profile Semi	 Home Fuel	 Medium Semi Tractor	
	 Refuse	 Tow				
CLASS EIGHT 33,001 lbs. & over	 Cement Mixer	 Dump	 Fire Truck	 Fuel	 Heavy Semi Tractor	 Refrigerated Van
	 Semi Sleeper	 Tour Bus				
TRAILERS	 Auto Transport	 Double Van	 Drop Frame	 Dry Bulk	 Dump Trailer	 Flatbed
	 Flatbed Low Boy	 Logger	 Reefer	 Tanker	 Van Trailer	

Source: <http://www.goodyeartrucktires.com/>

Shoulder Width

Shoulders provide a number of important functions:

- Shoulders provide an area for drivers to maneuver to avoid crashes. Shoulders increase safety by providing a stable, clear recovery area for drivers who have left the travel lane. If a driver inadvertently leaves the lane or is attempting to avoid a crash or an object in the lane ahead, a firm, stable shoulder greatly increases the chance of safe recovery. However, areas with pavement edge drop-offs can be a significant safety risk. Edge drop-offs occur where gravel or earth material is adjacent to the paved lane or shoulder. This material can settle or erode at the pavement edge, creating a drop-off that can make it difficult for a driver to safely recover after driving off the paved portion of the roadway. The drop-off can contribute to a loss of control as the driver tries to bring the vehicle back onto the roadway, especially if the driver does not reduce speed before attempting to recover.
- Shoulders provide space for emergency storage of disabled vehicles. The ability to move a disabled vehicle off the travel lanes reduces the risk of rear-end crashes and can prevent a lane from being closed, which can cause severe congestion and safety problems.
- Shoulders provide space for enforcement activities. This is particularly important for the outside shoulder because law enforcement personnel prefer to conduct enforcement activities in this location. Shoulder widths of approximately 8 feet or greater are normally required for this function.
- Shoulders provide space for maintenance activities. If routine maintenance work can be conducted without closing a travel lane, both safety and operations will be improved. Shoulder widths of approximately 8 feet or greater are normally required for this function. In northern regions, shoulders also provide space for storing snow that has been cleared from the travel lanes.
- Shoulders improve bicycle accommodation. For most roads, cyclists are legally allowed to ride on the travel lanes. A paved or partially paved shoulder offers cyclists an alternative to ride with some separation from vehicular traffic. This type of shoulder can also reduce risky passing maneuvers by drivers.

safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/chapter3/3_shoulderwidth.htm

and the region, future congestion can be curbed or even reversed by encouraging drivers to take the train. For points not located between the Town and New York City, encouraging use of the Bee-Line bus service could also serve to reduce congestion. (*Source: Metro-North Statistics*)

7.4 Commuter Vehicle Characteristics

A. Mode Share

Mode share describes the number or percentage of travelers using a particular type of transportation. According to recent U.S. Census data, about 81% of the Town of North Castle residents traveling to work do so by driving alone. Carpooling accounted for about 8% of the way people got to work.. Approximately 4% of Town residents took either a train or bus to work which is lower than the 20% of Westchester County residents taking public transportation to work. About the remaining 7% residents work at home or walk to work.

C. Commute Time

About 45% of workers over 16 years of age in the Town of North Castle commute to work in 29 minutes or less, according to U.S. Census data. Over 13.5% of workers face a commute of an hour or longer. This compares to over 52% of Westchester County's work-

Figure 7-16. Truck Type and Weight Class.

Time travel to work	Percent	MOE +/-
Less than 10 Minutes	6.3	1.7
10-14 Minutes	9.3	2
15-19 Minutes	9.5	1.8
20-24 Minutes	13.2	2.7
25-29 Minutes	6.7	2
30-34 Minutes	17.7	2.7
35-44 Minutes	11.2	2
45-59 Minutes	12.7	2.4
60 or more minutes	13.5	2.4

force having a commute of 29 minutes or less and over 17% facing a commute of an hour or longer. (see Figure 7-15)

7.5 Public Transportation

Public transportation in the Town of North Castle consists of a Westchester County Bee-Line Bus Route 12 that goes from the White Plains Transit Center (Metro North Station) to Armonk. The bus also has stops at SUNY Purchase, Reckson Executive Park, Manhattanville College and along the Westchester Avenue business park corridor.

The Bee Line Bus schedule provide times and connections to Commuter rail for Metro North Railroad at the White Plains station. The Town has a dedicated parking lot near the North White Plains station in the Town of Greenburgh on Fisher Lane.

A. Bus Transportation

Bus service in the Town of North Castle is provided by Westchester County's Bee-Line which serves Westchester County with limited service also in the Bronx, Manhattan and Putnam County. Riders of the Bee-Line in the Town are a mix of residents traveling to work, shopping, school and train stations. Other riders enter the Town to travel to shopping, schools and commercial uses (office, retail, restaurants) and residences (visitors and domestic and medical employees).

This service is achieved through a number of local, limited and express buses. In addition to accepting a \$2.25 (2012) cash fare for local buses and \$7.50 (2012) for express buses, the Bee-Line Bus System uses the MTA MetroCard for payments allowing for several types of fare payments (which are subject to change):

Pay Per Ride Metro Card (2014)

- \$2.75 Regular Fare
- \$1.35 Senior/Disabled

Unlimited Ride 7 Day (2015)

- \$31.00 Regular Fare

Figure 7-17. Bee-Line Bus Ridership Statistics Route 12 Northbound Autumn 2014

Stop ID	Location	SumOfOns	SumOfOffs	Total Activity
34	MAIN ST @ GALLERIA MALL	15	0	25
35	MAIN ST @ COURT ST	40	2	27
37	MAIN ST @ S BROADWAY	32	1	34
278	WESTCHESTER AVE @ PAULDING ST	9	9	34
279	WESTCHESTER AVE @ S KENSICO AVE	8	1	33
280	333 WESTCHESTER AVE	5	1	22
282	WESTCHESTER AVE @ WM BUTCHER BRIDGE	1	0	6
283	WESTCHESTER AVE @ WH PLAINS OFF PRK	0	2	32
284	WESTCHESTER AVE @ ROCKLEDGE PARK	0	3	22
1664	MANHATTANVILLE COLLEGE	2	92	25
1665	PURCHASE ST @ ANDERSON HILL RD	0	7	22
1666	SUNY PURCHASE COLLEGE ENTRANCE	0	1	21
1670	ANDERSON HILL RD @ KING ST	0	2	13
1769	WESTCHESTER AIRPORT @ LOOP RD	0	3	9
1775	SUNY LINCOLN AVE @ CAMPUS CENTER NO	0	14	15
1776	SUNY LINCOLN AVE @ MAIN RESIDENCE H	0	24	16
1777	KING ST @ MBIA	3	0	8
1843	BEDFORD RD @ NORTH CASTLE TOWNHALL	0	20	5
2899	PURCHASE ST @ MASTERCARD	0	5	14
2900	MAIN ST @ ROUTE 22	0	3	6
2948	PURCHASE ST @ MANHATTANVILLE RD	0	5	34
2992	ANDERSON HILL RD @ ARROWWOOD	0	6	17
2993	KING ST @ RECKSON EXECUTIVE PARK	0	10	15
3033	KING ST @ LINCOLN AVE	0	13	11
3112	WESTCHESTER COUNTY AIRPORT TERMINAL	0	15	9
3124	4 5 6 RECKSON EXECUTIVE PARK	0	1	16
3192	99 BUSINESS PARK DR	0	5	5
3196	200 BUSINESS PARK DR	0	4	4
3288	4 NEW KING ST	0	0	1
4241	ANDERSON HILL RD @ NEW ST	0	5	21
4271	ROUTE 22 @ OLD POST RD	0	13	7
4560	KENILWORTH RD @ WESTCHESTER AVE	13	6	36
4991	WHITE PLAINS BUS TERMINAL LANE B	137	3	23
5145	ANDERSON HILL RD @ PEPSICO	0	1	20

Source: Westchester County Department of Public Works & Transportation passenger counts from 2008

Figure 7-18. Bee-Line Bus Ridership Statistics Route 12 Southbound Autumn 2014

Stop ID	Location	SumOfOns	SumOfOffs	Total Activity
2	MARTINE AVE @ COURT ST	0	33	19
306	WESTCHESTER AVE @ KENILWORTH RD	3	9	24
307	WESTCHESTER AVE @ W RED OAK LA	1	0	7
308	WESTCHESTER AVE @ CORPORATE PARK D	5	1	30
309	WESTCHESTER AVE @ GANNETT DR	0	0	8
310	WESTCHESTER AVE @ BRYANT AVE	4	1	12
311	500 WESTCHESTER AVE	2	0	9
312	210 WESTCHESTER AVE	4	2	25
314	WESTCHESTER AVE @ S KENSICO RD	1	3	29
316	WESTCHESTER AVE @ PAULDING ST	0	11	25
553	N BROADWAY @ MAIN ST	2	32	24
1664	MANHATTANVILLE COLLEGE	72	1	28
1666	SUNY PURCHASE COLLEGE ENTRANCE	2	0	10
1690	ANDERSON HILL RD @ BLIND BROOK CC	1	0	9
1766	ANDERSON HILL RD @ PURCHASE ST	3	1	13
1772	WESTCHESTER AIRPORT @ LOOP RD	3	1	5
1776	SUNY LINCOLN AVE @ MAIN RESIDENCE H	8	0	19
1843	BEDFORD RD @ NORTH CASTLE TOWNHALL	17	1	3
1844	KING ST @ MBIA	0	0	4
2896	PURCHASE ST @ MANHATTANVILLE RD	3	0	30
2906	KING ST @ RECKSON EXECUTIVE PARK	8	0	11
2907	ANDERSON HILL RD @ ARROWWOOD	6	1	12
2961	PURCHASE ST @ HUTCHINSON RIVER PWY	2	0	31
3011	ANDERSON HILL RD @ NEW ST	3	0	16
3031	KING ST @ LINCOLN AVE	2	0	8
3047	ANDERSON HILL RD @ KING ST	5	0	10
3112	WESTCHESTER COUNTY AIRPORT TERMINAL	28	1	9
3124	4 5 6 RECKSON EXECUTIVE PARK	2	0	9
3125	1 2 3 RECKSON EXECUTIVE PARK	2	0	7
3130	AIRPORT ACCESS RD @ NEW KING ST	0	0	2
3196	200 BUSINESS PARK DR	1	0	3
3200	80 BUSINESS PARK DR	2	0	4
4252	MARTINE AVE @ LEXINGTON AVE	0	4	11
4416	SUNY LINCOLN AVE @ SOCIAL SCIENCE	17	0	18
4991	WHITE PLAINS BUS TERMINAL LANE B	3	107	5

Source: Westchester County Department of Public Works & Transportation passenger counts from 2008

Figure 7-19. Bee-Line Bus Route 12

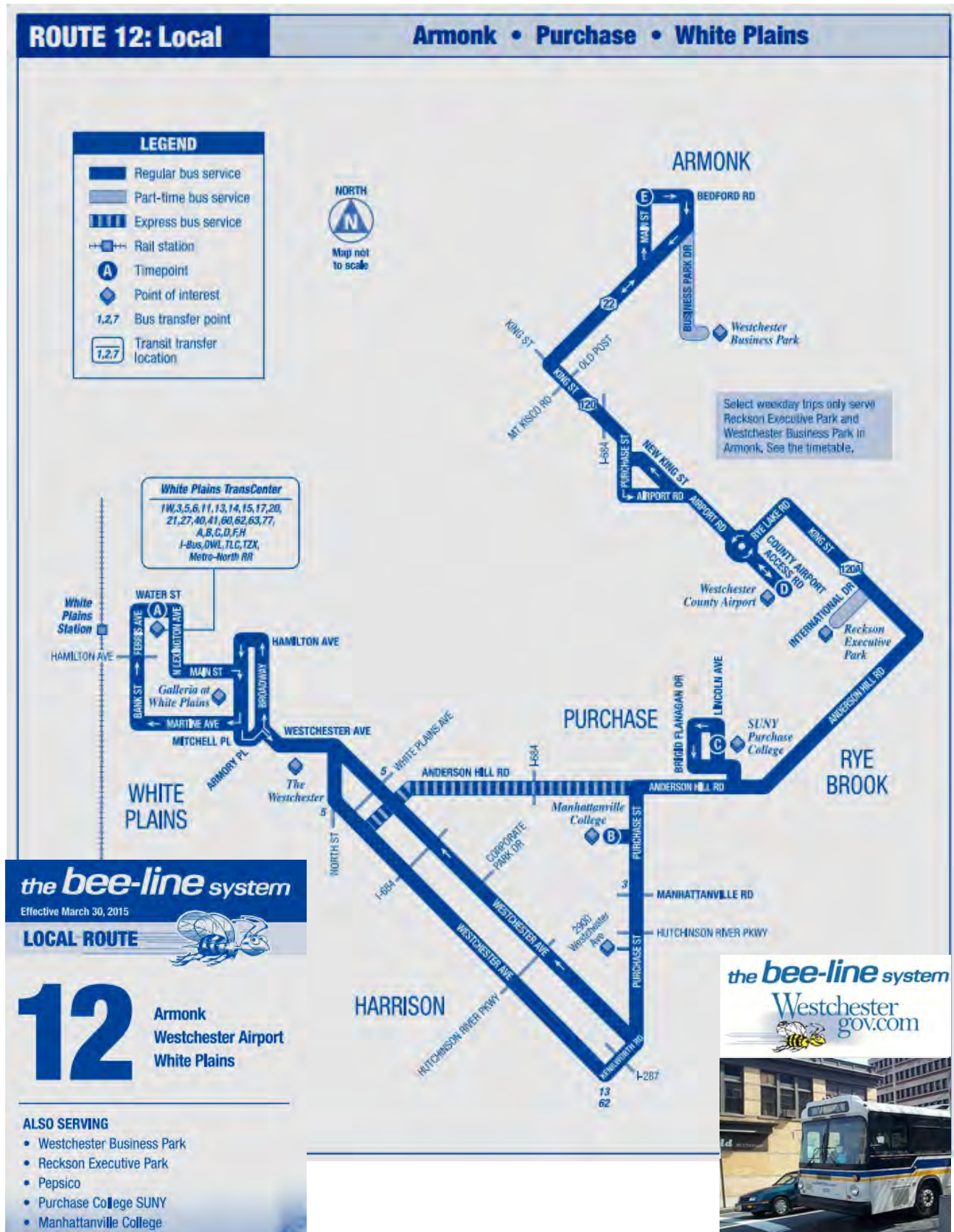




Figure 5-22. Bee-Line Buses



Photo source: Westchester County



www.cttransit.com/



www.leprechaunlines.com/

- \$15.50 Senior/Disabled

Unlimited Ride 30 Day (2015)

- \$116.50 Regular Fare
- \$58.25 Senior/Disabled

Additionally, paper transfers are available on all Bee-Line Bus Routes and MetroCard transfers are offered on pay-per-ride (within two hours of initial boarding) and 7 Day/30 Day Cards to all Bee-Line Buses and NYCT Bus and Subway Routes allowing easy and seamless connections. All Bee-Line Bus Routes operate seven days a week.

ParaTransit — For those persons unable to ride fixed-route Bee-Line buses, Bee-Line ParaTransit provides service in the Town of North Castle. This service, a result of the 1990 Americans with Disabilities Act (ADA), is “required to provide origin-to-destination, curb-to-curb, demand-responsive ParaTransit service that ‘mirrors’ fixed-route service in terms of service times and areas.” In order to use the service, prospective users must apply and be approved by the Westchester County Office of the Disabled. For additional information call (914) 995-2959.

ParaTransit requires advance reservation which can be made up to a week in advance, allowing Town residents to plan ahead. Service is provided throughout the Town from 6AM – 7PM Monday – Friday and 8AM to 7PM on Saturdays. For those residents living within $\frac{3}{4}$ mile of fixed lines (Routes 15 and 19) additional service is provided Monday – Friday from 7PM – 11PM, Saturdays 6AM – 8AM/7PM – 11PM and Sundays 8AM – 8PM. Holiday service is provided for residents within $\frac{3}{4}$ mile of fixed routes on New Year’s Day, Independence Day, Memorial Day and Labor Day. There is no Para-Transit service on Thanksgiving Day or Christmas Day.

The fare for ParaTransit is set at \$4.00 each way for trips. Companions are able to travel with riders for \$4.00; personal care attendants (if required for travel) and children under the age of five are able to travel for free.

B. Rail Transportation

There is no rail station located in the Town of North Castle. The Town has dedicated parking areas at the North White Plains Station located in the City of White Plains. The Town has a dedicated parking lot located on Fisher Lane in the Town of Greenburgh. Some residents may also use the Chappaqua Station that is located in the Town of New Castle. These stations provide an attractive option for residents looking to commute to work in New York City and intermediate points along the way:

For points outside of the region train service is available to residents via the Amtrak Station at Croton-Harmon or New Rochelle. Service is provided to Albany and Montreal to the North and New York City's Penn Station to the south with connections throughout the Northeast Corridor.

C. Bicycle, Pedestrian Trails

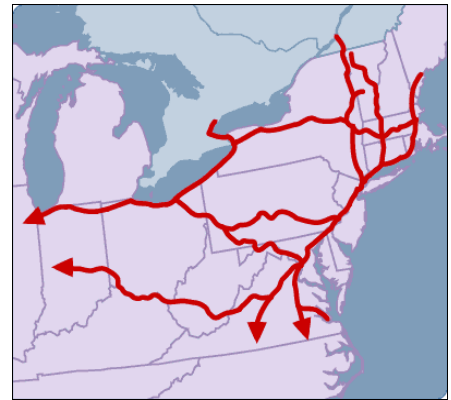
A segment of the Bronx River Parkway path, a paved multi-use County path traverses through a portion of North Castle in North White Plains. The trail is owned and operated by Westchester County. The trail currently is in three sections with the longest be 5 miles that runs from Kensico Dam Plaza to Greenacres Avenue in Hartsdale.

7.6 Westchester County Airport

Westchester County Airport is partially located in the Town of North Castle and is accessible via Route 120. The Airport is also located in the Town/Village of Harrison and Village of Rye Brook. The airport is owned by Westchester County and managed under a contract by AvPorts, a division of Aviation Facilities Company.

According to statistics from the Westchester County Department of Public Works and Transportation (WCDPWT), the airport averages 32,000 commercial flights each year with an average of 1.9 million annual passengers (arriving and departing). The airport also serves 70,000 corporate/charter operations and has 300 light aircraft based at the airport. WCDPWT also estimates that the airport generates 1,300 on-site full-time jobs and thousands of nearby jobs.

Map 7-18. Amtrak northeast



Source: [//www.amtrak.com/](http://www.amtrak.com/)

From the Airport's main terminal building and Hanger A, seven commercial airlines serve Westchester County and the region through sixteen non-stop destinations; see Figure 5-20. As per Chapter 712 of the Westchester County Charter, the Airport has a "Limited Terminal Use Agreement" that limits the terminal to serving 240 passengers per half hour and four aircraft at any time. Connections to other United States and worldwide destinations are available through seven hub airports.

As seen in Figure 7-19, the number of passengers at Westchester County Airport has almost doubled since 2000. With this increase, there has been an increase in scheduled commercial flights. The nature of Airport users has shifted from a mostly business-oriented passenger to a higher proportion of leisure traveler, particularly with significantly more flights to destinations in Florida.

Figure 7-20. Enplanement Statistics, Westchester County

Year	Enplanements	Percent Change
2000	507,145	NA
2001	456,296	-10%
2002	461,448	1%
2003	426,864	-7%
2004	462,981	8%
2005	462,256	0%
2006	511,559	11%
2007	823,478	61%
2008	904,482	10%
2009	964,927	7%
2010	999,831	4%

Source: FAA Passenger Boarding (Enplanement) and All-Cargo Data for [U.S. Airports CY 2000-2010](#)

Figure 7-21. Westchester County Airport Available Flights

Destination	Airline
Atlanta, GA (ATL)	AirTran**, Delta*
Charlotte, NC (CLT)	US Airways*
Chicago, IL (ORD)	American Airlines*, United*
Detroit, MI (DTW)	Delta*
Fort Lauderdale, FL (FLL)	JetBlue
Fort Myers, FL (RSW)	JetBlue
Lebanon, NH (LEB)	Cape Air
Martha's Vineyard, MA (MVY)	Cape Air
Nantucket, MA (ACK)	Cape Air
Nassua, Bahamas (NAS)	JetBlue
Orlando, FL (MCO)	AirTran, JetBlue
Tampa, FL (TPA)	JetBlue
Philadelphia, PA (PHL)	US Airways*
Washington, DC (IAD)	United*
Washington, DC (DCA)	US Airways*
West Palm Beach, FL (PBI)	AirTran, JetBlue

*Indicates connections possible via airline hub

**AirTran contract ending August 2012

Source: Westchester County Airport webpage, 11/23/2011



CHAPTER 8 PUBLIC FACILITIES

8.1 Overview

This chapter provides an overview of the various public facilities and services in the Town of North Castle, including public safety services, Town-owned properties and buildings, the recreation centers, the library and the public school systems serving the Town. Map 8.1 shows the public facilities and schools in North Castle. Unless otherwise noted, the information provided was adapted from the town's and school district's websites.

In addition to the Town offices located at 15 and 17 Bedford Road in the hamlet of Armonk, the library, fire districts and building and engineering and recreation departments operate at the locations noted below.

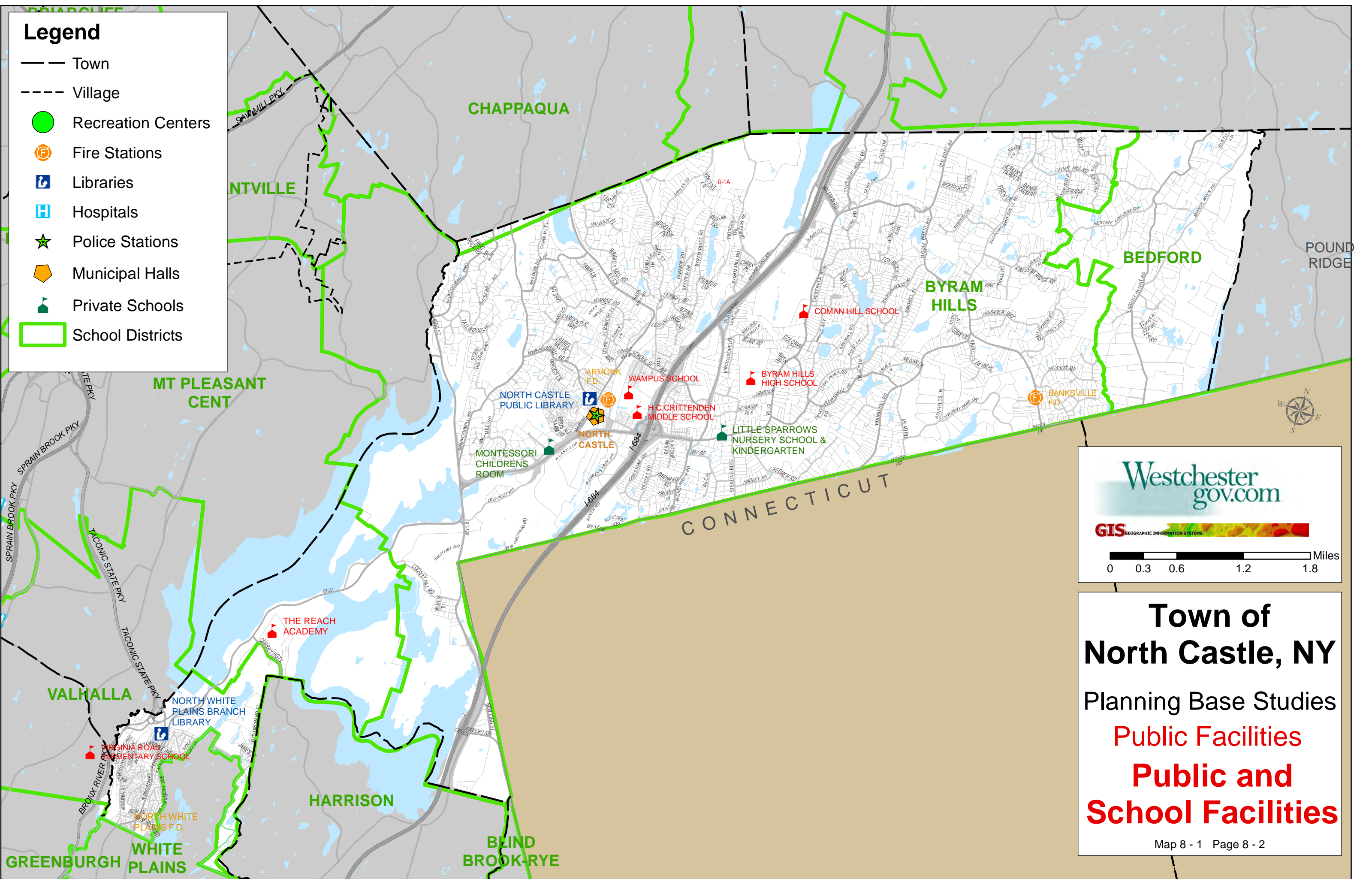
Figure 8-1. Town Hall



Source: Google Maps

Legend

- Town
- - - Village
- Recreation Centers
- 🚒 Fire Stations
- 📖 Libraries
- 🏥 Hospitals
- ★ Police Stations
- 🏛 Municipal Halls
- 🎓 Private Schools
- ▭ School Districts



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GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.3 0.6 1.2 1.8 Miles

**Town of
North Castle, NY**

Planning Base Studies

Public Facilities

**Public and
School Facilities**

Map 8 - 1 Page 8 - 2

8.2 Municipal Facilities

A. Fire Department

Fire protection in the Town is mainly provided by three fire companies: Armonk Independent Fire Company, Banksville Independent Fire Company, and the North White Plains Fire Company No. 1.

The Armonk Fire Department is located at 400 Bedford Road in Armonk, and includes Armonk and Banksville within its service area. The Armonk Fire Department began in April 1930 by William Taylor, Harry Williams and Harry Jackson with its first emergencies consisting primarily of brush fires.

The department is fully staffed by volunteers with about sixty volunteer fire response members, and twenty-two emergency medical technicians. The department responds to a wide variety of emergencies, including vehicular accidents, brush fires, building fires and emergencies, HAZMAT, search and rescue, ice rescue, and responses to Weapons of Mass Destruction (WMD). Source: north-castleny.com

The Banksville Independent Fire Department (BIFD) is located at 33 Bedford-Banksville Road in Bedford. It was founded in 1949 along the border of New York and Connecticut, in the hamlet of Banksville. BIFD is a stellar example of purely shared services across municipal and state boundaries. The Fire Department is fully staffed by volunteers provided fire and rescue services, as well as



Figure 8-2. Armonk Fire Department

Source: Armonk Fire Department (www.armonkfd.com)



Figure 8-3. 1932 Chevy Fire Truck

Source: Armonk Fire Department (www.armonkfd.com)



Figure 8-4. Banksville Fire Truck

Source: www.banksvillefire.org

emergency medical services. With a modest start in 1949, the Banksville Fire Department began with a few men who volunteered and purchased the first fire truck, a second hand 1926 American LaFrance for \$318. Source: banksvillefire.org

The North White Plains Fire Department is located at 621 North Broadway in North White Plains. It was founded in 1912 and the Fire Company is all volunteers from local towns. The Department responds to calls for fires, motor vehicle accidents, and emergency medical assists. It is also actively involved in fire and emergency response training. Source: ncsfd1.com

Ambulance Services

The Armonk Independent Fire Company provides ambulance services for Armonk and Banksville. The Valhalla Ambulance Corps., Inc. provides ambulance services for North White Plains.

B. Police Department

The North Castle Police Department is a New York State Accredited Law Enforcement Agency. It provides several programs such as the Accident Investigation Unit, Bike Unit, Child Safety Seat Program and Emergency Service Unit. The Police Department is located at 15 Bedford Road in Armonk.

C. Library

The North Castle Public Library has two locations: the main library located at 19 Whippoorwill Road East in Armonk and another library branch located at the Town's Community Center at Clove Road Park in North White Plains. The Whippoorwill Theater is located next to the library in Armonk.



Figure 8-5.
North Castle
Public Library
Source: Google Maps

D. Building and Engineering Department

The Building and Engineering Department is located at 17 Bedford Road in Armonk.

E. Recreation and Parks Department

The Recreation and Parks Department maintains parks for use by Town residents. Its offices are located at the Hergenhan Recreation Center at 40 Maple Avenue in Armonk. It has a staff of 13 employees.

Town owned parks include a variety of recreational facilities including playgrounds, baseball fields, basketball courts, gazebos, picnic pavilion areas and tennis courts. Many of the facilities are available to rent for private events. (www.northcastleny.org)

The Town's Community Center, located at 10 Clove Road in White Plains, has pre-school, youth, adult and senior programs for Town residents. Further information on the Town's recreation and open space resources are found in *Chapter 5. Recreation and Open Space*

8.3 Schools

Most of the area of North Castle is included in the Byram Hills Central School District, which includes four schools. Portions of the Town are also included in adjacent school districts (Mount Pleasant, Valhalla and Bedford) but none of those school districts' facilities are located within the Town's boundaries. The school district boundary lines are shown on Map 8-1. Much of the southwestern portion of the Town is within the Mount Pleasant and Valhalla School Districts.

Byram Hills Central School District

Over 2,600 students attend the two elementary schools, one middle



Figure 8-6. Byram Hills High School

<http://www.byramhills.org/schools.cfm>



Figure 8-7. HC Crittenden Middle School

<http://www.byramhills.org/schools.cfm>



Source: <http://www.northcastleny.com>



Figure 8-8. Coman Hill Elementary School

<http://www.byramhills.org/>



Figure 8-9. Wampus Elementary School

<http://www.byramhills.org/>

school and one high school in the Byram Hills School District. Each school within the district includes recreational facilities. Many include substantial areas of open space. These are discussed more fully in Chapter 5.

- **Byram Hills High School** is located on 12 Tripp Lane in Armonk. It has 875 students in grades 9-12.
- **H.C. Crittenden Middle School** is located at 10 MacDonald Avenue in Armonk. It has 588 students in grades 6-8.
- **Wampus Elementary School** is located at 41 Wampus Avenue in Armonk. It has 518 students in grades 3-5.
- **Coman Hill Elementary School** is located at 558 Bedford Road in Armonk. It has 487 students in grades K-2.
- **Greenburgh North Castle Union Free School District (GNC UFSD)**

The GNC UFSD is an approved New York State public school district. It is comprised of four alternative junior/high schools educating students in grades 7-12 and ages 12-21. The following are the schools and their locations: Greenburgh Academy (Yonkers), Kenneth B. Clark Academy (Dobbs Ferry), Kaplan Career Academy (New Windsor) and REACH Academy (West Harrison).

Figure 8-10. Byram Hills Central School District: Enrollment, Revenues and Spending for 2013-14 School Year

Enrollment	2,644 students (0.1% decrease from 2012)
Total Revenue	\$84,016,000 (4.6% increase from 2012)
Revenue from Federal Sources	\$796,000 (0.9% of total revenue)
Revenue from NYS Sources	\$6,635,000 (7.9% of total revenue)
Revenue from Local Sources	\$76,585,000 (91.2% of total revenue)
Expenditures	\$76,275,000
Per Pupil Local Revenue	\$28,966
Per Pupil Total Revenue	\$31,776
Per Pupil Total Current Spending	\$27,053

Source: 2013 Survey of School System Finances Tables, U. S. Census; Prepared by the Westchester County Department of Planning

GNC UFSD educates students who have found little success in their school districts, BOCES and/or private schools. The focus of each Academy is to provide a highly individualized education that prepares students for the next best opportunity; may it be return to their home school district or graduation from one of the Academies, including transition to college, career and technical school, the military, supportive employment and/or competitive employment.

REACH Academy provides state-of-the-art education to students on the spectrum, as well as students who are dually diagnosed. Whereas Greenburgh Academy, Kaplan Career Academy and Kenneth B. Clark Academy educate students who have learning and behavioral challenges. All four Academies offer IEP based related services that include speech, counseling, occupational therapy and specialized reading support. Additionally, interscholastic athletics, intramural athletics and clubs are offered in each Academy.

Greenburgh Academy only enrolls students who commute daily whereas the other three Academies enroll students who commute and/or board. St. Christopher's Inc. provides the residential programming for each of the three aforementioned Academies. The education program for each student is well integrated with the residential program. For more information regarding St. Christopher's, Inc. and the residential program please see their website (<http://stchristophersinc.org/>).

GNC UFSD has documented an 80% graduation rate over the past four years with over 40% of our graduates attending college. The key to our students' success has been an integrative approach to education that emphasizes academics, social skills, ethics and careers. As of the 2015-16 school year the four Academies will place a greater focus on Career Development and Occupational Skills (CDOS). The following career areas are being considered and expanded: culinary arts, cosmetology, business, driver's education, art and music. For referral information please contact Dr. Robin Levine at 914-798-7200 ext.2232 regarding day placement and for residential placement please contact either Jill Bergner, Director of Intake, at 914-693-3030 ext. 2037 or Karen Safris, Supervisor of Intake, at 914-949-0665 ext. 2301.

CHAPTER 9 INFRASTRUCTURE AND UTILITIES

9.1 Water Supply

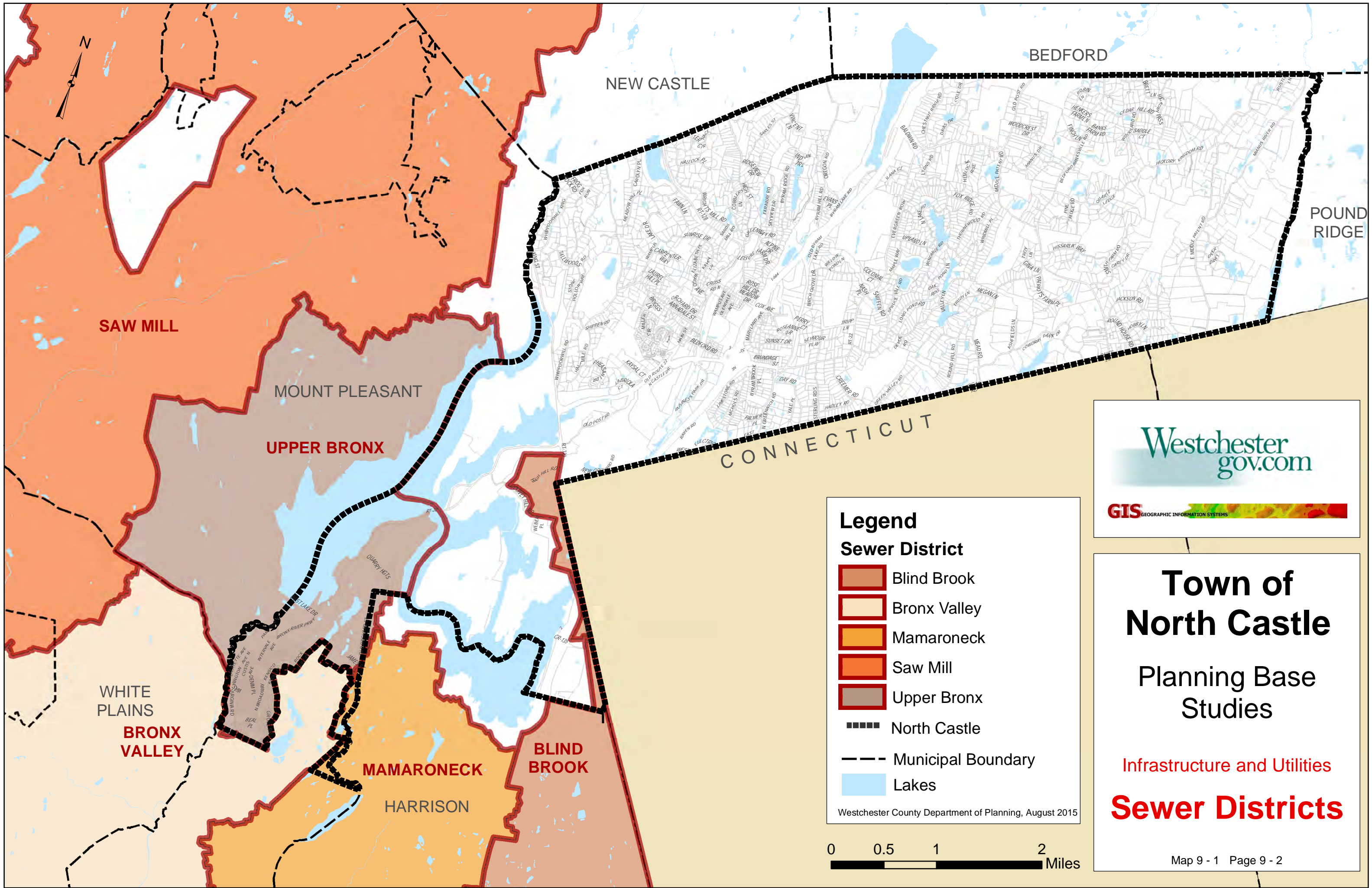
There are five local municipal water districts throughout the Town of North Castle. Residents in these districts receive water predominantly through aquifer and groundwater sources. According to the Town website, 90% of the residents in North Castle receive water from drilled wells. In local Water District 1, a portion of the water comes from County Water District 1 which gets water from the New York City Water Supply. (Source: North Castle website). The Town is currently considering plans to increase the drinking water supply in Armonk. For more information about the Town's water districts and to find copies of the Town's annual water quality reports, go to <http://www.northcastleny.com/water-sewer>.

A small portion of the southern section of the Town is provided water by Westchester Joint Water Works. The Jennie Clarkson Home has a private water supply. The rest of the Town receives water from private underground drinking water wells (Source: Westchester County Department of Planning). See map of Major Water Suppliers in Appendix 9-1.

9.2 Sewer Districts

There are five local municipal sewer districts in the Town. The southeastern portion of the Town is in the County's Blind Brook Sewer District and the southwestern portion of the Town is in the County's Upper Bronx Sewer District and Mamaroneck Sewer District (See Maps 9-1 and 9-2). Sewage in the Blind Brook Sewer District is treated at the Blind Brook Wastewater Treatment Plant. Sewage in the Upper Bronx Sewer District is treated at the Yonkers Wastewater Treatment Plant. Sewage in the Mamaroneck Sewer District is treated at the Mamaroneck Sewage Treatment Plant. Other areas of the Town are served by private wastewater treatment plants and septic systems. (See Chapter 4 Natural Resources for more information about septic systems). Map 9-3 shows the sanitary waste disposal methods in the Town.

The Town created a Sewer Task Force in 2008 to evaluate ways to increase sewage treatment capacity at the North Castle Sewer District No. 2 Wastewater Treatment Plant. See the Appendix for the "Sewer Capacity Study for Sewer District No. 2" which provides



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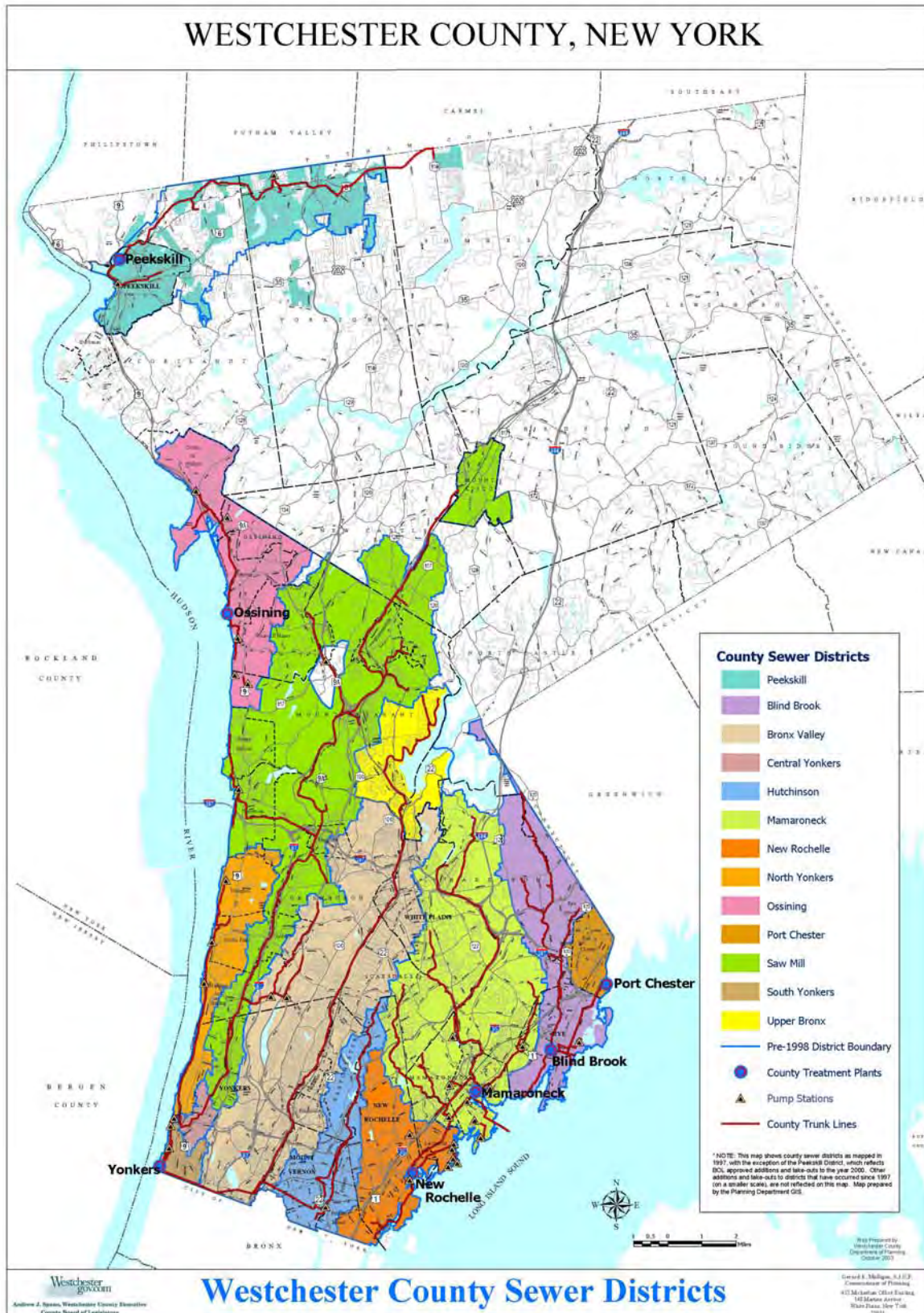
**Town of
North Castle**

Planning Base
Studies

Infrastructure and Utilities

Sewer Districts

Map 9 - 1 Page 9 - 2

Map 9-2. Westchester County Sewer Districts



more information on study recommendations to increase sewage treatment capacity in the Town.

The areas of North Castle that are within in the New York City Watershed are subject to heightened New York State Municipal Separate Storm Sewer System Stormwater Regulations and heightened wastewater regulations under the New York City Water Supply Rules and Regulations (see Chapter 4 Natural Resources for more information on these regulations).

9.3 Electric, Gas and Heating Fuels

Buildings in Westchester County are heated by a variety fuel sources including gas, fuel oil and electricity. According to the Census Bureau, gas is the most common form of heating fuel for homes in Westchester County (see Figure 9-1).

Consolidated Edison (ConEd) provides electric power and natural gas to households and businesses in North Castle. Privately purchased fuel oil is generally delivered by trucks and the fuel is stored in above or below ground tanks. The Westchester County Health Department regulates in-ground petroleum tanks with capacities greater than 110 gallons. This includes most home heating oil tanks which are over 200 gallons in size.

Sustainable North Castle

The Town of North Castle's Sustainable North Castle Committee

Figure 9-1. Home Heating Fuel Use, Occupied Housing Units, Westchester County

Fuel Source	Estimate	Margin of Error	Percentage
Utility gas	152,882	+/-1,907	44.5%
Bottled, tank, or LP gas	5,462	+/-417	1.6%
Electricity	31,448	+/-1,057	9.2%
Fuel oil, kerosene, etc.	149,438	+/-1,964	43.5%
Coal or coke	449	+/-151	0.1%
Wood	1,154	+/-251	0.3%
Solar energy	52	+/-48	0.0%
Other fuel	1,726	+/-256	0.5%
No fuel used	950	+/-194	0.3%
Total:	343,561	+/-1,388	100.0%

Source: U.S. Census Bureau, American Community Survey 2009-2013. Prepared by the Westchester County Department of Planning

ConEd Business Incentives

ConEd's economic development specialists work closely with state, County and local economic development organizations to provide assistance to companies seeking to start up, expand or relocate within Westchester. Known as "Team Westchester," representatives will meet with firms and provide information on how businesses can benefit from state and local economic development programs and will help individual companies in locating sites that meet their specific needs.

ConEd's Business Incentive Rate offers reductions of up to 25 percent on electricity. It is a 15-year program with 10 years at full benefits and an additional five years at a declining discount. The Business Incentive Rate is available to businesses that are receiving a comprehensive package of economic development incentives from state, County or local government agencies. This can include development financing, workforce skills training and transportation services. The rate also is available to businesses who occupy new or vacant buildings that are receiving substantial real property tax incentives of at least five years duration. For additional information call ConEd's Northern Region at (914) 925-6030 or visit [ConEdison's web site](#).

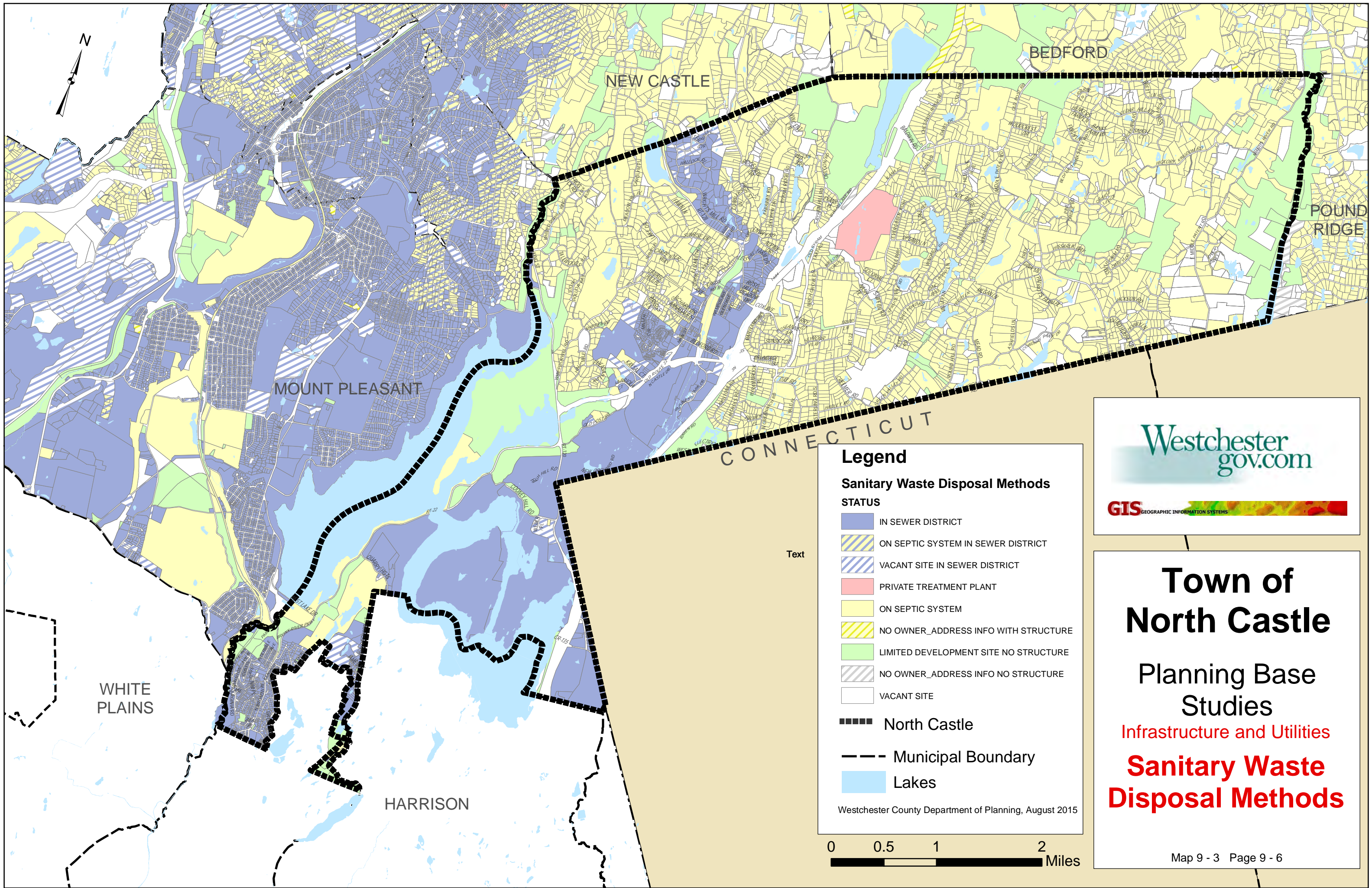
works with residents to support and promote sustainability in the Town. This committee has developed educational videos, a plastic bag initiative, Zero Waste Days, composting demonstrations and energy efficiency seminars. The Committee started "Energize North Castle," a program that provides residents with the tools to conduct home energy assessments. (Source: website)

Renewable Energy

Several parcels in the Town may be good locations for new solar power installations. Approximately 1,083 acres of the Town are south facing and may be appropriate for such installations (see Appendix for map of south facing topography). Each site would need further analysis to determine the feasibility for solar energy installations. For more information about solar energy technologies, [click here](#).

New York State Department of Environmental Conservation (NYS DEC) and New York State Energy Research and Development Authority (NYSERDA) promote the use of renewable energy sources throughout New York. To learn more about their business incentives for renewable energy, go to:

- [NYS DEC Renewable Energy](#) webpage
- [NYSERDA](#) webpage



Legend

Sanitary Waste Disposal Methods

STATUS

- IN SEWER DISTRICT
- ON SEPTIC SYSTEM IN SEWER DISTRICT
- VACANT SITE IN SEWER DISTRICT
- PRIVATE TREATMENT PLANT
- ON SEPTIC SYSTEM
- NO OWNER_ADDRESS INFO WITH STRUCTURE
- LIMITED DEVELOPMENT SITE NO STRUCTURE
- NO OWNER_ADDRESS INFO NO STRUCTURE
- VACANT SITE

- North Castle
- Municipal Boundary
- Lakes

Westchester County Department of Planning, August 2015



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GIS GEOGRAPHIC INFORMATION SYSTEMS

**Town of
North Castle**

**Planning Base
Studies**

Infrastructure and Utilities

**Sanitary Waste
Disposal Methods**

CHAPTER 10 COMMERCIAL DEVELOPMENT

10.1 Existing Conditions

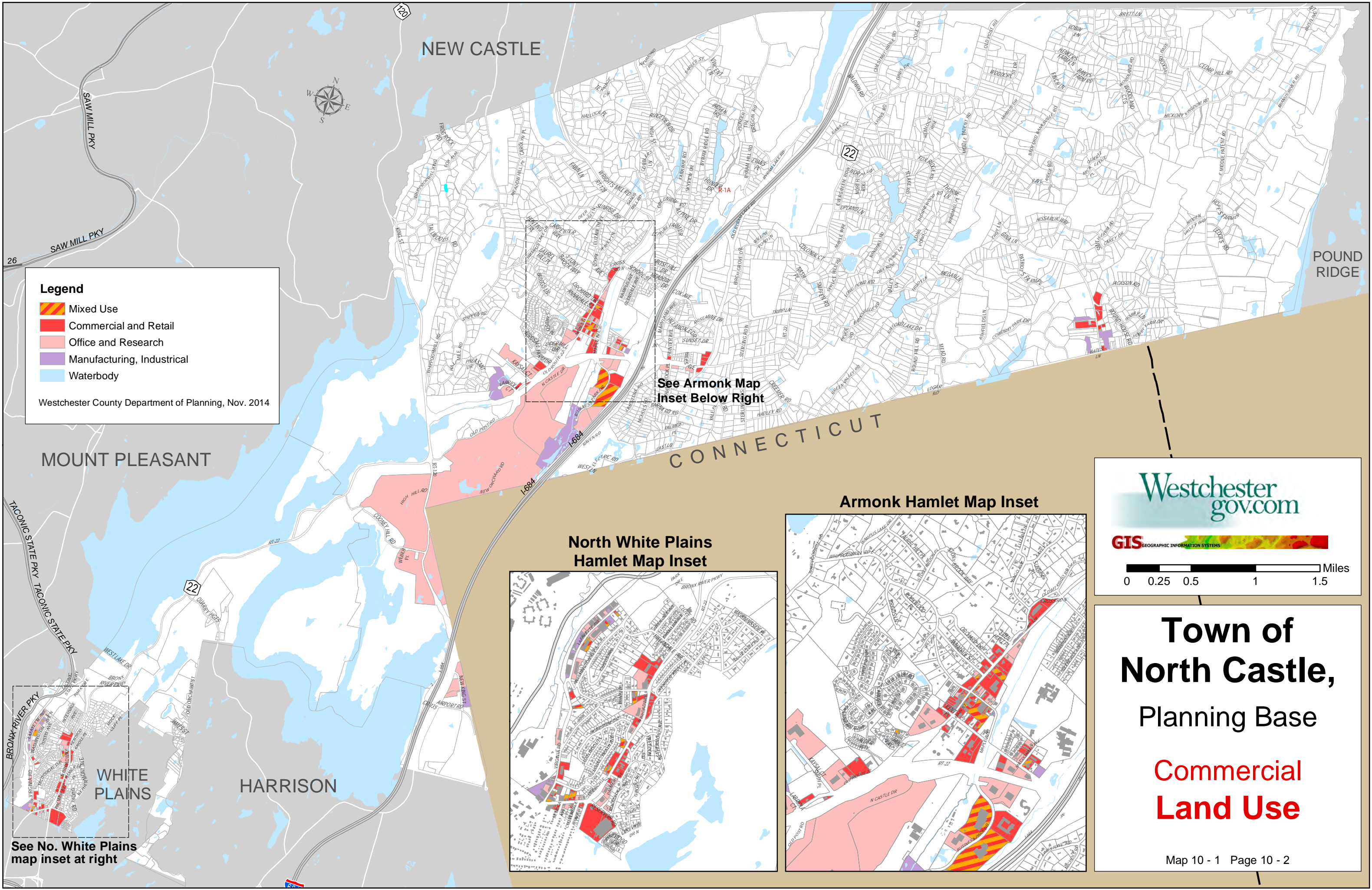
Commercial development in North Castle is largely comprised of office, retail and light industrial uses. As discussed in Chapter 12, office and research uses comprise approximately 614 acres, retail uses comprise approximately 70 acres and manufacturing, industrial and warehousing account for 75 acres within the Town. Much of the commercial development in Town is concentrated in and around the three hamlets—Armonk, North White Plains and Banksville. The main exception would be the large areas of office campuses south of Armonk.

Armonk's downtown business district is the most walkable of the commercial areas with a tightly woven mix of small commercial uses—retail shops, restaurants, offices— along several streets. The newly built Armonk Square development includes a supermarket, boutique shops, restaurants, offices and residences. Less walkable commercial areas, but having a wide mix of uses, stretch from Armonk along Old Route 22 to the west of the hamlet, along Route 128 to the north and on Route 22 just east of I-684. A mix of commercial uses are also located along Business Park Drive, south of Armonk near the intersection of Route 22 and I-684.

Commercial uses in North White Plains, along Route 22, Virginia Road and Lafayette Avenue, are more car-accessible than pedestrian oriented. The past decades have seen the Town and local property owners working towards connecting many of the commercial uses with sidewalks. Nearby higher density residential neighborhoods surrounding the commercial corridors are being given better access to and within these business areas. North White Plains is home to some of the Town's only "traditional" suburban strip malls and

Figure 10-1.
Lafayette Avenue,
North White Plains
Source: Bing Maps

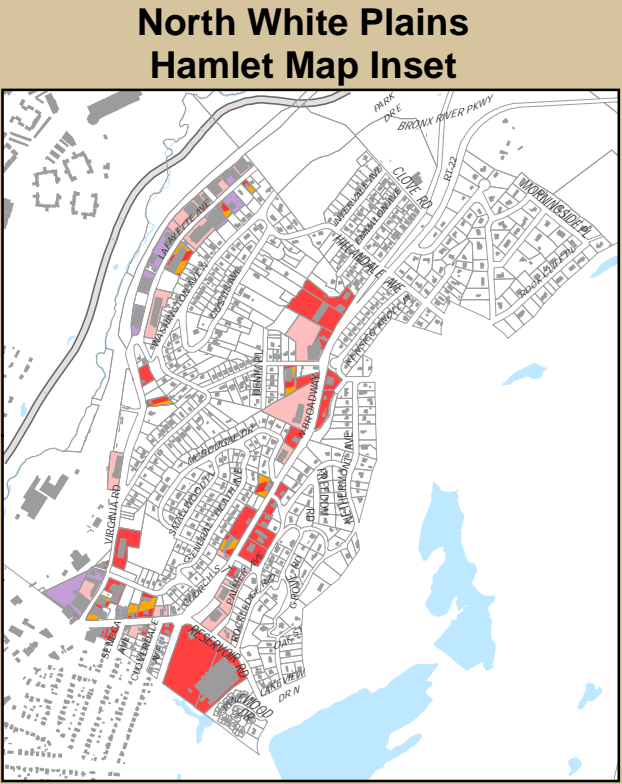




Legend

- Mixed Use
- Commercial and Retail
- Office and Research
- Manufacturing, Industrial
- Waterbody

Westchester County Department of Planning, Nov. 2014



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GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.25 0.5 1 1.5 Miles

**Town of
North Castle,**
Planning Base

**Commercial
Land Use**

Map 10 - 1 Page 10 - 2

**See No. White Plains
map inset at right**

shopping centers (for example the Sir John's Plaza and the Stop & Shop Plaza). Lafayette Avenue has a high concentration of small light-industrial, office, auto-oriented businesses. Virginia Road and the areas adjacent to the Metro-North rail facilities includes substantial industrial, light industrial and a mix of commercial facilities.

Banksville's commercial area reflects the lower density areas of the eastern part of Town and adjacent Greenwich and Stamford, CT, including a smaller and less dense area of commercial activity with a variety of commercial uses. Shops, restaurants and manufacturing, industrial and warehouse-type uses are centered in the hamlet.

A. Office Land Use

The largest commercial land use in the Town is shown on the Land Use Map in Chapter 12 as Office and Research, with 614 acres (3.7% of the Town's land use). Benefitting from proximity to the Westchester County Airport and I-684, the largest concentration of office and research facilities are in several contiguous large parcels south of Armonk along Routes 22 and 120. The largest include several IBM office campus facilities, having access from both Routes 22 and 120. Stretching south toward Westchester County Airport are other large office campuses currently occupied by Swiss Re Life and Health America, Citi Group Armonk Conference Center and MBIA. MBIA has sold the property and Airport Campus LLC has purchased the property. The property is currently vacant. Each of these campuses include large open space areas and parking areas. Some include a variety of uses accessory to the office facilities, such as on-site day care, recreation and food service facilities.

Several of the parcels along Business Park Drive south of downtown Armonk and in the area of Old Route 22 just west of downtown Armonk include office and research among a mix of retail and manufacturing, industrial and warehousing uses. Smaller office and research buildings are found just north of the County Airport along New King Street, along Bedford Road in downtown Armonk and along the several commercial corridors of North White Plains. A 1,000 space airport parking garage is proposed on New King Street.

B. Retail Land Use

The land use designation of Commercial and Retail encompasses 70 acres of land in the Town, according the Land Use Map in Chapter 12. A wide variety of establishments are included in such a designation—restaurants, retail shops, gas stations, hotels, health clubs, supermarkets, etc. As mentioned above, retail land uses are concentrated in the three hamlet areas of Armonk, North White Plains and

Figure 10-2.
New King Street, North of
Westchester County Airport
Source: Bing Maps

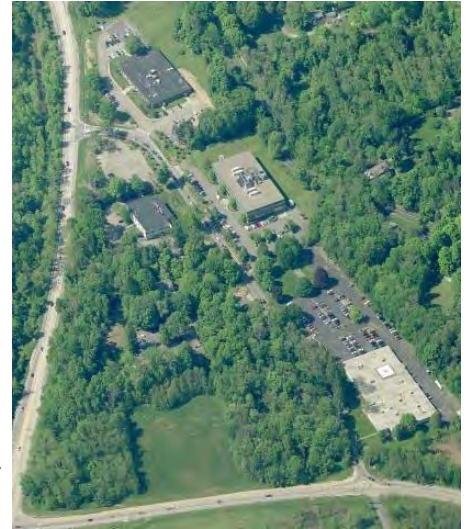


Figure 10-3. Major Employer List for North Castle, 2015

Company Name	Location Employee Size
IBM Corp	850
Byram Hills Central School District	465
Breezemont Day Camp Inc	267
Mariani Gardens	250
Benfield Electric Supply Co	185
Super Stop & Shop	151
Boces Transportation	150
CARQUEST Auto Parts	150
Cine Magnetix Inc	150
Production Resource Group LLC	150
Safe Flight Instrument Corp	143
Diebold Inc	101
Alfredo Landscape & Devmnt Crp	100
Grand Lux Realty Inc	100
Swiss Re	100
Heraeus Kulzer Inc	91
Wallauer Paint & Decorating	85
CMI Pro Color Inc	70
LA Quinta Inn-Armonk	70
Citibank	64
Brynwood Golf & Country Club	60
Contego Systems	60
Michael Bellantoni Landscape	60
BOCES	51
Armonk Limousine & Car Svc Inc	50
CHEEZWHSE.COM	50
Future Stars Camps	50
Houlihan Lawrence Inc	50
National Lawn Sprinklers Inc	50
Whippoorwill Club	50

Source: InfoUSA 2015

Banksville. Except for the Stop and Shop shopping center and Sir John's Plaza in North White Plains, the Town is mostly without any strip shopping centers or malls. North White Plains' retail uses exist mostly in unconnected and separate buildings along Route 22. Downtown Armonk has the Town's best walkable retail area with a variety of shops and restaurants, most recently enhanced with the new Armonk Square development on Main Street. Banksville's several commercial and retail properties serve the eastern portion of Town and include such uses as a restaurant, deli, a small food and beverage market, a nursery and animal hospital.

Thirty acres of land in North Castle have been identified as Mixed Use. Traditionally, mixed uses often include a residential component. Several larger parcels along Business Park Drive in Armonk, however, are considered Mixed Use but don't include residential uses. Their mixed use status results more from the properties' mix of office, retail or light industrial. The Armonk Square development in downtown Armonk is mixed use due to the mix of retail, office and residential components at the site.

C. Manufacturing, Industrial and Warehousing

There are 75 acres (to be finalized— add Byram Concrete and Gold Service Movers on Virginia Road in NWP) of land categorized as Manufacturing, Industrial and Warehousing. In the Armonk area several of these properties are located on Labriola Court just east of downtown and on Business Park Drive. Warehouse uses at these sites take advantage of the easy highway access of I-684 and Route 22. The other concentration of manufacturing, industrial and warehousing uses is along Lafayette Avenue and Virginia Road in North White Plains. The Byram Concrete facility on Virginia Road is a highly active industrial site adjacent to the Metro-North rail yard facilities.

D. Major Employers

Much of the employment in North Castle involves either white-collar jobs requiring at least some college education or lower paying service industry jobs. According to U.S. Census statistics, in 2013, of the 8,359 workers in the Town, at least 63% of had attained a level of education above the high school level. The variety of jobs in North Castle include finance and insurance (15.5%), management of companies and enterprises (10.7%), professional, scientific and technical services (7.9%), educational services (7.4%), transportation and warehousing (7%), construction (6.5%). Wholesale trade makes up 6.4% and retail trade is 5.1% of jobs in the Town.

Figure 10-4.
Business Park Drive, Armonk
Source: Bing Maps



Figure 10-5.
IBM Campus, Armonk
Source: Bing Maps



Figure 10.3 includes a list of the Town's major employers as of 2015. Many of the office, professional and support service jobs are located in the various office parks in Armonk, including the IBM facility campus. Most retail jobs are clustered in the hamlets of North White Plains and Armonk. Most educational jobs are located at the various public and private schools.

E. Spatial Relationship of Jobs to Residency

2010 Census data and 2013 Longitudinal Employer-Household Dynamics (LEHD) have allowed for a more recent snapshot of employment by industry and where people live in relationship to their jobs. This data is included in tabular form in Appendix 10-1.

According to LEHD data, there are 8,539 jobs within the town. There are 4,399 residents who have jobs, which represents a net inflow of jobs given that the number of jobs in the town is higher than the number of residents who have jobs. However, of the 4,399 residents with jobs, only 521 (11.8%) live and work within the town. The remaining 3,878 resident workers commute elsewhere. This also means that 7,838 workers come in to the town from elsewhere to work.

a. Out-Commutation

As mentioned above, of the 4,399 residents with jobs, only 521 (11.8%) live and work within the town. The rest likely commute to other places for work. The overwhelming majority of North Castle working residents commute to other places in Westchester (45.5%), Manhattan (24.1%) or Fairfield County (10.5%). All other New York Metro region counties receive approximately 2.6% or less of the North Castle resident work force.

Within Westchester, the out-commutation is spread among several county municipalities: White Plains (6.4%), Yonkers (2.7%), Harrison (2.2%) and Mount Kisco (2.1%).

b. In-Commutation

Of the 8,539 workers in North Castle, only 521 (6%) live in the town as well. The rest must commute from other places for work. Westchester County residents make up 44% of the workers in North Castle. The remainder come from communities scattered amongst the various metro-area counties in relatively low quantities: Fairfield County, CT (11.9%), Putnam (5.3%), Dutchess (4.4%), the Bronx (4.2%), Rockland (3.2%), Manhattan (3.2%), Nassau (3%), Suffolk (2.9%) and Queens (2.8%).

Within Westchester, the in-commutation is also spread among several county municipalities: White Plains (4.2%), Yonkers (3.9%), Mt. Vernon (1.8%), Harrison (1.7%), Port Chester (1.3%) and New Rochelle (1.3%).



Figure 10-6.
Armonk Square
Source: Chappaqua on Twit-

CHAPTER 11. RESIDENTIAL DEVELOPMENT

11.1 Existing Residential Development

Residential uses make up the largest land use in the Town of North Castle. According to the U.S. Census' American Community Survey (2009-2013), there were 4,031 housing units in the Town of North Castle. By far, single family residences make up most of the residential development in the Town. The American Community Survey estimates that 89.5% of housing units are contained in single-family homes, another 6.2% are in two-family homes, while 4.3% of the Town's housing units are in multifamily structures.



11.2 Residential Growth and Occupancy

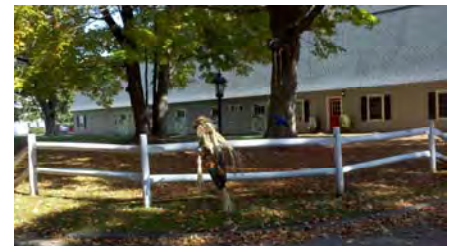
As with many communities in the New York City metropolitan region, periods of unprecedented suburban growth occurred following World War II. More than half of the Town's current residences were constructed prior to 1970, with over 22% of residences constructed before 1949. The 1960's saw 886 units built, the 1970's 413, the 1980's 412, the 1990's 489 and 2000-2009 saw 356 units built in the Town according to the US Census Bureau American Community Survey data.



As shown in Figure 11-1, much of the recent residential development in the Town has been in the form of single-family homes. Between 1996 and 2014, 84% of the 704 new residential building permits reported to be issued in the Town were for single-family homes, according to the U.S. Census' Building Permits Survey and the Town of North Castle.



According to the 2010 U.S. Census' American Community Survey (2009-2013), of the total 4,031 housing units in the Town, 3,769 were occupied and 262 were vacant.



11.3 Zip Code Boundaries

The Residential Development, Land Use and Zip Codes map, shown in Map 11-1, shows residential land uses in the Town as well as the Town's postal Zip Code boundaries. The North White Plains area of Town has a White Plains Zip Code while much of the Town's Eastern District, including Banksville, has a Bedford Zip Code.

Source: Westchester County Department of Planning

Figure 11-1. Residential Building Permits 1996-2015 Building Permits by Units in Structure, Town of North Castle

Year	Single-Family	Two-Family	Multi-Family	Total
1996	36	0	0	36
1997	47	2	0	49
1998	70	0	0	70
1999	113	0	0	113
2000	84	2	0	86
2001	46	4	24	74
2002	N/A	N/A	N/A	N/A
2003	49	8	35	92
2004	32	4	36	72
2005	23	0	0	23
2006*	14	0	0	14
2007	12	0	0	12
2008	8	0	0	8
2009	10	0	0	10
2010	1	0	0	1
2011	12	0	0	12
2012	14	0	0	14
2013	7	0	0	7
2014	11	0	0	11
2015*	14	0	10	24
Totals	603	20	105	728
Percentage	82.8%	2.7%	14.4%	100.0%

Source: US Census Bureau Building Permits Survey. * Source: Town of North Castle.
Note: Town of North Castle did not report building permits in 2002.

11.4 Types of Housing

A. Single-Family Housing

As discussed further in Chapter 12, Land use and Current Zoning, there are eight single family residential zones in the Town. The single-family residential zones are primarily defined by the required minimum lot size of the property and range from a minimum size of 5,000 s.f. up to four acre minimum lot size.

Approximately 7,085 acres, or 42% of the Town land area is used as single-family residential.

The Town of North Castle allows accessory apartments within single family homes. The Town code details how and where these apartments are permitted on single family properties. The regulations help encourage the legal creation of housing units for a variety of households in need of smaller dwellings. Requirements on size, location, utilities, parking and review process are detailed in the code. There are currently approximately 60 permitted accessory apartments within the Town .

Figure 11-2. Single Family Housing in North Castle



Center hall and side hall colonials (pre and post 1930s)



Bungalow (1900-30s)



Craftsman (1920-40s)



Cape Cod (mid 1940-60s)



Ranch and raised ranches



Split level (1960-70s)



Contemporary (early 1980s)



Colonial replications (1980-90s)



“McMansions” of 4,500 – 10,000 square feet (1990s - present day)

B. Two-Family and Multi-Family Housing

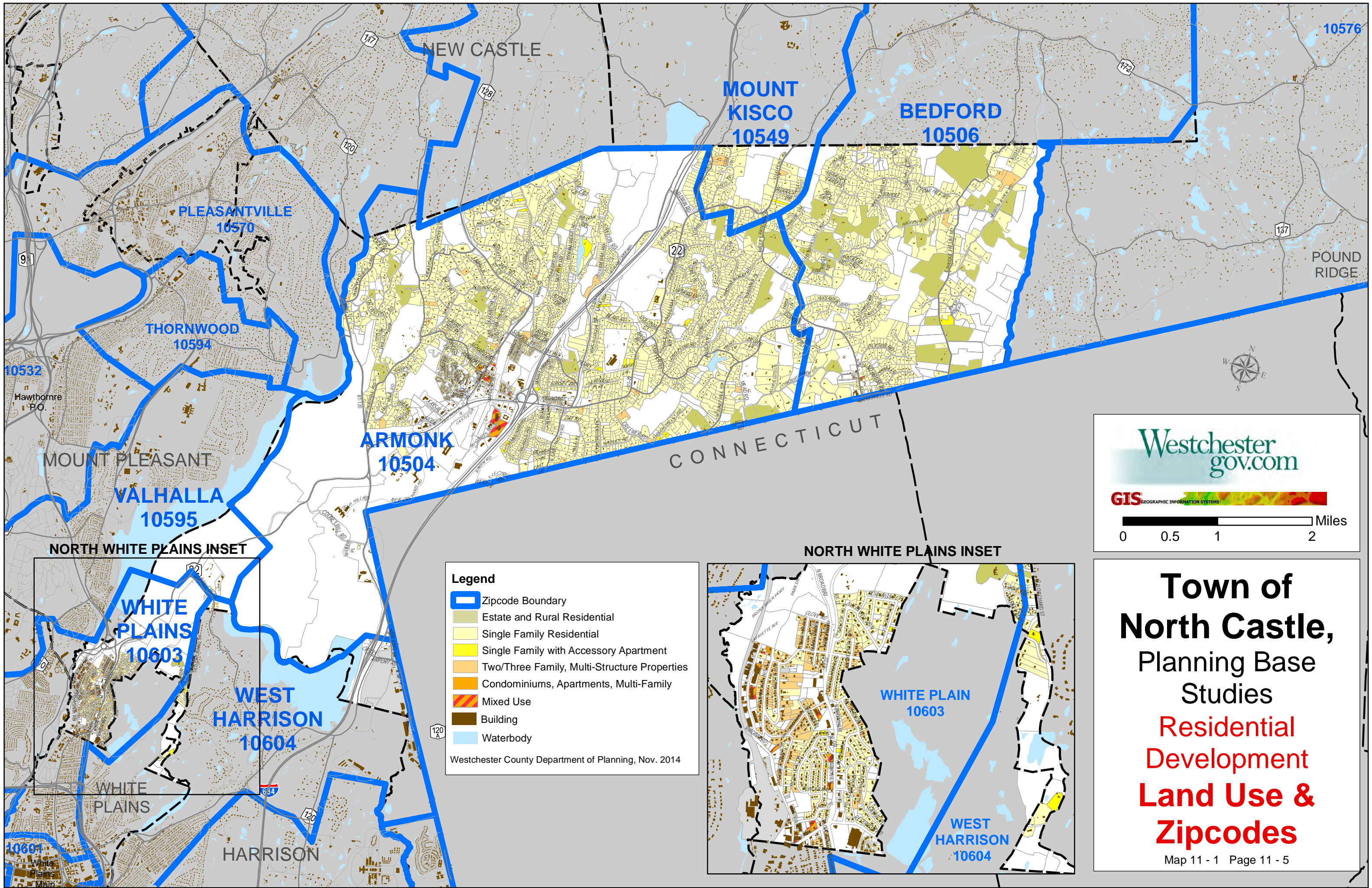
Two-family and multi-family uses account for approximately 156 acres in the Town. The Town's only two-family district requires a minimum lot size of 5,000 s.f. The Town's four multifamily districts limit density to one density unit per 25,000 s.f. in the R-MF District and one density unit per 14,000 s.f. in the R-MF-A District. Density in the R-MF-SCH District is limited within a Floor Area Ratio range of between 0.15 to 0.4. The R-MF-SS District has a maximum Floor Area Ratio of 0.9.

Figure 11-3. Multi-Family Housing in North White Plains



Figure 11-4. Multi-Family Housing in Armonk





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GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.5 1 2 Miles

Town of North Castle, Planning Base Studies

Residential Development Land Use & Zipcodes

Map 11 - 1 Page 11 - 5

Figure 11-5. Multi-Family Development in North Castle

Name	Location	Market Units	Moderate Income Units	AFFH Units	Total Units
Pine Wood Cir/Dr	N. White Plains	21	-	-	21
Wampus Close	Armonk	18	-	-	18
Whippoorwill Ridge	Armonk	56	-	-	56
Whippoorwill Commons	Armonk	12	10	-	22
Whippoorwill Hills	Armonk	129	24	-	153
Cider Mill	Armonk	27	-	-	27
22 Old Rt. 22 - Under Construction	Armonk	-	-	10	10
TOTAL		263	34	10	307

Source: Town of North Castle

C. Housing by Tenure

Residential properties are generally either owned by fee-simple ownership (the most traditional and basic form of ownership and often the most common form of ownership of single-family residences), through condominium ownership (where an owner owns a specific piece of a building or property) or through a cooperative (where a group of individuals own a property in common). All forms of these ownership forms allow the rental of all or parts of the property. The two main forms of housing by tenure, therefore, are either ownership housing (fee simple, condominium or cooperative) or rental housing. As discussed below, much of the Town of North Castle's residential developments include single-family, owner-occupied homes. Homes may also be rented by the owners.

11.5 Ownership

A. Condominium and Cooperative Housing

There are 46 condominium units in the Town located in several separate developments. There are no cooperative units in the Town of North Castle. Figure 11-5 lists the townhouse developments within the Town.

B. Rental Housing

Rental housing units are found in all types of residential units; single family, two family, three family and multifamily types of structures. There were 433 rental units in the town, with a median gross rent of \$1,919 for all types of rental units according to the Census' American Community Survey (2009-2013).

North Castle does not have any type of rent stabilization or rent control ordinances that would affect how much rent one can expect to pay for an initial lease up and subsequent renewals. Rents are determined by supply and demand.

11.6 Other Categories and Types of Housing

Group Homes, Institutional Housing, Senior Citizen Housing

Several group homes, institutional properties or senior citizens residences are located in the Town of North Castle. Figure 11-6 lists these types of facilities in the Town.

Housing Resources

For those residents within or outside of Westchester County looking for the most current opportunities for affordable housing, the **Homeseeker** website is a helpful and informative place to start. Website visitors can learn more about available affordable housing and the communities where the housing is located and news on housing developments as they become available: **homes.westchestergov.com/homeseeker-opportunities**.

Another helpful place to start is **A Roof Over Your Head**, a comprehensive guide to housing programs and resources in Westchester County:

Figure 11-6. Group Homes or Institutional Housing

Name and Location	Type of Housing
Jennie Clarkson Home 1700 Old Orchard Street, North White Plains	Boarding School for Children w/Special Needs
The Bristol 90 Business Park Drive, Armonk	Assisted Living Facility
WARC Properties 21 Thornewood Road, Armonk	Residential
Mental Health Assoc. of Westchester County 47 Washington Avenue, North White Plains	Residential

Source: Town of North Castle

11.7 Local and Regional Housing Needs

A local comprehensive plan should consider and analyze local and regional housing needs. In turn, zoning and residential development in the Town of North Castle is subject to approval by its local legislative body. Much of the data and information compiled in these Planning Base Studies are surely to be major components of an analysis of housing needs. Further, the Westchester Housing Settlement (Stipulation and Order of Settlement and Dismissal in *United States ex rel Anti-Discrimination Center of Metro New York, Inc. v. Westchester County, New York*) provides substantial background and material to further such an analysis. As part of the Settlement, 750 units of affordable housing are to be developed in certain areas of 31 municipalities in Westchester County, including the Town of North Castle. Westchester County is currently working with municipalities, developers and non-profits to satisfy this and other requirements of the Settlement. For more information, go to the [County's Housing Settlement website, click here.](#)

In light of the Settlement, on May 14, 2014, the Town of North Castle adopted new zoning ordinance provisions to ensure the provision and promotion of fair and affordable housing development. These regulations were developed in light of the Model Ordinance Provisions developed by Westchester County as part of its Fair and Affordable Housing Implementation Plan.

The town's fair and affordable housing regulations include a definition of Affordable Affirmatively Furthering Fair Housing (AFFH) Units, requirements for the set aside of AFFH units in new residential development, various requirements for occupancy and unit size standards, rent and sales prices, time period of affordability, resale and lease renewal and monitoring of the units.

11.8 Affordable Housing Developments

According to Westchester County's definition of affordable housing, there is currently one AFFH development under construction in the Town of North Castle. Ten units of AFFH housing are being built at 22 Old Route 22 in Armonk. The project's affordability was assisted through the use of Federal HOME funds, Community Development Block Grant funds, Westchester County Housing Implementation Funds (HIF) and New York State Affordable Housing Corporation funds. Several projects that are to contain AFFH units have been approved but are not yet built.

Twenty-four middle income units have been created in the Town in accordance with the Town's previous affordable housing regulations. Figure 11– 5 shows the middle income units set aside in the Whippoorwill Commons (10 units) and Whippoorwill Hills (24 units) developments in Armonk.

Definition of Fair and Affordable Housing

According to the Settlement's Model Ordinance Provisions, and included in the Town's Affordable Affirmatively Furthering Fair Housing Ordinance adopted in 2014, affordable housing is defined as follows:

Affordable Affirmatively Furthering Fair Housing (AFFH) Unit; A for-purchase housing unit that is affordable to a household whose income does not exceed 80% of the area median income (AMI) for Westchester as defined annually by the U.S. Department of Housing and Urban Development (HUD) and for which the annual housing cost of a unit including common charges, principal, interest, taxes and insurance (PITI) does not exceed 33% of 80% AMI, adjusted for family size and that is marketed in accordance with the Westchester County Fair & Affordable Housing Affirmative Marketing Plan.

A rental unit that is affordable to a household whose income does not exceed 60% AMI and for which the annual housing cost of the unit, defined as rent plus any tenant paid utilities, does not exceed 30% of 60% AMI adjusted for family size and that is marketed in accordance with the Westchester County Fair & Affordable Housing Affirmative Marketing Plan.

CHAPTER 12. LAND USE AND CURRENT ZONING

12.1 Importance of Land Use

The understanding of data and information on the present state of land use in a community gives municipal leaders a core set of tools necessary to create sound land use plans and policies. A new, parcel-based land use map for the Town of New Castle was created by the Westchester County Department of Planning in 2009; this map was reviewed, edited and approved by staff of the Town of North Castle. The map also was included as part of a report titled, Land Use in Westchester, A detailed look at existing conditions and development trends, (Appendix 12-1) that was prepared by Westchester County Department of Planning in 2009. In 2013, Town staff reviewed the 2009 land use map and made several updates which are incorporated into Map 12-1, Land Use and Figure 12-2.

12.2 Methodology, Analysis and Classification System

To conduct a land use inventory on a parcel-by-parcel basis, data from the local assessor's office, using a standard use classification



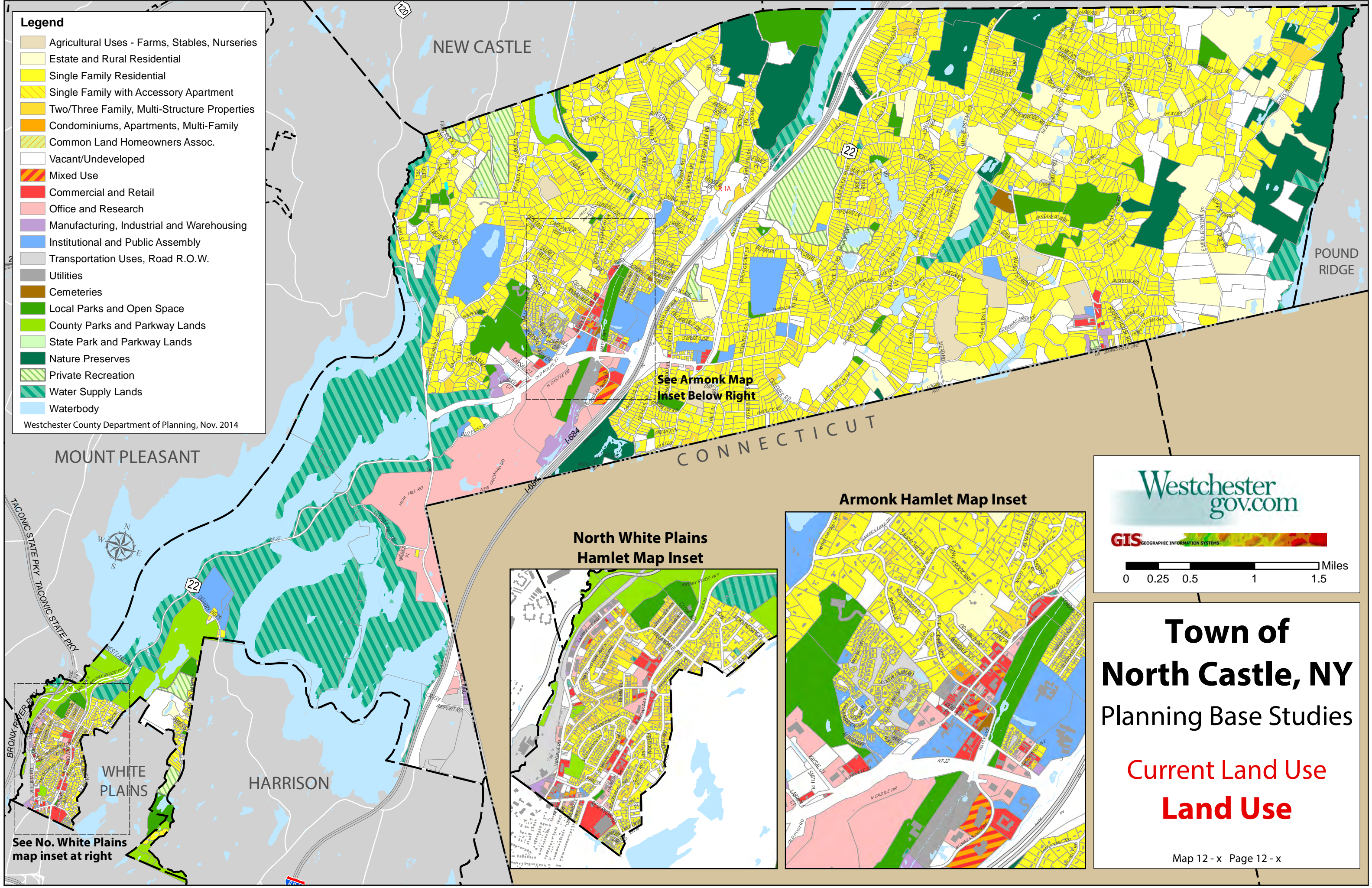
Figure 12-1. Aerial View of North White Plains, 2013

Source: Westchester County

Legend

- Agricultural Uses - Farms, Stables, Nurseries
- Estate and Rural Residential
- Single Family Residential
- Single Family with Accessory Apartment
- Two/Three Family, Multi-Structure Properties
- Condominiums, Apartments, Multi-Family
- Common Land Homeowners Assoc.
- Vacant/Undeveloped
- Mixed Use
- Commercial and Retail
- Office and Research
- Manufacturing, Industrial and Warehousing
- Institutional and Public Assembly
- Transportation Uses, Road R.O.W.
- Utilities
- Cemeteries
- Local Parks and Open Space
- County Parks and Parkway Lands
- State Park and Parkway Lands
- Nature Preserves
- Private Recreation
- Water Supply Lands
- Waterbody

Westchester County Department of Planning, Nov. 2014

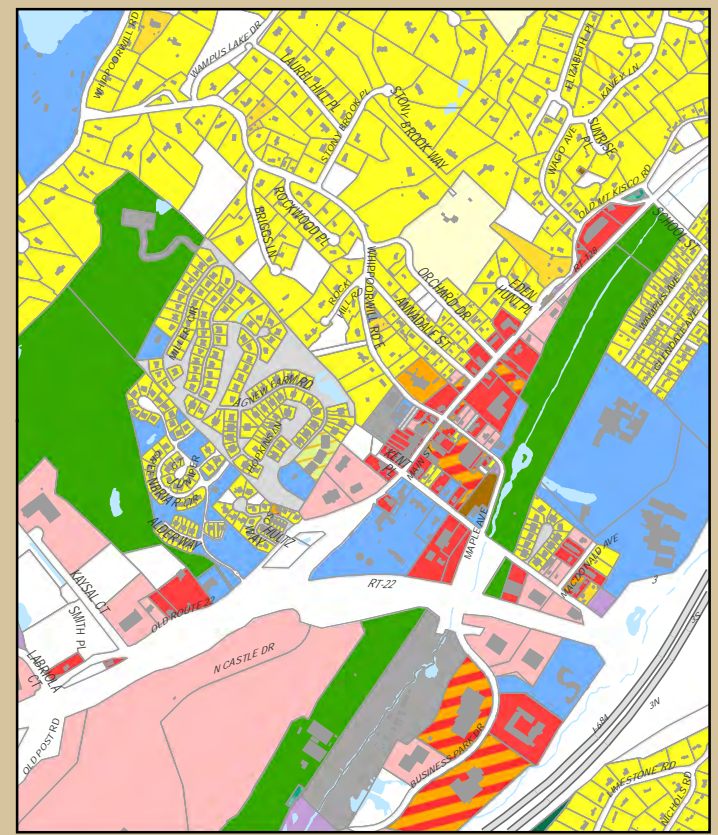


See Armonk Map
Inset Below Right

**North White Plains
Hamlet Map Inset**



Armonk Hamlet Map Inset



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GIS GEOGRAPHIC INFORMATION SYSTEMS

0 0.25 0.5 1 1.5 Miles

Town of North Castle, NY Planning Base Studies **Current Land Use** **Land Use**

See No. White Plains
map inset at right

Figure 12-2. Town of North Castle Land Use

Land Use Category	Acres
Agricultural Uses - Farms, Stables, Nurseries	163
Estate and Rural Residential	885
Single Family Residential	6,148
Single Family with Accessory Apartment	53
Two/Three Family, Multi-Structure Properties	152
Condominiums, Apartments, Multi-Family	4
Common Land Homeowners Association Lands	3
Vacant/Undeveloped	1,387
Mixed Use	30
Commercial and Retail	70
Office and Research	614
Manufacturing, Industrial and Warehousing	75
Institutional and Public Assembly	394
Transportation Uses, Road Right-of-Way	1,453
Utilities	27
Cemeteries	17
Local Parks and Open Space	524
County Parks and Parkway Lands	328
Nature Preserves	1,033
Private Recreation	320
Waterbody*	20
Water Supply Lands*	3,055
TOTAL ACRES	16,755



The New York State Office of Real Property Services (RPS) website has been integrated into the New York State Department of Taxation and Finance website. www.tax.ny.gov

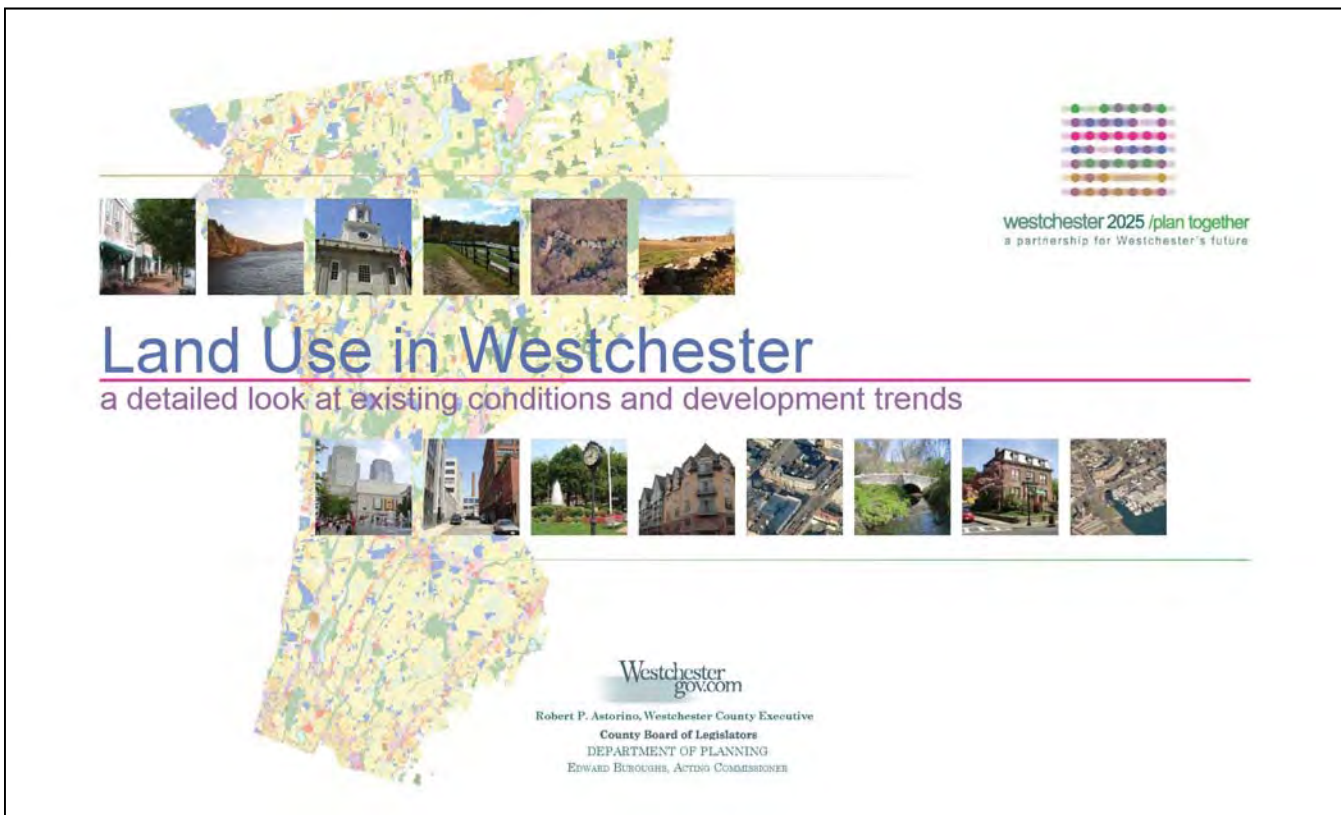
system developed by the New York State Office of Real Property Services (RPS), was joined to the County's digital parcel maps. The data was refined into standard land use categories used in planning practice. Aerial photography, County government reports and various digital resources were used along with extensive review by local officials.

The 250 RPS codes were categorized into 60 land use categories. The resulting categories were again categorized into 22 generalized land use categories, such as residential and commercial. These color-coded land use categories are shown on the Land Use Map. More detail on the methodology of the data collection, analysis and land use classification system can be found in the appendix in the Land Use in Westchester report.

12.3 Land Use in North Castle

Much of the Town of North Castle can be called either low – density or “no-density.” Of the 22 land use designations shown on Map 12– 1 and Figure 12-2, the top six categories by acreage, in-

Figure 12-3. Land Use in Westchester



Source: Westchester County Department of Planning

clude single-family residential (6,148 acres, or 37% of the Town's area), followed by water supply lands (3,055 acres, or 18%), transportation uses and road right-of-ways (1,453 acres, or 9%), vacant properties (1,387 acres, or 8%) and nature preserves (1,033 acres, or 6%).

The largest land use in the Town, single-family uses, totals 7,087 acres, or 42 % of the Town's area, when including the larger "Estate and Rural Residential " properties and "Single Family with Accessory Apartment" properties, as shown on Map 12-1.

Two/Three-Family and Multi-Structure Properties and Condominiums, Apartments, Multi-Family uses make up 155 acres, or only 1% of the Town. (See Chapter 11 for further discussion of residential development in the Town).

Commercial and Retail uses, totaling 70 acres, are concentrated in North White Plains and Armonk areas. Institutional and Public Assembly uses, including schools, government, religious and social/health services uses, account for 394 acres.

Much of the 614 acres identified as Office and Research are located in the Armonk area along Routes 22 and 120. (See Chapter 10 for further discussion of commercial development in the Town).



Figure 12-4. Aerial View of Armonk, 2013

Source: Westchester County

The Zoning Ordinance

Zoning encompasses the division of a municipality into districts or zones and the regulation of the use of land and the size of buildings within each of those districts.

The zoning ordinance is generally composed of three elements:

- The text, which describes the intent of the ordinance, defines the various zones and the uses allowed therein, sets forth administrative procedures and establishes definitions.
- The zoning standards, which include building bulk, height and coverage requirements and minimum dimensional requirements for lot areas and yards or setbacks for each zone.
- The zoning map, which shows the boundaries of each of the zones.

Together, these three parts form the document that controls the use and intensity of development of privately held property within a municipality.

The Zoning Ordinance represents the land use policy of the municipality's legislative body at a given instant in time. It differs from the land use plan map found in the comprehensive plan, which depicts land policy recommendations. A comparison of the zoning map and land use plan would indicate the potential for change.

Source: Municipal Planning Primer Series, The Zoning Board of Appeals, Westchester County Department of Planning, 2008.

Tools of Planning

A variety of tools and regulations impact local decisions on land use:

- The Comprehensive Plan
- The Zoning Ordinance
- Land Subdivision Regulations
- Cluster Subdivisions
- Site Plan Approval
- Special Use Permits
- The Official Map
- Capital Improvements Program
- Hudson River Valley Greenway and the Compact Plan

For more information, go to:
Municipal Planning Primer Series, The Planning Board

Westchester County Department of Planning, 2008.

Open space and recreation uses account for 5,260 acres, or 31% of the Town's land uses. These uses include County Parks and Parkway Lands, Local Parks and Open Space, Nature Preserves, Private Recreation and Water Supply Lands (see Chapter 5 for further discussion of open space and recreation). Several parcels identified as Agricultural uses, totaling 163 acres, include both vegetative nursery operations and private horse stables and related equestrian activities.

12.1 Zoning Map and Official Map

The "Zoning Map of the Town of North Castle, New York," was adopted May 1, 1941 and revised November 8, 1951, and as amended from time to time and certified by the Town Clerk, is on file in the Town offices. Map 12-2, Zoning, on page 12-8 provides zoning district boundaries for general reference purposes and is based on the adopted Zoning Map. The Town of North Castle Zoning Ordinance can be found at the General Code e-code library. ([create link to http://www.ecode360.com/8565886](http://www.ecode360.com/8565886))

The Official Map of the Town of North Castle is adopted by the Town Board, showing streets, highways and parks already laid out, adopted and established by law. The Official Map is filed with the Town Clerk.

12.2 Zoning Districts and Regulations

The Town's zoning regulations allow for 30 different zoning districts; three districts, however, are not mapped and cover no land area. Each of the districts has specific permitted uses and building bulk, height and coverage requirements and minimum dimensional requirements for lot areas and yards or setbacks. Figure 12-5 shows all of the Town's 27 mapped districts and acreage within those districts.

Of the thirteen residential districts, eight residential districts allow only single-family residences as the primary permitted use. These districts have minimum lot sizes ranging from four acres to 5,000 square feet (s.f.) minimum. The Town's only two-family district has a minimum lot size of 5,000 s.f. Two of the Town's four multi-family residential districts are not mapped (R-MF-SS Residential Multifamily-Single Structure District and R-MF-SCH Multifamily-Senior Citizen Housing District). The Town's two mapped multi-family districts limit density to one density unit per 25,000 s.f. in the R-MF District and one density unit per 14,000 s.f. in the R-MF-A District (see Chapter 213-3 for definition of "density unit").

Of the 17 business districts in the zoning ordinance, only one is not mapped (OBH Office Business Hotel). Several of the business districts permit residences in various forms. The CB-A Central Business District, for instance, requires that a certain percentage of floor area located on the second story of buildings consist of multi-family dwellings; a certain percentage of those dwelling units are required to be affordable units. Another example is the RO Residence Office District which allows single family homes along with business and professional offices and studios.

Several of the business districts are tailored to the Town's hamlets, while others lay out the requirements for larger office park developments; a minimum lot area of 20 acres is required for three of the "Office Business" Districts. The Town's four industrial districts obviously exclude any residential uses and reflect the variety of uses found in the several industrial areas of the Town. Minimum lot area requirements range from 4 acres down to 5,000 s.f.

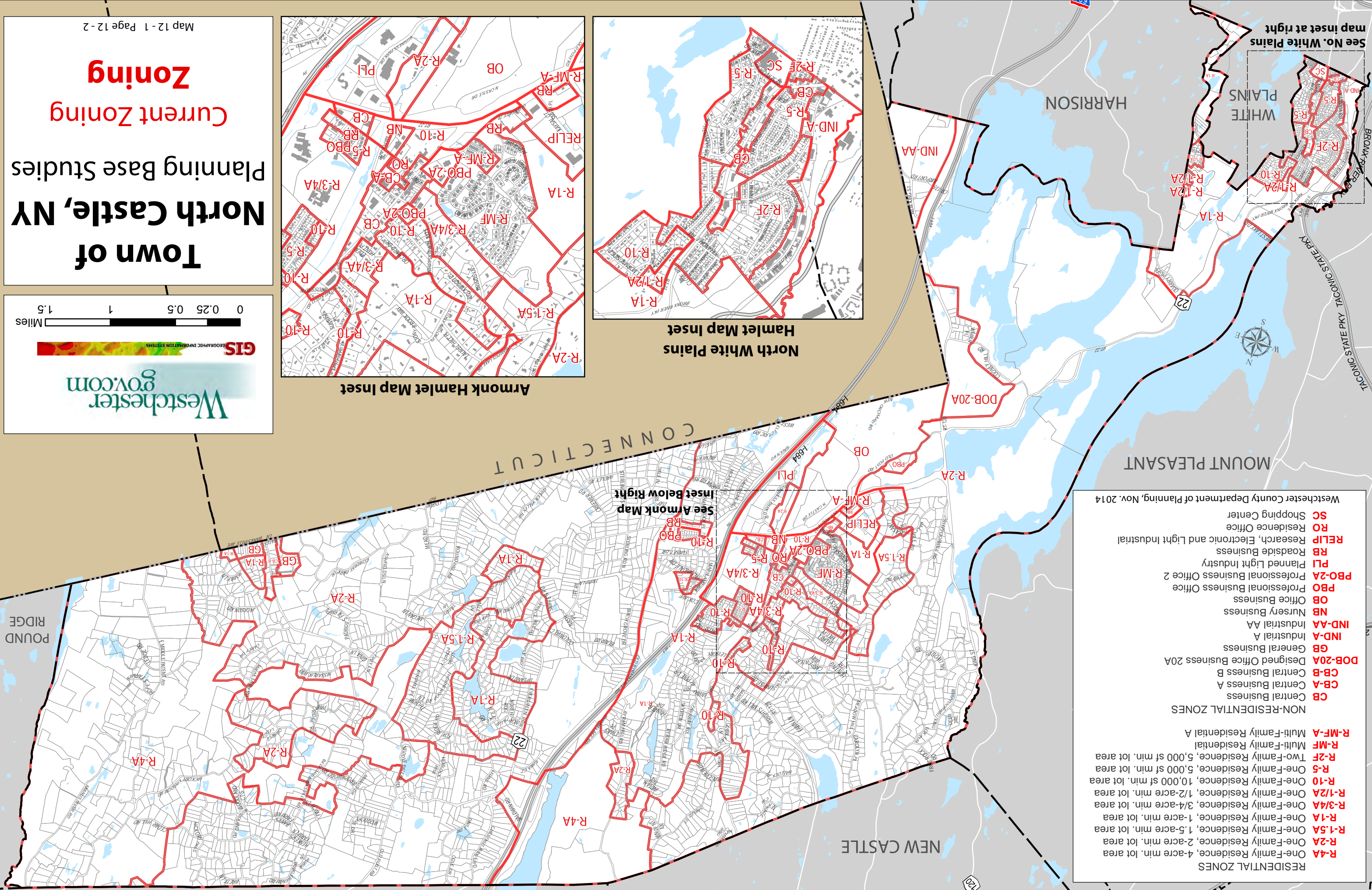
A. Other Notable Requirements In the Zoning Ordinance and Town Code

Selected Regulations Within the Zoning Ordinance:

- **Density Units**— method by which residential densities are measured in the Town, which is defined as being equal to one or

Note: The summary of the Town's Zoning Ordinance provisions is provided as background – please refer directly to the Zoning Ordinance and Map for all legal zoning requirements of the Town of North Castle.

**Town of
North Castle, NY**
Planning Base Studies
Current Zoning
Zoning



a proportionate combination of the following (See Zoning Definitions in Chapter 213-3):

- A. One one-family detached dwelling unit.
 - B. One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.
 - C. One and one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.
 - D. Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.
 - E. Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.
 - F. Three efficiency dwelling units in permitted dwellings other than one-family detached units.
- **Multifamily District Regulations** — the following are among a variety of requirements and standards regarding multifamily developments:
 - **Open Space and Recreation Areas**— at least 50% of the gross area of a site shall be preserved as permanent open space, free of buildings and parking area, and shall be landscaped or left in its natural state. See Chapter 213.22.
 - **Design Considerations**— for consideration of the Planning Board and Architectural Board of Review, several design elements are included, such as screening and visual buffers, use of party walls between units to limit sound transmission between units and the limitation of height to two stories for residential structures. See Chapter 213-22.
 - **Affordable Affirmatively Furthering Fair Housing Units**— on May 14, 2014 the Town Board adopted a new law requiring that within all residential development of 10 or more units created by subdivision or site plan approval, no less than 10% of the total number of units shall be created as affordable AFFH units. No preferences shall be utilized to prioritize the selection of income-eligible tenants or purchasers of the units and the units shall be marketed in accordance with the Westchester County Fair and Affordable Housing Affirmative Marketing Plan.

The regulations also include requirements for existing Middle

Figure 12-5. Table of Zoning Districts and Acreage

Residential Zoning Districts	Acreage
R-4A One-Family Residence District (four acres)	3134
R-2A One-Family Residence District (two acres)	8998
R-1.5A One-Family Residence District (1 1/2 acres)	512
R-1A One-Family Residence District (one acre)	2224
R-3/4A One-Family Residence District (3/4 acre)	163
R-1/2A One-Family Residence District (1/2 acre)	23
R-10 One-Family Residence District (10,000 square feet)	170
R-5 One-Family Residence District (5,000 square feet)	101
R-2F Two-Family Residence District (5,000 square feet)	94
R-MF Multifamily Residence District	101
R-MF-A Multifamily-A Residence District	9
Non-Residential Zoning Districts	Acreage
CB Central Business District	65
CB-A Central Business A District	4
CB-B Central Business B District	26
DOB-20A Designed Office Business 20A District	203
GB General Business District	33
IND-A Industrial A District	61
IND-AA Industrial AA District	176
NB Nursery Business District	4
OB Office Business District	393
PBO Professional Business Office District	34
PBO-2A Professional Business Office 2A District	10
PLI Planned Light Industry District	134
RB Roadside Business District	19
RELIP Research, Electronic and Light Industrial Park District	58
RO Residence Office District	2
SC Shopping Center District	8

Town of North Castle Zoning Ordinance

§ 213-1 Purpose

This chapter is adopted for the protection and promotion of the public health, safety, morals and general welfare of the community as follows:

- A. To guide the future growth and development of the Town in accordance with a Comprehensive Plan of land use and population density that represents the most beneficial and convenient relationships among the residential, nonresidential and public areas within the Town, considering the suitability of each area for such uses, as indicated by existing conditions, trends in population and modes of living, and having regard for the use of land, building development and economic activity, considering such conditions and trends both within the Town and with respect to the relation of the Town to areas outside thereof.
- B. To provide adequate light, air and privacy; to promote safety from fire, flood and other dangers: and to prevent overcrowding of the land and undue congestion of the population.
- C. To protect the character and the social and economic stability of all parts of the Town and to encourage the orderly and beneficial development of all parts of the Town.
- D. To protect and conserve the value of land throughout the Town and the value of buildings appropriate to the various districts established by this chapter.
- E. To bring about the gradual conformity of the uses of land and buildings through the Comprehensive Zoning Plan set forth in this chapter, and to minimize the conflicts among the use of land and buildings.
- F. To promote the most beneficial relation between the use of land and buildings and the circulation of traffic throughout the Town, having particular regard to the avoidance of congestion in the streets and the provision of safe and convenient vehicular and pedestrian traffic movements appropriate to the various uses of land and buildings throughout the Town.
- G. To provide a guide for public policy and action in the efficient provision of public facilities and services and for private enterprise in building development, investment and other economic activity relating to uses of land and buildings throughout the Town.
- I. To prevent the pollution of watercourses and wetlands; to safeguard the water table; to avoid hazardous conditions and excessive damage resulting from stormwater runoff and flooding; and to encourage the appropriate use and sound management of natural resources throughout the Town.
- J. To preserve the natural beauty of the physiography of the Town; to protect the Town against unsightly, obtrusive and obnoxious land uses and operations; to enhance the aesthetic aspect of the natural and man-made elements of the Town and to ensure appropriate development with regard to those elements.
- K. To promote the use of solar energy and solar energy collectors so far as conditions reasonably permit and to provide adequate sunlight for their proper operation.

Planning and Zoning Referrals

Under State and County law, municipalities are required to refer certain planning and zoning actions to the Westchester County Planning Board for review. The Planning Board, with the assistance of Planning Department staff, then conducts a review and prepares a recommendation letter response to the municipality. Actions referred to the County Planning can range from minor zoning variances for single-family houses to site plans for major shopping centers to new zoning codes and comprehensive plans. Referrals are assessed within the context *Westchester 2025*, the County Planning Board's adopted land use policies, and for intermunicipal and countywide concerns including potential impacts on state and county roads, parks and facilities. More information on the referral process and a list of the local actions that require County Planning Board notification under the provisions of Section 239 L, M and N of the New York State General Municipal Law and Section 277.61 of the County Administrative Code can be found:

<http://planning.westchestergov.com/planning-zoning-referrals>

Income Dwelling Units which had been created as part of the Town's previous regulations. Several zoning districts require a higher percentage of AFFH units (e.g. in the R-MF-SS District a minimum of 20% of all units shall be AFFH units). See Local Law No. 1 of 2014.

- **One- and Two-Family Home Size Restrictions** — several sets of requirements are intended to limit the potential for out-sized homes in residential areas. Additional limits on building, gross floor area are included. See Chapter 213-22.2. The Town also has requirements for minimum dwelling unit size depending on the zoning district; see Chapter 213-58.
- To assist in the review of residential projects and help the Town's staff and board's focus on more complicated projects, the Town has also created the **Residential Project Review Committee** to review all applications for any permits to determine whether a permit application should require Planning and/or Architectural Review Board approval. See Chapter 45-1 through 6.
- **Hilltops, Ridgelines and Steep Slopes** — to prevent, to the maximum degree reasonably feasible, future development upon steep slopes (25% or greater), hilltops and ridgelines in the Town, these regulations establish procedures for permits for

work in these areas. For more information, see Chapter 213-17.

- **Conservation Subdivisions**— to promote the most appropriate use of the land, facilitate the adequate and economical provision of streets and utilities and preserve the natural and scenic qualities of open lands, these alternative set of regulations for residential development include design considerations and the preservation of open space areas. See Chapter 213-25.
- **Accessory Apartment Regulations** — regulations for the permitting of accessory apartments in single-family residence districts include requirements for owner-occupancy of one of the units on the premises and location and size of the units. See Chapter 213-33.K.
- **Sign ordinance** – A detailed sign ordinance is included to promote and ensure safety, visual quality, ease of communications and review and compliance for permanent and temporary signs within the Town. See Chapter 213-15 of the Town Code.



Figure 12-6. Aerial View of Banksville, 2013

Source: Westchester County

- **Business District Regulations**—the following are among a variety of requirements and standards regarding development in business districts.
 - **Central Business (CB-A) District**— additional regulations are provided for the Armonk Hamlet to encourage a quality mix of uses and design standards. One example is the requirement that at least 20%, but not more than 40%, of the total floor area within the District shall consist of multifamily dwellings located on the second story. See Chapter 213-23.B.
 - **Residence Office (RO) District**— specifically designed to protect the Armonk Historic District on Bedford Road, these regulations require that new construction and alterations be in harmony with the character of the historic nature of the district. See Chapter 213-24.H.
 - **Office Business (OB) District**—one component of this district's regulations allows for the transfer of density from sites in the OB District to sites in the Office Business Hotel (OBH) District to encourage goals such as the preservation and enhancement of recreation areas, scenic vistas and the promotion of construction of new low-density office space with minimum lot coverage and site disturbance on appropriate sites in accord with the Town Development Plan. See Chapter 213-24.A.
 - **Designed Office Business 20A (DOB-20A) District**— this is the Town's only "floating zone," only to be applied to areas that comply with detailed size (minimum of 20 acres), location and site criteria. Site development standards also apply. The District was created to encourage additional areas for office business use as shown on the Town Development Plan Map. See Chapter 213-24.I.
 - **Performance Standards**—non-residential uses must comply with certain performance standards, with conformance being a requirement for the continuance of any certificate of occupancy. The standards help control such impacts as odors, gas and dust, noise and vibrations, wastes that might be discharged into watercourses, dangerous hazards such as explosions or radiation as well as hazardous traffic conditions. See Chapter 213, Article X.

Zoning and the Comprehensive Plan

The comprehensive plan differs from the municipality's zoning ordinance in that its focus is on long-range goals and development objectives. Zoning, on the other hand, is a legal instrument, which regulates the current use of land. The zoning ordinance reflects present municipal land use policies while the comprehensive plan sets forth the future direction of a municipality's land use policies as they are expected to evolve. A zoning ordinance should be based on the fundamentals put forth in the comprehensive plan, as it regulates the use of specific parcels. Through it a municipality may preserve the desirable features of existing development and set standards for future development. Decisions on amendments to the zoning ordinance by the legislative body, as well as the actions of the zoning board on such things as variances and special permits, should take into account the policies of the comprehensive plan in order to maintain harmony between planning and zoning.

Source: Municipal Planning Primer Series, The Zoning Board of Appeals, Westchester County Department of Planning, 2008.

- **Westchester County Greenway Compact Plan**— the Town of North Castle is a participating community in the Greenway Compact through the adoption of the statement of policies, principles and guides detailed in “The Greenprint for a Sustainable Future... the Westchester Way,” the Westchester County Greenway Compact Plan. For more information, see Chapter 2, External Influences - Regional Context. Within the Town Code, see Chapter 213-1.1.

Regulations in the Town Code Related to Land Use, but Outside the Zoning Ordinance

- **Landmarks Preservation**—includes powers and procedures for the Town's Landmark Preservation Committee as it reviews projects, makes recommendations on historic sites and buildings and provides a Certificate of Appropriateness for proposals to make material changes to a designated landmark. See Chapter 126.

- **Parkland Reservations**—this law details the administration of recreation areas that are required as part of the development of multi-family housing. When the Town’s Planning Board determines that a recreation area is not suitable at the development site, the Town can collect a recreation fee to be utilized by the Town to improve neighborhood parks, playgrounds or other recreational facilities including the acquisition of property. See Chapter 143.
- **Flood Damage Prevention**—procedures, permits and standards are detailed to minimize development and potential damage in flood hazard areas. See Chapter 109.
- **Stormwater Management and Erosion and Sediment Control**— this law details the requirements, standards and guidelines to minimize the impacts on the Town’s stormwater sewer system and impacts of erosion and sediment from land development activities. One tool towards controlling negative impacts is the Town’s requirement that all proposals for land development activity provide a stormwater pollution prevention plan (SWPP) for review and approval by the Town. See Chapter 173.
- **Wetlands and Watercourses**— this law details the rules and regulations to minimize impacts of activities in and around wetlands, watercourses, water bodies and wetland/watercourse



Figure 12-7. Aerial View of Wampus Pond, 2013
Source: Westchester County

buffer areas. The Town's Planning Board supplies permits to applicants seeking to do work in these areas. See Chapter 209.

- **Separate Sewage Disposal Systems and On-Site Wastewater Systems**—this law supports the water quality guidelines negotiated with the New York State Department of Environmental Conservation and the New York City Department of Environmental Protection to reduce phosphorous and nitrogen loading in the Town's stormwater, protect drinking water and the health of the Town's citizens. Inspections, enforcement and fines are also included. See Chapter 163.
- **Sewers**—rules and procedures for the laying, discharging and using the sewer systems of the Town's four sewer districts are detailed in this law. See Chapter 164.
- **Water**—rules and procedures for access to and use of water in the Town's five water districts are detailed in this law. See Chapter 204.
- **Telecommunication Facilities**—this law regulates the operation and siting of towers and equipment in the town to minimize impacts. Towers, antennas and equipment require a special use permit from the Town Board. Special permit considerations include height, proximity to residences, access, screening, among others. See Chapter 184.
- **Trees (Public)** - the care, preservation, pruning, planting, replanting, removal or disposition of trees in parks, along streets and other public areas are regulated in this law. A Town Tree Board oversees and reviews the Town's tree plan and these regulations. See Chapter 191.
- **Tree Preservation (Private Property)** - these regulations detail the necessary procedures, guidelines and permits for the removal of certain trees on private property. See Chapter 192.

CHAPTER 13 “Build-out” Under Current Zoning

13.1 Background and Methodology

The staff of the Westchester County Department of Planning finalized a draft Build-out Analysis in July 2012. This analysis was performed with the input and assistance of the Town of North Castle. The report ***Draft Build-out Analysis Results*** is attached as Appendix 13-1. The build-out analyses are shown in Figure 13-1 and Map 13-1. The following is a summary of the key elements of these analyses.



As part of the ***Westchester 2025: Plan Together*** effort, the Westchester County Planning Board and Department of Planning have embarked on developing draft build-out analyses of all 43 zoning ordinances within Westchester. Analyses were performed at the request of a municipality, usually because a municipality was considering or developing a new or updated comprehensive plan.

The analyses are innovative and particularly helpful for municipal officials to understand how much potential development could occur should development proceed as allowed by current zoning. It is also an important part of ***Westchester 2025*** since potential development anywhere in the county is critical in important infrastructure decisions, understanding of inter-municipal impacts, planning for the reduction of impacts of development and planning for larger regional projects and plans (e.g. the replacement of the Tappan Zee Bridge, regional transit planning and the future location of fair and affordable housing).

The report ***Draft Build-out Analysis Results*** for the Town of North Castle was developed by the county’s Department of Planning staff by combining substantial GIS tools, new parcel-based data, web-based technologies and existing software that helps analyze current zoning. The report includes an overview of the methodology. Several analyses were performed and are described in table and map formats. The Town of North Castle provided data on the most current zoning ordinance to assist in calculations.

13.2 Build-out Analyses

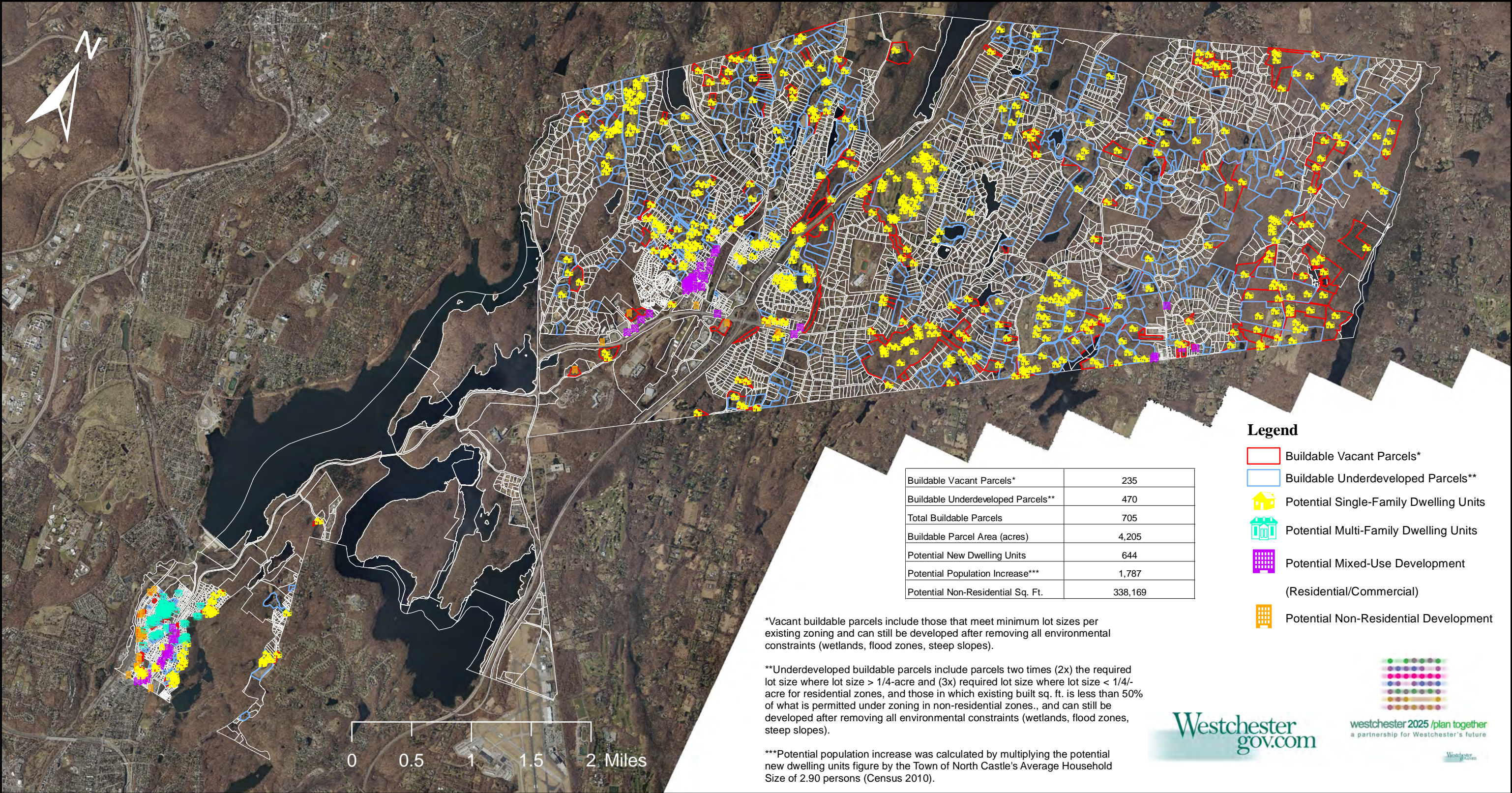
A. Vacant Parcel Analysis – An analysis was performed to give a realistic view of what can be developed on currently vacant land under existing zoning regulations. Local environmental constraints to development and bulk regulations are input into the model to accurately calculate potential build-out by parcel.

B. “Underdeveloped/Soft Site” Parcel Analysis – An analysis was performed to identify the remaining development potential available under existing zoning regulations on already developed sites. Two methods were used to identify “underdeveloped” parcels. The first entails setting parcel area criteria to determine realistically sub-dividable parcels per existing zoning regulations. For example, a single family zoned parcel that is three times (3x) larger than the minimum required lot size for its zoning district can theoretically be subdivided as of right and can thus be classified as “underdeveloped”. Likewise, remaining non-residential development potential is identified by subtracting existing built square footage from full build-out under existing zoning using floor area ratio (FAR) regulations. Non-residential “soft-sites” are defined as those parcels in which existing development is 50% or less than what is allowed under zoning.

C. “Vacant and Underdeveloped Composite” Analysis and Build-out Results - The two analyses above are combined and presented in a summary table and a composite map (see map on page 13-3). The map, through symbols and highlighted properties, gives a quick visual glimpse of the overall impact of development in the Town under existing zoning. The table gives a numerical summary of some important impacts of this potential development. The number of future dwelling units, population, school children, energy use, water consumption and vehicle trips created are shown for existing conditions and under a scenario of full development build-out under existing zoning.

While it is difficult to know if and how such future development will occur, this analysis is a critical tool for Town officials and the public to understand the current zoning ordinance and should become a key tool as the Town develops a new Comprehensive Plan. The Westchester County Department of Planning will be available to discuss further components or adjustments to this analysis as the Town moves ahead in visioning its future.

Town of North Castle - Westchester County, New York



Build-Out Analysis Results

C. Vacant and Underdeveloped Parcels Composite



Town of North Castle Draft Buildout Results

	Vacant Parcel Buildout	Underdeveloped Parcel Buildout	Future Buildout Potential (Vacant + Underdeveloped)	Existing Conditions	Total Buildout (Vacant + Underdeveloped + Existing)	Total Buildout Increase	Vacant Parcel Increase
Total Parcels Analyzed	404	4,526	4,930	4,930			
Buildable Parcels	235	470	705	705			
Dwelling Units	265	379	644	4,135	4,779	16%	6%
Population	769	1,018	1,787	11,841	13,628	15%	6%
School Children	181	228	409	2,854***	3,263	14%	16%
HH Energy Use (BTU/Year)	26,765	38,279	65,044	417,635	482,679	16%	6%
HH Water Consumption (Gal/Year)	37,819,475	54,088,985	91,908,460	590,126,525	682,034,985	16%	6%
Vehicle Trips per day	1,577	2,255	3,832	24,603	28,435	16%	6%
Non-Residential sq. ft.	141,921	196,248	338,169				
Non-Residential Energy Use (BTU/Year)	12,077,477	16,700,705	28,778,182				

Prepared by the Westchester County Department of Planning, 6/2012

*Vacant buildable parcels include those that meet minimum lot sizes per existing zoning and can still be developed after removing all environmental constraints (wetlands, flood zones, steep slopes).

**Underdeveloped buildable parcels include parcels two times (2x) the minimum lot size for residential zones and those in which existing built sq. ft. is less than 50% of what is permitted under zoning in non-residential zones, and can still be developed after removing all environmental constraints (wetlands, flood zones, steep slopes) .

***School district enrollment based on 2006-2010 ACS Data