

4.3 Assessing Vulnerability: Identification of Assets and Development Trends

To understand risk, a community must evaluate what assets are exposed to hazard events. The inventory of assets considers the population, structures, and lifelines that could be impacted by hazard events. This section presents inventory data used for this risk assessment and discusses development trends in the area of interest. The consideration of development trends is important because areas of future development could increase the inventory that is exposed and that could be lost should a hazard event occur.

Inventory data quantify the people, places, and things that could be injured, damaged, or destroyed during the occurrence of a hazard. Once the overall asset inventory has been established, the portion of the inventory that is at risk of being impacted by the various hazards is identified. This “at-risk” subset can be identified by overlaying the hazard area (for example, flood zone) with the asset data to estimate the assets at risk. For example, areas of residential development may be compared with flood zones to determine the locations and number of structures at risk of damage or destruction from flooding. Understanding vulnerable assets can help guide mitigation strategies and efforts. Hazard exposure and loss estimates in Section 4.4 use this approach.

HAZUS-MH includes data for a number of asset categories, including population, buildings, infrastructure, and lifelines. The ***built environment*** includes these buildings, infrastructure, and lifelines. HAZUS-MH uses ***occupancy classes*** to categorize buildings as commercial, residential, industrial, government, or “other”.

Because HAZUS-MH was used to support this mitigation plan, HAZUS-MH provided data was used as a starting point for inventory data. HAZUS-MH includes a range of asset data based on national and regional data sets, such as the U.S. Census for population data and Dun & Bradstreet and other data for building stock and value estimates. Further, Tetra Tech discussed the data needs of the risk assessment process with the planning committee and discussed areas where local data might supplement or refine the nationally provided data. A range of potential data sources were identified by the planning committee. Assistance from local emergency management personnel, county planners, GIS professionals, and others was then used to collect additional data. The mitigation planning contractor then reviewed this data with the planning committee and selected data for inclusion, focusing on critical and essential facilities first. These facilities include police and fire stations, schools, hospitals, and other buildings that are critical to community functions and recovery after a hazard event. A range of other data also were reviewed; for example, local parcel data was reviewed for building value data but this data set did not provide all of the attributes needed for HAZUS-MH. Local building and facility data were used to supplement the HAZUS-MH-provided data for individual, site-specific critical facility categories.

Appendix C of this mitigation plan, *Data Summary Matrix*, provides a detailed summary of the data collection efforts and data sets selected for this mitigation plan. At the time of plan preparation, these represented the best available data to support the plan; long term data improvement plans were discussed and are presented in Section 5, Mitigation Strategy. As the risk assessment and plan are revised over time, data will be updated and refined, using the actions described in Section 5.

Inventory data for Delaware County are discussed under the following categories: (1) population and demographics, (2) general building stock (aggregate inventory), and (3) critical facilities (site-specific inventory). Each of these categories is discussed in this section.

The databases included in HAZUS-MH are called ***provided data*** and allow users to run a preliminary analysis without collecting or using local data. Examples of HAZUS-MH provided data include building data, transportation lifeline data, population data, and critical facility information. For Delaware County, a range of local and other data were reviewed and, where feasible, local data was used to supplement the HAZUS-MH provided data, as discussed in this section.

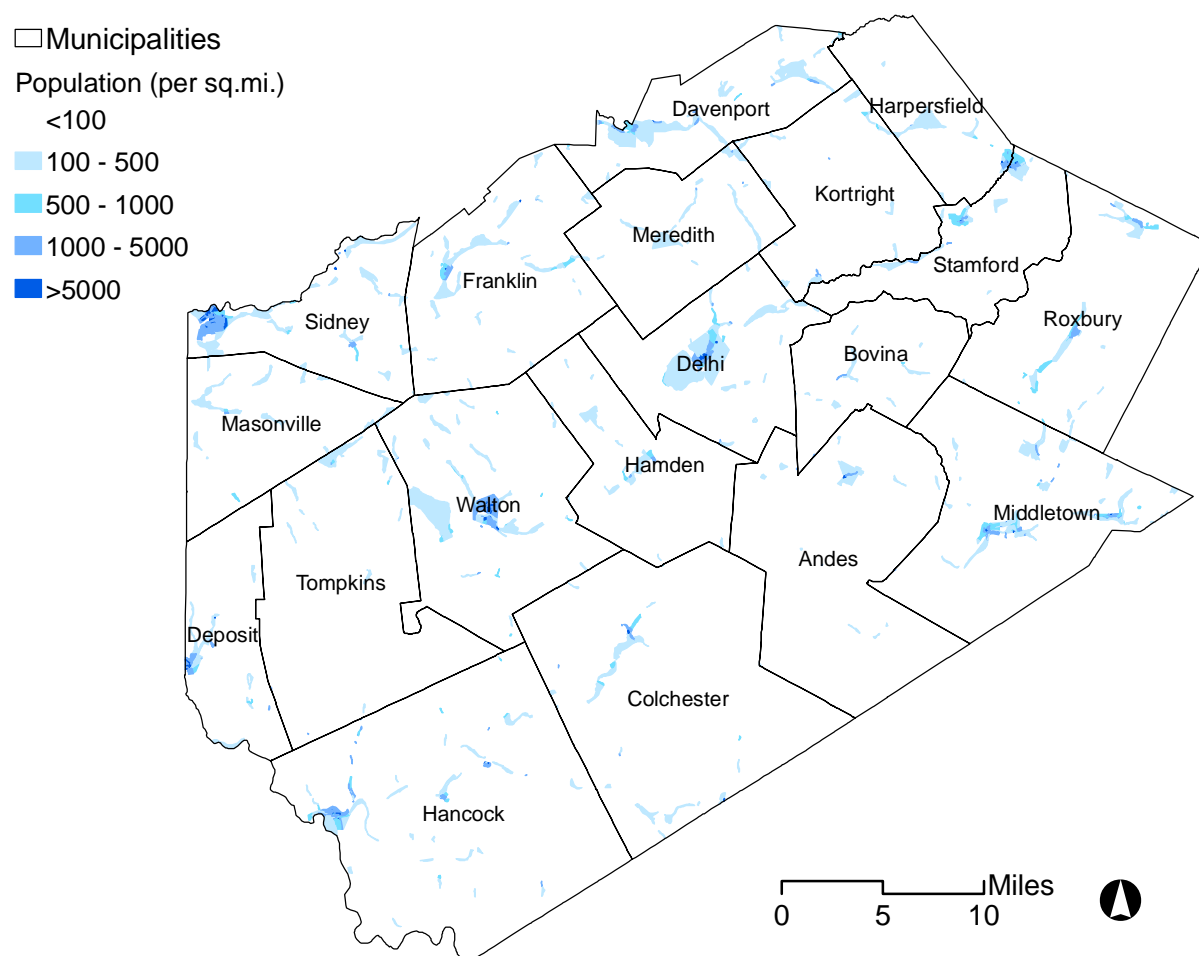
4.3.1 Population and Demographics

According to the U.S. Census Bureau, the 2004 population of Delaware County was approximately 47,328. U.S. Census Bureau data, obtained from the CUGIR, identified the 2000 population of Delaware County as 48,055. After a comparison of these data to the provided data included in HAZUS-MH (2000 census population of 48,055), it was determined that HAZUS-MH population data would be used without modification.

Delaware County is one of the most rural counties in New York State, ranked 5th out of the 62 counties for population density, with an average density of only 33 per square mile (2000 U.S. Census Bureau).

Figure 4-3-1 shows the distribution of the general population for Delaware County by Census Block.

Figure 4-3-1. Distribution of General Population in Delaware County



DMA 2000 also requires that plans consider socially vulnerable populations. Socially vulnerable populations are most susceptible to being impacted by hazard events, based on a number of factors including their physical and financial ability to react or respond during a hazard and the location and construction quality of their housing. Table 4-3-1 summarizes two socially vulnerable populations considered for this plan, (1) the elderly (persons over the age of 65) and (2) low-income (persons living in households with an annual household income below \$20,000 per year).

Table 4-3-1. Delaware County Population Statistics (2000 U.S. Census)

Town	Population (2000)	Pop. Over 65 / % of Total	Pop. with household income less than \$20k/yr. / % of Total
Andes	1356	293 / 22	148 / 11
Bovina	664	145 / 22	41 / 6
Colchester	2042	468 / 23	235 / 12
Davenport	2774	387 / 14	258 / 9
Delhi	4629	825 / 18	359 / 8
Deposit	1687	293 / 17	232 / 14
Franklin	2621	431 / 16	197 / 8
Hamden	1280	231 / 18	108 / 8
Hancock	3449	652 / 19	408 / 12
Harpersfield	1603	400 / 25	147 / 9
Kortright	1633	252 / 15	146 / 9
Masonville	1405	191 / 14	122 / 9
Meredith	1588	212 / 13	139 / 9
Middletown	4051	973 / 24	480 / 12
Roxbury	2509	492 / 20	275 / 11
Sidney	6109	1157 / 19	713 / 12
Stamford	1943	335 / 17	205 / 11
Tompkins	1105	186 / 17	104 / 9
Walton	5607	1005 / 18	743 / 13
Study Area	48,055	8928 / 19	5,060 / 11

Source: HAZUS-MH FEMA 2004.

Figure 4.3.2 shows the distribution of the elderly (>65 years old) population within Delaware County, along with the locations of senior living and nursing homes. An inventory of senior living and nursing home facilities may be found in Section 4.3.3.1. As can be seen from this figure, the elderly population is located generally in the population centers of the County (villages and hamlets) without any significant aberrations in density between population centers.

Figure 4.3.3 shows the distribution of the low-income (family income < \$20K/yr) population within the County. Per the 2004 CHA, the highest income towns (Bovina, Meredith, Hamden, Delhi, Andes and Franklin – in descending order of income level) are located in the central region of the county. The middle income towns of Davenport, Roxbury, Stamford, Walton, Tomkins and Harpersfield, dispersed throughout the county, are more rural than the higher income towns, have one or more large employers, or are within commuting distance of Otsego County. The lowest income towns of Middletown, Kortright, Colchester, Hancock, Masonville, Sidney and Deposit are generally located on the southern and western fringe of the county, and are typically quite rural and far from major sources of employment.

In the Town and Village of Sidney, the three primary areas that have notable concentrations of low-income households are Sidney Center, Sherwood Heights in the Village, and the North End of the Village near the Susquehanna River (Consolidated Plan, 1998).

The 2004 CHA notes that “given the degree of population dispersion, the modest sized population of towns in the county, and the long distances separating most communities, it has proven impossible to develop transportation services that can link the county’s social, economic, and health care networks and facilities”. This challenge is also a concern when considering emergency response, including evacuation, to impending and occurring hazard events.

4.3.2 General Building Stock

A number of data sources were reviewed and used to develop a structural inventory for the County. Primarily the default building stock data in HAZUS-MH, which is based on the 2000 U.S. Census, was used without modification. Based on the availability local data, parcel level (assessors) data developed by Delaware County Planning Department (DCPD) and GIS personnel were reviewed as an additional source of local inventory data. The data set is strong; however, a number of the attributes required for HAZUS-MH are not included in the data set (for example year of construction, type of construction, number of stories, and other factors). In the future, Delaware County may consider collecting additional attribute data for buildings and combining available local data with HAZUS-MH regional building classification data to group buildings into general occupancy classes (such as residential, commercial, and industrial). Such efforts are facilitated by the use of the HAZUS-MH building information tool (BIT) provided with HAZUS-MH.

Figure 4-3-2. Distribution of Elderly (>65 yrs.) Population and Senior Centers in Delaware County

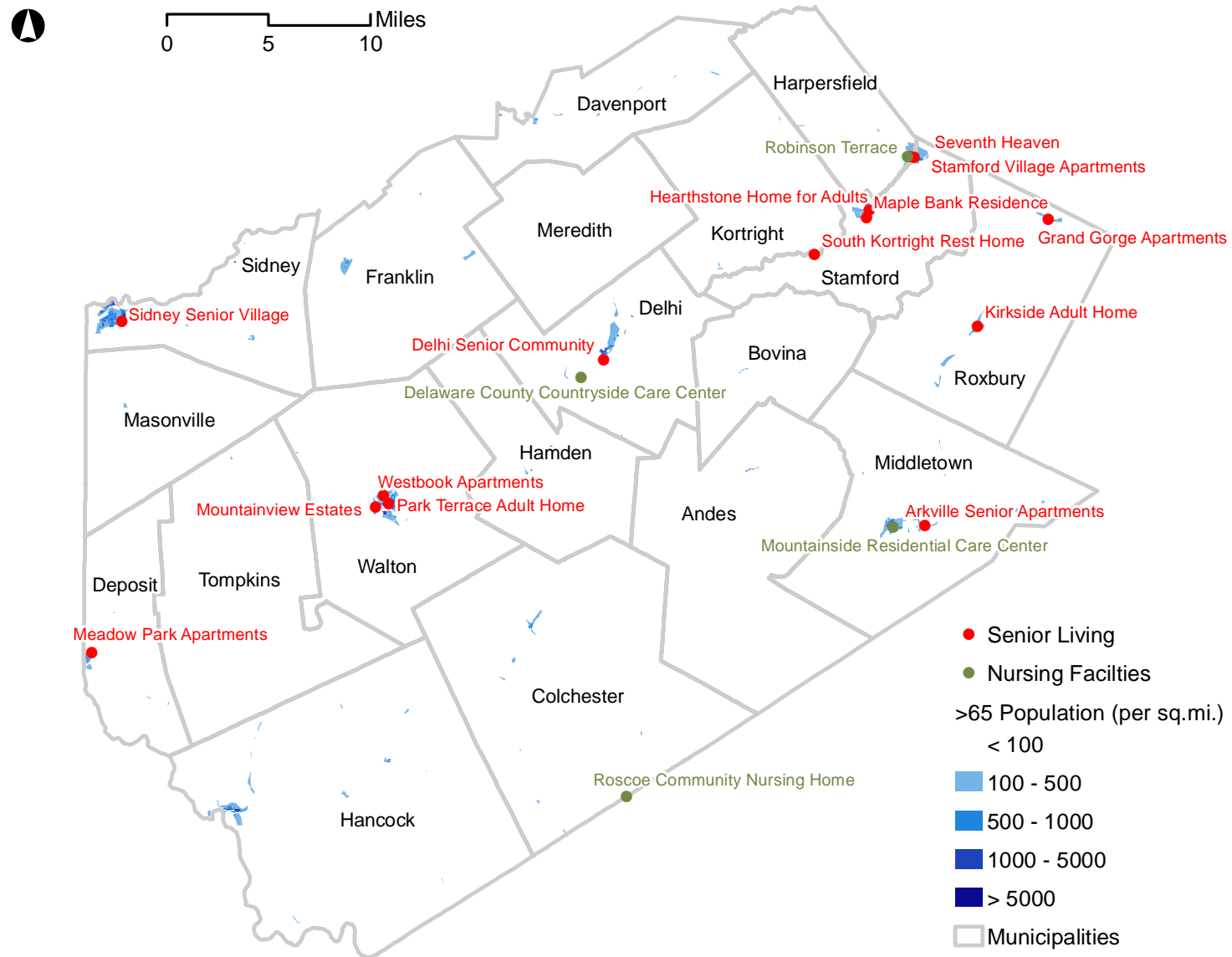
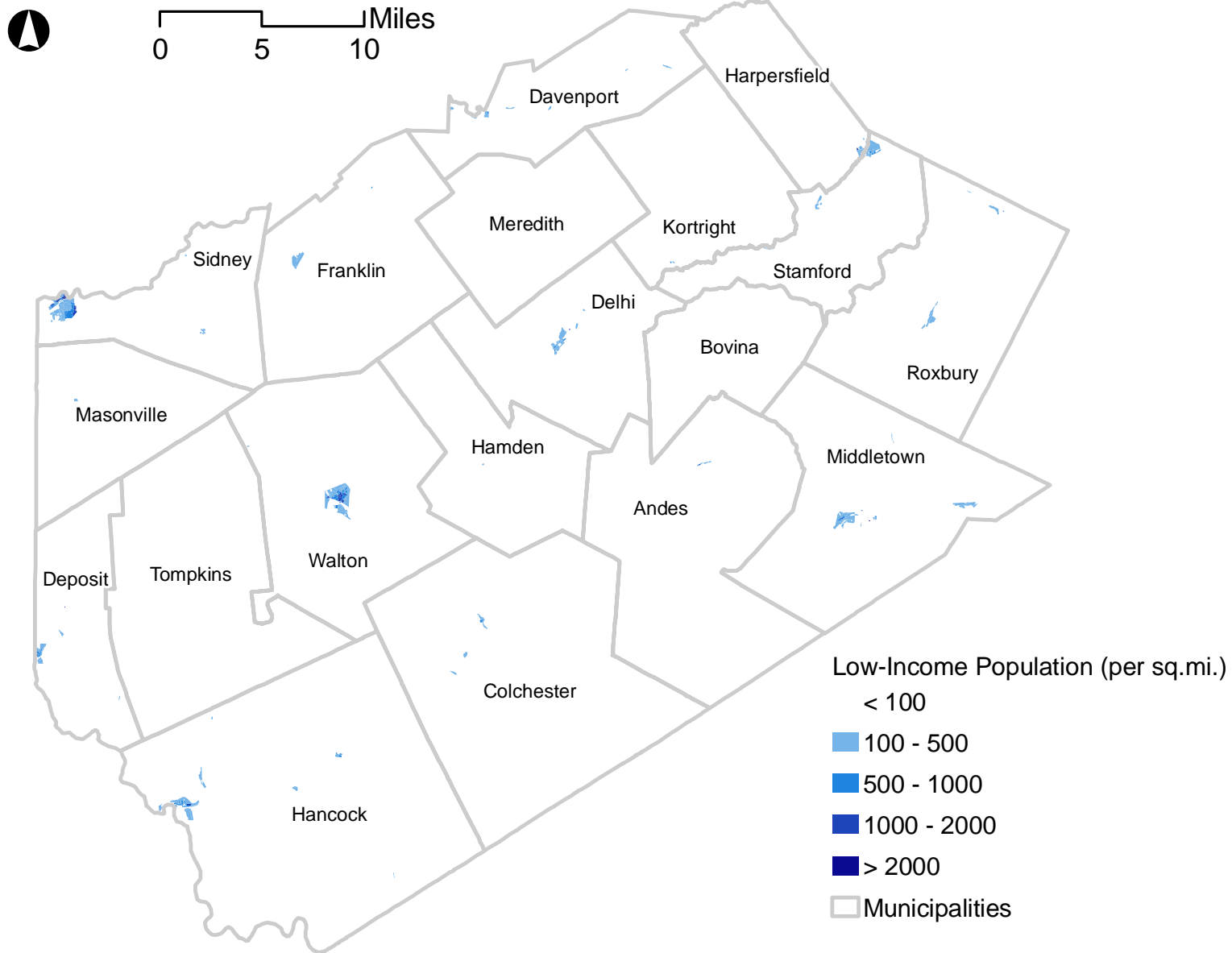


Figure 4-3-3. Distribution of Low-Income Population in Delaware County



The data in HAZUS-MH estimates that there are nearly 22,000 structures in Delaware County with a total building replacement value (excluding contents) of \$3,244 million (2002 dollars). Approximately 99% of the buildings (and 88% of the building value) are associated with residential housing. Table 4-3-2 presents the estimated number of buildings and structural replacement value (exposure value) of these buildings by occupancy class for Delaware County, based on HAZUS-MH default data.

Table 4-3-2. Inventory of General Building Stock for Delaware County

Town	Total Count / Value (\$K)	Residential Count / Value (\$K)	Commercial Count / Value (\$K)	Industrial Count / Value (\$K)
Andes	1,079 / 149,260	1,073 / 136,611	6 / 7,786	0 / 1,095
Bovina	433 / 61,011	432 / 57,365	0 / 1,631	0 / 242
Colchester	1,300 / 168,746	1,290 / 151,424	7 / 10,857	1 / 2,035
Davenport	1,135 / 128,398	1,132 / 116,753	2 / 6,061	0 / 1,535
Delhi	1,373 / 312,306	1,343 / 245,879	23 / 41,711	0 / 4,890
Deposit	749 / 96,022	748 / 91,164	1 / 3,434	0 / 570
Franklin	1,094 / 145,435	1,091 / 135,010	3 / 3,996	0 / 1,261
Hamden	703 / 85,752	699 / 83,407	4 / 2,178	0 / 74
Hancock	1,922 / 257,794	1,908 / 223,493	10 / 23,040	1 / 5,855
Harpersfield	668 / 99,138	667 / 92,139	0 / 3,044	1 / 2,069
Kortright	780 / 102,868	775 / 93,143	4 / 5,683	0 / 677
Masonville	601 / 76,936	601 / 69,118	0 / 1,703	0 / 836
Meredith	685 / 82,922	685 / 82,815	0 / 107	0 / 0
Middletown	2,262 / 365,221	2,249 / 319,567	10 / 31,453	0 / 3,852
Roxbury	1,547 / 229,260	1,540 / 199,659	7 / 23,661	0 / 1,516
Sidney	2,054 / 367,589	2,014 / 293,139	28 / 43,019	11 / 24,451
Stamford	826 / 120,495	825 / 117,376	1 / 2,929	0 / 0
Tompkins	616 / 71,238	616 / 69,047	0 / 881	0 / 1,220
Walton	2,101 / 324,082	2,073 / 268,284	21 / 37,780	2 / 7,004
Study Area	21,928 / 3,244,473	21,761 / 2,845,393	127 / 250,954	16 / 59,182

Source: HAZUS-MH FEMA 2004. The building values shown do not include building contents. Generally, contents for residential structures are valued at about 50 percent of the building's value. For commercial facilities, the value of the content is generally about equal to the building's structural value.

Figures 4-3-4 shows the distribution and exposure density of residential buildings in Delaware County. Exposure density is the dollar value of structures per unit area, exclusive of the building content value. The following structural exposure densities are shown in units of \$1,000,000 (\$M) per square mile.

Table 4-3-3 summarizes the number of manufactured homes in Delaware County, by Town. Figure 4-3-5 shows the distribution of manufactured housing (mobile homes), which is a subset of the residential building class. The 2000 U.S. Census of Population and Housing, accessed on the New York State Data Center website, indicates that there are 4,599 manufactured homes in Delaware County.

Figures 4-3-6 and 4-3-7 show the distribution and exposure density of buildings in the commercial and industrial occupancy categories, respectively. Viewing distribution maps can help communities evaluate aspects of the study area in relation to the specific hazards. Further discussion of these maps is included in Section 4.4 for specific hazards.

Table 4-3-3. Manufactured Housing In Delaware CCounty

Jurisdiction	Total # in Town	# in Village
Andes	145	0
Bovina	56	0
Colchester	363	0
Davenport	439	0
Delhi	199	0
Delhi Village	0	26
Deposit	184	0
Deposit Village	0	52
Franklin	206	0
Franklin Village	0	5
Hamden	160	0
Hancock	501	0
Hancock Village	0	52
Harpersfield	157	0
Stamford Village (Harpersfield Portion)	0	9
Kortright	222	0
Masonville	154	0
Meredith	141	0
Middletown	343	0
Fleishmann's Village	0	8
Margaretville	0	7
Roxbury	249	0
Sidney	295	0
Sidney Village	0	32
Stamford	142	0
Hobart Village	0	15
Stamford Village (Stamford Portion)	0	28
Tompkins	210	0
Walton	433	0
Walton Village	0	27
Delaware County	4,599	*

*Included with total for town.

Figure 4-3-4. Residential Exposure Density in Delaware County

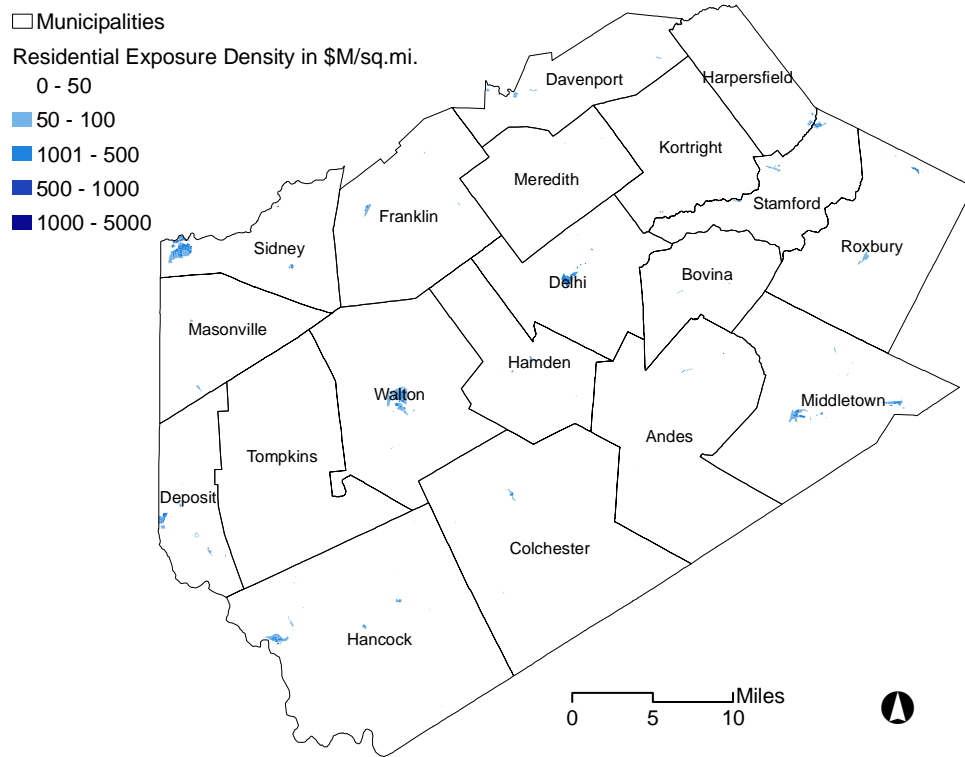


Figure 4-3-5. Manufactured Housing in Delaware County (Exposure Density and **Locations of Trailer Parks [pending]**)

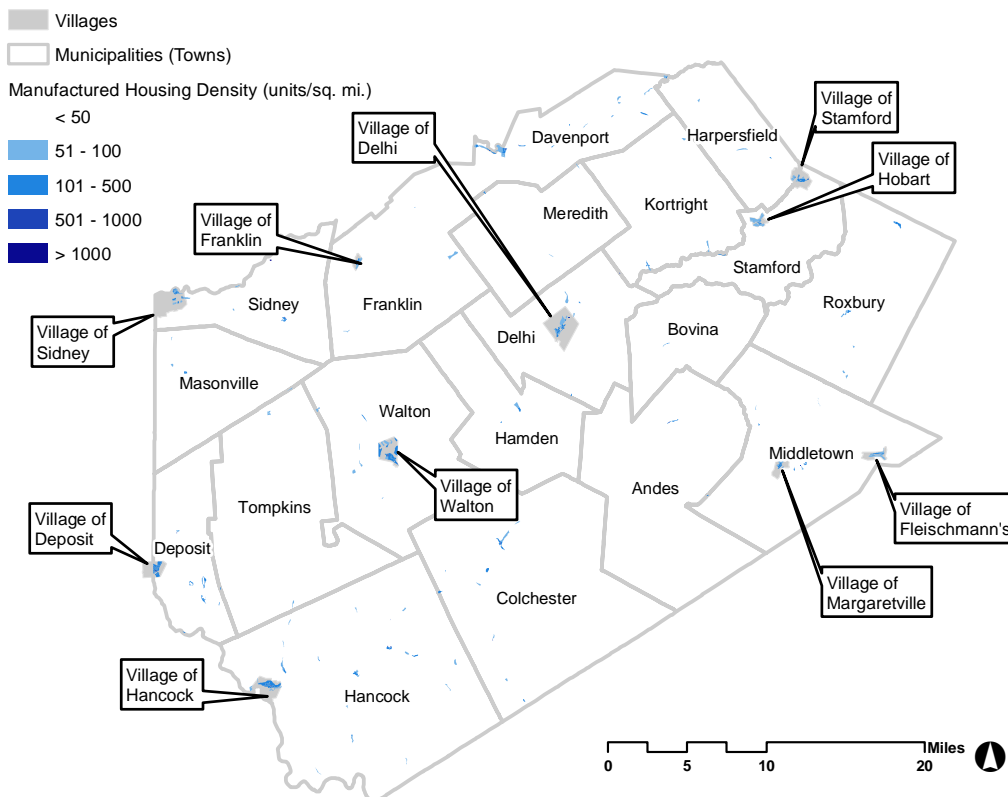


Figure 4-3-6. Commercial Exposure Density in Delaware County

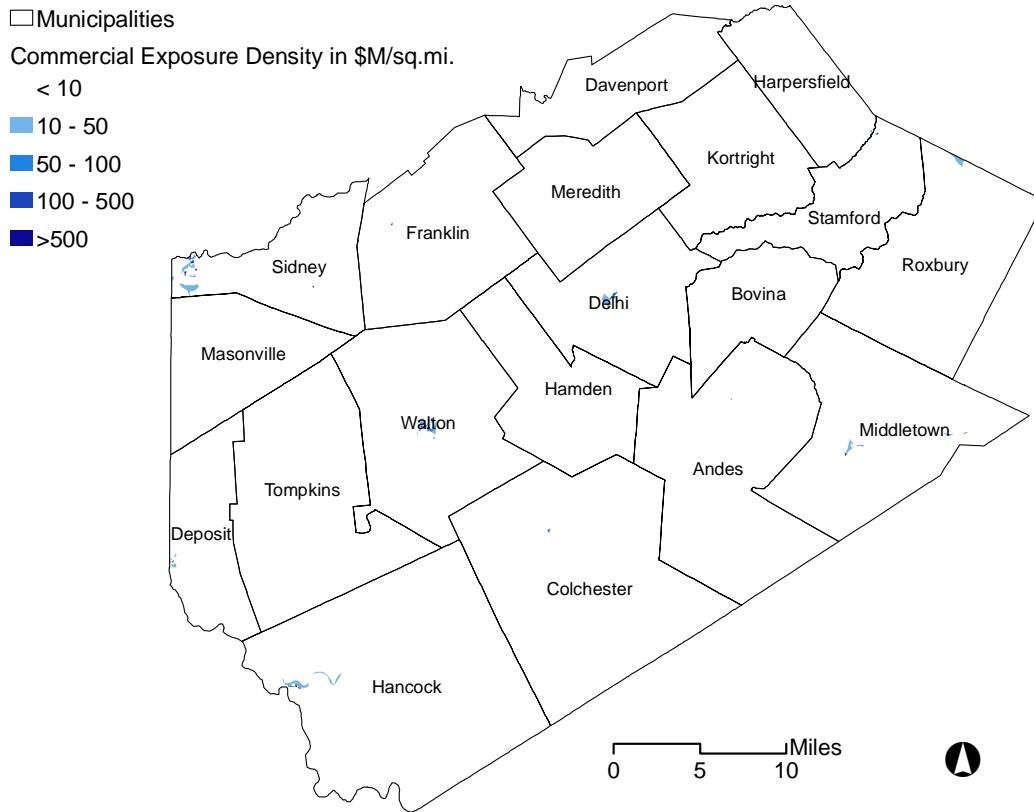
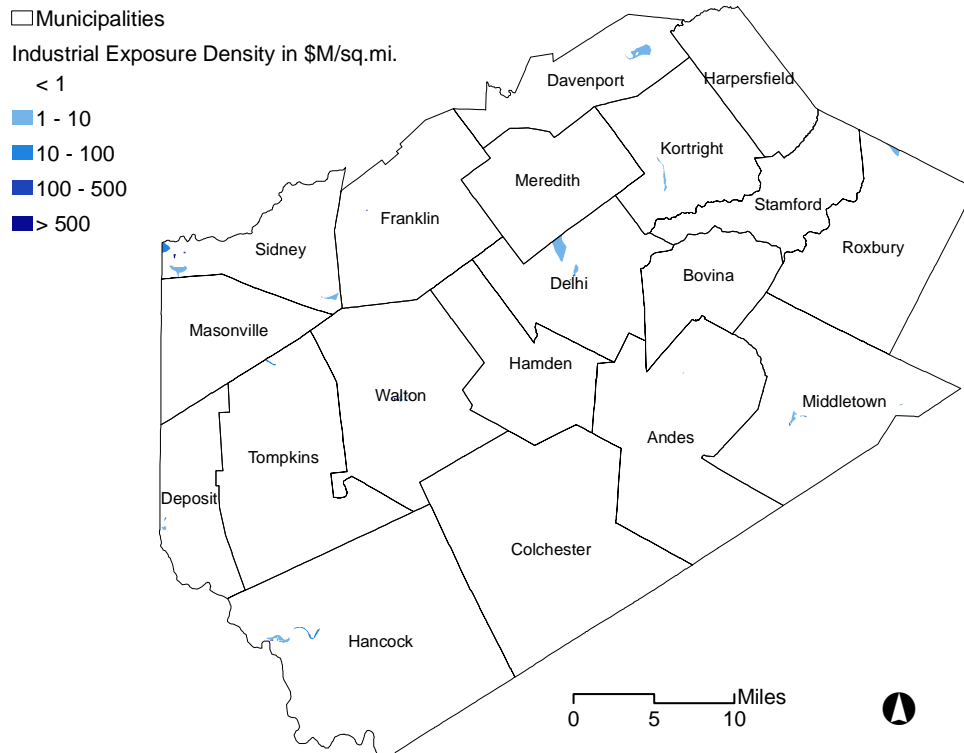


Figure 4-3-7. Industrial Exposure Density in Delaware County



4.3.3 Critical Facilities (Site Specific Inventory)

Critical facilities are defined in Appendix B, the Glossary, and include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous materials facilities. For the purposes of this Plan, essential facilities included in this risk assessment of Delaware County include hospitals and medical facilities, police and fire, EMS, schools, and major employers. Lifeline utility systems include, to the extent possible given availability of data, potable water, wastewater, oil, natural gas, electric power facilities, and communication systems.

4.3.3.1 Essential Facilities

A comprehensive inventory of essential facilities in Delaware County is being developed from various sources including HAZUS-MH provided data, DCPD-GIS data, internet sources of county and municipal data, as well as input from Delaware County government staff. The inventory of essential facilities presented in this section represents the current state of this effort at the time of publication of the draft Plan. The risk assessment results presented in Section 4.4 are based on default (Level 1) HAZUS-MH inventory data, enhanced where practical with local data. The inventory and risk assessment shall be updated in the final version of the Plan being submitted to FEMA to include the best available inventory assembled from this ongoing effort.

Police, Fire and EMS: Tables 4-3-3 and 4-3-4 provide an inventory of police stations, fires stations/EMS facilities in Delaware County. Figure 4-3-8 displays the locations of these facilities based on the DCPD-GIS dataset.

Table 4-3-3. Police Stations in Delaware County

Police Facility Name	Town/Village	Cost (Structural Value)	Bldg. Type (1)	Backup Power (Y/N)
NYS Trooper (Margaretville)	Village of Margaretville	\$191,153.00	Concrete (1)	TBD
Walton Village Police	Village of Walton	\$446,339.00	Concrete (1)	TBD
NYS Armory	Village of Walton	\$664,210.00	Concrete (1)	TBD
Delhi Village PD	Village of Delhi	\$329,120.00	Concrete (1)	TBD
DEP	Colchester	\$392,855,855.00	Concrete (1)	TBD
Future DEP (Beerston)	Walton	\$1,551,014.00	Concrete (1)	TBD
Sidney Police Department	Village of Sidney	\$1,652,000 (1)	Concrete (1)	TBD
NYS Trooper (Sidney)	Otsego County	\$1,652,000 (1)	Concrete (1)	TBD
Hancock Village PD	Village of Hancock	\$204,878.00	Concrete (1)	TBD
(Future) NYS Trooper	Deposit	\$14,792.00	Concrete (1)	TBD
Town of Colchester PD	Colchester	\$54,054.00	Concrete (1)	TBD
Deposit Village PD	Village of Deposit	\$14,792.00	Concrete (1)	TBD
Delaware County Sheriff's Dept	Village of Delhi	\$9,709,057.00	Concrete (1)	TBD
DEC - Region 4	Stamford	\$1,666.00	Concrete (1)	TBD
Delaware Highway Patrol	Sidney Center	\$1,652,000 (1)	Concrete (1)	TBD

(1) HAZUS-MH default data (2004), otherwise cost (structural value) data provided by DCPD.

(2) TBD indicates "to be determined"

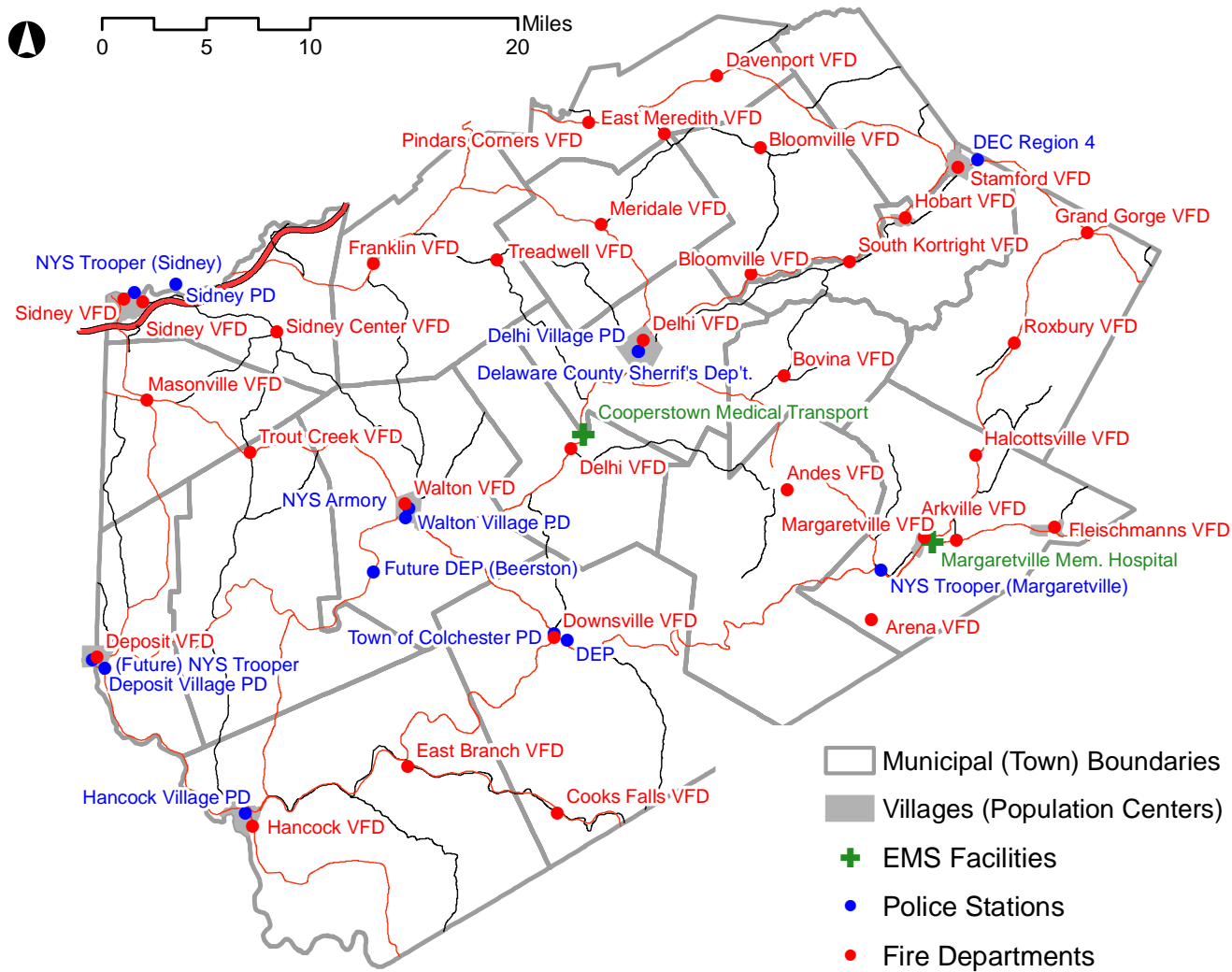
Table 4-3-5 Fire Stations and EMS Facilities in Delaware County

Fire/EMS Facility Name	Town/Village	Value (Structural Value)	Bldg. Type (1)	Backup Power (Y/N)
Andes Volunteer Fire Department (VFD)	Andes	\$342,000.00	Concrete	TBD
Bovina VFD	Bovina Center	\$89,521.00	Concrete	TBD
Downsville VFD	Downsville	\$439,189.00	Concrete	TBD
Cooks Falls VFD	Roscoe	\$157,657.00	Concrete	TBD
Davenport VFD	Davenport	\$107,781.00	Concrete	TBD
Pindars Corners VFD	Davenport	\$181,527.00	Concrete	TBD
Delhi VFD	Delhi	\$592,548.00	Concrete	TBD
Deposit VFD	Deposit	\$227,810.00	Concrete	TBD
Franklin VFD	Franklin	\$22,000.00	Concrete	TBD
Treadwell VFD	Treadwell	\$270,000.00	Concrete	TBD
Delhi VFD (Delancy)	Delancy	\$90,347.00	Concrete	TBD
Hancock VFD	Hancock	\$5,853.00	Concrete	TBD
East Branch VFD	East Branch	\$1,463.00	Concrete	TBD
Bloomville VFD	Bloomville	\$37,100.00	Concrete	TBD
Masonville VFD	Masonville	\$105,400.00	Concrete	TBD
Meridale VFD	Meridale	\$74,093.00	Concrete	TBD
Fleischmanns VFD	Fleischmann's	\$37,564.00	Concrete	TBD
Margaretville VFD	Margaretville	\$323,589.00	Concrete	TBD
Halcottsville VFD	Halcottsville	\$73,205.00	Concrete	TBD
Arkville VFD	Arkville	\$191,153.00	Concrete	TBD
Grand Gorge VFD	Grand George	\$1,121,415.00	Concrete	TBD
Roxbury VFD	Roxbury	\$176,223.00	Concrete	TBD
Sidney VFD	Sidney	\$174,700.00	Concrete	TBD
Sidney Center VFD	Sidney Center	\$173,500.00	Concrete	TBD
Hobart VFD	Hobart	\$590,000.00	Concrete	TBD
Stamford VFD	Stamford	\$246,666.00	Concrete	TBD
South Kortright VFD	South Kortright	\$19,666.00	Concrete	TBD
Trout Creek VFD	Trout Creek	\$39,215.00	Concrete	TBD
Walton VFD	Walton	\$38,224.00	Concrete	TBD
Cooperstown Medical Transport (EMS)		\$637,213.00	Concrete	TBD
East Meredith VFD	East Meredith	\$134,575.00	Concrete	TBD
Arena VFD	Arena	\$185,641.00	Concrete	TBD
Margaretville Memorial Hospital (EMS/Ambulance)	Margaretville	\$4,949,743.00	Concrete	TBD

(1) HAZUS-MH default data (2002)

The Delaware County Emergency Operations Center (EOC) is located at the Delaware County Public Safety Building in Delhi. In the event that this facility becomes inoperable, an auxiliary EOC would be established at the New York State Police Barracks – Troop C in Sidney.

Figure 4-3-8. Emergency Facilities in Delaware County



Hospitals and Medical Facilities:

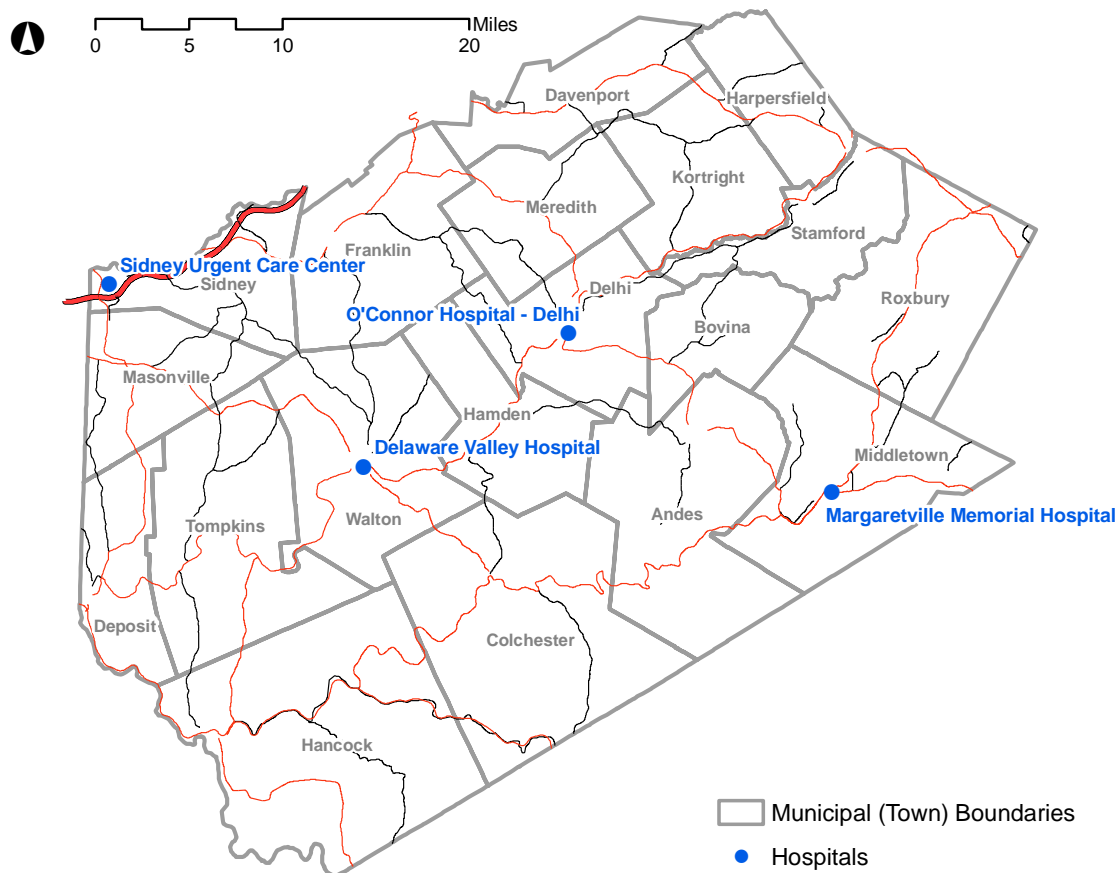
Table 4-3-5 provides an inventory of hospitals and major medical facilities in Delaware County. Figure 4-3-9 displays the locations of these facilities based on the DCPD GIS dataset.

Table 4-3-6 Major Medical Facilities in Delaware County

Facility Name	Town/Village	# Beds	Structural Value (\$)	Bldg. Type(1)	Backup Power (Y/N)
Margaretville Memorial Hospital	Margaretville	22	3,860,800	Concrete	Y
Delaware Valley Hospital	Walton	33	1,355,392	Concrete	Y
O'Connor Hospital - Delhi	Delhi	16	9,370,000	TBD	Y
Sidney Urgent Care	Sidney	N/A	TBD	TBD	TBD

Source: All data from DCPHD, except Structural Value which is DC Parcel GIS Data, Difference of Current Total and Current Land Assessed Value

Figure 4-3-9 Major Medical Facilities in Delaware County



Senior Living / Senior Care:

Table 4-3-6 provides an inventory of senior living (Level II) and senior care facilities in Delaware County. Please refer to Figure 4-3-2 for the geographic locations of these facilities.

Table 4-3-6 Senior Living / Senior Care Facilities in Delaware County

Name	Town	Type	Capacity
Delhi Senior Community	Delhi	Senior Housing	25
Meadow Park Apartments	Deposit	Senior Housing	82
Seventh Heaven	Stamford	Level II Adult Home	17
Hearthstone Home for Adults	Hobart	Level II Adult Home	24
South Kortright Rest Home	South Kortright	Level II Adult Home	23
Park Terrace Adult Home	Walton	Level II Adult Home	23
Stamford Village Apartments	Stamford	Senior Housing	24
Arkville Senior Apartments	Arkville	Senior Housing	8
Sidney Senior Village	Sidney	Senior Housing	40
Grand Gorge Apartments	Grand Gorge	Senior Housing	24
Mountainview Estates	Walton	Senior Housing	35
Westbrook Apartments	Walton	Senior Housing	37
Maple Bank Residence	Hobart	Senior Housing	9
Kirkside Adult Home	Roxbury	Level II Adult Home	21
Roscoe Community Nursing Home	Roscoe	Nursing Home	85
Robinson Terrace	Stamford	Nursing Home	122
Countryside Care Center	Delhi	Nursing Home	199
Mountainside Residential Care Center	Margaretville	Nursing Home	82

Source: DCPD-GIS data, amended and cross-checked with the 2004 CHA

In addition, 8 Level I adult homes provide care for another 29 residents.

It is noted that, subsequent to the 2004 CHA report (which included 2004 DCPHD data), The Hospital Nursing Care facility in Sidney closed and the capacity of the Countryside Care Center in Delhi increased from 165 to 199. Table 4-3-7 reflects these changes.

Schools:

The DC Chamber website indicates that there are 13 in-county school districts, enrolling approximately 8,200 K-12 students. Further, two BOCES centers (“Otsego Northern Catskills” and “Delaware-Chenango”) offer various life skill programs, and the County is home to the State University of New York (SUNY) College of Technology at Delhi. Table 4-3-8 inventories schools in Delaware County identified in the DCPD GIS data, the DC Chamber of Commerce website, and/or HAZUS-MH default data. Figure 4-3-10 displays the locations of these facilities based on the DCPD GIS dataset.

Sheltering Resources:

Various facilities within the County have established agreements with the American Red Cross, Delaware County and Head Start to provide sheltering and other living and staging resources in the event of a disaster or other emergency. Tables 4-3-9 and 4-3-10 provide a listing of those facilities with facility agreements and a summary of shelters within the County, respectively, taken directly from Appendix 1 of the Delaware County Comprehensive Emergency Plan (Draft, December 2003).

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Table 4-3-8 Educational Facilities in Delaware County

Facility Name	Town/Village	Type of Fac.	Enroll.	Designated Shelter	Shelter Capacity	Structural Value	Bldg. Type (1)	Backup Power (Y/N)
Andes Central School	Andes	Grades __	184	ARC/DC		\$697,600.00	Masonry	TBD
Charlotte Valley Central School	Davenport	Grades __	485			\$6,547,390.00	Masonry	TBD
Delaware Academy	Delhi	Grades __	1283	ARC		\$37,368,022.00	Masonry	TBD
Kellog School	Treadwell	Grades __					Masonry	TBD
Deposit Central School	Deposit	Grades __		DC		\$12,400,887.00	Masonry	TBD
Downsville Central School	Downsville	Grades __	352			\$10,866,666.00	Masonry	TBD
Franklin Central School	Franklin	Grades __	387	ARC/DC		\$7,825,000.00	Masonry	TBD
Hancock Central School	Hancock	Grades __	628	ARC/DC		\$290,243.00	Masonry	TBD
Margaretville Central School	Margaretville	Grades __	542	ARC/DC		\$3,147,435.00	Masonry	TBD
Roxbury Central School	Roxbury	Grades __	418	ARC/DC		\$1,393,792.00	Masonry	TBD
Sidney Central School	Sidney	Grades __	1565	DC		\$16,120,000.00	Masonry	TBD
South Kortright Central School	South Kortright	Grades __	456	ARC/DC		\$8,930,100.00	Masonry	TBD
Stamford Central School	Stamford	Grades __	544	ARC		\$11,000,000.00	Masonry	TBD
Walton (Townsend) Central School	Walton	Grades __				\$1,720,530.00	Masonry	TBD
Walton Central School	Walton	Grades __	1392	ARC/DC		\$5,646,439.00	Masonry	TBD
Sidney Center Grade School	Sidney Center	Grades __				\$429,000.00	Masonry	TBD
The Family School	Hancock	Grades __				\$697,560.00	Masonry	TBD
Manhattan Country School	Roxbury	Grades __				\$412,993.00	Masonry	TBD
Delaware-Chenango-Madison-Otsego BOCES	Sidney Center	Vocational						
Otsego-Northern Catskills BOCES	Grand Gorge	Vocational						
SUNY Delhi	Delhi	Post-Secondary		DC		\$56,436,775.00	Masonry	TBD
Del Co Chapter Assoc For Ret. Children	Walton NY					\$396,059.00		
Delaware Co Chapter NYS Arc Bldg.	Hamden NY					\$8,008,398.00		
Head Start School	Hancock NY					\$209,756.00		
SEVA Foundation Inc	So Kortright NY							
Delaware Opportunities Inc.	Delhi NY					\$175,256.00		
Manhattan Country School	Roxbury NY					\$322,198.00		
Joshua House Inc	Sidney Center NY					\$244,300.00		
Rainbow Infant-Toddler Day Care Inc.	Sidney NY					\$48,600.00		
Broome Co Office - Mental Retardation	Sidney NY					\$305,900.00		
Joshua House Inc	Sidney Center NY					\$24,900.00		
Project Independence Inc	Hobart NY					\$31,000.00		

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Table 4-3-8 Educational Facilities in Delaware County

Facility Name	Town/Village	Type of Fac.	Enroll.	Designated Shelter	Shelter Capacity	Structural Value	Bldg. Type (1)	Backup Power (Y/N)
Office Mental Retardation & Dev Disabilities	Walton NY							

- (1) HAZUS-MH default data (2004), amended by DCPD-GIS data and input from DCPHD
- (2) TBD indicates "to be determined"
- (3) ARC = American Red Cross, DC = Delaware County

Table 4-3-9 Sheltering Agreements in Delaware County

TOWNS	FACILITY	RED CROSS	DELAWARE CO.	HEADSTART
Andes	Andes Central School	X	X	
Andes	Andes Fire Hall	X		
Andes	United Methodist Church	X		
Bovina	Bovina Fire Department	X		
Bovina	U.P. Church	X		
Colchester	Christian Missionary	X		
Colchester	Cook Falls Fire Dept.	X		
Colchester	Downsville Fire Dept.	X		
Colchester	Downsville Fire Dept.	X	X	
Colchester	James Moore AL	X		
Davenport	Charlotte Valley CS	X	X	
Davenport	Methodist Church	X		X
Delhi	Alliance Fellow Church	X		X
Delhi	Assembly of God	X		
Delhi	Clark Co.	X		
Delhi	Delaware Academy	X		
Delhi	Donald Gleason	X		
Delhi	First Presbyterian Church	X		
Delhi	SUNY-total school		X	
Delhi	United Ministry Church	X		
Deposit	Deposit Central School		X	
Deposit	Head Start-Columbia Lake			X
Franklin	Franklin Central School	X	X	
Franklin	Head Start-Main Street			X
Hamden	Del. Co. Resource Center		X	
Hamden	Hamden Inn		X	
Hancock	Baptist Church	X		
Hancock	E. Branch Fire Dept.	X		
Hancock	Fish's Eddy Head Start			X
Hancock	Emory Methodist Church	X		
Hancock	Hancock Central School	X	X	
Hancock	Office building	X		
Hancock	Presbyterian Church	X		
Hancock	White Birch Airport	X		
Harpersfield	Col. Harper Grange	X		
Kortright	N. Kortright Presbyterian	X		
Kortright	S. Kortright Central School	X	X	
Kortright	United Methodist Church	X		
Kortright	W. Kortright Centre	X		
Masonville	Masonville Federated Church		X	
Meredith	E. Meredith Church		X	
Middletown	Arena Fire Department	X		
Middletown	Arkville Fire Department	X		
Middletown	Fairview House		X	
Middletown	Fleischmanns Fire Dept.	X		
Middletown	Head Start-Frank Street			X
Middletown	M. Post 216 A. Leg	X		
Middletown	Margaretville Central School	X	X	
Middletown	U. Methodist Church	X		
Roxbury	Grand G. Fire Dept.	X		
Roxbury	Grand G. Fire Dept.	X		
Roxbury	J. Gould Reform Church	X		
Roxbury	NOCO-Grand Gorge	X		
Roxbury	Roxbury Central School	X	X	
Roxbury	Roxbury Central School	X		
Sidney	Sidney Central School		X	
Sidney	Sidney Civic Center		X	
Stamford	BOCES=Cyr. Center	X	X	
Stamford	Hobart Activity Center		X	X

TOWNS	FACILITY	RED CROSS	DELAWARE CO.	HEADSTART
Stamford	Hobart Methodist Church	X		
Stamford	Robinson Terrace	X		
Stamford	Stamford Baptist Church	X		
Stamford	Stamford Central School	X		
Stamford	Stamford Veterans Club	X		
Tompkins	Harrold BOCES	X	X	
Tompkins	Trout Center Fire Dept.	X		
Walton	Christ Episcopal Church	X		
Walton	United Presbyterian Church	X		
Walton	Walton Central School	X	X	
Walton	Walton Grange		X	

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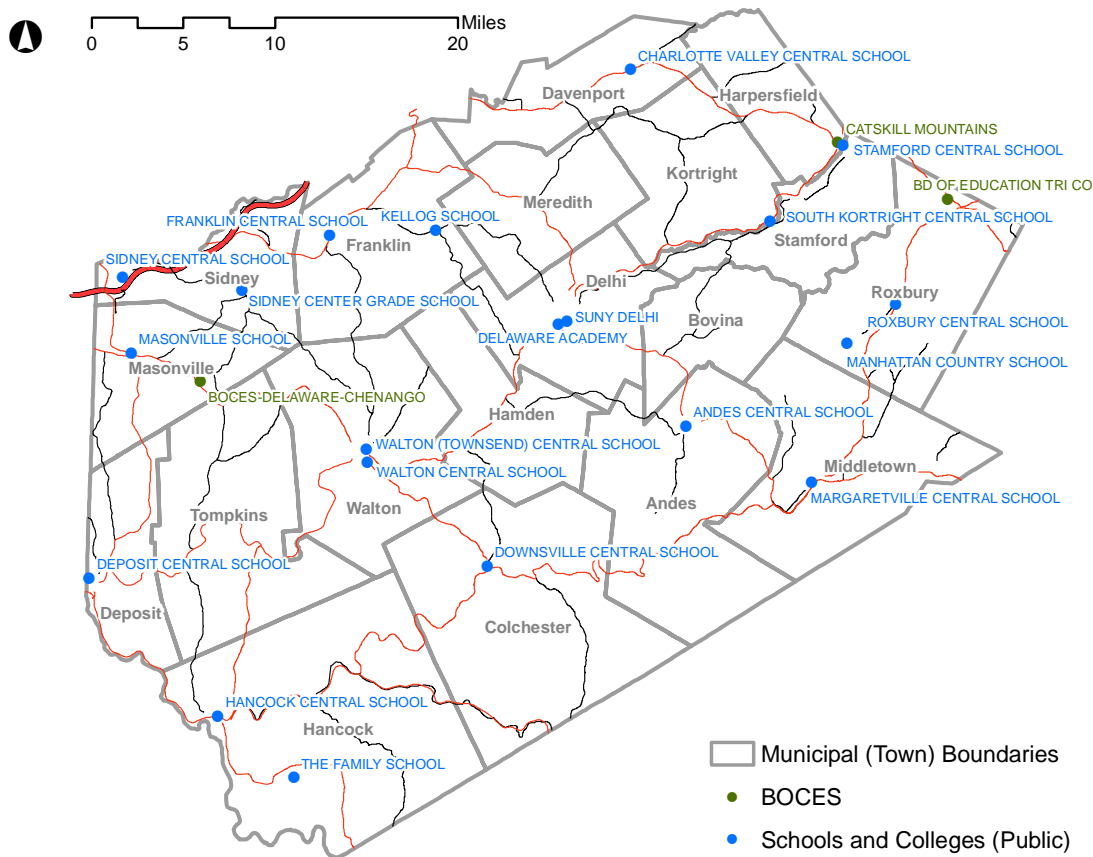
Table 4-3-10 Shelter Facilities in Delaware County

TOWN	FACILITY	1ST CONTACT	PHONE1	PHONE2	AGREE DATE	FC#PHONE	2ND CONTACT
Andes	Andes Cent School	John Buckhart	607-746-2412	914-676-3739	01/22/1998		Jennifer Leaver
	United Methodist	George Wright	607-363-7418	914-676-4713	04/04/1995		Walter Sprague
	Andes Fire Hall	Richard Winner			04/23/1997		
Bovina	U.P. Church	Marge Russell	607-832-4242	607-832-4253	03/17/1999		Karen Patricia
	Bovina Fire Dept.	Robert Burgen	607-832-4857	607-832-4287	04/28/1997		Tom Hilson
Colchester	Downsville CS	Roger Hutchinson	607-363-2806	607-363-7795	08/26/1996	607-363-2100	Robert Mackey
	James Moore AL	Michael Hume	607-363-7931	607-363-2808	03/19/1997	607-363-7876	Eugene Mills
	Downsville FD	Tim Barnes	607-363-7887	607-363-7527	05/19/1997	607-363-2235	Dennis Bennett
	Cooks Falls FD	Pete Fuller	607-498-5137	607-498-4662	03/18/1998	607-498-4309	James Lacey
	Christian Missionary						
Davenport	Charlotte Valley CS	David Whipple	607-278-5525	607-278-5489	02/17/1999	607-278-5511	Ed Waid
Delhi	Alliance Fellow Ch.	Norman Worden			02/09/1999		
	First Presbyterian Ch.	Rev. A. Whitman	607-746-2155	607-746-3171	07/09/1998		Joyce & Gary Mann
	United Ministry Ch.	Mark Chatterton	607-746-2077		02/15/1997	607-746-2191	
	Clark Co.	B. Scott Clark	607-746-2077	607-746-2830	02/02/1999	607-746-2727	Paul Roach
	Assembly of God	Paul Keehr	607-746-7219	607-746-7164	02/18/1999		Matt Dreyfus
	Delaware Academy	Gary Worden	607-746-2553	607-746-3972	04/24/1995	607-746-2105	Al Donato
	Donald Gleason P.	William Moyse	607-746-6295	607-746-2961	02/03/1999	607-746-3035	Robert Johnson
Franklin	Franklin CS	Douglas Ido	607-746-6515	607-829-8820	01/14/1998	607-829-3551	Michael Hyzer
Hancock	E. Branch Fire Dt.	Rodney Keesler	607-865-7994	607-363-7397	01/06/1998	607-637-2206	Allen Hadden
	Hancock CS	Bob Possemato	607-637-2259	607-637-2640	04/20/1998	607-637-3584	Glen Day
	Baptist Church	Robert Florence	607-637-3343	1-717-635-5826	08/07/1996	607-637-3584	Herm Wood
	Presbyterian Church	Edythe Benson	607-637-2266	607-637-2507	02/02/1997		Etsyl Davis
	White Birch Airport	Max Fransico	607-637-3677	607-637-5407	02/02/1999	607-637-3677	Everett Rhinebeck
	Office Building	E. Gerald Mackin	607-637-4707		02/03/1999	607-637-3651	
	Emory Methodist C.	Rev Francis Wait	607-637-2206	607-637-3689	09/05/1996	607-637-2206	Philip Terwilliger
Harpersfield	Co. Harper Grange	Barbara Hill	607-652-6792	607-652-7829	04/07/1997	607-652-2600	Dwayne Hill
Kortright	United Methodist C.	Richard Kenyon	607-538-9256	607-538-9440	02/26/1997	607-538-9440	Rev. W Carpenter
	W. Kortright Centre	Martha Vanburek	607-278-5113	607-278-5360	08/23/1996	607-278-5454	Kathleen Howarth
	N. Kortright P. Ch.	Donald Kerr	607-652-4445	607-652-5152	04/10/1999	607-278-5677	Evang. Maclaury
	South Kortright	Richard Cook	607-538-9060	607-538-9637	01/26/1998	607-652-2600	Robert Doroski
Middletown	Margaretville C.S.	John Reidel	845-586-2647	914-586-4757	01/21/1998	914-586-2647	Mike Boice
	M. Post 216 A. Leg	Donald Kearney	914-586-2219	914-586-4590	03/28/1997	914-586-3466	George Vinning
	U. Methodist Ch.	Rev. Skidmore	914-254-5261	914-254-5589	09/25/1996	914-254-5261	Herbert Blish
	Fleischmanns F.D.	Richard Osterhou	914-254-5912	914-254-5600	01/01/1998	914-254-5221	Todd Wickham
	Arkville Fire Dept.	Robert Sweeney	914-586-4649	914-586-4958	03/07/1997	914-586-3003	John Sanford
	Arena Fire Dept.	Eugene Wickam	914-586-4785	914-586-4982	04/03/1997	914-586-2333	Larry Wickham
Roxbury	NCOC-Grand Gorge				02/26/1999		
	Grand G. Fire Dept.	Thomas Murray	607-588-6128	607-588-6005	03/23/1997	607-588-6666	Henry Gockel
	GrandGorge Civic	Thomas Hynes	607-326-7921	607-588-7351	03/04/1999	607-588-6166	Charles Oakley
	Roxbury Fire Dept.	Jim Bouton	607-326-4033	607-326-7351	12/27/1997	607-326-7575	Steve Green
	Roxbury Cent School	Thomas Kirkwood	607-326-5751	607-326-4151	04/07/1997	607-326-4151	Ben Gruosso
	J. Gould Reform Ch.	Rev. R. Dykstra	607-326-7101	607-588-4242	02/04/1999		Don Brainard

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TOWN	FACILITY	1ST CONTACT	PHONE1	PHONE2	AGREE DATE	FC#PHONE	2ND CONTACT
Stamford	Robison Terrace	Pamela Harmen	607-652-2566	607-652-7901	03/24/1997	607-652-7521	James Vanhoesen
	Stamford Cent, Sch	William Lister	607-652-7855	607-652-7715	05/13/1999	607-652-7301	Joseph Beck
	BOCES-Cyr Ctr.	Dr. William Miles	607-652-1327	607-538-9824	02/04/1999	607-652-7531	Paul Marold
	Hobart Methodist Ch.	Richard Elder	607-538-9365	607-538-9332	02/05/1999	607-538-9691	Herb Hait
	Stamford Vets Club	Frank Kerzner	607-652-4292	607-652-7200	08/25/1999	607-652-7467	Fred Dugan
	Stamford Baptist Ch.	Waylen Bray	607-652-7978	607-652-3609	02-06/1999	607-652-3713	Frank Hornbeck
Tompkins	Harrold BOCES	Timothy Thomas			09/26/1996	607-865-2500	
	Trout Cr. Fire Dept.	Chris Kinney	607-865-7039	607-865-9341	04/05/1997	607-865-4810	Pat Backus
Walton	Walton Cent. School	George Mack	607-865-5326	607-865-6643	09/05/1996	607-865-4116	Andrew Jackson
	Christ Episcopal Ch.	Theodore Mead	607-865-6669	607-865-4698	01/12/1997	607-865-4698	Rev. Nick Servalas
	United Presby. Ch.	Rev. M. Hathaway	607-865-5024	607-865-5070	01/12/1997	607-865-4390	Mary Hafele

Figure 4-3-11 Educational Facilities in Delaware County



Business and Industry:

The Villages of Sidney and Hobart, lying outside of the NYSDEC watershed land areas, include some of the most significant industrial areas in the County. According to the DC Chamber of Commerce website, manufacturers in Delaware County employ over 4,000 people. Goods manufactured or provided in Delaware County include components for the aerospace industry, pharmaceuticals, printing, and dairy products. Major companies located in Delaware County include:

- Amphenol Aerospace (Sidney, >1,400 employees)
- AJS Controls, Inc. (Sidney)
- Mead Westvaco Corporation (Sidney, 1,000 employees)
- Audiosears (Stamford)
- Catskill Craftsman (Stamford)
- Clark Companies (Delhi)
- DMV Nutritionals International (Fraser)
- Kraft Foods (Walton)
- Tyco-Mallinckrodt HealthCare (Hobart)
- Morningstar/Ultra Dairy (Fraser)
- Northeast Fabricators (Walton)
- Beaver Mountain Homes (Hancock)

Industrial parks in the County include the 64-acre Sidney Industrial Park in Sidney, and a 10-acre park in Walton.

The DC Chamber website further notes that an abundance of excellent and unique raw materials has led to the growth of several natural resource-based industries in Delaware County including medium-density fiberboard (MDF), bluestone, and engravable wood products. Natural resource-based companies in Delaware County include:

- Indian Country (Deposit)
- Johnstone and Rhodes Bluestone (Hancock)
- Larimar and Norton (Hancock)
- Norbord Industries (Deposit)
- Tompkins Bluestone (Colchester)
- Cannonsville Lumber (Deposit)
- Mallory Lumber (Deposit)

The DC Chamber website indicates that Delaware County is home to over 700 farms occupying nearly 200,000 acres. The principal sources of cash farm income include milk, vegetables, grain and livestock. According to the Delaware County Action Plan (DCAP II), dairy farming constitutes approximately 80% of agricultural sales in Delaware County. However, the DC CHA notes that the county has seen a sharp decline in the number of dairy farms (203 as of 2013), losing 130 dairy farms (39% loss) since 1990.

The 1997 Census of Agriculture (USDA) for Delaware County identified 717 farms covering about 184,000 acres, with about half of the farmland identified as cropland. About 32% of the farms are in the 50-179 acre range, while almost 40% are in the 180-499 acre range. The total value of agricultural lands and buildings in Delaware County was indicated as about \$192 million, with an additional \$33 million of machinery and equipment (market value).

The 1997 Census of Agriculture indicates the market value of agricultural products sold totaled about \$43.5M, comprised of about \$4.9M of crops (including nursery and greenhouse crops) and \$38.7M of livestock, poultry and associated products. The 1997 agricultural census identified the following statistics:

Livestock and Poultry:

- Cattle and calves inventory: 34,685 head
- Hogs and pig inventory: 237 head
- Sheep and lamb inventory: 875 head
- Poultry: 2,631 head

Crops:

- Corn for grain or seed: 718 acres, producing 72,850 bushels
- Corn for silage or green chop: 8,308 acres, producing 115,105 tons (green)
- Oats for grain: 57 acres, producing 3,236 bushels
- Hay, alfalfa, other grains: 62,725 acres, producing 100,997 tons (dry)
- Vegetables: 260 acres
- Orchards: 33 acres

4.3.3.2 Transportation Systems

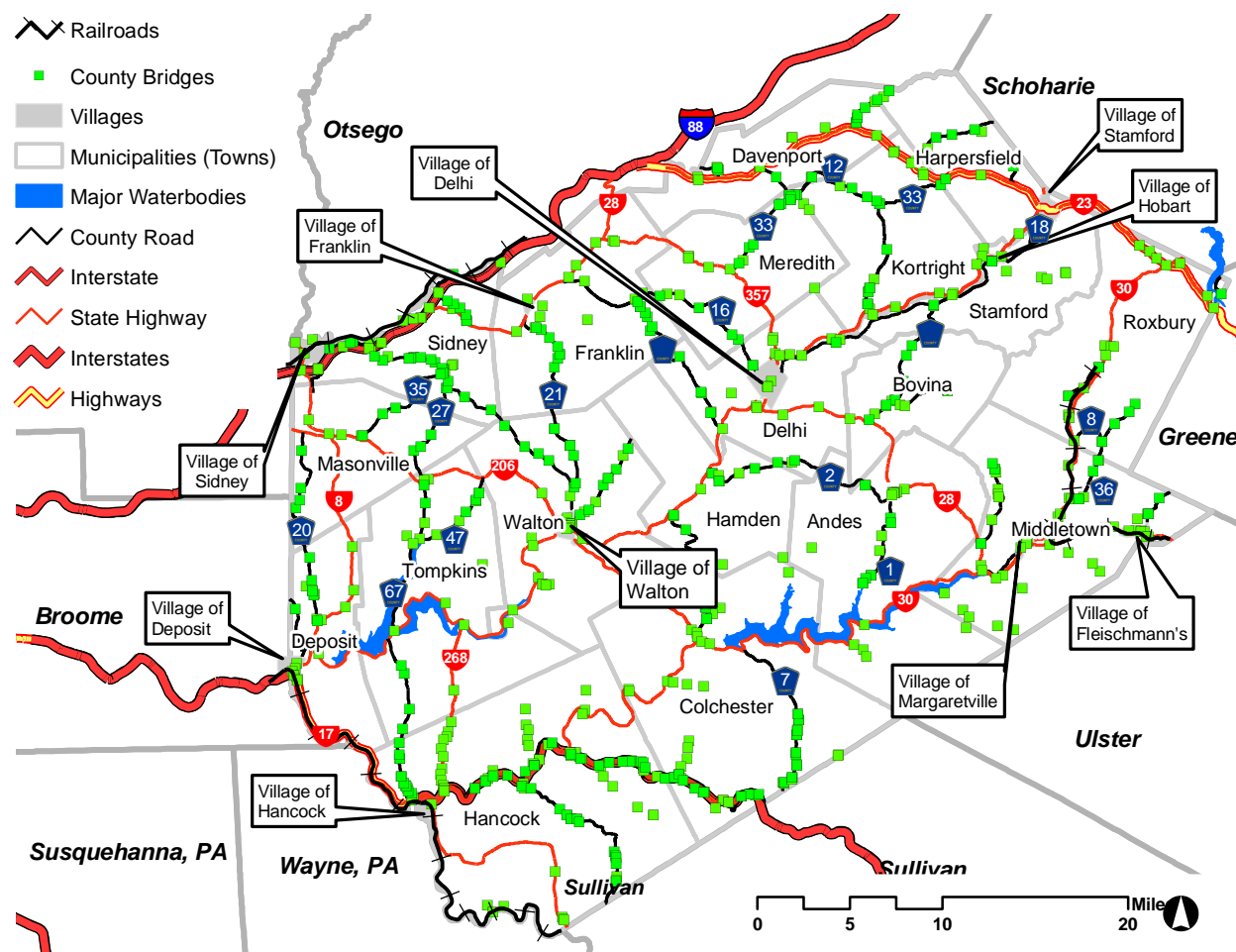
This section presents available inventory data for highways, roadways and associated systems; air transportation systems; and public transportation.

Highway, Roadways and Associated Systems:

Figure 4-3-11 shows the major roadways, railroads and associated bridges that serve the Delaware County area. Travelers from the New York City area generally use State Highway 17 (soon to be upgraded to Interstate 86 according to the DC Chamber website), running from Harriman to Binghamton, to access Delaware County from the south. Interstate 88, connecting Binghamton and Albany, runs along the northern border of Delaware County. State Highway 23 traverses the northeastern portion of the county and intersects Interstate 87 to the east. Intra-county travel is typically on the State Highways of 206, 30, 10, 28 and 257, as well County and local roads.

The 2004 CHA notes that most of the County lacks access to an interstate highway, and most of the travel between residents and services is along state and county road, generally characterized as “narrow, winding, two-lane roads that are difficult to traverse during winter months”.

Figure 4-3-11. Major Roads, Railroads and Associated Bridges in Delaware County



Roads network data used within this analysis included both the HAZUS-MH default Highway Segments data, as well as the detailed road network dataset provided by DCPD-GIS. Table 4-3-11 below summarizes the road segments by classification as provided by DCPD, and calculates the replacement cost of these roads based on the default replacement values provided by HAZUS-MH. In total, the DCPD roads network dataset includes nearly 2,600 miles of roads, including approximately 15.3 miles of Interstate, 319 miles of state highway, 275 miles of county roads, and 1,985 miles of local roads at an estimated total replacement value of nearly \$13.6 billion.

Table 4-3-11 Road Segments by Classification

Town/Village	All Roads (mi.)	Interstate (mi.)	State Hwy (mi.)	County Road (mi.)	Other Roads (mi.)
ANDES	171.2		14.7	8.0	148.4
BOVINA	81.4		3.7	12.9	64.8
COLCHESTER	198.9		30.4	20.8	147.7
DAVENPORT	115.1		12.2	8.1	94.7
DELHI	120.4		16.8	14.6	89.0
DELHI VILLAGE	14.0				14.0
DEPOSIT	72.6		21.5	7.3	43.8
DEPOSIT VILLAGE	7.1				7.1
FLEISCHMANN'S VILLAGE	7.6				7.6
FRANKLIN	140.8		16.1	15.4	109.4
FRANKLIN VILLAGE	2.4				2.4
HAMDEN	101.5		5.4	9.0	87.1
HANCOCK	276.6		48.6	31.0	197.0
HANCOCK VILLAGE	12.9		1.6		11.3
HARPERSFIELD	87.6		13.1	7.5	67.0
HOBART VILLAGE	4.1		1.4		2.7
KORTRIGHT	123.2		13.7	13.6	96.0
MARGARETVILLE VILLAGE	6.7		1.4		5.3
MASONVILLE	88.5		15.9	17.2	55.4
MEREDITH	100.1		8.0	14.9	77.2
MIDDLETOWN	218.9		23.6	14.7	180.5
ROXBURY	148.4		20.4	9.3	118.7
SIDNEY	105.5	15.3	7.3	21.1	61.8
SIDNEY VILLAGE	25.8		1.1		24.7
STAMFORD	67.5		1.2	14.1	52.3
STAMFORD VILLAGE	10.2		0.3		9.9
TOMPKINS	127.7		20.7	18.1	89.0
WALTON	139.7		20.2	16.8	102.6
WALTON VILLAGE	18.1				18.1
Total	2594.5	15.3	319.2	274.6	1985.4
Total Value (\$K)	\$13,569,505	\$157,785	\$1,659,656	\$1,428,130	\$10,323,934

K = 1,000

The default HAZUS-MH data includes 398 highway bridges in Delaware County with a net replacement value of nearly \$ 3.2 billion. Of these 398 bridges, 126 are identified as state-owned, 250 county-owned, with the remainder being locally owned.

According to the DCDPW, there are currently 399 bridges in Delaware County. Of these, 126 are state-owned and maintained; the rest (273) are owned and maintained by the County. Of the County-owned

bridges, there are 82 bridges on the county highway system and 191 on local roads and streets. As for the replacement value of County bridges, the estimated average value is between \$200,000 to \$250,000. Therefore, the total replacement value would be approximately \$68.5 million.

As it appears there is reasonable correlation between the numbers and locations of bridges between the HAZUS_MH provided data and the information available from the DCDPW, it was decided to use the default HAZUS-MH highway bridge data “as-is” in this risk assessment.

Railway and Associated Systems:

The HAZUS-MH provided data includes approximately 57 miles of railroad in Delaware County. This includes approximately 4.7 miles of railroads and sidings in the town of Sidney owned by Delaware and Hudson, 31 miles of rail owned by Conrail that runs along the Delaware River on the New York/Pennsylvania border through the towns of Deposit and Hancock, and 21 miles of rail owned by Penn Central Railroad in the towns of Roxbury and Middletown. HAZUS-MH uses a default replacement value of \$850,000 per mile of rail, thus based on this valuation there is over \$44M of railroad in Delaware County. It is noted that the DCPD rail dataset agrees closely with the HAZUS-MH rail segments data, however includes rail segments outside of the county.

Data available on the CUGIR website includes significant railroad segments in Stamford, Walton, Hamden and Sidney that the Planning Group has identified as inactive. The DC Chamber website identifies the railines serving the western end of Delaware County as the Canadian Pacific Rail System, running from Albany to Binghamton, and the railines serving the southern of the county along its rail corridor from Binghamton to Hoboken, NJ as the Norfolk Southern Rail System.

There are no ferry or light-rail systems in Delaware County.

Air Transportation Systems:

While there are no major airports or FAA-controlled airfields in Delaware County, there are 12 uncontrolled airfields identified within the HAZUS-MH provided data with a total replacement value for airport facilities and runways of \$ 77,172 (HAZUS-MH applies a default replacement value on such airport facilities and runways of \$ 6,431 per facility). The DC Chamber website indicates that charter and freight service are available from the Sidney Municipal Airport.

Public Transportation:

The 2004 CHA notes that “a county-wide public transportation system does not exist, and only limited transportation services are provided by a few county agencies and community organizations – but limited to their clients”. This lack of public transportation can reduce the ability of low-income, elderly, sick or disabled persons to access shelter or evacuate during a disaster. Therefore, Section 5 considers mitigation strategies to address potential evacuation or shelter support.

4.3.3.3 Utilities

Compiling comprehensive data for utility systems in Delaware County has proved difficult, and the process is ongoing. Utility system data that were available through HAZUS-MH were not considered sufficient to support accurate loss estimates, and utility data available from the DCPD is incomplete at this time. The following sections presents the current state of the inventory of utility systems, recognizing that the final Plan shall include a more comprehensive inventory.

Potable Water Supply:

The HAZUS-MH provided data included only a single potable water treatment facility in the County (Andes Public Library on Main Street). The Town of Hamden Comprehensive Plan – 2000 identifies two public water supply systems, one each for Delancy and Hamden. Both of these systems are currently undergoing major upgrades costing approximately \$2M to ensure both quantity and quality of supply.

DCPD provided an inventory of potable water supplies in Delaware County. Table 4-3-12 provides this list which includes complete water treatment facilities as well as simple well supplies serving the public in restaurants, campgrounds, etc.

Table 4-3-12 Potable Water Supply Sources in Delaware County

Community Water Systems: Water Systems that serve the same people year-round (e.g. in homes or businesses).

<u>Water System Name</u>	<u>Town/Village</u>	<u>Population Served</u>	<u>Primary Water Source Type</u>	<u>Water System ID</u>
ALLEN RESIDENTIAL CENTER	South Kortright	215	Ground water	NY1202009
ANDES WATER DISTRICT	Middletown	260	Ground water	NY1200248
ARKVILLE WATER DISTRICT	Margaretville	250	Ground water	NY1200249
BALLARDS MOBILE HOME PARK	Walton	46	Ground water	NY1210657
BARNES TRAILER PARK	-	96	Ground water	NY1206335
BELAIRE MOUNTAIN ESTATES INC.	Margaretville	50	Ground water	NY1206334
BLOOMVILLE WATER DISTRICT	Bloomville	220	Ground water	NY1200250
BOVINA CENTER WATER DIST. NO 1	Bovina Center	142	Surface water	NY1200251
BRACE RESIDENTIAL CENTER	Masonville	57	Ground water	NY1209224
COOKS FALLS WATER DISTRICT	Downsville	150	Ground water	NY1200253
CORBETT COMMUNITY CORP.	Downsville	93	Ground water	NY1200254
DAVENPORT WATER CO	Davenport	104	Groundwater UDI Surfacewater	NY1200255
DELAWARE CO CNTRYSIDE CARE CTR	Delhi	456	Ground water	NY1205152
DELHI VILLAGE	Del	3833	Ground water	NY1200257
DENVER WATER DISTRICT	Roxbury	360	Ground water	NY1205399
DOWNSVILLE WATER DISTRICT	Downsville	500	Ground water	NY1200258
EAST BRANCH VALLEY INC	East Branch	133	Ground water	NY1200259
FAMILY FOUNDATION, INC.	Hancock	335	Ground water	NY1222078
FISHS EDDY COMMUNITY WATER SUP	Fleishmans	125	Ground water	NY1200260
FLEISCHMANN'S VILLAGE	Fleishmans	625	Groundwater UDI Surfacewater	NY1200261
FRANKLIN VILLAGE	Franklin	480	Ground water	NY1200262
GRAND GORGE WATER DISTRICT	-	380	Ground water	NY1200263
GREENACRE MANUFACTURED HOME PARK	-	45	Ground water	NY1206336
HALCOTTVILLE WATER DISTRICT NO. 1	Margaretville	48	Ground water	NY1200264
HAMDEN WATER DIST 1 - HAMDEN	Hamden	115	Ground water	NY1200265
HAMDEN WATER DIST 2 - DELANCEY	Hamden	135	Ground water	NY1200256
HANCOCK VILLAGE	Hancock	1189	Ground water	NY1200266
HOBART VILLAGE	Hobart	380	Ground water	NY1200267
LEISURE VILLAGE	-	85	Ground water	NY1208176
MARGARETVILLE VILLAGE	Margaretville	660	Groundwater UDI Surfacewater	NY1200268
MT VIEW MOBILE HOME PARK	-	220	Ground water	NY1206338
PHOENIX HOUSE	South Kortright	200	Ground water	NY1208249

PINE RIDGE MOBILE HOME PARK	Davenport	45	Ground water	NY1215266
RIVER ROAD TRAILER PARK	Walton	52	Ground water	NY1210658
RORIC RENTALS, INC.	Delhi	60	Ground water	NY1206333
ROXBURY WATER DISTRICT	Roxbury	750	Ground water	NY1200269
SIDNEY VILLAGE	Sidney	5100	Ground water	NY1200270
STAMFORD VILLAGE	-	1280	Surface water	NY1200272
STRATTON FALLS MHP	Roxbury	45	Ground water	NY1212402
TREADWELL WATER DISTRICT	Franklin (or Treadwell)	165	Groundwater UDI Surfacewater	NY1200273
WALTON COUNTRY MEADOW PARK	-	160	Ground water	NY1220347
WALTON VILLAGE	Walton	3070	Ground water	NY1200274
Non-Transient Non-Community Water Systems: Water Systems that serve the same people, but not year-round (e.g. schools that have their own water system).				
Water System Name	-	Population Served	Primary Water Source Type	Water System ID
CHARLOTTE VALLEY CENTRAL SCHOO	Colchester	600	Ground water	NY1202631
DELAWARE COUNTY RESOURCE CENTER	-	202	Ground water	NY1215515
DMV INTERNATIONAL	Delhi	100	Ground water	NY1230000
KRAFT FOODS N.A.	Walton	200	Ground water	NY1210799
MASONVILLE BOCES	Masonville	200	Ground water	NY1215462
MASONVILLE ELEMENTARY SCHOOL	Masonville	200	Ground water	NY1202633
NYS ELECTRIC AND GAS CORP	-	40	Ground water	NY1219937
SIDNEY CTR ELEMENTARY SCHOOL	Sidney	100	Ground water	NY1202634
SOUTH KORTRIGHT CENTRAL SCHOOL	South Kortright	560	Ground water	NY1205873

Transient Non-Community Water Systems: Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations).				
Water System Name	-	Population Served	Primary Water Source Type	Water System ID
4-H CAMP SHANKITUNK	Hamden	120	Ground water	NY1208252
ANDEL INN	Andes	52	Ground water	NY1206550
BEAR SPRINGS CAMPING AREA	-	100	Ground water	NY1208194
BEAVER SPRING LAKE CAMPGROUND	-	100	Ground water	NY1208241
BEAVER-DEL HOTEL & CAMPSITES	-	75	Ground water	NY1215385
BOBCAT SKI CENTER	Bovina	80	Ground water	NY1216831
BUCK HORN LODGE	East Branch	50	Ground water	NY1208261
BUENA VISTA MOTEL	Delhi	90	Ground water	NY1208236
BUTTERNUT GROVE CAMPSITE	Roscoe	54	Ground water	NY1208179
CAMP HILLTOP	Hancock	230	Ground water	NY1208205
CAMP KINGSWOOD	-	84	Ground water	NY1208184
CAMP LMAN ACHAI	-	150	Ground water	NY1208254
CAMP NUBAR	-	200	Ground water	NY1208253
CAMP RADALBEK, INC	Hancock	25	Ground water	NY1208204
CATSKILL MTN CAMPGROUND	Downsville	90	Ground water	NY1208167
COUNTRY STORE & KITCHEN	Roscoe	25	Ground water	NY1222496
COUNTRY STORE 5	Roscoe	25	Ground water	NY1230010
DAVENPORT CENTER DINER	Prattsville	46	Ground water	NY1221953
DELAWARE COUNTY KOA	Franklin	50	Ground water	NY1208168
DELAWARE VALLEY AGRICULTURAL SOCIETY	Walton	25	Purchased ground water	NY1230027
DELAWARE VALLEY CAMPSITE	Downsville	150	Ground water	NY1208177
DELHI COLLEGE GOLF SNACK BAR	Delhi	80	Ground water	NY1218852

DEPOSIT MOTEL, LTD.	Deposit	50	Ground water	NY1208263
DO DROP INN	Hancock	25	Ground water	NY1206551
DOWNSVILLE MOTEL	Downsville	60	Ground water	NY1222037
EAST BRANCH MOTEL, INC.	East Branch	48	Ground water	NY1218944
EAST BRANCH REST AREA 17 WEST	Hancock	250	Ground water	NY1219084
EAST SIDNEY LAKE PARK	Sidney	200	Ground water	NY1208169
FAIRWAY INN	Sidney	25	Ground water	NY1215522
FRENCH WOODS FESTIVAL, INC.	Hancock	750	Ground water	NY1208264
Transient Non-Community Water Systems: Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations). (Continued)				
FRENCHWOODS GOLF & CTRY CLUB	Hancock	48	Ground water	NY1230008
FUNNY FARM @ REXS AUCTION CENTER	-	25	Ground water	NY1230025
GASCONS GROCERY	Masonville	25	Ground water	NY1230011
GREEN ACRES MOTEL	Hancock	44	Ground water	NY1208186
GREENS LONG RIVER INN	-	40	Ground water	NY1219283
HAMDEN GENERAL STORE	Hamden	25	Ground water	NY1230022
HANAH COUNTRY RESORT	Hancock	120	Ground water	NY1208189
HARDWOOD HILLS GOLF COURSE/COUNTRY CREAM	Masonville	25	Ground water	NY1206534
HARPERSFIELD GENERAL STORE	Harpersfield	25	Ground water	NY1230012
HESS MART #32383	Margaretville	25	Ground water	NY1230013
HIDDEN INN	South Kortright	125	Ground water	NY1206544
HIGH HILLS COUNTRY CLUB, INC.	Hancock	40	Ground water	NY1220639
HOMESTEAD FARM ESTATE	-	40	Ground water	NY1208188
HUFFS TAVERN, INC.	Sidney Center	60	Ground water	NY1216825
I88 REST UNADILLA EAST BOUND	-	250	Ground water	NY3818337
KABABISH COTTAGE CAFE	-	25	Ground water	NY1219328
LA SALETTE RESTAURANT	Hancock	75	Ground water	NY1206552
LAKE DELAWARE BOYS CAMP INC	-	112	Ground water	NY1208251
LITTLE POND STATE CAMPSITE	-	300	Ground water	NY1208195
LITTLE VILLAGE INN	-	25	Ground water	NY1208193
MAMA MARIAS PIZZERIA	-	52	Ground water	NY1221789
MANHATTAN COUNTRY SCHOOL FARM	-	25	Ground water	NY1221361
MARGARETVILLE BOWL	Margaretville	50	Ground water	NY1225000
MARGARETVILLE MOTEL	Margaretville	40	Ground water	NY1208190
MAYWOOD STATION GENERAL STORE	Sidney Center	25	Ground water	NY1230016
MEREDITH INN	Meredith	25	Ground water	NY1206536
MERRILLS FARM VACATIONS	Roscoe	45	Ground water	NY1219529
MILLER HOLLOW CAMPGROUND	Roscoe	46	Ground water	NY1208181
MILLERS BAR-B-Q	Walton	38	Ground water	NY1206545
MOUNTAIN BROOK INN	Bovina Center	40	Ground water	NY1208239
MY PLACE DINER	-	30	Ground water	NY1230004
NYCDEP DOWNSVILLE	-	57	Ground water	NY1230030
OAKLEYS PLACE	Arkville	25	Ground water	NY1206599
OCTAGON MOTOR LODGE	-	25	Ground water	NY1230031
OPPENHEIMERS REGIS HOTEL	-	150	Ground water	NY1208171
OULEOUT CREEK GOLF CLUB	Franklin	75	Ground water	NY1221954
OWLS NEST AT HIGHMOUNT, INC	-	150	Ground water	NY1206540
OX BOW CAMPSITES	East Branch	340	Ground water	NY1221806
PAKATAKAN MOTEL	Arkville	38	Ground water	NY1208244
PEACEFUL VALLEY CAMPSITES	Downsville	740	Ground water	NY1208185

PINE LAKE ENVIRONMENTAL CENTER	-	110	Ground water	NY1215383
PIONEER TRAILS CAMPGROUND	-	60	Ground water	NY1208240
QUICKWAY #12	Sidney	25	Ground water	NY1230023
QUICKWAY 2	Sidney	25	Ground water	NY1230018
RAINBOW LODGE	Walton	110	Ground water	NY1216819
RED ROSE MOTEL & REST	Roscoe	30	Ground water	NY1212387
RIVERSIDE CAFE & LODGE	Roscoe	40	Ground water	NY1208237
Transient Non-Community Water Systems: Water Systems that do not consistently serve the same people (e.g. rest stops, campgrounds, gas stations). (Continued)				
ROADHOUSE INN	Hamden	50	Ground water	NY1206604
RUSSELL BROOK CAMPSITE	Roscoe	140	Ground water	NY1208255
SERENITY PATH WELLNESS LODGE	East Branch	25	Ground water	NY1230028
SEVA INSTITUTE	South Kortright	34	Ground water	NY1220346
SHEPARD HILLS GOLF ASSOC. I	Roxbury	25	Ground water	NY1215521
SHERRIS PLACE	Harpersfield	25	Ground water	NY1219285
SILVER LAKE WATER ASSOCIATION	Walden	58	Ground water	NY1222896
SILVER LAKE WEST SIDE WATER AS	-	45	Ground water	NY1218319
SKI PLATTEKILL	Roxbury	500	Ground water	NY1216821
SMITHS COLONIAL MOTEL	Hancock	56	Ground water	NY1212391
STRATTON FALLS CAMPSITE	Roxbury	184	Ground water	NY1208183
SUITS US FARM	Bovina Center	200	Ground water	NY1208238
SUNY DELHI LOWER CAMPUS FARM	Delhi	50	Ground water	NY1222997
T BAR RESTAURANT	Roxbury	60	Ground water	NY1219593
TALLY HO RESTAURANT (OF DAVENPORT)	West Davenport	75	Ground water	NY1206549
TAVERN ON THE GREEN	-	125	Ground water	NY1206608
TERRYS SHINHOPPLE CAMPSITE	East Branch	40	Ground water	NY1208166
THE FIELDSTONE HOUSE	Sidney Center	25	Ground water	NY1230005
THE INN BETWEEN	Arkville	48	Ground water	NY1206539
THE MEADOWS GOLF COURSE	-	25	Ground water	NY1230029
TIMBERLINE MOTEL	Hancock	36	Ground water	NY1208187
TROUT CREEK GENERAL STORE	Trout Creek	25	Ground water	NY1230021
TWIN ISLANDS CAMPSITE	Roscoe	135	Ground water	NY1208182
UNADILLA I88 REST AREA WEST BD	-	250	Ground water	NY3818209
VALLEY VIEW MOTEL	Hamden	25	Ground water	NY1208170

Wastewater Treatment:

Both the HAZUS-MH provided data, as well as local (DCPD) data were insufficient to develop a comprehensive inventory of wastewater treatment facilities in the County. Due to the generally rural nature of much of the County, on-site septic disposal is prevalent through much of the region. Sewer systems generally service the population centers found within the villages in the County. The Town of Hamden Comprehensive Plan – 2000 indicates that there are no sewer systems within the Town, which includes the hamlets of Hamden and Delancy.

The Village of Margaretville completed a new WWTP in 2000.

An October, 2001 Press Release from the NYCDEP indicated wastewater treatment plant upgrades to the municipal facilities owned by the Villages of Delhi, Hobart, Stamford, Walton, and the facility serving the Worcester Creamery (formerly Mountainside Dairy Farms) in Roxbury.

DRBC Aug. 2002 Notices (Doc. No. 02-1481) indicate that the Village of Andes was to construct a 0.062 mgd STP to serve Village residents, located between Cabin Hill and Tremper Kill Roads.

A May 2004 Press Release announced state grants and interest-free and low-interest financing for clean water projects, provided through the New York Drinking Water and Clean Water State Revolving Funds. Included in this package was \$150,000 of long-term, low-interest loans to the Town of Roxbury for a new water transmission main and upgraded water source to supply the Grand Gorge Water District with water from the Roxbury Water District, work to be completed in May 2004.

The HAZUS-MH provided data includes the 10 wastewater treatment plants identified in Table 4-3-13 below, with default replacement values of \$ 78,588 per plant. No wastewater lift stations or piping was provided in the HAZUS-MH default data, and the DCPD does not have such datasets available at this time.

The NYDEC provided a dataset of wastewater treatment plants serving their watershed areas, which includes the following facilities:

Table 4-3-13 Wastewater Treatment Plants

Facility Name	Town/Village	Population Served
Stamford WWTP	Stamford	
Village of Hobart PCF	Hobart	
SEVA Institute #003 (Seasonal)	S. Kortright	
SEVA Institute #002 (Seasonal)	S. Kortright	
South Kortright Center for Boys	Kortright	
Penn Quality Meats Coop., Inc.	Stamford	
Delhi V (Seasonal Limits)	Delhi	
Roxbury Run Village	Roxbury	
Delaware Boces	Masonville	
Camp Nubar (Seasonal)	Andes	
Walton (V) WWTP	Walton	
Regis Hotel (Seasonal)	Fleischmanns	
Margaretville STP	Margaretville	
Camp Tai Chi (Seasonal)	Andes	

Additional WWTP facilities were provided by the DCPD:

Table 4.3.12. Potable Water Treatment Plants

Facility Name	Town/Village	Population Served
	Andes (Hamlet)	
	Delhi Village	
	Deposit Village	
	Hancock Village	
	Hobart Village	
	Margaretville Village	
	Sidney Village	
	Stamford Village	
	Walton Village	
	Grand Gorge/Roxbury	
	Bovina Center (comm. Septic sys.)	
DMV/Ultradairy	Fraser	

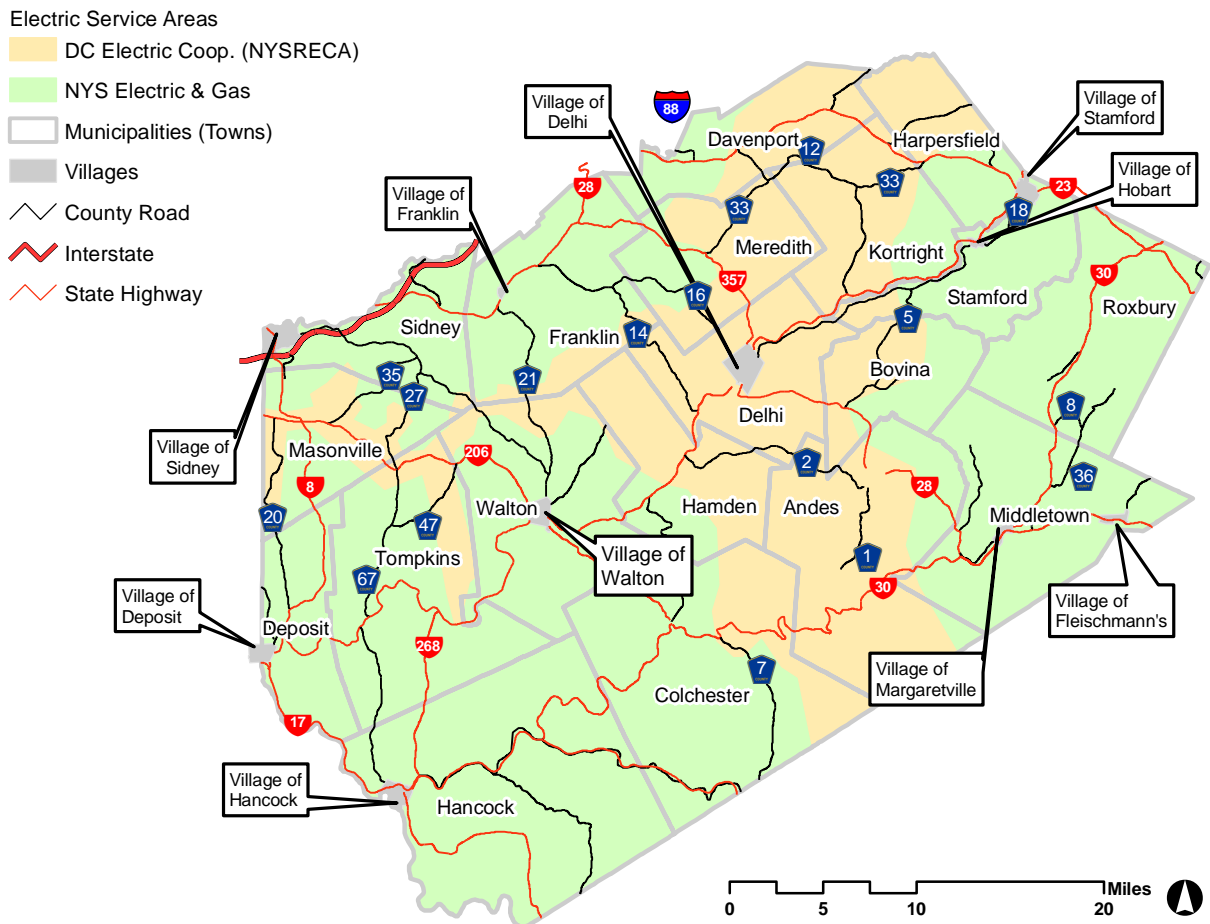
Table 4.3.12. Potable Water Treatment Plants

Facility Name	Town/Village	Population Served
Kraft	Walton	

Electric Utility Systems:

The HAZUS-MH provided data does not include any oil, natural gas or electric power facility information for the County. With regard to electric service, the County is served by the Delaware County Electric Cooperative (DCEC) and New York State Electric & Gas (NYSEG). The DCPD provided digital data showing the general locations of powerlines and customers served by the DCEC, which is a member of the New York State Rural Electric Cooperative Association (NYSRECA). NYSEG data has not been made available. Figure 4-3-12 shows the general electric service areas within the County, based on the available DCEC data. The NYSEG service area depicted is simply those areas outside of those clearly shown to be within the DCEC data. While suitable for the purposes of this HMP, the very general nature of these service area delineations must be understood. The DCEC data includes approximately 680 miles of powerlines within the county, providing service to 4,433 customers.

Figure 4-3-12 Electric Service Areas in Delaware County



Oil and Natural Gas Systems:

The HAZUS-MH default data did not include any oil, natural gas or electric power facility information for the county, and the DCPD does not have such datasets available at this time.

The Steering Committee indicates that a pipeline explosion occurred in Harpersfield in January, 2004, setting a home ablaze.

Communication Systems:

The HAZUS-MH default data includes 8 broadcast facilities identified in Table __ below.

Emergency Communications Towers:

The following communications towers were identified in the DCGIS “Towers” file:

Mt. Utsayantha	Tower Mt. Rd. Stamford
Craig Hill	Andes
Houck Mountain	Walton
Ed Klug	Franklin
White Birch Airport	Town of Tompkins
Belleayre	Highmount (Ulster County)
Coon Hill	Outside Village of Hancock
Sidney	Sidney (State Police)

4.3.3.4 High-Potential Loss Facilities

High-potential loss facilities include dams, levees, nuclear power plants and military installations. The HAZUS-MH provided data identifies 56 dams in Delaware County.

The “Major Dams of New York” dataset, provided by the U.S. Army Corps of Engineers (USACE), identified four (4) major dams in Delaware County. The “Major Dams” information came from the National Inventory of Dams (NID) which was produced by USACE in cooperation with FEMA's National Dam Safety Program, and includes dams of 50 feet or more in height, or with a normal storage capacity of 5,000 acre-feet or more, or with a maximum storage capacity of 25,000 acre-feet or more. The Downsville Dam, near Downsville, and the Cannonsville Dam, near Deposit, are both owned by the City of New York and are classified as “High Hazard” dams. The East Sidney Dam, federally owned, is classified as a “High Hazard” dam. The Sidney Upper Reservoir Dam (aka: Taylor Reservoir Dam) near Village of Sidney who owns the dam, is classified as a “Significant Hazard” dam.

The DCGIS “Dam” dataset includes 164 dams (including the three “Major” dams previously described) as indicated on Figure 4-3-13 and in Table 4-3-15. These records includes data on the dams including the National ID, dam type, purpose, year completed, ownership, downstream hazard (no, low, moderate, high), whether an emergency action plan exists, the hazard code, and the date of last inspection.

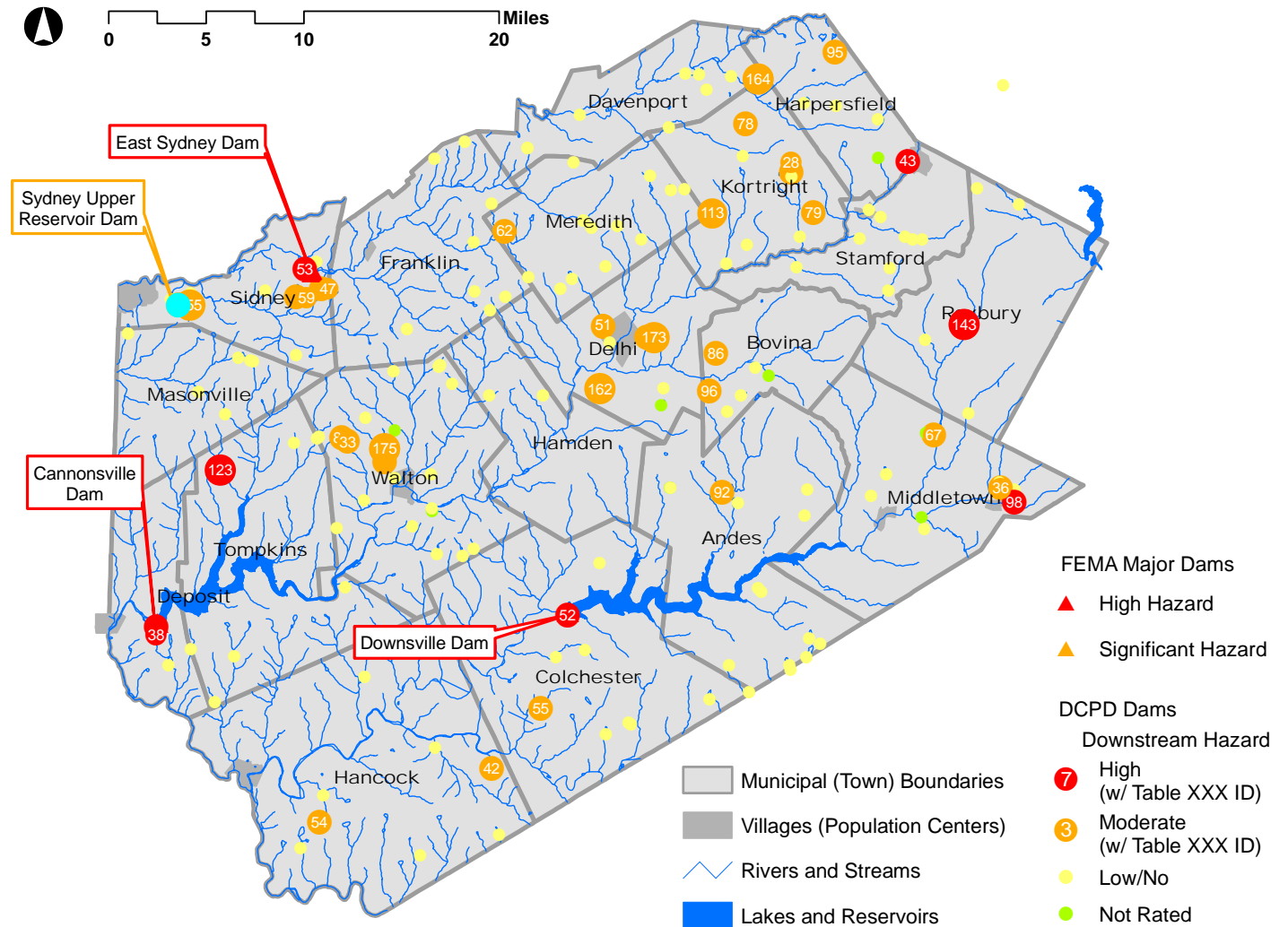
Figure 4-3-X Cannonsville Dam near Deposit



Figure 4-3-X Pepacton Reservoir Dam near Deposit



Figure 4-3-13 Dams in Delaware County



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Table 4-3-15 Dams in Delaware County

Map ID	Name	National ID	Nearest Population (NP)	Distance to NP	Dam Type	Purpose	Year Completed	Owner Type	Downstream Hazard	Emerg. Plan	PHASE_I_IN	Last Inspected
		NY14494							NO HAZARD			11/1/1972
3	(145-0804)	NY14522							NO HAZARD			10/16/1972
4	(145-0805)	NY14523							NO HAZARD			10/16/1972
5	(145-0826)	NY14524							NO HAZARD			10/17/1972
6	(145-0862)	NY14526							NO HAZARD			10/16/1972
7	(145-0881)	NY14527							NO HAZARD			10/17/1972
8	(145-0898)	NY14528							NO HAZARD			1/24/1973
9	(145-0900)	NY14529							NO HAZARD			10/16/1972
10	(160-0664)	NY14593							NO HAZARD			10/16/1972
11	(160-0686)	NY14594							NO HAZARD			9/20/1972
12	(160-0689)	NY14595							NO HAZARD			9/21/1972
13	(160-0690)	NY14596							NO HAZARD			9/21/1972
14	(160-1362)	NY14599			EARTH							8/14/1990
15	(161-0567)	NY14604							NO HAZARD			9/20/1972
16	ALBERT L BONNER POND DAMS A&B	NY12459	EAST SIDNEY		EARTH	RECREATION	1964	PRIVATE	LOW			1/23/1973
17	ANATOLE MATKOVSKY POND DAM	NY12454	WALTON	6	EARTH	RECREATION	1958	PRIVATE	LOW			1/24/1973
18	ANTHONY DECARO POND DAM	NY12575	NONE		EARTH	RECREATION	1977	PRIVATE	LOW			
19	ARKVILLE RAILROAD DAM	NY14333	ARKVILLE		TIMBER CR			PRIVATE				3/28/1974
20	ARTHUR RASMUSSEN POND DAM	NY12470	NONE		EARTH	RECREATION	1962	PRIVATE	LOW			11/10/1972
21	AUGUST ANDERSON POND DAM	NY12484	LONG EDDY	3	EARTH	RECREATION	1965	PRIVATE	LOW			11/1/1972
22	B B SHEPPS POND DAM	NY12602	ROCKLAND	3	EARTH	RECREATION	1960	PRIVATE	LOW			10/8/1998
23	BEAVER RUN DAM	NY01458	LORDVILLE	3	EARTH	RECREATION	1976	PRIVATE	LOW			10/8/1998
24	BEAVER SPRING POND DAM	NY12576	DAVENPORT	1	EARTH	RECREATION	1981	PRIVATE	LOW			1/1/1980
25	BERNADINA RIEPING DAM	NY14135	PEAKVILLE	1	EARTH	RECREATION		PRIVATE	LOW			10/8/1998
26	BERNARD TYMESON POND DAM	NY12474	WALTON	5	EARTH	RECREATION	1971	PRIVATE	LOW			6/18/1997
27	BETTY BROOK BEAVER DAM	NY12712	SOUTH KORTRIGHT	2	GRAVITY,ROCKFILL	HYDRO,RECREATION	1906	PRIVATE	LOW			6/25/1998
28	BETTY BROOK DAM	NY00528	SOUTH KORTRIGHT	4	EARTH	RECREATION	1972	PRIVATE	MODERATE			5/2/1996
29	BIG POND DAM	NY00648	LEWBEACH	5	LAID-UP	RECREATION	1913	STATE	NO HAZARD	NR	NO	7/9/1996
30	BISHOP & CHASE MARSH DAM & DIKE	NY01035	SIDNEY	2	EARTH	WILDLIFE	1954	PRIVATE	LOW	NR	NO	12/18/1996
31	BLOOMVILLE DAM	NY12561	BLOOMVILLE		ROCKFILL,MASONRY	HYDROELEC	1901	PRIVATE	LOW			9/20/1994
32	BRS DEVELOPMENT DAM	NY01253	DELHI	4	EARTH	RECREATION	1987	PRIVATE	LOW			5/1/1996

Table 4-3-15 Dams in Delaware County

Map ID	Name	National ID	Nearest Population (NP)	Distance to NP	Dam Type	Purpose	Year Completed	Owner Type	Downstream Hazard	Emerg. Plan	PHASE I IN	Last Inspected
33	BRUCE PERSSON DAM	NY14848	WALTON	3	EARTH	RECREATION	1999	PRIVATE	MODERATE		NO	6/16/1999
34	BUHL POND DAM	NY12577	EAST DELHI	5	EARTH		1987	PRIVATE	LOW			10/5/1987
35	CALVIN COSGROVE POND DAM	NY12473	SHINHOPPLE	2	EARTH	RECREATION	1966	PRIVATE	LOW			11/1/1972
36	CAMP TA-RI-GO DAM	NY12738	FLEISCHMANN'S	1	GRAVITY	RECREATION	1938	PRIVATE	MODERATE	NR		6/15/1999
37	CAMP TA-RI-GO LAKE DAM	NY12737	FLEISCHMANN'S	1	BUTTRESS	RECREATION	1937	PRIVATE	LOW			12/12/1972
38	CANNONSVILLE DAM	NY00542	DEPOSIT	3	EARTH	WTR SUPPLY	1964	LOCAL GOV	HIGH		YES	6/15/1999
39	CHARLES GAVETT FARM POND DAM	NY12471	WALTON	4	EARTH	FIRE/STOCK,RECREATION	1964	PRIVATE	LOW			6/18/1997
40	CHARLES KEPETAR RECREATION DAM	NY14554			EARTH	RECREATION		PRIVATE	NO HAZARD			6/25/1980
41	CHEMTEX CORPORATION DAM	NY14334			EARTH		1800	PRIVATE	NO HAZARD			
42	CHILOWAY LAKE DAM	NY01217	CHILOWAY	1	EARTH	RECREATION	1961	PRIVATE	MODERATE			10/8/1998
43	CHURCHILL DAM	NY12726	STAMFORD	0	ROCKFILL	RECREATION	1965	LOCAL GOV	HIGH		NO	6/15/1999
44	CLARK MARSH DAM	NY12452	WEST DELHI	1	EARTH	WILDLIFE	1956	PRIVATE	LOW	NR	NO	11/9/1972
45	CLYDE ARCHER POND DAM	NY12460	SIDNEY CENTER	2	EARTH	RECREATION	1964	PRIVATE	LOW			1/23/1973
46	COLCHESTER DELAWARE CLUB POND DAM	NY12603	ROCKLAND	3	EARTH	RECREATION	1961	PRIVATE	LOW			10/8/1998
47	CORNELIUS S SMITH DAM & DIKE	NY01045	EAST SIDNEY	2	EARTH	RECREATION	1959	PRIVATE	MODERATE			6/18/1997
48	COULTER BROOK RESERVOIR DAM	NY14178	BOVINA CENTER	1		WTR SUPPLY		PRIVATE				
49	DEER LAKE DAM	NY01207	ACIDALIA	1	EARTH	RECREATION	1940	PRIVATE	LOW			6/7/1997
50	DELCHENEGO WILDLIFE DAM	NY01036	BENNETTSTVILLE	4	EARTH		1959	PRIVATE	LOW			12/18/1996
51	DELHI RESERVOIR DAM	NY12560	DELHI	1	EARTH,LAID-UP	OTHER	1888	LOCAL GOV	MODERATE	NR		5/1/1996
52	DOWNSVILLE DAM	NY00342	DOWNSVILLE	1	EARTH	WTR SUPPLY	1954	LOCAL GOV	HIGH		YES	10/8/1998
53	EAST SIDNEY DAM	NY01211	UNADILLA	6	GRAVITY,EARTH	FLOOD CTRL,RECREATION	1950	FEDERAL	HIGH			7/20/1998
54	EDWARD KLIMCHOCK DAM	NY12491	LONG EDDY	7	EARTH		1981	PRIVATE	MODERATE			10/8/1998
55	EDWARDS POND DAM	NY12567	HORTON	3	GRAVITY,EARTH	RECREATION		PRIVATE	MODERATE	NR	NO	1/26/1996
56	EUGENE WIEDERKEHR POND DAM	NY12740	ARENA	2	BUTTRESS	RECREATION	1959	PRIVATE	NO HAZARD			6/27/1994
57	FAIRBAIRN POND DAM	NY12739	MARGARETVILLE	2	EARTH	RECREATION	1949	PRIVATE	LOW			10/11/1972
58	FERDINAND HARPER MARSH DAM	NY12723	STURGES CORNER	2	EARTH		1953	PRIVATE	LOW			10/16/1972
59	FOWLER FINCH POND DAM	NY01046	NORTH FRANKLIN	7	EARTH	RECREATION	1958	PRIVATE	MODERATE			6/18/1997
60	FRANCIS F KIPP FARM POND DAM	NY12472	WALTON	2	MASONRY	FIRE/STOCK	1964	PRIVATE	LOW			11/1/1972
61	FRED DEBARI DAM	NY14180	MASONVILLE	2	EARTH			PRIVATE	LOW			
62	GEORGE BRYANT DAM	NY01048	TREADWELL	2	EARTH	RECREATION,FIRE/STOCK	1965	PRIVATE	MODERATE	NR	NO	5/1/1996
63	GEORGE PATTERSON POND DAM	NY12582	LEW BEACH	1	EARTH	RECREATION	1970	PRIVATE	LOW			11/1/1972
64	GERRIT LYDECKER POND DAM	NY00535	DELHI	8	EARTH	RECREATION	1965	PRIVATE	LOW			9/21/1994
65	GIFFORD, KAHABKA & RUTENBER DAM	NY01037	EAST MASONVILLE	1	EARTH	RECREATION,FIRE/STOCK	1959	PRIVATE	LOW	NR		12/18/1996

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Table 4-3-15 Dams in Delaware County

Map ID	Name	National ID	Nearest Population (NP)	Distance to NP	Dam Type	Purpose	Year Completed	Owner Type	Downstream Hazard	Emerg. Plan	PHASE I IN	Last Inspected
66	GLENN THOMPSONS LAKE DAM	NY14887			EARTH	RECREATION	1994	PRIVATE	LOW	NO	NO	5/2/1996
67	HALCOTTSVILLE DAM	NY01223	HALCOTTSVILLE	0	LAID-UP	RECREATION	1909	PRIVATE	MODERATE	NR	NO	7/9/1996
68	HALCOTTSVILLE RESERVOIR DAM	NY14734	HALCOTTSVILLE	1		WTR SUPPLY		PRIVATE				
69	HALOWACH & PIERCE POND DAM	NY12569	NONE		EARTH	RECREATION	1961	PRIVATE	LOW	NR	NO	10/7/1998
	HAROLD BURROWS POND DAM A & B	NY12573	EAST MERIDITH	2	EARTH	RECREATION	1970	PRIVATE	LOW			10/16/1982
71	HERBERT W KLUMPE POND DAM #2	NY12568	WATAUGA FALLS	4	EARTH	RECREATION,FIRE/STOCK	1959	PRIVATE	LOW			10/16/1972
72	HETTERICH FARM POND DAM	NY14168	BOVINA CENTER	1	EARTH	RECREATION,WILDLIFE		PRIVATE	LOW			10/8/1998
73	HOBART LOWER POND DAM	NY12716	HOBART		GRAVITY	HYDROELEC	1982	LOCAL GOV	LOW			9/21/1972
	HOBART UPPER POND DAM	NY12717	HOBART		GRAVITY	HYDROELEC	1983	LOCAL GOV	LOW			3/9/1983
75	HOBART WATER SUPPLY DAM #1	NY12713	HOBART	3	BUTTRESS		1914	LOCAL GOV	LOW			9/21/1972
76	HOBART WATER SUPPLY DAM #3	NY12715	HOBART	1	EARTH,MASONRY	WTR SUPPLY2	1900	LOCAL GOV	LOW			9/21/1972
	HOWARD HUNTINGTON DAM	NY14783	MASONVILLE	1	EARTH	RECREATION	1990	PRIVATE	LOW			5/23/1991
78	HOWARD LA FEVER DAM	NY00444	EAST MERIDITH	6	EARTH	RECREATION	1979	PRIVATE	MODERATE			7/28/2000
79	HOWARD LA FEVER DAM	NY01454	SOUTH KORTRIGHT	2	EARTH	RECREATION	1976	PRIVATE	MODERATE			6/25/1998
80	HUGGINS LAKE DAM	NY00529	BEAVERKILL	3	EARTH	RECREATION	1962	STATE	LOW			4/15/1980
81	HUNT POND DAM	NY12564			GRAVITY	RECREATION	1929	PRIVATE	NO HAZARD			6/27/1994
82	HUNTLEY HOLLOW FARM POND DAM	NY14800	NONE		EARTH	FIRE/STOCK,RECREATION	1992	PRIVATE	LOW	NR	NO	9/23/1992
83	IVARS PAUKSIS DAM	NY01457	EAST SIDNEY	7	EARTH	RECREATION	1976	PRIVATE	LOW			5/1/1996
84	JAMES ROBINSON POND DAM	NY12475	WALTON	2	EARTH	RECREATION		PRIVATE	NO HAZARD			6/25/1980
85	JEROME E ARLEDGE POND DAM	NY12476	PINESVILLE	3	EARTH	RECREATION	1973	PRIVATE	MODERATE	NR	NO	4/12/1996
86	JEROME J ROACH DAM	NY00538	LAKE DELAWARE	2	EARTH	RECREATION,FIRE/STOCK	1965	PRIVATE	MODERATE	NR	NO	7/28/2000
87	JOHN BRAYMER RECREATIONAL POND DAM	NY12461	TREADWELL	3	EARTH	RECREATION	1966	PRIVATE	LOW			11/9/1972
88	JOHN CARLSON DAM	NY14718	NONE		EARTH	RECREATION		PRIVATE	NO HAZARD			7/8/1994
89	JOHN CRANE DAM	NY15038			EARTH	RECREATION		PRIVATE	LOW			
90	JOHN ROBINSON'S LAKE DAM	NY01602	CLEAVER	1	EARTH	RECREATION		PRIVATE	NO HAZARD			7/10/1996
91	KAHABKA & RUTENBER POND DAM	NY12338	EAST MASONVILLE	1	EARTH	RECREATION	1959	PRIVATE	LOW	NR	NO	1/24/1973
92	KAZAM POND DAM	NY01438	NONE		EARTH	RECREATION,OTHER	1977	PRIVATE	MODERATE	NR	NO	7/12/1996
93	KERR CREEK DAM	NY12466	WALTON	2	ROCKFILL,MASONRY		1888	PRIVATE				11/10/1972
94	KNAPP DAM	NY12732	BEAVER KILL	7	GRAVITY,ROCKFILL		1915	PRIVATE	LOW			10/31/1972
95	KORIANSKI POND DAM	NY01455	STURGES CORNER	6	EARTH	RECREATION,OTHER	1974	PRIVATE	MODERATE			7/28/2000
96	LAKE DELAWARE DAM	NY01262	LAKE DELAWARE	1	EARTH	RECREATION	1840	PRIVATE	MODERATE	NR	NO	7/12/1996
97	LAKE MIRIAM DAM	NY12599	COOKS FALLS	4	EARTH,BUTTRESS	RECREATION	1954	PRIVATE	LOW			11/1/1972
98	LAKE SWITZERLAND DAM	NY00759	FLEISCHMANS		GRAVITY	RECREATION	1906	PRIVATE	HIGH	YES		6/15/1999

Table 4-3-15 Dams in Delaware County

Map ID	Name	National ID	Nearest Population (NP)	Distance to NP	Dam Type	Purpose	Year Completed	Owner Type	Downstream Hazard	Emerg. Plan	PHASE I IN	Last Inspected
99	LAUNT POND DAM	NY00643	SHINHOPPLE	6	EARTH	RECREATION	1938	STATE	LOW			1/26/1996
100	LAUREL LAKE DAM	NY14910			EARTH			PRIVATE	LOW	NR	NO	
101	LAZIO POND DAM	NY01498	NONE		EARTH	RECREATION	1975	PRIVATE	LOW			5/2/1996
102	LEO HANNON POND DAM #1	NY15013			EARTH	RECREATION		PRIVATE	LOW			1/26/1996
103	LEO HANNON POND DAM #2	NY15014	WALTON		EARTH	RECREATION		PRIVATE	LOW			1/26/1996
105	LEO HANNON POND DAM #3	NY15015			EARTH	RECREATION		PRIVATE	LOW			1/26/1996
104	LEO HANNON POND DAM #4	NY15016			EARTH	RECREATION		PRIVATE	LOW			1/26/1996
106	LEWIS KOLAR DAM	NY12744	DUNRAVEN	3	EARTH	RECREATION	1989	PRIVATE	LOW			
107	LITTLE POND DAM	NY12733	BEAVER KILL	7	BUTTRESS		1916	STATE	LOW			5/24/1996
108	LOWER DAM	NY14954	CORBETT	3	EARTH	RECREATION		PRIVATE	LOW			7/10/1997
109	MANCE POND DAM	NY14756	NONE		EARTH	RECREATION	1991	PRIVATE	LOW	NR	NO	9/23/1992
110	MANUEL RODRIGUES FARM POND DAM	NY12724	NONE		EARTH	FIRE/STOCK	1959	PRIVATE	LOW			9/21/1972
111	MARCUS RICHTSFIELD POND DAM	NY12571	MERIDALE	5	EARTH	FIRE/STOCK	1966	PRIVATE	LOW			10/16/1982
112	MASONVILLE DAM	NY01475	EAST MASONVILLE		EARTH	RECREATION		PRIVATE	LOW			12/18/1996
113	MCDOWELL DAM	NY00536	BLOOMVILLE	3	EARTH	RECREATION	1965	PRIVATE	MODERATE			7/28/2000
114	MCDOWELL LAKE DAM	NY12730	WEST HARPERSFIELD	2	EARTH	RECREATION	1977	PRIVATE	LOW			
115	MERIDALE DAM #3	NY12562	MERIDALE	1	GRAVITY		1917		LOW			10/16/1972
	MERIDALE FARMS AEROBIC LAGOONS DAMS	NY12574	MERIDALE	1	EARTH	OTHER	1974	PRIVATE	LOW			9/21/1994
117	MITCHELL POND DAM	NY14787	MARGARETVILLE	1	EARTH	FIRE/STOCK	1991	PRIVATE	LOW			11/15/1991
118	MOUNTAIN LAKE DAM	NY01327	LEWBEACH	6	EARTH	RECREATION	1930	PRIVATE	LOW	NR	NO	7/9/1996
119	MUD POND DAM	NY14823	ANDES	4	EARTH	RECREATION		PRIVATE	LOW	NO	NO	9/22/1994
120	N Y WILDLIFE GAME MANAGEMENT DAM #11	NY12467	DOWNSVILLE	3	EARTH,MASONRY		1936	PRIVATE	LOW			11/1/1972
121	OLD CLUMP DAM	NY14792	NONE		EARTH				LOW			3/8/1991
122	ONEONTA SPORTSMEN'S CLUB MARSH DAM	NY12450	NORTH FRANKLIN	2	EARTH		1953	PRIVATE	LOW			1/24/1973
123	PAM DAWBER DAM	NY01199	NONE		EARTH	RECREATION	1949	PRIVATE	HIGH	YES		6/16/1999
124	PARADISE LAKE DAM	NY12742	BEAVER KILL	8	EARTH		1966	PRIVATE	LOW			6/16/1997
125	PECK WILDLIFE MARSH DAM	NY12722	WEST HARPERSFIELD	4	EARTH		1952	PRIVATE	LOW			6/25/1998
126	PENN CENTRAL B DAM	NY12736	ARKVILLE		TIMBER CR			PRIVATE	LOW			3/28/1974
127	PETTUS KAUFMAN POND DAM	NY12580	FRASER	1	EARTH	FIRE/STOCK,RECREATION	1965	PRIVATE	LOW			11/9/1972
128	RAINBOW LODGE DAM	NY15020			EARTH	RECREATION		PRIVATE	LOW			
	RASSMUSEN DAM	NY00541	ROCK RIFT	3	EARTH	RECREATION	1976	PRIVATE	LOW	NR	NO	6/16/1999
	RAYMOND GLASSMAN LAKE DAM	NY12469	NONE		EARTH	RECREATION	1962	PRIVATE	LOW			11/10/1972
	REXMERE DAM	NY00524	STAMFORD	0	EARTH	RECREATION	1965	LOCAL GOV	HIGH		YES	7/28/2000

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Table 4-3-15 Dams in Delaware County

Map ID	Name	National ID	Nearest Population (NP)	Distance to NP	Dam Type	Purpose	Year Completed	Owner Type	Downstream Hazard	Emerg. Plan	PHASE I IN	Last Inspected
	RICHTER POND DAM	NY12743	HALCOTTSVILLE	2	EARTH	RECREATION	1968	PRIVATE	LOW			6/16/1997
	ROBER EBNER POND DAM	NY12583	NONE		EARTH	RECREATION	1976	PRIVATE	MODERATE			6/15/1999
	ROBERT L BISHOP DAM	NY00534	NONE		EARTH	RECREATION	1967	PRIVATE	HIGH		YES	10/8/1998
135	ROBERT L BISHOP DUCK MARSH DAM	NY01456	NONE		EARTH		1979	PRIVATE	LOW			10/8/1998
136	ROBERT NICHOL DAM	NY01588	NONE		EARTH	RECREATION	1990	PRIVATE	LOW	NR	NO	9/23/1992
137	ROBINSON & KAHABKA DAM & DIKE	NY01047	ONEONTA	4	EARTH	RECREATION	1964	PRIVATE	NO HAZARD	NR		10/7/1998
138	ROBINSON & KAHABKA POND DAM	NY12458	NORTH FRANKLIN	4	EARTH	RECREATION	1962	PRIVATE	LOW	NR		10/7/1998
139	ROBINSON-BRODER POND	NY14829	WALTON					PRIVATE	LOW			9/24/1992
140	RONALD KYTAN POND DAM	NY12572	WEST KORTRIGHT	1	EARTH	RECREATION	1964	PRIVATE	LOW			10/16/1982
141	ROODS CREEK DAM	NY14314			EARTH	RECREATION		PRIVATE	NO HAZARD			
142	ROXBURN RUN CLUB DAM	NY12741	DENVER	1	EARTH	RECREATION	1977	PRIVATE	NO HAZARD			6/25/1980
143	ROXBURY DAM	NY00788	ROXBURY	1	EARTH	RECREATION	1912	PRIVATE	HIGH	YES	YES	7/21/1998
144	RQM DAM #1	NY12477	READBURN	1	EARTH	RECREATION		PRIVATE	NO HAZARD			6/16/1999
145	RQM DAM #2	NY12478	READBURN	2	EARTH	RECREATION	1980	PRIVATE	LOW			
146	RUSS GRAY DAM	NY12468	BEERSTON	4	ROCKFILL		1937	FEDERAL	LOW			11/1/1972
147	SCHWARTZBERG POND DAM	NY12585			EARTH	RECREATION		PRIVATE	LOW			8/18/1988
148	SEXSMITH LAKE DAM	NY12565	DAVENPORT	2	GRAVITY,EARTH	RECREATION,FIRE/STOCK	1916	PRIVATE	LOW			10/17/1972
149	SHAW POND DAM	NY12581	LEW BEACH	1	EARTH	RECREATION	1966	PRIVATE	LOW			11/1/1972
150	SHEFFIELD FARMS CO INC DAM	NY12463	WALTON		EARTH			PRIVATE	LOW			11/1/1972
151	SHELMANDINE FARM POND DAM	NY12725	NORTH BLENHEIM	4	EARTH	RECREATION	1965	PRIVATE	LOW			11/18/1970
152	SIDNEY #4 DAM	NY12331	SIDNEY		EARTH	WTR SUPLY2		LOCAL GOV	LOW			7/20/1998
153	SIDNEY LOWER DAM	NY01085	SIDNEY	2	EARTH	WTR SUPLY2	1936	LOCAL GOV	LOW			7/20/1998
154	SIDNEY RESERVOIR #2 DAM	NY14733	SIDNEY	3	EARTH	WTR SUPPLY		LOCAL GOV				
155	SIDNEY UPPER RESERVOIR DAM	NY01086	SIDNEY	2	EARTH	WTR SUPLY2	1936	LOCAL GOV	MODERATE			6/16/1999
156	SILVER LAKE DAM	NY12578			MASONRY,LAID-UP	FIRE/STOCK	1890	PRIVATE	LOW			7/13/1993
157	SILVER LAKE IMPROVEMENT DAM	NY12344	SILVER LAKE		EARTH	OTHER	1930	PRIVATE	LOW			11/10/1972
	SIMMONS MILL DAM	NY12718	STAMFORD	1	ROCKFILL	IRRIGATION	1905	PRIVATE	LOW			9/21/1972
159	SPRING LAKE DAM	NY01261	DELHI	4	EARTH	RECREATION	1920	PRIVATE	LOW	NR	NO	1/1/1980
160	STANLEY COUSE POND DAM	NY12456	FRANKLIN	6	EARTH	RECREATION	1960	PRIVATE	LOW			1/24/1973
161	STEVEN CERESNA FARM POND DAM	NY12455	BARTLETT HOLLOW	7	EARTH	FIRE/STOCK,RECREATION,	1960	PRIVATE	LOW			11/9/1972
162	T BERTRAM ANDERSON DAM	NY00533	DE LANCEY	3	EARTH	RECREATION	1973	PRIVATE	MODERATE	NR	NO	5/2/1996
163	TANGLEWOOD LAKE DAM	NY12584	DELANCEY	4	EARTH	RECREATION	1980	PRIVATE				
164	THOMAS J KELAHER DAM	NY01051	BUTTS CORNER	2	EARTH	RECREATION	1961	PRIVATE	MODERATE			7/28/2000

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Table 4-3-15 Dams in Delaware County

Map ID	Name	National ID	Nearest Population (NP)	Distance to NP	Dam Type	Purpose	Year Completed	Owner Type	Downstream Hazard	Emerg. Plan	PHASE I IN	Last Inspected
165	THOMAS MITCHELL POND DAM	NY12731	GRAND GORGE	2	EARTH	RECREATION, FIRE/STOCK	1986	PRIVATE	LOW			11/26/1986
166	THREATENING POND DAM #1	NY12479	CLEAVER	2	EARTH	RECREATION	1987	PRIVATE	LOW			9/21/1994
167	THREATENING POND DAM #2	NY12480	CLEAVER	2	EARTH	RECREATION	1987	PRIVATE	LOW			9/21/1994
168	TODD POND DAM	NY12721	NONE		EARTH	OTHER	1950	PRIVATE	LOW			7/12/1996
	TUNIS LAKE DAM	NY12579	LAKE DELAWARE	3	BUTTRESS	RECREATION	1914	PRIVATE	LOW			10/31/1972
170	UPPER DAM	NY14955	CORBETT	4		RECREATION		PRIVATE	LOW			
171	V C PETERS POND DAM	NY12481	PEAS EDDY	1		HYDROELEC	1916	PRIVATE	LOW			12/12/1972
172	VANLEY BLACKMAN MARSH DAM	NY12453	MUNDALE	3	EARTH		1956	PRIVATE	LOW			11/9/1972
173	WALDEMAR DERKE POND DAM	NY12570	NONE		EARTH	RECREATION	1963	PRIVATE	MODERATE			6/25/1998
174	WALTON WATER CO DAM	NY12464	WALTON		EARTH		1915	PRIVATE	LOW			11/9/1972
175	WEST BROOK DAM	NY12465	WALTON	1	ROCKFILL		1888	PRIVATE	MODERATE			6/16/1999
176	WESTERN DELAWARE BOCES DAM	NY14805	TROUT CREEK	2	EARTH	WILDLIFE		LOCAL GOV	LOW	NR	NO	
177	WILLIAM HOWES POND	NY14901	SIDNEY		EARTH	RECREATION	1995	PRIVATE	LOW			12/19/1996

There Steering Committee identified a levee located in East Branch built by the USACE. There are no nuclear power plants or military installations in Delaware County.

4.3.3.5 Hazardous Material Facilities

EPA data for Toxic Release Inventory (TRI) facilities were used to estimate the number of major hazardous material (HazMat) facilities (fixed) in the mitigation planning study area. TRI regulations impact facilities that use, store, or emit greater than the specified amounts of TRI-regulated chemicals. TRI data generally captures the larger facilities which store and use greater quantities of HazMat. Six (6) HazMat TRI facilities were identified in Delaware County (USEPA, 2004), as follows:

AJS Controls, Inc.	Sidney	Lead
Amphenol Corporation	Sidney	Cadmium, chromium, copper, cyanide compounds, HCl acid, HF acid, lead, mercury, MEK, nitrate compounds, nitric acid, PCBs, sulfuric acid, trichloroethylene.
DMV International Nutritionals	Fraser	Toluene
Kraft Foods Global, Inc.	Walton	Nitrate compounds, nitric acid
Morningstar/Ultradairy	Fraser	Benzo(g,h,i)perylene, nitric acid, polycyclic aromatic compounds
Norbord Industries, Inc.	Deposit	Formaldehyde, lead, methanol
Tyco-Mallinckrodt HealthCare	Hobart	TBD

The HAZUS-MH default data listed three hazardous materials facilities, specifically Becton Dickinson (Hancock), DMV and Amphenol. Becton Dickinson handles ammonia according to the HAZUS-MH data, while the other two facilities were previously identified in the USEPA TRI database.

4.3.4 Analyzing Population and Development Trends

This mitigation plan provides a general overview of population and land uses and the types of development occurring within the study area. This section discusses existing and proposed land uses as well as development trends and future changes that could significantly change the character of the area. This information provides a basis for making decisions on the type of mitigation approaches to consider and the locations in which these approaches should be applied. This information can also be used to support planning decisions regarding future development in vulnerable areas. Finally, this information (hazard analyses and proposed mitigation activities) will be incorporated into the Delaware County Comprehensive Plan and Delaware County Comprehensive Emergency Plan. Currently the County does not have an adopted comprehensive plan, however once this plan is available, relevant information will be incorporated in this Plan.

Population and Demographics

This section evaluates past, current and projected population data for Delaware County.

U.S. Census data indicates that the population of Delaware County has remained quite stable as far back as 1960. This data, as presented in the Delaware County 2005-2010 Community Health Assessment, indicated that the population grew only 1.76% in the last decade (1990-2000). Future population projections for the County, provided by the Cornell Institute for Social and Economic Research – NYS Statistical Information System (Sept. 2002) predicted a 0.52% loss in population during the period 2000-2015.

While the population has, and is predicted to, remain relatively stable, data shows that County is becoming increasingly rural. U.S. Census statistics indicate an increase in the rural population of 8.5%

during the period 1990-2000, with larger towns and villages losing population to towns with small populations. Over the last decade, the largest towns in the County have seen significant losses in population, with Deposit (-7.5%), Delhi (-7.7%) and Sidney (-8.4%) experiencing the greatest losses. Those towns that are experiencing the greatest gains in population are located in the northeastern region and along the County perimeters, including Bovina (+20.7%), Middletown (+18.9%), Kortright (+15.8%) and Davenport (13.8%) over the same period (CHA, 2005). The 2004 CHA noted that this trend “will increasingly challenge the capacity of the DCPHD and associated health and human service agencies to provide services to this dispersed population”, and “make it difficult to insure the timely delivery of fire and emergency medical services”.

The CHA noted a considerable aging of the population of Delaware County, and asserted that nearly one quarter of the county’s population was aged 60 years or more. Towns with populations that exceed the county median age (41.4) years are clustered along the south and southeastern region of the county, an area that has seen the greatest increase in second home development primarily the result of an influx of retired persons. The CHA believed that this trend is likely to continue throughout the current decade.

The 2004 CHA indicated that over the last three decades the County has experienced only minimal changes in racial composition. However, the growth of the Hispanic population in the towns of Middletown, Delhi, Sidney and Hancock are notable and “can have significant implications for the delivery of health and human services”, particularly in the area of communication.

Land Use

Land use regulatory authority is vested in New York State’s towns, villages, and cities. However, many development and preservation issues transcend local political boundaries. Delaware County’s land cover can be divided into five major categories. The first category is forest, which makes up approximately 83% of the study area based on National Land Cover Dataset obtained from the USGS. The second category is agriculture, including crops, pastures and inactive farmland at 15% coverage. Water is the third category with 1.4% land coverage. The fourth category is developed, including residential, commercial and industrial at less than 1%. Wetlands cover less than 0.5% of Delaware County based on the NYS Regulatory Wetland delineations (0.2% based on the NLCD – this discrepancy is believed to be due to the difficulties and inherent error associated with the methods used in developing the NLCD – the NYS Regulatory Wetland delineations are believed to be more representative of wetland complexes in the County).

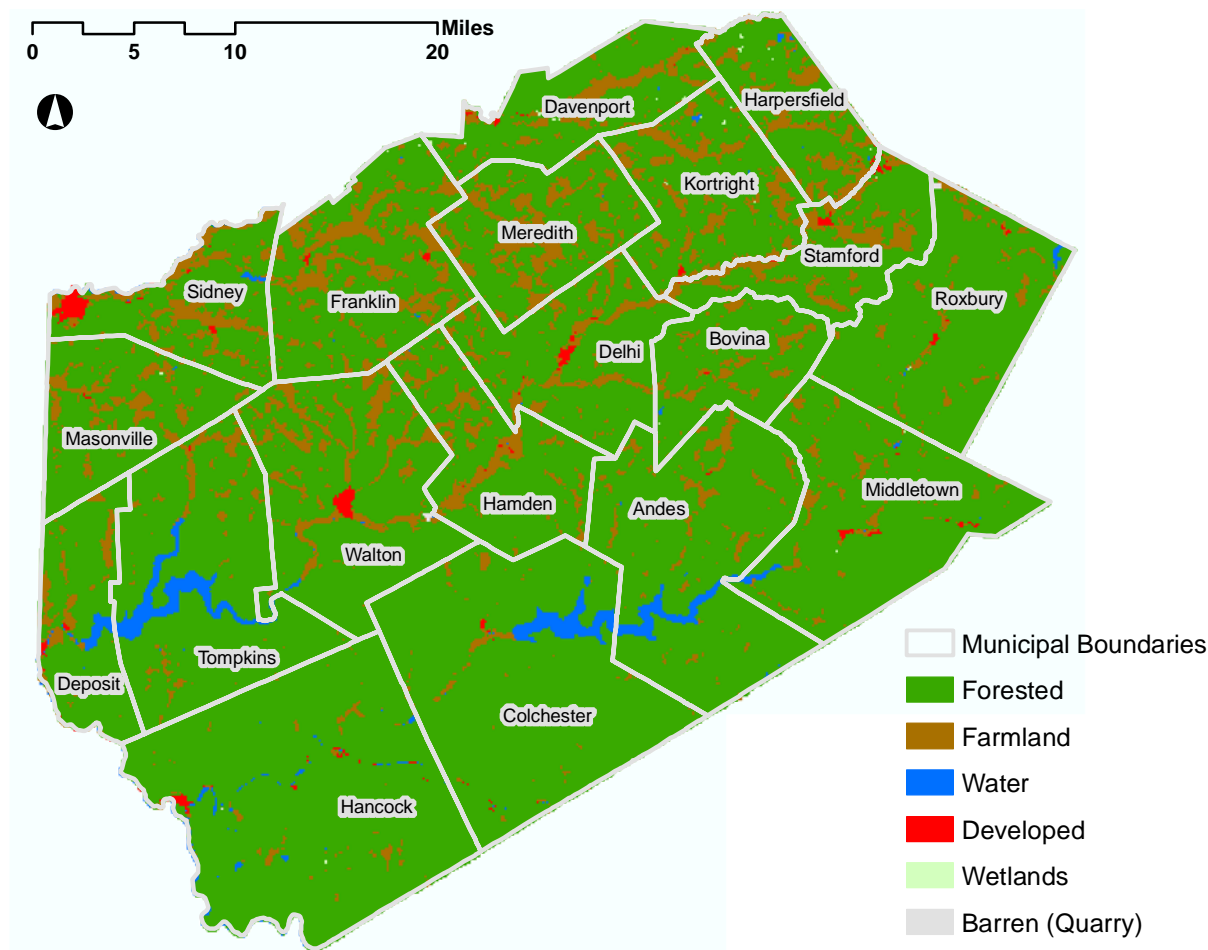
Agriculture remains significant in Delaware County. According to the Delaware County Action Plan (DCAP II), dairy farming constitutes approximately 80% of agricultural sales in Delaware County. Table 4-3-16 identifies the current land use (in acreage and percent of total) of Delaware County and its comprising municipalities. Figure 4-3-5 maps the current land use of Delaware County. The DC CHA noted that the county has seen a sharp decline in the number of dairy farms (203 as of 2003), losing 130 dairy farms (39% loss) since 1990.

Growth and development in the Cannonsville Basin is greatly influenced by the overarching concern of maintaining water quality in this NYC watershed. Agreements between the County and New York City have allowed some growth and expansion in the Cannonsville Basin, however this part of the County will likely see lesser growth and development than outside of the Cannonsville Basin.

Table 4-3-16 Current Land Use in Delaware County

Municipality	Land Use Classification (acres / percent of land)						Total Acres
	Developed	Forested	Farmland	Water	Wetlands	Wetlands (1)	
Andes	59 / 0.1	62171 / 86.3	7737 / 10.7	2013 / 2.8	25 / 0	116 / 0.2	72049
Bovina	26 / 0.1	23437 / 82.2	4878 / 17.1	119 / 0.4	38 / 0.1	142 / 0.5	28520
Colchester	317 / 0.3	84237 / 92.5	3399 / 3.7	3006 / 3.3	29 / 0	128 / 0.1	91036
Davenport	247 / 0.7	27319 / 81.3	5542 / 16.5	122 / 0.4	304 / 0.9	696 / 2.1	33601
Delhi	466 / 1.1	32466 / 78.5	8328 / 20.1	53 / 0.1	25 / 0.1	199 / 0.5	41363
Deposit	357 / 1.3	23665 / 82.9	3620 / 12.7	889 / 3.1	3 / 0	60 / 0.2	28543
Franklin	152 / 0.3	38441 / 73.6	13428 / 25.7	93 / 0.2	72 / 0.1	260 / 0.5	52209
Hamden	115 / 0.3	29814 / 77.8	8295 / 21.6	75 / 0.2	5 / 0	70 / 0.2	38325
Hancock	790 / 0.8	97657 / 94.3	3628 / 3.5	1274 / 1.2	180 / 0.2	481 / 0.5	103593
Harpersfield	158 / 0.6	19398 / 71.5	7178 / 26.5	163 / 0.6	203 / 0.7	632 / 2.3	27121
Kortright	115 / 0.3	29665 / 73.9	10034 / 25	116 / 0.3	191 / 0.5	611 / 1.5	40150
Masonville	69 / 0.2	28199 / 81.1	6366 / 18.3	70 / 0.2	57 / 0.2	236 / 0.7	34772
Meredith	53 / 0.1	26883 / 72	10278 / 27.5	75 / 0.2	30 / 0.1	293 / 0.8	37341
Middletown	573 / 0.9	54849 / 88.1	6323 / 10.2	456 / 0.7	34 / 0.1	153 / 0.2	62282
Roxbury	297 / 0.5	48490 / 86.4	6921 / 12.3	243 / 0.4	45 / 0.1	274 / 0.5	56106
Sidney	1161 / 3.6	22896 / 70.6	8015 / 24.7	292 / 0.9	55 / 0.2	181 / 0.6	32431
Stamford	395 / 1.3	23666 / 76.2	6935 / 22.3	4 / 0	16 / 0.1	190 / 0.6	31040
Tompkins	38 / 0.1	57723 / 86.3	5167 / 7.7	3863 / 5.8	52 / 0.1	209 / 0.3	66865
Walton	<u>693 / 1.1</u>	<u>50290 / 80.5</u>	<u>11110 / 17.8</u>	<u>313 / 0.5</u>	<u>7 / 0</u>	<u>117 / 0.2</u>	<u>62495</u>
Totals	6092 / 0.7	781276 / 83.1	137193 / 14.6	13248 / 1.4	1377 / 0.2	5048 / 0.5	93,9842
(1) Per NYS Regulatory Wetlands Delineations							

Figure 4-3-5. Study Area Land Use



Source: National Land Cover GIS Data

Land Use Trends, Projections and Goals

Population growth and development potential are severely limited due to the area's topography and soils. Delaware County is situated at the western edge of the Catskill Mountains and, as a result, has very hilly topography with streams and rivers situated at valley bottoms. The soils of Delaware County, while good for dairy farming, are not particularly good for crops or for siting individual septic systems. Therefore, as is typical of other similar areas, small population centers have grown up along the valley bottoms, adjacent to the streams and rivers, because that land is the best available for development.

In New York State, land use authority is delegated almost entirely to local governments. As Table 4-3-17 indicates Delaware County municipalities take very seriously their responsibilities to protect the health, safety and welfare of their residents. A large majority of towns and villages have adopted comprehensive plans on which to base their land use regulations. Many of those same towns and villages have also adopted one or more land use tools like subdivision review, zoning, and site plan review. In addition, all County municipalities have adopted the New York State Building and Fire Codes and have Flood Damage Prevention local laws in place. These are administered by the local code enforcement officials listed in Section 2.3.

Table 4-3-17. Land Use Regulations and Planning Activities in Delaware County (August 2005)

Towns	TPAS	Comprehensive Plan	Subdivision Regs	Road Take-Over Policy	Soil Profile Analysis	Sanitary Code	Dump Control Law	Mobile Home Regs	Site Plan Review	Zoning	Critical Environmental Areas	Historic District	Wellhead Protection Plan	Cell Towers	Wind Turbines	Access to Town Highway	Junkyards	Highway Management Plan	Right to Farm	Stormwater Mgmt. Plan
Andes	X	X	X	X	X	-	X	X	X	X	-	X	-	X	-	-	X	I	X	
Bovina	X	X	X	X	-	-	X	X	X	X	-	X	-	-	-	X	-	-	-	-
Colchester	X	X	X	-	-	-	X	-	-	-	-	-	-	-	-	X	-	-	-	-
Davenport	X	X	X	X	X	-	X	-	-	-	-	-	-	-	-	-	X	I	-	-
Delhi	X	X	X	X	X	-	X	X	X	X	-	-	-	-	-	X	-	-	-	-
Deposit	X	X	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
Franklin	X	X	X	X	X	X	X	X	X	X	-	-	X	X	-	-	-	-	X	-
Hamden	X	X	X	-	X	-	X	X	X	-	-	-	-	X	-	-	-	-	X	-
Hancock	X	-	X	-	-	X	X		-	-	-	-	-	-	-	-	X	-	-	-
Harpersfield	X	X	X	X	X	X	X	X	I	-	-	-	-	X	X	P	I	-	X	-
Kortright	X	X	X	X	X	X	X	-	-	-	-	-	-	X	-	-	-	I	X	-
Masonville	-	-	-	X	-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-
Meredith	X	X	X		X	-	X	X	-	-	-	-	-	X	-	-	X	-	-	-
Middletown	X	X	X	X	-	-	X	X	X	X	-	X		-	-	X	-	-	-	-
Roxbury	X	X	X	-	O	-	X	-	-	-	X	X	X	X	X	-	-	-	-	-
Sidney	X	X	X	X	X	X	X	X	X	X	-	-	-	X	X	-	X	-	-	-
Stamford	X	X	X	X	-	-	-	-	X	-	-	-	-	-	-	-	-	-	X	-
Tompkins	X	X	X	-	X	X	X	-	X	-	-	-	-	-	-	-	X	-	-	-
Walton	X	X	X	-	-	-	-	X	X	X	-	-	-	-	-	-	-	-	X	-
Villages																				
Delhi	X	X	X	-	-	-	X	X	X	X	-	X	-	-	-	-	-	-	-	-
Deposit	-	-	-	-	-	X	X	X	-	X	-	-	-	-	-	-	-	-	-	-
Fleischmanns	-	-	-	-	-	-	-	X	-	X	-	X	X	-	-	-	-	-	-	-
Franklin	-	-	-	-	-	-	-	-	-	-	-	X		-	-	-	-	-	-	-
Hancock	X	X	-	-	-	X	-	X	-	X	-	-	-	-	-	-	X	-	-	-
Hobart	X	X	X	-	-	X	-	X	-	X	-	-	-	-	-	-	-	-	-	-
Margaretville	X	X	-	-	-	-	X	X	X	X	-	-	X	-	-	-	-	-	-	X
Sidney	X	X	X	-	-	-	X	X	X	X	-	-	-	-	-	-	X	-	-	-
Stamford	X	X	-	-	-	-	X	X	X	X	-	X	X	-	-	-	X	-	-	-
Walton	X	X	X	-	-	X	X	X	X	X	-	X	-	-	-	-	-	-	-	X

Notes: Source: Delaware County Planning Department. X = adopted. O = official policy, not yet adopted into regulations. I = In Progress. P = proposed. - = Not implemented.

Table 4-3-18 identifies the land use trends, projections and goals for the County and participating jurisdictions. By projecting land use in Delaware County, the communities can evaluate if future land use and could increase exposure to hazards and can plan to mitigate potential impacts as part of the development planning process. To facilitate a better understanding of local development, analysis of local Comprehensive Plans and other guiding documents was completed.

Table 4-3-18 Projected Land Use and Development

Area	Land Use Projections and Goals
Delaware County	<ul style="list-style-type: none"> TBD
Town of Andes	<ul style="list-style-type: none"> A loss of farms and increase in second homeownership is characteristic of Andes (Comprehensive Plan, 2003). The hamlet of Andes is the center of commercial activity in the Town. Development focuses on Main Street redevelopment and those parcels in the 'hamlet extension area'. Despite that, the hamlet (former Village of Andes) is now being sewered. The zoning and subdivision local laws will be updated to match the requirements of the sewer district. Preservation of the rural character and agriculture are high priorities.
Town of Bovina	<ul style="list-style-type: none"> Through its Comprehensive Plan (2002), Bovina wishes to protect its rural landscape and farmland through using local laws to steer development away from floodplains and encouraging cluster subdivision. Bovina Center's new community wastewater system will encourage development in the hamlet of Bovina Center. Updating subdivision and zoning laws will occur as part of the establishment of the wastewater district. Several large lot major subdivisions of former family farms has occurred within the past several years. This trend is expected to continue and updating the local laws to encourage appropriate development will be important.
Town of Colchester	<ul style="list-style-type: none"> Comprehensive Plan (2002) goals include ensuring adequate emergency services, enhancing enforcement of local laws and building codes, providing for public infrastructure (sewage treatment) that promotes appropriate economic development, communication and efficient use of taxes. Steep slope and wellhead protection were mentioned as was establishing setbacks to protect streams.
Town of Davenport	<ul style="list-style-type: none"> The Town's comprehensive plan (1970s) needs to be updated. The Town does have subdivision regulations but has development pressures from the adjacent City and Town of Oneonta that would indicate the need for more protective land use measures.
Town of Delhi	<ul style="list-style-type: none"> Delhi's Comprehensive Plan (2002) indicates future land use will be strongly influenced by State Routes 10 and 28. The Plan recommends updating the zoning and subdivision local laws to provide additional protections. Controlling streambank erosion is also a priority for the Town.
Village of Delhi	<ul style="list-style-type: none"> According to the Comprehensive Plan (2000), no large scale annexation is planned in the Village and subdivision of new lots is infrequent. The Village is the focus of Main Street redevelopment efforts and is the County seat. It is also home to the SUNY-Delhi College of Technology. Originally a two-year school, Delhi has been shifting to a greater number of four-year programs but still has room for expansion on its existing property. The Village suffered severe flooding during the 1996 events.
Town of Deposit	<ul style="list-style-type: none"> Deposit's Comprehensive Plan (2004) indicates the community's desire to preserve the rural character of the town by encouraging open space protection (farmland, forests, water resources and river corridors). State Route 17 is in the process of being transformed into Interstate 86 (I-86). It is anticipated that there will be some additional development in the town because of this change despite the physical limitations of the area. The Town recently adopted subdivision regulations for the first time. A Site Plan local law will be considered.
Town of Franklin	<ul style="list-style-type: none"> The Town will be undertaking a comprehensive planning process beginning in 2006. Zoning and subdivision local laws are currently in effect. The Town of Franklin has seen parcelization of farms into house lots but the Village of Franklin has not. The Village has been investigating improved wastewater management solutions which could lead to some Main Street redevelopment.
Town of Hamden	<ul style="list-style-type: none"> The Town's Comprehensive Plan (2000) notes two land use development trends in the town. Loss of active farmland is noted. There are still approximately 40 farms in Hamden, but many of these are very small enterprises and the number of larger farms has clearly declined. The hamlet's of Hamden and DeLancey have NYCDEP-designated 'Hamlet Extension Areas' which encourage concentrated development around already developed areas along State Route 10 and County Route 2. Generally, however, it does not appear that the town will face any substantial development pressure in the foreseeable future. The Town recently developed a municipal water supply for the hamlet of Hamden and is in the process of developing wastewater solutions for the Hamden and DeLancey.
Town of Hancock	<ul style="list-style-type: none"> The Town will soon begin work on updating a draft comprehensive plan from 1989. Hancock is approximately 90 minutes from NYC and sits along the Delaware River near some of the best fishing in the East. As a result, development pressure tends to be higher than in other Delaware County towns. As Rt. 17 changes to I-86, it is anticipated that even more development pressure could be felt. It is anticipated that the Town's subdivision regulations will also be updated following the comprehensive

Table 4-3-18 Projected Land Use and Development

Area	Land Use Projections and Goals
	planning process and both will include appropriate hazard mitigation actions and safeguards.
Town of Harpersfield	<ul style="list-style-type: none"> Harpersfield's Comprehensive Plan (2003) fully supports agriculture but recognizes the slow conversion of farmland to large-lot residential use. The Plan indicates the need for improved enforcement of local laws. The Town's subdivision regulations are being updated to include language for conservation subdivisions.
Town of Kortright	<ul style="list-style-type: none"> Like other towns, Kortright has seen its share of farm conversion to second home development. The Comprehensive Plan (2003) indicates the desire to maintain rural character and preserve the agricultural way of life. The subdivision regulations are being updated to provide enhanced protection. Streambank stabilization is a priority. The hamlet of Bloomville is undertaking a community wastewater management study to determine the appropriate means to handle present and anticipated wastewater concerns in the hamlet.
Town of Masonville	<ul style="list-style-type: none"> Masonville does not have a comprehensive plan or development tools. Like other Delaware County towns, Masonville has seen a decrease in farming and an increase in second homeownership.
Town of Meredith	<ul style="list-style-type: none"> The draft update of Meredith's Comprehensive Plan (adoption expected in 2006) finds a similar loss of farms and an increase in second homeownership and conversion of second homes to primary residences. The Town's subdivision regulations are to be updated and zoning and site plan laws considered. Preservation of the rural character is an important goal. The Plan also calls for better management of existing infrastructure and investigation of solutions for improved wastewater management in the town. Enhanced code enforcement is also a goal.
Town of Middletown	<ul style="list-style-type: none"> The Town is in the process of updating its older comprehensive plan. Middletown is the focus of much of the population increase in Delaware County over the past 20 years with numerous second homeowners coming from the New York City area. Portions of Middletown and the Villages of Margaretville and Fleischmann's were severely damaged during the floods of 1996.
Town of Roxbury	<ul style="list-style-type: none"> Roxbury is another focus of much of the population increase in Delaware County over the past 20 years with numerous second homeowners coming from the New York City area, some of whom are converting to year-round residents. The hamlet of Roxbury has public water and is now sewered and is a focus a Main Street redevelopment efforts. Roxbury's Comprehensive Plan was updated in 2002.
Town of Sidney	<ul style="list-style-type: none"> The Consolidated Plan – Village and Town of Sidney (1998) indicates the Town has seen an influx of retirees from the New York City area, many of whom have constructed new homes in the Town which exceed the median value of existing homes. It is expected that this trend will continue.
Town of Stamford	<ul style="list-style-type: none"> Stamford's Comprehensive Plan is older (1970s) and is in need of updating. The Town has subdivision regulations and has seen a decrease in farms and an increase in second homeownership.
Village of Hobart	<ul style="list-style-type: none"> The Village of Hobart's Comprehensive Plan (2004) indicates that Tyco/Mallinckrodt is the dominant employer in the village and will be looking to expand in the future. The company already owns several parcels in the Village which could be more intensely developed. Minimal parcelization and no annexation is planned in the rest of the Village.
Village of Stamford	<ul style="list-style-type: none"> The Village of Stamford is working to update their comprehensive plan. The Village is a focus of Main Street redevelopment efforts. Minimal parcelization and no annexation is planned.
Town of Tompkins	<ul style="list-style-type: none"> Tompkins has seen a large decrease in buildable land, farms and population since the completion of the Cannonsville Dam. Second homeowners are becoming more numerous yet large-scale impacts are not anticipated in the Town's Comprehensive Plan (2002). Emergency services, wastewater management in the hamlet of Trout Creek, and preservation of rural character and the environment are main Plan goals.
Town of Walton	<ul style="list-style-type: none"> The Town's 2005 Draft Comprehensive Plan update indicates the desire to maintain the rural character of the Town. Updating the subdivision regulations is a priority as is consideration of additional land use mechanisms.
Village of Walton	<ul style="list-style-type: none"> According to the Village's Comprehensive Plan (2000), no large scale annexation is planned in the Village and subdivision of new lots is infrequent within the existing village boundaries. Main Street redevelopment efforts are focused in the Village. The Water Street area, adjacent to the Delaware River, has been targeted for development but is burdened with several environmental constraints: <ul style="list-style-type: none"> 1) It is within the 100-year floodplain.

Table 4-3-18 Projected Land Use and Development

Area	Land Use Projections and Goals
	<ul style="list-style-type: none"> ▪ 2) There are two wells on-site that require protection under any development proposal. ▪ 3) The proximity to the River triggers protections under the New York City Watershed MOA. ▪ 4) A Phase I Environmental Assessment needs to be done. <p>This area represents a significant opportunity for the Village. However, in light of regulatory issues, early efforts toward recreational uses should be given strong consideration. Other non-intense uses could result providing the regulatory considerations are met. The Village suffered severe flooding during the 1996 events.</p>