

SECTION 4: COUNTY PROFILE

Tioga County profile information is presented in the plan and analyzed to develop an understanding of a study area, including the economic, structural, and population assets at risk and the particular concerns that may be present related to hazards analyzed later in this plan (e.g., low lying areas prone to flooding or a high percentage of vulnerable persons in an area). This profile provides general information for Tioga County (physical setting, population and demographics, general building stock, and land use and population trends) and critical facilities located within the County.

GENERAL INFORMATION

According to the 2010 U.S. Census, the estimated Tioga County population was 51,125. Tioga County is one of the 62 counties in New York State and is comprised of nine towns and six villages. Tioga County is bordered to the north by Tompkins and Cortland County, to the south by Pennsylvania, to the east by Broome County and to the west by Chemung County.

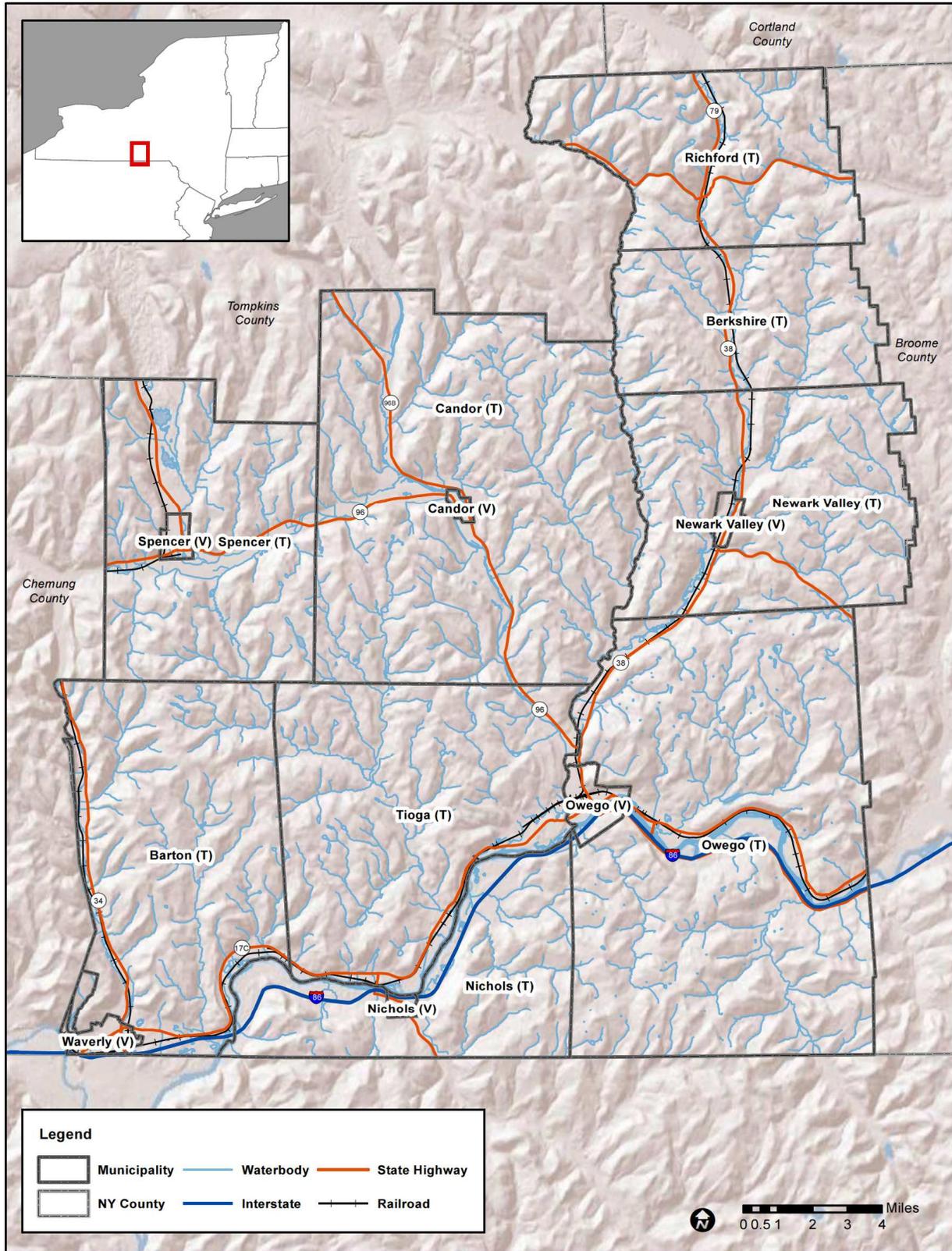
Physical Setting

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

Location

Tioga County is located in south central New York State, on the Pennsylvania border. The County is bordered to the north by Tompkins and Cortland County, to the south by Pennsylvania, to the east by Broome County and to the west by Chemung County. Tioga County is made up of 15 municipalities (towns and villages) and encompasses an area of approximately 524 square miles (Tioga County HMP, 2007). Figure 4-1 illustrates the County and its municipalities.

Figure 4-1. Tioga County, New York

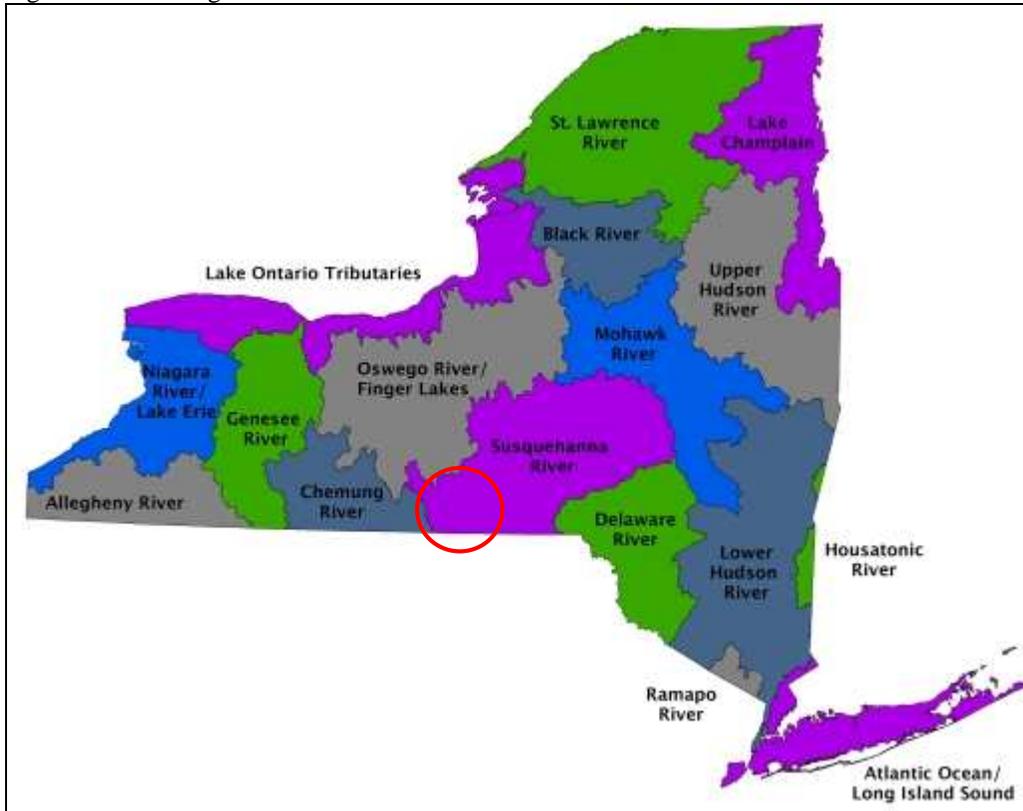


Source: ESRI, 2009; Tioga County, 2012

Hydrography and Hydrology

Numerous ponds, lakes, creeks and rivers make up the waterscape of Tioga County, which lie within one major drainage basin (Susquehanna River Basin) and four sub-basins (Chenango, Chemung, Owego-Wappasening, and Seneca). The major bodies of water and waterways within the County include the East and West Branch of the Owego River, Catatonk Creek, the Susquehanna River and Cayuta Creek. Figure 4-2 depicts the 17 drainage basins found in New York State and Figure 4-3 depicts the watersheds of Tioga County.

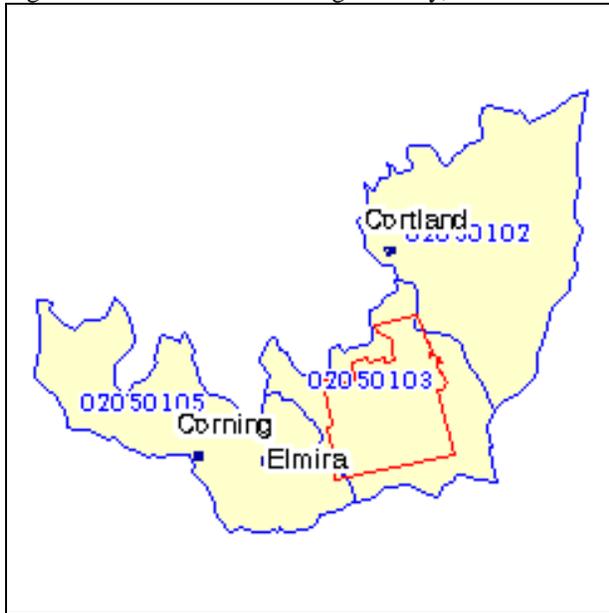
Figure 4-2. Drainage Basins of New York State



Source: NYSDEC, Date Unknown

Note: The circle indicates the approximate location of Tioga County.

Figure 4-3. Watersheds of Tioga County, New York



Source: USEPA, 2012

Note(s): The red outline indicates the location of Tioga County

- 02050102 Chenango
- 02050103 Owego-Wappasening
- 02050105 Chemung
- 04140201 Seneca

The Susquehanna River Basin is the second largest east of the Mississippi River. The 444 miles of this Basin drains 27,500 square miles covering large portions of New York State, Pennsylvania and Maryland, before emptying into the Chesapeake Bay. The Basin has 4,520 square miles of land area within New York State and over 8,185 miles of freshwater rivers and streams. The major tributaries to the Susquehanna River in New York State include the Chenango River, the Tioughnioga River, the Unadilla River and the Owego Creek. There are 130 significant freshwater lakes, ponds and reservoirs that make up the Basin and include Otsego Lake, Canadarago Lake and Whitney Point Lake/Reservoir (NYSDEC, Date Unknown). Figure 4-4 illustrates the Susquehanna Watersheds (HUC 10 and HUC 12) and major riverine reaches in Tioga County.

Topography and Geology

Many centuries ago, Tioga County was a primeval forest, virtually boundless and trackless. The dense carpet of decaying leaves and other vegetation formed a sponge that soaked up rain and melting snows. This water was released from the hillsides in small trickles, which sustained luxuriant forest growth; kept streams filled, and limited erosion. The deforestation of the County began with the colonial immigration from Europe. The removal of the vegetation allowed the rainwater and snowmelt to produce property damage by erosion. Glaciers during the Ice Age etched the topography of the County. Tioga County has wide valleys for the main streams to meander, but the steep valleys through which the tributaries flow create major flooding problems (Tioga County HMP, 2007).

Tioga County occupies a heavily eroded portion of the Appalachian Plateau characterized by rounded hillsides and flat, relatively narrow (under a mile wide) valleys, many of which are of glacial origin. The Pocono Mountains lie to the south, and the Catskill Mountains lie to the east. The county is situated between about 750 and just under 1,900 feet above sea level, and this elevation contributes to the cooler average temperatures. The lowest elevation in the county is located at the point where the Susquehanna River leaves the county east of Waverly near the southwest edge of the county. The highest elevation is located on a ridge top northeast of the hamlet of Richford near the Tioga-Cortland County boundary in the northeastern part of the county (Southern Tier East Regional Planning Development Board, 2007).

Climate

The climate of New York State is very similar to most of the Northeast U.S. and is classified as Humid Continental. Differences in latitude, character of topography, and proximity to large bodies of water all have an effect on the climate across New York State. Precipitation during the warm, growing season (April through September) is characterized by convective storms that generally form in advance of an eastward moving cold front or during periods of local atmospheric instability. Occasionally, tropical cyclones will move up from southern coastal areas and produce large quantities of rain. Both types of storms typically are characterized by relatively short periods of intense precipitation that produce large amounts of surface runoff and little recharge (Cornell, Date Unknown).

The cool season (October through March) is characterized by large, low-pressure systems that move northeastward along the Atlantic coast or the western side of the Appalachian Mountains. Storms that form in these systems are characterized by long periods of steady precipitation in the form of rain, snow, or ice, and tend to produce less surface runoff and more recharge than the summer storms because they have a longer duration and occasionally result in snowmelt (Cornell, Date Unknown).

Tioga County generally experiences seasonable weather patterns characteristic of the northeastern U.S. Summer temperatures typically range from about 70°F to 82°F (Fahrenheit). Winter high temperatures are usually in the middle to upper 30s°F, with minimum temperatures of 14°F expected (The Weather Channel, 2012).

Land Use and Land Cover

Tioga County is typical of many counties in New York State in that it has experienced only moderate growth over the past three decades. Much of the area within the villages was largely built out before World War II. Additional development occurred in the 1950s and 1960s, using up much of the remaining land within the County's municipalities. Because they were founded in an era when water power was critical to industrial development or transportation, the core of most villages in the county are located within floodplain areas. The bulk of residential development in Tioga County since 1970 has been and

continues to be small-scale, low density rural residential development comprised of one- to five house lots in scattered locations. The majority of recent growth and development within the region since 1970 has occurred in areas with few identified natural or technological hazards (Tioga County HMP, 2007).

Table 4-1 below shows the land use categories and their total square miles and percentages. Figure 4-5 shows the distribution of land use throughout Tioga County.

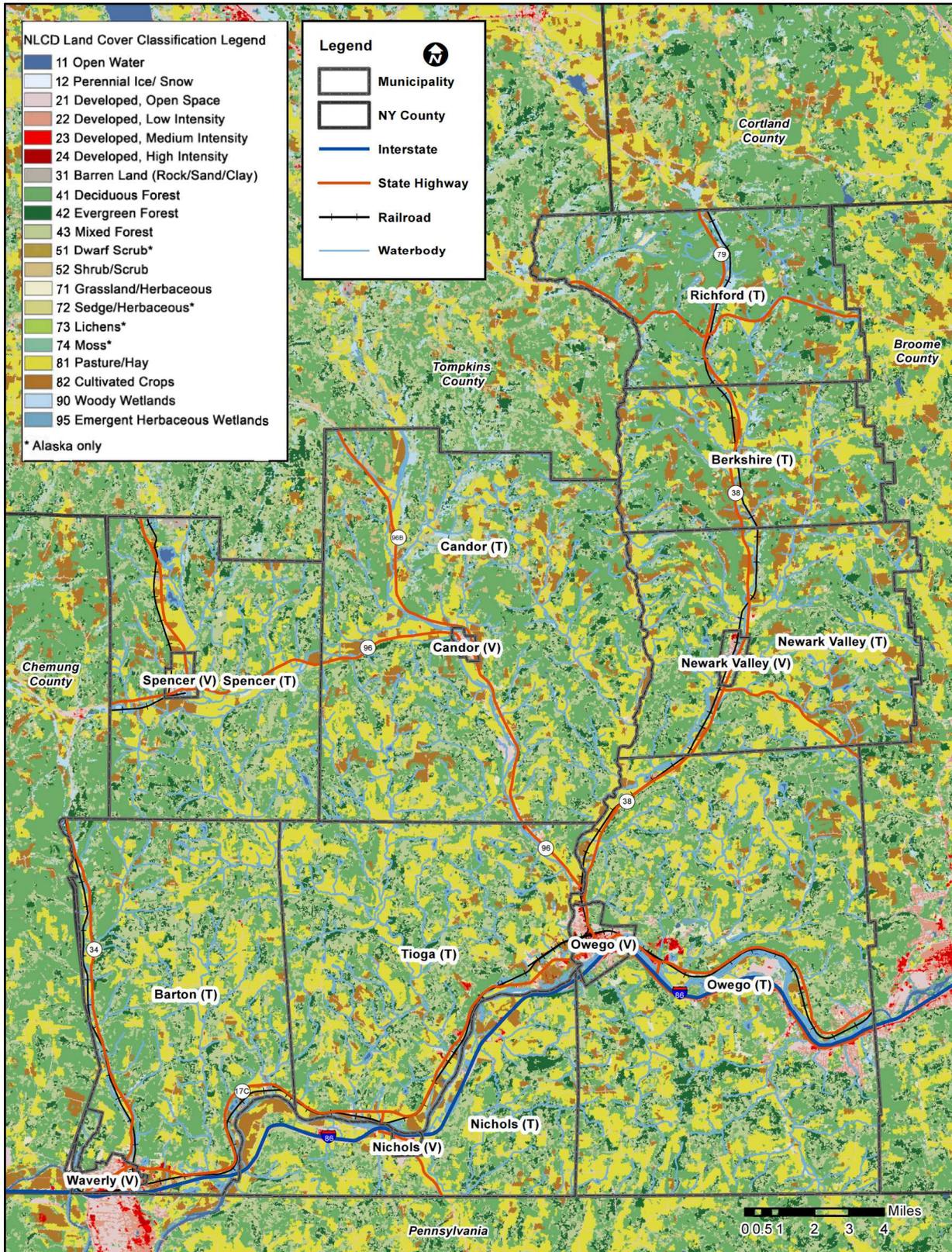
Table 4-1. Land Use (2006) in Tioga County

Land Use	Total Area (sq. mi.)	Percent of County (%)
Barren	0.45	0.1
Developed	28.66	5.5
Farmland	151.75	29.0
Forested	327.98	62.8
Open Water	4.39	0.8
Wetlands	9.19	1.8
Total	522.42	100

Source: FEMA, 2012; USGS, 2011 (2006 National Land Cover Database)

Note: sq. mi. = square miles

Figure 4-5. Land Use in Tioga County



Source: USGS, 2011 (2006 National Land Cover Database)

POPULATION AND DEMOGRAPHICS

According to the 2010 U.S. Census, Tioga County had a population of 51,125 people. The U.S. Census data in HAZUS-MH is based on the 2000 data in which there were 51,784 people in the County. Table 4-2 presents the population statistics for Tioga County based on the 2010 and 2000 U.S. Census data. Figure 4-6 shows the distribution of the 2000 U.S. Census general population density (persons per square mile) by Census block. For the purposes of this plan, data available in HAZUS-MH are used (representing 2000 data); this data is considered appropriate given the decrease in population between 2000 and 2010.

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

Table 4-2. Tioga County Population Statistics (2010 and 2000 U.S. Census)

Municipality	Census 2010 Pop.	HAZUS-HM 2000 Pop.	HAZUS-MH Pop. Over 65*	Percent of HAZUS-MH Pop. Over 65*	HAZUS-MH Low-Income Pop. **	Percent of HAZUS-MH Low-Income Pop. **
Barton (T)	8,858	4,459	524	11.8	347	7.8
Waverly (V)	4,444	4,607	946	20.5	590	12.8
Berkshire (T)	1,412	1,365	143	10.5	111	8.1
Candor (T)	5,305	4,453	519	11.7	337	7.6
Candor (V)	851	855	95	11.1	74	8.7
Newark Valley (T)	3,946	3,035	325	10.7	201	6.6
Newark Valley (V)	997	1,071	128	12.0	59	5.5
Nichols (T)	2,525	2,010	236	11.7	135	6.7
Nichols (V)	512	574	80	13.9	46	8.0
Owego (T)	19,883	16,454	1,979	12.0	686	4.2
Owego (V)	3,896	3,911	685	17.5	526	13.4
Richford (T)	1,172	1,171	95	8.1	106	9.1
Spencer (T)	3,153	2,248	257	11.4	183	8.1
Spencer (V)	759	731	70	9.6	66	9.0
Tioga (T)	4,871	4,840	647	13.4	460	9.5
Tioga County	51,125	51,784	6,729	13.0	3,927	7.6

Source: Census 2010 (U.S. Census Bureau); HAZUS-MH 2.0

Note: Pop. = population

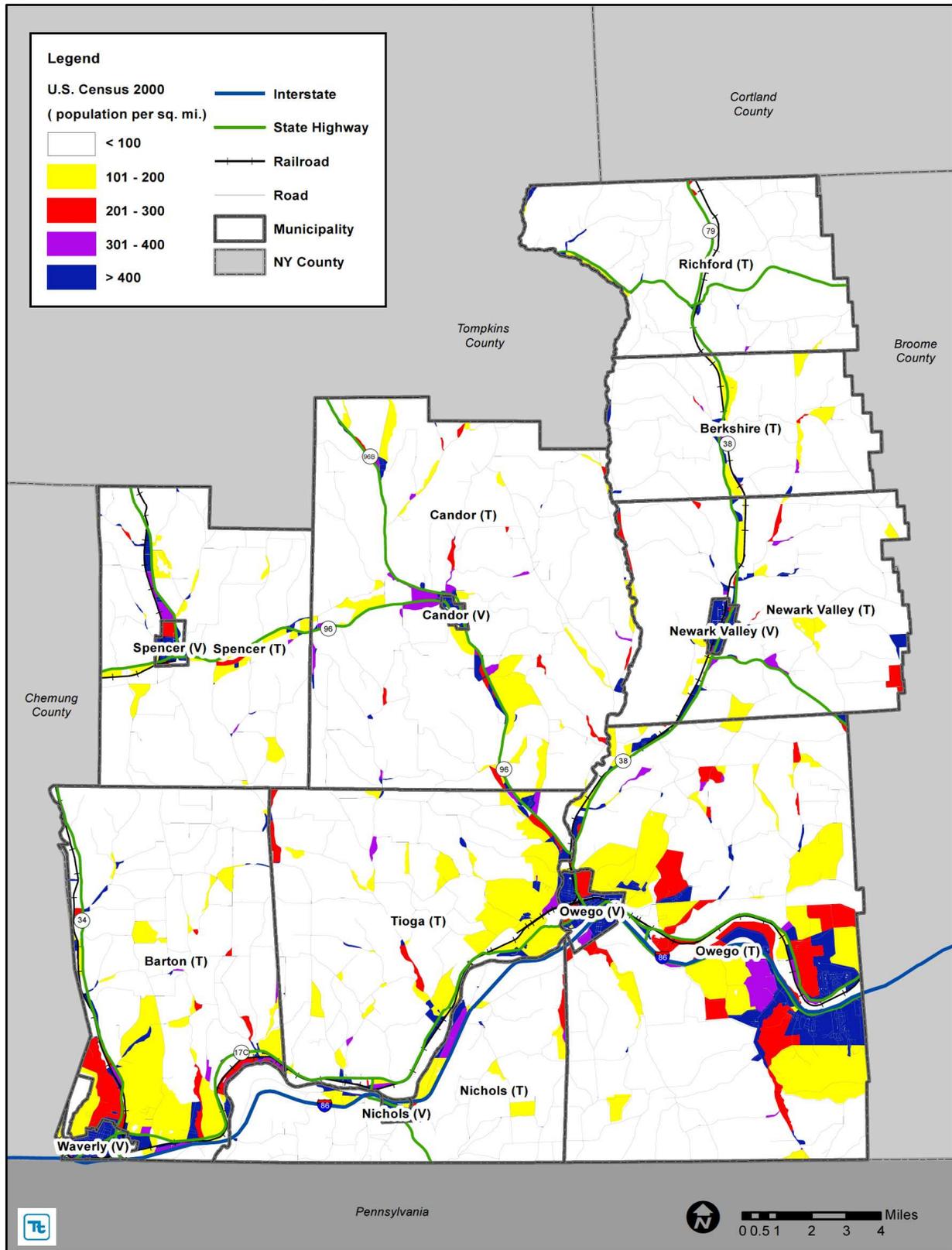
* Individuals over the age of 65. Percentage is calculated out of total population of municipality.

** Households with an income of less than \$20,000. Percentage is calculated out of total population of municipality.

It is noted that the census data for household income provided in HAZUS-MH includes two ranges (\$0-10,000 and \$10,000-\$20,000/year) that were totaled to provide the “low-income” data used in this study. This does not correspond exactly with the “poverty” thresholds established by the U.S. Census Bureau, which identifies households with an annual household income below \$15,000 per year as “low income” for this region. This difference is not believed to be significant for the purposes of this planning effort.

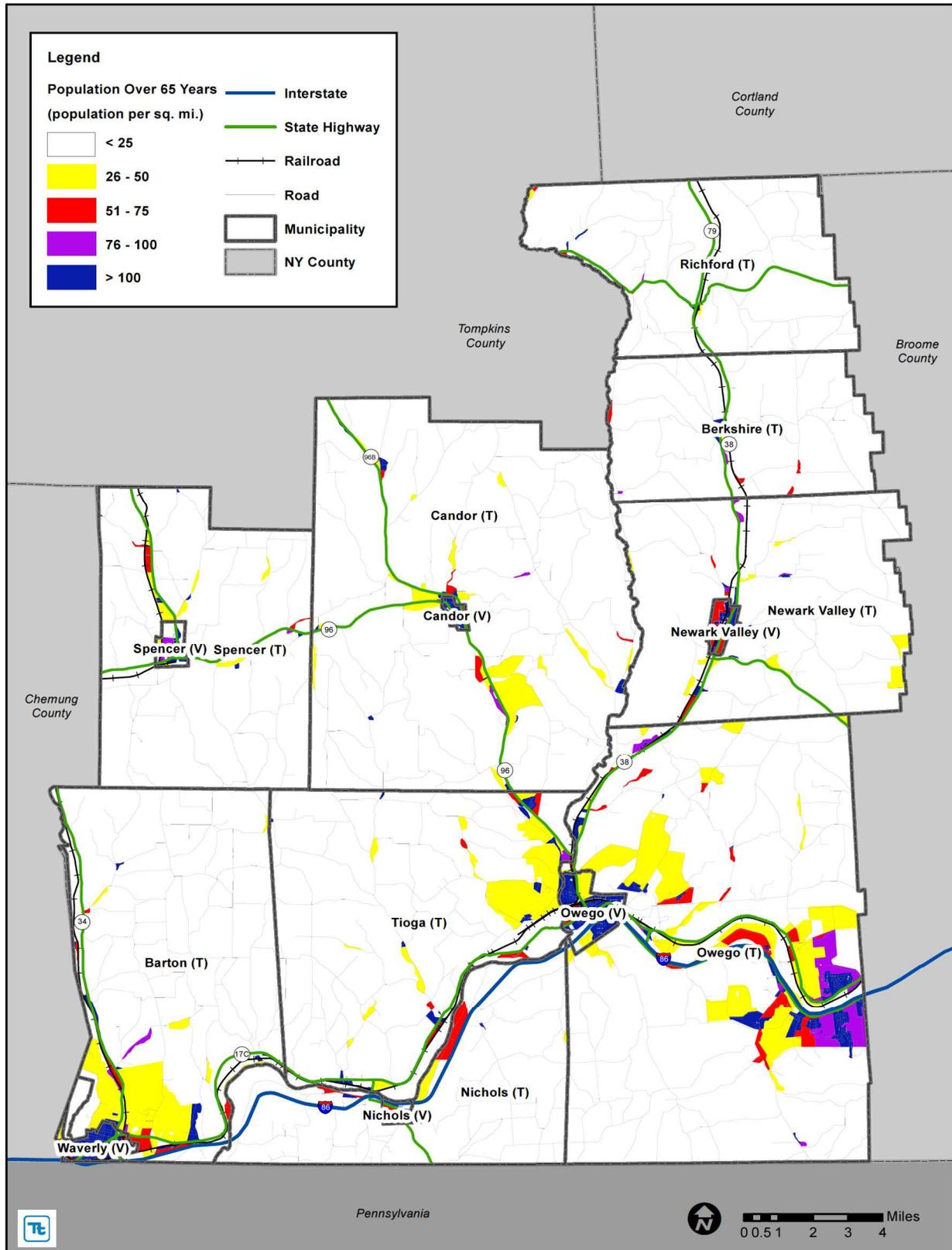
The 2010 U.S. Census data also identified 2,490 of the 20,634 households as having an annual income of less than \$15,000. The 2000 U.S. Census data indicates a total of 6,729 persons living in households below the poverty level (13%). Figure 4-7 shows the distribution of persons over age 65 in Tioga County, while Figure 4-8 shows the distribution of low income persons.

Figure 4-6. Distribution of General Population for Tioga County, New York



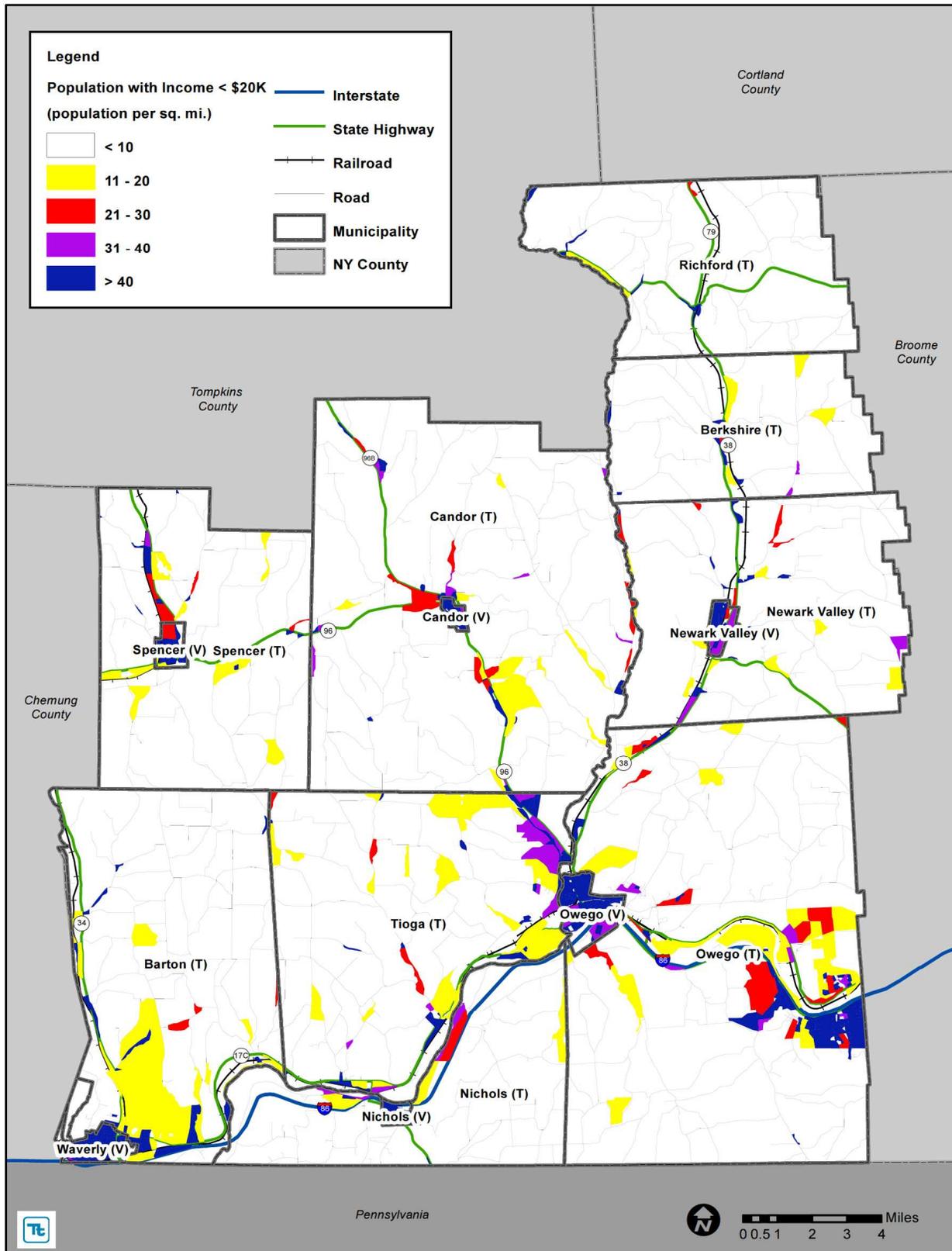
Source: HAZUS-MH 2.0

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



Source: HAZUS-MH 2.0

Figure 4-8. Distribution of Low-Income Population in Tioga County, New York



Source: HAZUS-MH 2.0

GENERAL BUILDING STOCK

The 2010 U.S. Census data identifies 20,634 households in Tioga County. The U.S. Census data identified 22,170 housing units in Tioga County in 2010. U.S. Census defines household as all the persons who occupy a housing unit, and a housing unit as a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Therefore, you may have more than one household per housing unit. The median price of a single family home in Tioga County was estimated at \$101,700 in 2010 (U.S. Census, 2010).

The data in HAZUS-MH estimates that there are nearly 24,000 structures in Tioga County, with a total building replacement value (structure and content) of greater than \$5.3 billion. Approximately 93% of the buildings and 71% of the building stock structural value are associated with residential housing. Table 4-3 presents Building Stock Statistics by Occupancy Class for Tioga County, based on HAZUS-MH provided data.

Table 4-3. Building Stock Count and Replacement Value by Occupancy Class

Municipality	Total		Residential				Commercial	Industrial
	Count	Value (\$K)	Total RES Count	Value (\$K)	RES1 Count	RES2 Count	Value (\$K)	Value (\$K)
Barton (T)	2,202	\$405,304,000	2,069	\$270,306,000	1,089	675	\$54,259,000	\$61,545,000
Berkshire (T)	773	\$117,127,000	717	\$91,717,000	401	129	\$12,065,000	\$3,289,000
Candor (T)	2,321	\$352,290,000	2,176	\$287,838,000	1,156	482	\$35,525,000	\$10,887,000
Candor (V)	442	\$98,883,000	391	\$62,154,000	257	64	\$11,643,000	\$2,226,000
Newark Valley (T)	1,365	\$234,881,000	1,276	\$191,326,000	798	261	\$27,287,000	\$4,984,000
Newark Valley (V)	486	\$113,290,000	449	\$85,489,000	304	76	\$14,211,000	\$1,318,000
Nichols (T)	937	\$172,600,000	873	\$140,341,000	602	148	\$19,386,000	\$3,379,000
Nichols (V)	277	\$73,886,000	238	\$41,756,000	176	24	\$11,102,000	\$2,534,000
Owego (T)	6,925	\$1,854,289,000	6,438	\$1,386,281,000	5,349	480	\$216,672,000	\$179,813,000
Owego (V)	1,659	\$559,700,000	1,449	\$303,064,000	982	28	\$163,137,000	\$40,847,000
Richford	604	\$78,145,000	576	\$56,466,000	289	187	\$11,205,000	\$3,865,000
Spencer (T)	1,242	\$194,771,000	1,154	\$155,588,000	650	238	\$18,703,000	\$9,770,000
Spencer (V)	411	\$90,277,000	373	\$53,603,000	221	66	\$27,182,000	\$2,322,000
Tioga (T)	2,354	\$416,994,000	2,198	\$312,120,000	1,212	730	\$56,883,000	\$16,332,000
Waverly (V)	1,766	\$547,999,000	1,610	\$331,890,000	1,090	42	\$87,025,000	\$94,790,000
Tioga County	23,764	\$5,310,436,000	21,987	\$3,769,939,000	14,576	3,630	\$766,285,000	\$437,901,000

Source: HAZUS-MH 2.0

Note(s):

RES1 = Single-family dwellings

RES2 = Manufactured housing

T = Town

V = Village

Value reflects the replacement cost for building structure and contents. Generally, contents for residential structures are valued at about 50 percent of the building's value. For commercial facilities, the value of the content is generally about equal to the building's structural value. Building stock is generated by using 2000 U.S. Census data. Total is total of all building classes (Residential, Commercial, Industrial, Agricultural, Religious, Government and Education).

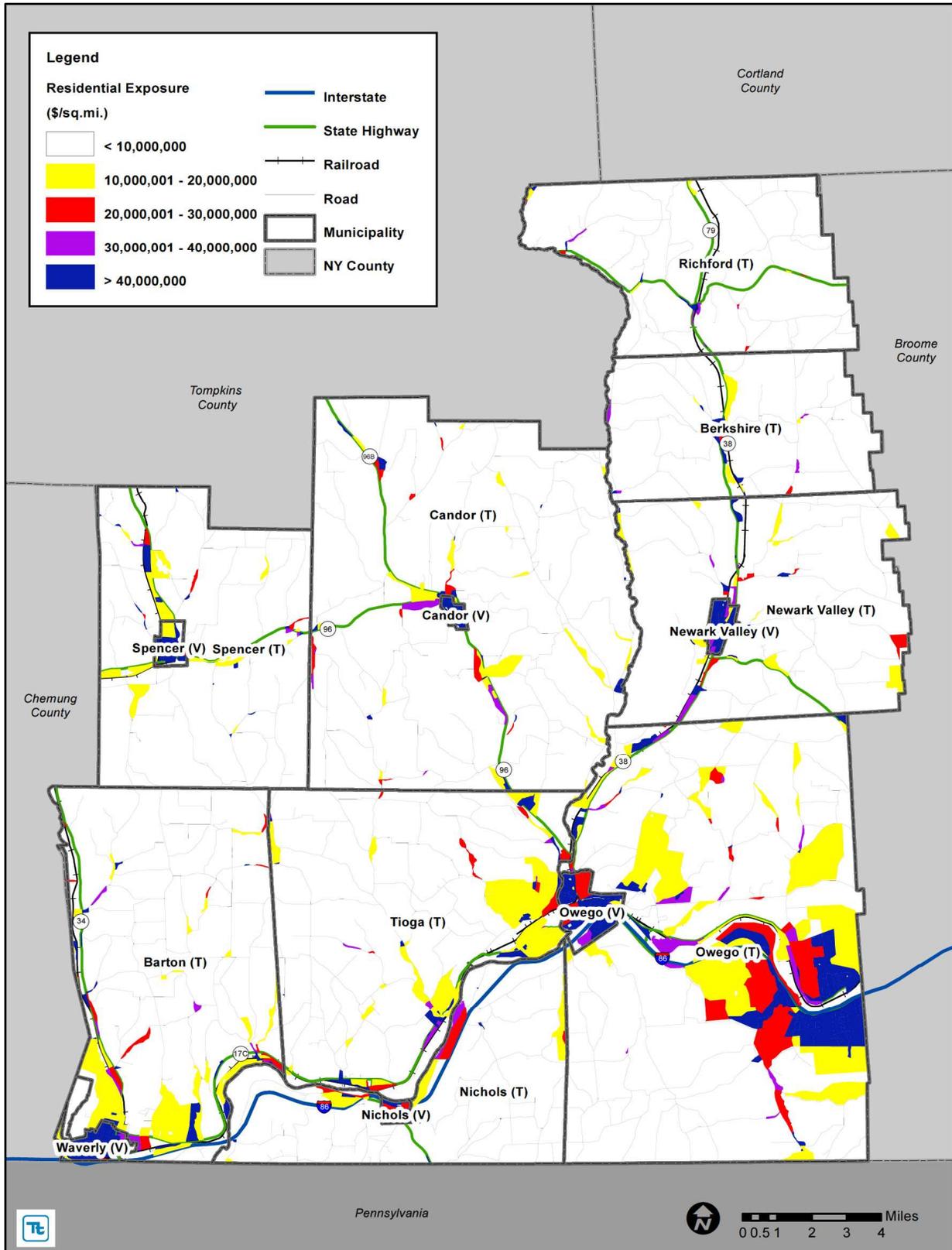
Only RES1 and RES2 occupancy class building counts are provided because they are based on census housing unit costs. All other occupancy class building counts are calculated in HAZUS-MH 2.0 based on regional average square footage values for specific occupancy class/building types, and may significantly over- or under-estimate actual structure counts.

The 2010 Census data identify that the majority of housing units (71.7%) in Tioga County are single-family detached units. The 2009 U.S. Census Bureau's County Business Patterns data identified 796 business establishments employing 12,973 people in Tioga County. The majority (59.1%) of these establishments employed between one and four employees.

Figure 4-9 through Figure 4-11 show the distribution and exposure density of residential, commercial and industrial buildings in Tioga County. Exposure density is the dollar value of structures per unit area, including building content value. Generally, contents for residential structures are valued at about 50 percent of the building's value. For commercial facilities, the value of the content is generally about equal to the building's structural value. The densities are shown in units of \$1,000 (\$K) per square mile.

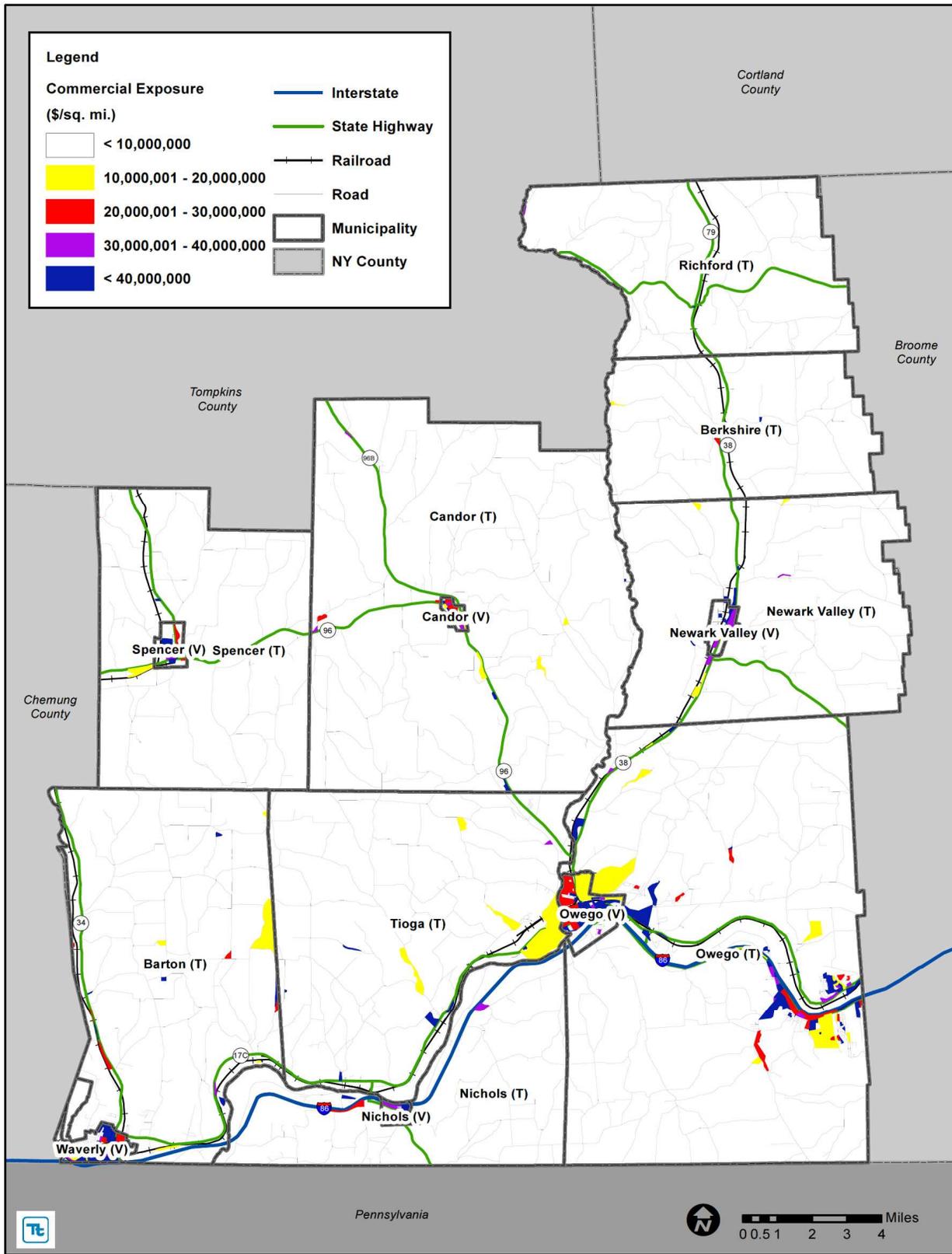
Viewing exposure distribution maps such as Figures 4-9 through 4-11 can assist communities in visualizing areas of high exposure and in evaluating aspects of the study area in relation to the specific hazard risks.

Figure 4-9. Distribution of Residential Building Stock and Value Density in Tioga County



Source: HAZUS-MH 2.0

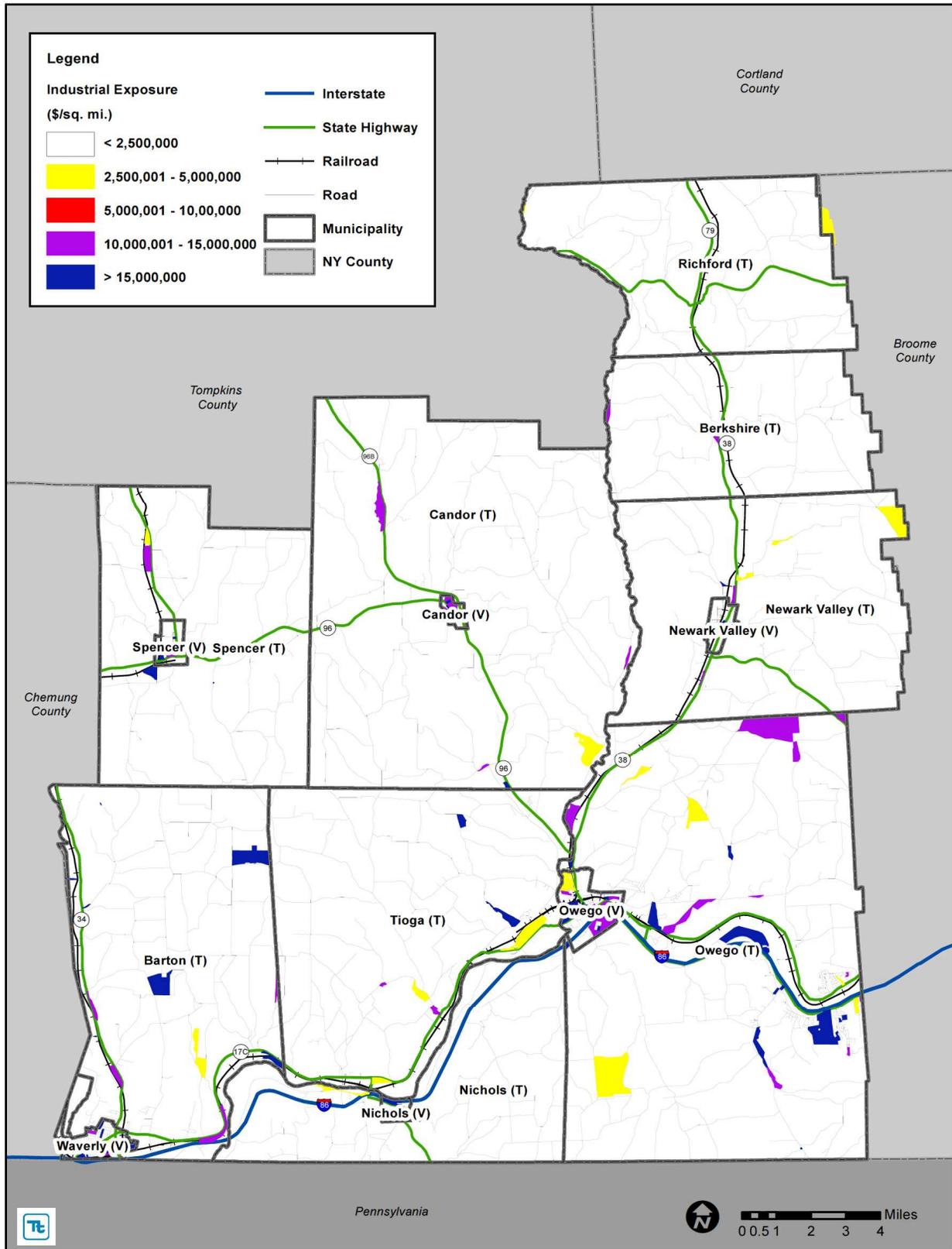
Figure 4-10. Distribution of Commercial Building Stock and Exposure Density in Tioga County



Source: HAZUS-MH 2.0



Figure 4-11. Distribution of Industrial Building Stock and Value Density in Tioga County



Source: HAZUS-MH 2.0



LAND USE AND POPULATION TRENDS

Land use regulatory authority is vested in New York State's towns, villages, and cities. However, many development and preservation issues transcend location political boundaries. DMA 2000 requires that communities consider land use trends, which can impact the need for, and priority of, mitigation options over time. Land use trends significantly impact exposure and vulnerability to various hazards. For example, significant development in a hazard area increases the building stock and population exposed to that hazard.

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

Land Use Trends

The following sections present an overview of the County's economy and agriculture.

Economy

The following sections present an overview of the County economy including: agriculture, retail trade, tourism, industrial, government, leisure and hospitality, and manufacturing. Figure 4-14 shows the distribution of businesses by industry in Tioga County.

The economic census provides a detailed portrait of the nation's economy once every 5 years, from the national to the local level. The most recent economic census is from 2002, which covers nearly all of the U.S. economy in its basic collection of establishment statistics. The 2009 Economic Census was conducted for Tioga County and the information is presented in Table 4-4.

Table 4-4. 2009 Economic Census for Tioga County, New York

Industry	Number of Establishments	Total Sales (\$1,000)	Number of Employees*
Accommodation and food services	81	2121	827
Administrative and Support and Waste Mang and Remediation Srvs	44	2470	370
Arts, entertainment, and recreation	25	1949	350
Construction	105	3003	418
Educational services	6	77	33
Finance and insurance	35	2380	247
Forestry, fishing, hunting, and Agriculture Support	3	31	A
Health care and social assistance	70	6109	1454
Industries not classified	2	D	A
Information	18	581	88
Manufacturing	36	14088	1567
Mining, quarrying, and oil and gas extraction	6	738	80
Other services (except public administration)	107	1611	413
Professional, scientific, and technical services	59	D	H
Real estate and rental and leasing	12	88	27
Retail trade	145	7037	1340
Transportation and warehousing	14	D	E

SECTION 4: COUNTY PROFILE

Industry	Number of Establishments	Total Sales (\$1,000)	Number of Employees*
Utilities	1	D	A
Wholesale trade	27	4581	493

Source: U.S. Census, 2009

* = This number only includes paid employees

D = Withheld to avoid disclosing data of individual companies; data are included in higher level totals

E = 250-499 employees

H = 2

N = Not available

X = Not applicable

The County Business Pattern is provided by the U.S. Census Bureau and is an annual series that presents sub-national economic data by industry. County Business Patterns covers most of the country’s economic activity (U.S Census Bureau, 2009). According to the 2009 Tioga County Business Pattern, the County had a total of 796 business establishments. The retail trade industry had the highest number of establishments in the County, making up 18.2-percent of all businesses. Following retail trade is other services (except public administration), making up 13.4-percent of all business. The third highest industry in 2009 was construction, making up 13.1-percent of all businesses. Table 4-5 provides 2009 industry and employment information in Tioga County.

Table 4-5. 2009 Tioga County Business Patterns

Industry	Number of Establishments	Number of Employees
Accommodation and food services	81	827
Administrative and Support and Waste Mang and Remediation Srvs	44	370
Arts, entertainment, and recreation	25	350
Construction	105	418
Educational services	6	33
Finance and insurance	35	247
Forestry, fishing, hunting, and Agriculture Support	3	A
Health care and social assistance	70	1454
Industries not classified	2	A
Information	18	88
Manufacturing	36	1567
Mining, quarrying, and oil and gas extraction	6	80
Other services (except public administration)	107	413
Professional, scientific, and technical services	59	H
Real estate and rental and leasing	12	27
Retail trade	145	1340
Transportation and warehousing	14	E
Utilities	1	A
Wholesale trade	27	493
Total	796	12,973

Source: U.S. Census Bureau, 2009

Note: Number of employees only includes number of paid employees

D = Withheld to avoid disclosing data of individual companies; data are included in higher level totals

E = 250-499 employees

H = 2

N = Not available

X = Not applicable



Agriculture

Over the past few decades, the number of farms and farmers within Tioga County has steadily declined. This could be due to an increase in production costs and a decrease in market values with some products (Southern Tier East Regional Planning Development Board, 2007). In 2007, there were 565 farms in the County, with a total land area of 106,834 acres. The average size of a farm was 189 acres. According to the 2007 Census of Agriculture, approximately 248 of farm operators reported farming as their primary occupation. The market value of agricultural products sold from County farms totaled over \$36.6 million, with total sales averaging \$64,894 per farm. Crop sales accounted for \$4.91 million (13%) of total sales and livestock sales accounted for \$31.7 million (87%) of total sales. The lead agricultural products sold were milk and other dairy products from cows (\$27.3 million), other crops and hay (\$1.5 million), and nursery, greenhouse, floriculture and sod (\$1.46 million) (U.S. Department of Agriculture National Agricultural Statistics Service, 2007).

Retail Trade

Tioga County does not have any big box retail. The county is surrounded on three sides by counties that all have the large retail that most communities are accustomed to and our population is able to access these due to an abundance of good highways to access these shopping opportunities. Our retail is made up of mostly small privately owned businesses. There is a unique shopping opportunity in the quaint Village of Owego, with many nice shops and restaurants that reside along a newly constructed river walk. The other main shopping are would be at the western end of the county in the Village of Waverly. There are many small businesses dispersed throughout the remainder of the county (Tioga County Planning Committee, 2012).

Tourism

The Tioga County Tourism Office is the official designated Tourism Promotion Agency (TPA) for the county in the State of New York. New York State provides financial assistance to county TPAs for certain expenses of local and regional tourism promotion campaigns through the I Love NY Matching Funds program administered by New York’s Empire State Development Office. The Tioga County Tourism Office’s mission is dedicated to growing the tourism industry of Tioga County by promoting its attractions, the rural character, quality of life, and charm of the county to attract out-of-county visitors. These goals are achieved by marketing and advertising to attract the maximum number of visitors to Tioga County based on existing attractions, services, and events, and offering marketing resources and assistance to new agri-tourism businesses. Marketing services include a website (www.visittioga.com), brochure distribution, calendar of events, an 800#, welcome bags, public/media relations, a visitor’s center and regional and state associations (Tioga County Planning Committee, 2012).

Tioga County is one of the 14 counties located within the Finger Lakes Region. The Finger Lakes is a \$2.6 billion industry that supports 57,650 jobs. Tioga County is 12th in visitor spending (Tioga County Planning Committee, 2012). Table 4-6 displays the totals in visitor spending within Tioga County.

As part of the Finger Lakes Region, Tioga County has seen an increase of 6.1% in employment; \$2,137,613 in county taxes generated; and \$2,134,033 in state taxes generated (Tioga County Planning Committee, 2012).

Table 4-6. Tioga County Visitor Spending in the Finger Lakes Region

Visitor Spending	Total
Lodging	\$12,658,000

Visitor Spending	Total
Transportation	\$320,000
Food and Beverage	\$7,207,000
Shopping	\$7,790,000
Recreation	\$2,968,000
Second Homes	\$3,479,000
TOTAL	\$34,422,000

Source: Tioga County Planning Committee, 2012

Other tourism in the County includes:

- Eco-Tourism (conservation education, wilderness educ., scenic views)
- Nature-based Activities (canoeing / kayaking / rowing / sculling -"paddling," hiking, x-skiing, snowshoeing, snowmobiling, hunting, fishing, birdwatching, parks)
- Agri-Tourism (farm experiences, tours, farm markets)
- Cultural Attractions (theatre, music, art)
- Historic / Heritage Attractions (museums, historic homes/villages, railroads)
- Shopping/Restaurants/Lodging
- Sports-based Attractions (golf, racing, swimming, waterskiing, biking, bowling, tennis, volleyball)
- Events (can be a combination of any of the above) (Tioga County Planning Committee, 2012)

Government

Tioga County is made up of nine (9) towns and six (6) villages. The County is governed by nine (9) elected Legislators who represent equally divided districts. They manage by a Committee system and do not have a County Manager or Administrator. The County does not have a nursing home, hospital, airport, or park system. They also do not own or manage any public sewer or water systems. There is a County jail and a County Sheriff's road patrol (Tioga County Planning Committee, 2012).

Home rule is strong in New York State and thus, each town and village has its own governing body. Towns are made up of a Town Board and Supervisor. The Villages all have a Mayor and a Board of Trustees. Along with town and village roads, any public water and sewer systems are operated by the local municipality. Each municipality has charge over its own planning and zoning and uses the County personnel as a resource (Tioga County Planning Committee, 2012).

Manufacturing

Tioga County is the home to a Lockheed Martin facility that specializes in software integration. They are the largest employer which in the last three (3) years has gone from nearly 4000 employees to its current level of about 2800. There are three manufacturers of circuit boards and related products along with a cheese producer that is one of the largest mozzarella suppliers to pizza chains in the east. We have a number of timber processing type businesses which handle both hardwoods and softwoods. A large part of these businesses are moving more into the export of wood products. There are also a number of small (30 employees or less) companies that are involved in a number of product lines (Tioga County Planning Committee, 2012).

Population Trends

Over the last 50 years, Tioga County has experienced a strong population growth, with a slight decline over the last decade. The population of the County is distributed among nine towns and six villages. The southern portion of the County is the densest in population.

The U.S. Census Bureau states that Tioga County's 2010 population is 51,125 persons, which is a 1.3 percent decrease from the 2000 Census population of 51,784. Between 1950 and 1990, the County has seen a growth in population. In 2000 and 2010, the County experienced a decrease in population. The largest increase was seen between the years 1950 to 1960, when the County experienced a 20.2 percent (7,636 persons) population increase. The largest decrease was seen between the years 2000 and 2010, when the County experienced a 1.3 percent (-659 persons) population decrease (Tioga County Strategic Plan, 2010). Table 4-7 displays the population and population differences from 1950 to 2010 in Tioga County.

Table 4-7. Tioga County Population Trends, 1950 to 2010

Year	Population	Change in Population	Percent (%) Population Change
1950	30,166	-	-
1960	37,802	7,636	20.2%
1970	46,513	8,711	18.7%
1980	49,812	3,299	6.6%
1990	52,337	2,525	4.8%
2000	51,784	-553	-1.1%
2010	51,125	-659	-1.3%

Source: U.S. Census Bureau, 2012; Tioga County Strategic Plan, 2010

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

Future Growth and Development

Development planned within Tioga County is provided in the table below. Municipalities not indicated have not identified any significant residential/commercial, or infrastructure development within the next 5 years. Locations of development are indicated on the Hazard Area Extent and Location Maps located in the Jurisdictional Annexes (Section 9) of this plan.

Municipality	New Development/Potential Development by Municipality						
	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
Town of Barton	Wilcox Estate	Residential	37 Homes proposed	Circle Drive, Waverly, NY		None	
Town of Berkshire	Berkshire Fire Dept	Commercial	1	12515 Rt 38		None	
Town of Berkshire	Tioga Hardwoods	Commercial	1	12685 Rt 38		None	
Village of Newark Valley	Lawrence Homes Corp. \$\$ Store	Commercial	1	25-29 Main Street		Flood	Complete

SECTION 4: COUNTY PROFILE

New Development/Potential Development by Municipality							
Municipality	Property Name	Type (Residential or Commercial)	Number of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
Village of Newark Valley	Northern Tioga Enterprises LLC	Commercial	1	21 Renway Avenue		None	Abandoned
Town of Nichols	Tioga Downs Hotel	Commercial	2	West River Road			Hotel-Ongoing
Town of Nichols	Army Reserve Training Center	Commercial	3	Stanton Hill Road			Training Center-In Progress
Town of Nichols	Housing	Residential	10-15	Various			Housing
Town of Owego	Taylor Garbage Recycling Facility	Commercial	2 structures	5730 State Route 434, Apalachin, NY 13732	142.05-1-2.31	No	Construction of an enclosed recycling facility and office building completed.
Town of Owego	Guthrie Health Care Facility	Commercial	1 structure	1246 State Route 38, Owego, NY 13827	106.00-3-23	No	Construction of medical office facility completed.
Town of Owego	CNYOG Compressor Facility	Commercial	1 structure	Rosenberger Road, Owego, NY 13827	107.00-1-8.12	No	Construction of a natural gas compressor facility completed.
Town of Owego	Everest Hotel Group	Commercial	1 structure	State Route 434, Apalachin, NY 13732	153.07-1-40.11	Yes	Construction of a hotel to begin Spring 2012.
Village of Spencer	Tioga Street Bridge Replacement	Infrastructure	One	Tioga Street just East of intersection with Main Street		Yes	Bridge built in 1936 has considerable wear
Village of Spencer	Replacement of Municipal Building	Government	One	Unknown	Unknown	No	Village Hall and Fire Dept
Village of Spencer	Vacant lot	Commercial	Unknown	Meadow Street	Unknown	Unknown	Unknown
Village of Spencer	Vacant lot	Commercial	Unknown	Intersection Main and Tioga Street	Unknown	No	Unknown



CRITICAL FACILITIES

A comprehensive inventory of critical facilities in Tioga County was developed from various sources including Tioga County GIS and input from the Steering and Planning Committees. The inventory of critical facilities presented in this section represents the current state of this effort at the time of publication of the draft HMP and used for the risk assessment in Section 5.

Essential Facilities

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

Emergency Facilities

For the purposes of this Plan, emergency facilities include emergency operation centers (EOCs), police, fire and emergency medical services (EMS). Tables 4-8 through 4-10 provide an inventory of EOCs, police stations, fire stations and EMS facilities in Tioga County. Figure 4-12 displays the location of these facilities based on the HAZUS-MH inventory data, County GIS and input from the Planning Committee.

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

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

Table 4-8. Emergency Operation Centers in Tioga County

Name	Address	Municipality	Building Type	Backup Power
Waverly Fire Station #2	State Route 17C	Barton (T)	Concrete	TBD
Lockwood	Main St	Barton (T)	Concrete	TBD
Weltonville Fire Station	West Creek Rd	Candor (T)	Concrete	TBD
Candor Main Station	Owego Rd	Candor (T)	Concrete	TBD
Newark Valley Fire Station	State Route 38	Newton Valley (T)	Concrete	TBD
Nichols Fire Station	W River Rd	Nichols (V)	Concrete	TBD
Apalachin Fire Station #1	Pennsylvania Ave	Owego (T)	Concrete	TBD
Campville Fire Station #1	State Route 17C	Owego (T)	Concrete	TBD
South Side Fire Station	Waits Rd	Owego (T)	Concrete	TBD
Tioga County Public Safety Building	Corporate Dr	Owego (T)	Concrete	TBD
Owego Central Fire Station	North Ave	Owego (V)	Concrete	TBD
Spencer	N Main St	Spencer (V)	Concrete	TBD
Tioga Center Fire Station	Fifth Ave	Tioga (T)	Concrete	TBD
Halsey Valley	Hamilton Valley Rd	Tioga (T)	Concrete	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

- T = Town
- TBD = To be determined
- V = Village

Table 4-9. Police Stations in Tioga County

Police Facility Name	Address	Location (Municipality)	Building Type	Backup Power
NYS Police	2356 State Route 434	Owego (T)	Concrete	Yes
Tioga County Sherriff Department	Corporate Drive	Owego (T)	Concrete	Yes
Owego Police Department	90 Temple Street	Owego (V)	Concrete	Yes
Waverly Police Department	32 Ithaca Street	Waverly (V)	Concrete	Yes
Spencer Police Department		Spencer (V)	Concrete	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

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Table 4-10. Fire/EMS in Tioga County

Name	Address	Municipality	Type	Building Type	Backup Power
Waverly Station #2	1627 Rt. 17C, Barton	Barton (T)	Fire	Concrete	TBD
Lockwood	34 Main Street, Lockwood	Barton (T)	Fire	Concrete	TBD
Berkshire Emergency Squad	12515 State Route 38, Berkshire	Berkshire (T)	Ambulance	Concrete	TBD
Berkshire	12515 State Route 38, Berkshire	Berkshire (T)	Fire	Concrete	TBD
Willseyville Station	462 Ithaca Rd	Candor (T)	Fire	Concrete	TBD
Weltonville	3232 West Creek Road, Weltonville	Candor (T)	Fire	Concrete	Yes
Candor Main Station	74 Owego Road, Candor	Candor (T)	Fire	Concrete	Yes
Candor Emergency Squad	Main Street, Candor	Candor (V)	Ambulance	Concrete	TBD
Berkshire EMS, Newark Valley	9 Park Street, Newark Valley	Newark Valley (V)	Ambulance	Concrete	TBD
Newark Valley	7164 State Route 38, Newark Valley	Newton Valley (T)	Fire	Concrete	Yes
Nichols	39 River Street, Nichols	Nichols (V)	Fire	Concrete	Yes
Apalachin Station #1	230 Pennsylvania Ave., Apalachin	Owego (T)	Fire	Concrete	TBD
Apalachin Station #2	4283 Pennsylvania Ave., Apalachin	Owego (T)	Fire	Concrete	TBD
Apalachin Station #3	8924 State Route 434, Apalachin	Owego (T)	Fire	Concrete	TBD
Campville Station #1	6153 State Route 17C, Town of Owego	Owego (T)	Fire	Concrete	Yes
Campville Station #2	4279 Gaskill Road, Town of Owego	Owego (T)	Fire	Concrete	Yes
South Side	3120 Waits Road, Owego	Owego (T)	Fire	Concrete	Yes
Owego Central Station	87 North Avenue, Owego	Owego (V)	Fire	Concrete	TBD
Owego Station #2	North Avenue, Owego	Owego (V)	Fire	Concrete	TBD
Owego Talcott St.	Talcott Street, Owego	Owego (V)	Fire	Concrete	TBD
Owego Station #4	Montrose Ave & South Side Drive, Owego	Owego (V)	Fire	Concrete	TBD
Richford	988 Route 79, Richford	Richford (T)	Fire	Concrete	TBD
Spencer Emergency Squad	47 West Tioga Street, Spencer	Spencer (V)	Ambulance	Concrete	TBD
Spencer	41 North Main Street, Spencer	Spencer (V)	Fire	Concrete	Yes
Candor Station #2	458 Route 96, Town of Tioga	Tioga (T)	Fire	Concrete	TBD
Halsey Valley	506 Hamilton Valley Road, Town of Tioga	Tioga (T)	Fire	Concrete	TBD
Tioga Center	60 Fifth Avenue, Tioga Center	Tioga (T)	Fire	Concrete	TBD
Waverly Main Station	94 William Donnelly Parkway, Waverly	Waverly (V)	Fire	Concrete	Yes

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

T = Town
TBD = To be determined
V = Village

Hospitals and Medical Centers

There are no hospitals or medical centers located within Tioga County. However, there are several hospitals and medical centers located proximate to the county including the following:

- Wilson Regional Medical Center
- Schuyler Hospital
- Cortland Regional Medical Center
- Arnot Ogden Medical Center
- St. Joseph's Hospital
- Cayuga Medical Center at Ithaca
- Lourdes Hospital
- Robert Packer Hospital

The medical offices within Tioga County are summarized in Table 4-11.

Table 4-11. Hospitals and Medical Centers in Tioga County.

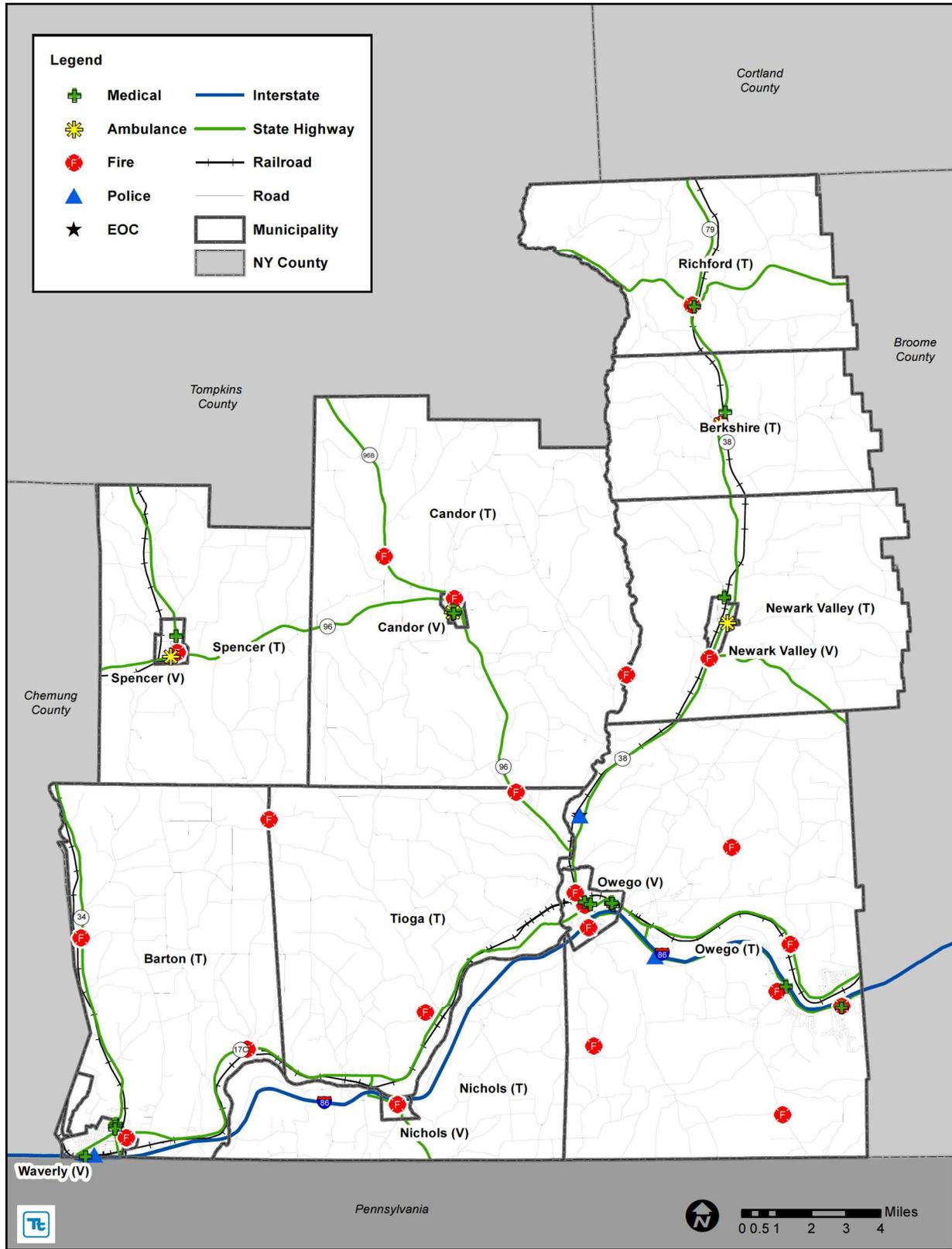
Name	Address	Municipality	Type	Building Type	Backup Power
TBD		Barton (T)		Concrete	TBD
TBD		Barton (T)		Concrete	TBD
Berkshire Family Medicine		Berkshire (T)	Family Practice	Concrete	TBD
TBD		Candor (V)		Concrete	TBD
Candor Family Care		Candor (V)	Family Practice	Concrete	TBD
North Tioga Family Care Center		Newton Valley (T)	Family Practice	Concrete	TBD
Guthrie Medical Apalachin		Owego (T)	Regional Facility	Concrete	TBD
Apalachin Family Care		Owego (T)	Family Practice	Concrete	TBD
Guthrie Medical Group (in progress)		Owego (T)		Concrete	TBD
TBD		Owego (V)		Concrete	TBD
Guthrie Medical Owego	North Ave	Owego (V)	Regional Facility	Concrete	TBD
Lourdes Owego Family Practice		Owego (V)	Family Practice	Concrete	TBD
Dr Keith A Nichols Office		Owego (V)	Family Practice	Concrete	TBD
Owego UMA Family Practice (including former Dr. Randolph Cooke Office)		Owego (V)	Family Practice	Concrete	TBD
North Tioga Center for Family Health		Richford (T)	Primary Care Location	Concrete	TBD
TBD		Spencer (V)		Concrete	TBD
Guthrie Waverly Optometry		Waverly (V)	Regional Facility	Concrete	TBD
Elderwood Health Care at Tioga		Waverly (V)		Concrete	TBD
Guthrie Medical Waverly		Waverly (V)	Regional Facility	Concrete	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

- T = Town
- TBD = To be determined
- V = Village

Figure 4-12. Emergency and Medical Facilities in Tioga County



Source: Tioga County GIS

Schools

Table 4-12 lists all schools and other education facilities in the County. Figure 4-13 displays the locations of these schools within Tioga County.

Table 4-12. Education Facilities in Tioga County

Name	Address	Municipality	Type of Facility	District	Enroll.	Designated Shelter /Shelter Capacity	Building Type	Backup Power
Candor Central Schools Bus Garage		Candor (V)	Bus Garage	Candor Central School	TBD	TBD	Masonry	TBD
Candor Elementary School		Candor (V)	Elementary School	Candor Central School	TBD	TBD	Masonry	TBD
Candor High School		Candor (V)	High School	Candor Central School	TBD	TBD	Masonry	TBD
Newark Valley Central School Bus Garage		Newark Valley (V)	Bus Garage	Newark Valley Central School	TBD	TBD	Masonry	TBD
Nathan T Hall Elementary School		Newark Valley (V)	Elementary School	Newark Valley Central School	TBD	TBD	Masonry	TBD
Newark Valley Middle School		Newark Valley (V)	Middle School	Newark Valley Central School	TBD	TBD	Masonry	TBD
Newark Valley Central School District Office		Newark Valley (V)	District Office	Newark Valley Central School	TBD	TBD	Masonry	TBD
Newark Valley Central School Warehouse		Newark Valley (V)	Warehouse	Newark Valley Central School	TBD	TBD	Masonry	TBD
Newark Valley Central School District Building		Newton Valley (T)	TBD	Newark Valley Central School	TBD	TBD	Masonry	TBD
Newark Valley High School		Newton Valley (T)	High School	Newark Valley Central School	TBD	TBD	Masonry	TBD
Nichols Elementary School		Nichols (V)	Elementary School	Tioga Central School	TBD	TBD	Masonry	TBD
Owego Apalachin Central School District Building		Owego (T)	TBD	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Owego Apalachin Central School District Building		Owego (T)	TBD	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Owego Apalachin Central School District Building		Owego (T)	TBD	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Thomas J Watson Sr Elementary School		Owego (T)	Elementary School	Union-Endicott Central School	TBD	TBD	Masonry	TBD
Tioga Hills Elementary School		Owego (T)	Elementary School	Vestal Central School	TBD	TBD	Masonry	TBD
Apalachin Elementary School		Owego (T)	Elementary School	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Tioga Learning Center		Owego (T)	Vocational	Broome-Delaware-Tioga BOCES	TBD	TBD	Masonry	TBD
Playyard Concepts, Inc.		Owego (T)	Day Care Center		TBD	TBD	Masonry	TBD

SECTION 4: COUNTY PROFILE

Name	Address	Municipality	Type of Facility	District	Enroll.	Designated Shelter /Shelter Capacity	Building Type	Backup Power
Miss Karen's School of Dance		Owego (T)	Dance School		TBD	TBD	Masonry	TBD
St. Patrick School		Owego (V)	Elementary School		TBD	TBD	Masonry	TBD
Owego Elementary School		Owego (V)	Elementary School	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Owego Free Academy		Owego (V)	High School	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Owego-Apalachin Middle School		Owego (V)	Middle School	Owego-Apalachin Central School	TBD	TBD	Masonry	TBD
Tioga County Rural Ministry		Owego (V)	Special		TBD	TBD	Masonry	TBD
Turtletown Day Care Center		Owego (V)	Day Care Center		TBD	TBD	Masonry	TBD
Tioga Elementary School		Tioga (T)	Elementary School	Tioga Central School	TBD	TBD	Masonry	TBD
Tioga Middle School		Tioga (T)	Middle School	Tioga Central School	TBD	TBD	Masonry	TBD
Tioga Senior High School		Tioga (T)	Senior High School	Tioga Central School	TBD	TBD	Masonry	TBD
Elm Street Stadium		Waverly (V)	Athletic Field	Waverly Central School	TBD	TBD	Masonry	TBD
Waverly High School		Waverly (V)	High School	Waverly Central School	TBD	TBD	Masonry	TBD
Waverly Middle School		Waverly (V)	Middle School	Waverly Central School	TBD	TBD	Masonry	TBD
St. James Parochial School		Waverly (V)	Vacant School		TBD	TBD	Masonry	TBD
Elm Street Elementary School		Waverly (V)	Elementary School	Waverly Central School	TBD	TBD	Masonry	TBD
Waverly Central School Garage		Waverly (V)	Garage	Waverly Central School	TBD	TBD	Masonry	TBD
Lincoln Street Elementary School		Waverly (V)	Elementary School	Waverly Central School	TBD	TBD	Masonry	TBD
Waverly Head Start		Waverly (V)	Head Start	Tioga Opportunities Program	TBD	TBD	Masonry	TBD

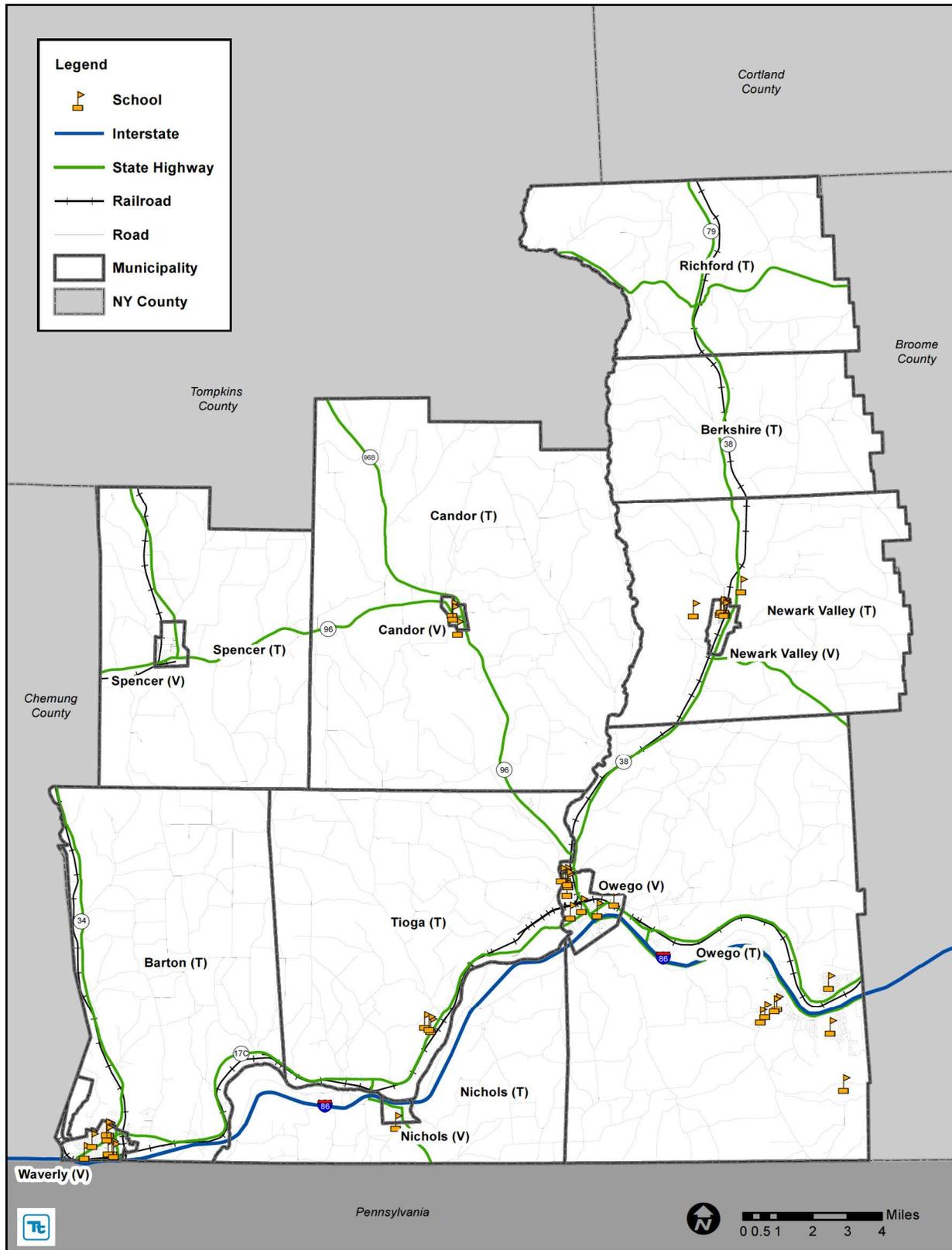
Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, masonry (the HAZUS school default building type) was assigned.

T = Town TBD = To be determined
V = Village



Figure 4-13. Schools within Tioga County



Source: Tioga County GIS

Shelters

Table 4-13 provides an inventory of the shelters in Tioga County.

Table 4-13. Shelter Facilities in Tioga County

Facility	Municipality	Capacity	Building Type	Backup Power
Allen Memorial Baptist Church	Candor (V)	TBD	Concrete	TBD
Nichols Elementary School	Nichols (V)	TBD	Concrete	TBD
Apalachin United Methodist Church	Owego (T)	TBD	Concrete	TBD
Abide in the Vine Fellowship	Owego (T)	TBD	Concrete	TBD
Apalachin Christian & Missionary Alliance Church	Owego (T)	TBD	Concrete	TBD
El Rancho de Paz	Owego (T)	TBD	Concrete	TBD
Owego Nazarene Church	Tioga (T)	TBD	Concrete	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

T = Town
 TBD = To be determined
 V = Village

Senior Care and Senior Living Facilities

Table 4-14 provides an inventory of senior facilities in the County.

Table 4-14. Senior Facilities in Tioga County

Name	Address	Municipality	Building Type	Backup Power	Comments
Candor Elderly Housing	Spencer Rd	Candor (T)	Concrete	TBD	Retirement home
Nichols Schoolhouse Apartments	Cady Ave	Nichols (V)	Concrete	TBD	Retirement home
Franziska Racker Center	McFadden Rd	Owego (T)	Concrete	TBD	Home for adults with special needs
Riverview Manor Health Care Center	Fifth Ave	Owego (V)	Concrete	TBD	Nursing home
Long Meadow Apartments	Sheldon Guile Blvd	Owego (V)	Concrete	TBD	Retirement home
Guthrie-Tioga Senior Enriched & Assisted Living Center	N Chemung St	Waverly (V)	Concrete	TBD	Nursing home
Elderwood Health Care at Tioga	Ball St	Waverly (V)	Concrete	TBD	Nursing home
Spring View Apartments	Spring St	Waverly (V)	Concrete	TBD	Retirement Home
Countryside Community Center		Owego (V)	Concrete	TBD	Senior Center

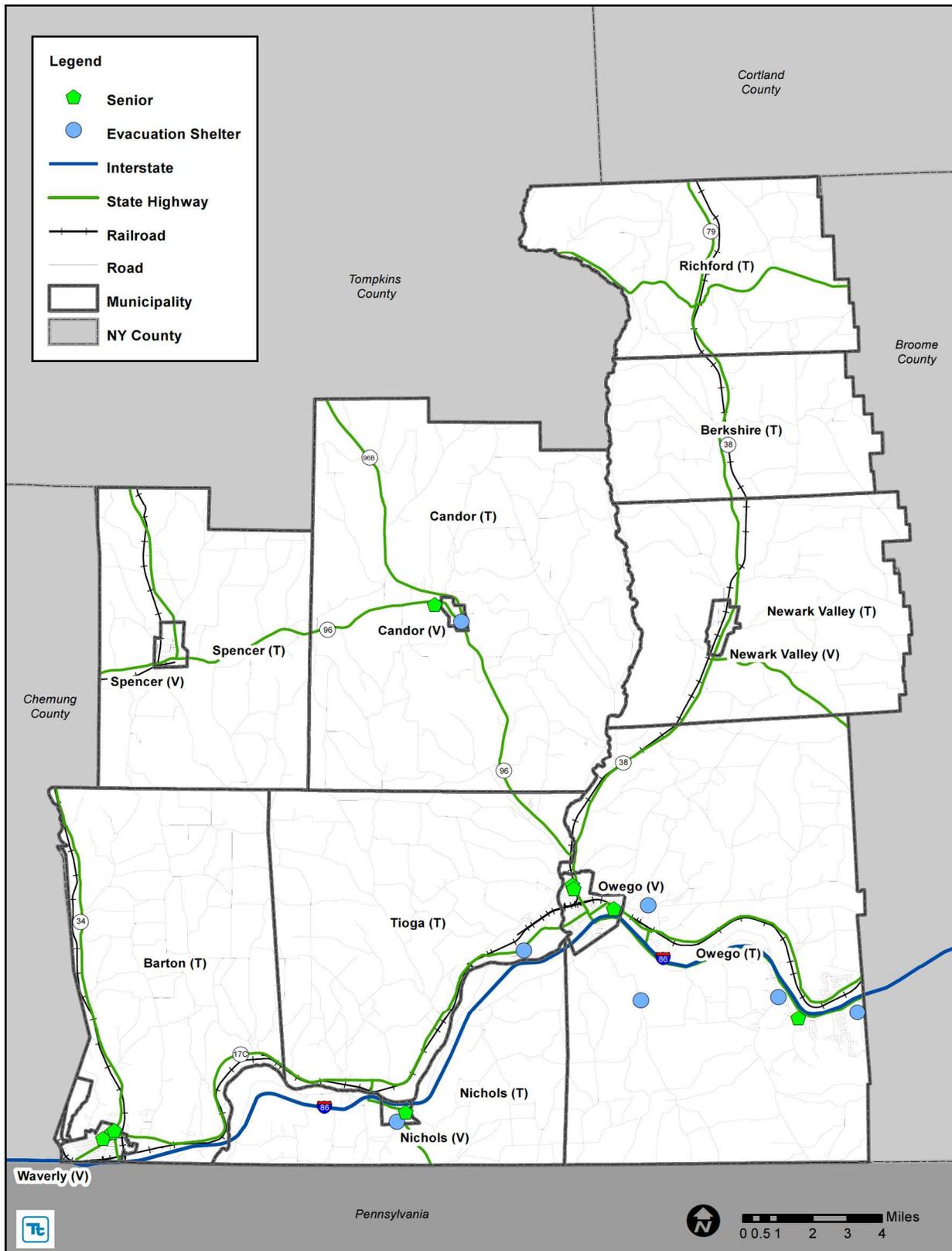
Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

T = Town
 TBD = To be determined
 V = Village

Figure 4-14 displays the location of the Shelter and Senior Living/Senior Care facilities based on the inventory data provided by Tioga County GIS and input from the Planning Committee.

Figure 4-14. Shelters and Senior Living/Senior Care Facilities in Tioga County



Source: Tioga County GIS

Transportation Systems

This section presents available inventory data for major transportation systems in Tioga County. There are no commercial airports in the County. Figure 4-15 shows regional transportation lifelines serving Tioga County.

Highway, Roadways and Associated Systems

Interstate 86 (I-86) is located in the southern portion of the County through the Town of Barton in the west to the Town of Owego in the east. State Highways 36 and 98 begin in the Village of Owego and extend north into the County, while State Highway 17C traverses the southern portion of the county following the rail line and I-86. Intra-county travel is typically on I-86, State Highways of 17C, 34, 36 and 98, as well as County and local roads. There are a total of 254 bridges (highway, railway and highway-pedestrian) in the County (Tioga County GIS Department).

Lifeline Utility Systems

This section presents potable water, wastewater, and energy resource utility system data. Due to heightened security concerns, local utility lifeline data sufficient to complete the analysis have only partially been obtained. Utility data are included in HAZUS-MH but are not sufficient to support detailed analyses for this County.

Potable Water Supply

Municipal and public non-municipal wells and water towers are present in Tioga County. Table 4-15 lists the water towers in Tioga County. However, the potable well data is considered sensitive and although included in the risk analysis, does not appear in the public portion of this HMP.

Table 4-15. Water Towers in Tioga County

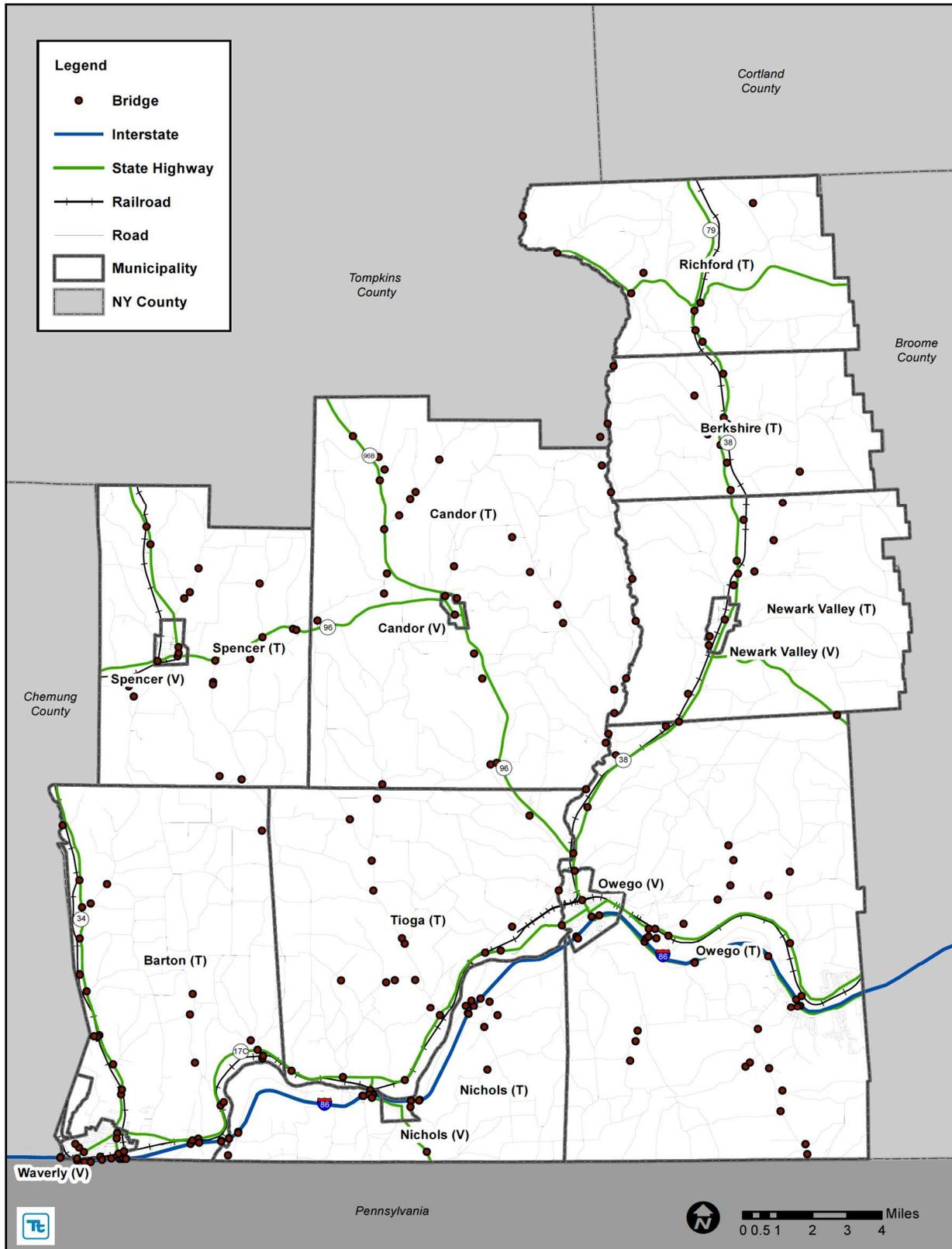
Name	Address	Municipality	Capacity (gallons)	Population Served	Replacement Cost (Structural Value)
New Street Reservoir	New Street	Owego (T)	500,000	3,286	Steel tank 1974 – \$1.50/1000 gallons replacement costs
Upper	Glann Road	Owego (T)	500,000		Steel tank 1974
Lower	Glann Road	Owego(T)	250,000	3,286	Concrete tank 2001

Source: Tioga County GIS
T = Town

Wastewater Facilities

Table 4-16 lists the six wastewater treatment facilities located within Tioga County. In addition to this list, there are 17 wastewater pump stations located in the Town of Owego, Village of Owego and Village of Waverly. Figure 4-16 below displays the locations of all waste water facilities within Tioga County.

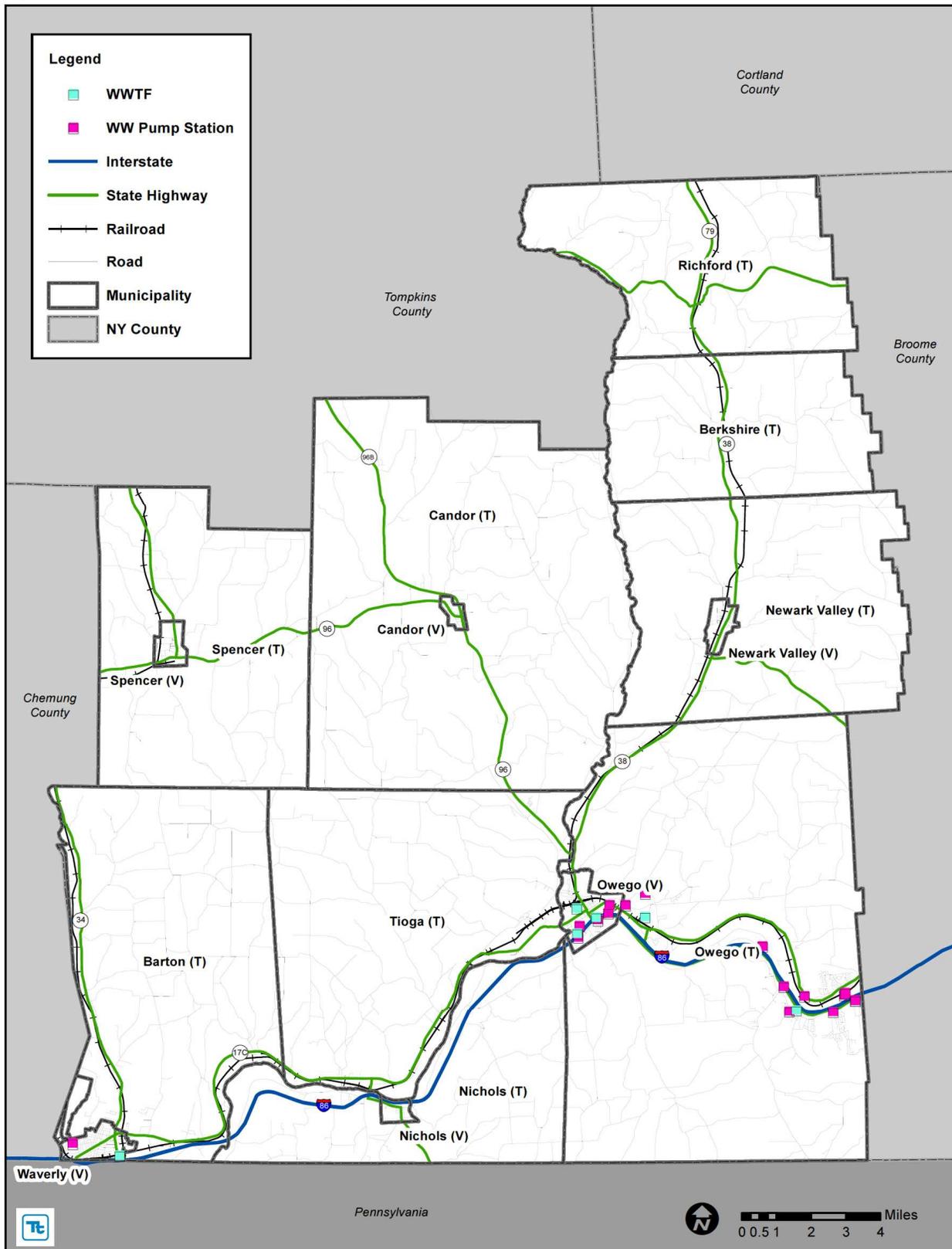
Figure 4-15. Transportation Features in Tioga County



Source: Tioga County GIS



Figure 4-16. Wastewater Facilities in Tioga County



Source: Tioga County GIS

Table 4-16. Tioga County Wastewater Treatment Facilities

Facility Name	Municipality	Capacity	Replacement Cost (Structural Value)	Backup Power
Water Pollution Control Plant #2 - note from map	Owego (T)	2 million gallons/day	\$15-20 Million	Yes
STP Owego south of Taylor Road	Owego (T)	848,000 gallons/day	\$4 million to build in 1999	Yes
Valley View Hts Plan of 1977 JCAAdams - surveyor - note from map	Owego (V)	TBD	TBD	TBD
Southside STP Owego	Owego (V)	TBD	\$15,000,000	Yes
note 1946 map - not able to verify fenced in area with signage "Dept Env.Cons."	Owego (V)	TBD	TBD	TBD
Village of Waverly -note from map	Waverly (V)	TBD	TBD	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

T = Town
 TBD = To be determined
 V = Village

Energy Resources

NYS Electric and Gas (NYSEG) provides electrical service to residents of Tioga County. Additional electric power facilities and substations were not provided for the purposes of this plan. Pipelines (gas, sewer, etc.) present in Tioga County are considered sensitive information. Their presence is noted but their location and other relevant information is not discussed further.

Communication Resources

Tables 4-17 through 4-19 list the communication facilities (facilities, radio stations, radio towers) located in Tioga County. Figure 4-17 displays the locations of all communication facilities located within Tioga County.

Table 4-17. Communication Facility

Name	Address	Municipality	Building Type	Backup Power
CITIZENS TELECOMM CO OF NY DBA FRONTIER COMM OF NY	LOCKWOOD RUN RD	Barton (T)	Concrete	TBD
CITIZENS TELECOMM CO OF NY DBA FRONTIER COMM OF NY	MAIN ST	Berkshire (T)	Concrete	TBD
CITIZENS TELECOMM CO OF NY DBA FRONTIER COMM OF NY	89 MAIN ST	Candor (V)	Concrete	TBD
CITIZENS TELECOMM CO OF NY DBA FRONTIER COMM OF NY	MAPLE AVE	Newark Valley (V)	Concrete	TBD
VERIZON NEW YORK, INC.	S SIDE RIVER ST	Nichols (V)	Concrete	TBD
CITIZENS TELECOMM CO OF NY DBA FRONTIER COMM OF NY	3 MAIN ST	Owego (T)	Concrete	TBD
VERIZON NEW YORK, INC.	110 TEMPLE ST	Owego (V)	Concrete	TBD
CITIZENS TELECOMM CO OF NY DBA FRONTIER COMM OF NY	PARK ST & TIOGA ST	Spencer (V)	Concrete	TBD
VERIZON NEW YORK, INC.	423 PARK AVE	Waverly (V)	Concrete	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

T = Town
 TBD = To be determined
 V = Village

Table 4-18. Radio Stations/Towers in Tioga County

Name	Municipality	Type	Backup Power
W229AR	Barton (T)	FX	TBD
WAVR	Barton (T)	FM	TBD
Ridge Road Radio Tower Site	Barton (T)	Radio	TBD
Candor Hill Radio Tower Site	Candor (T)	Radio	TBD
WEBO	Owego (V)	FM/AM	TBD
W225BC	Owego (T)	FX	TBD
W240AJ	Owego (T)	FX	TBD
W273AB	Owego (T)	FX	TBD
W300BV	Owego (T)	FX	TBD
WCII	Owego (T)	FM	TBD
Public Safety Building Tower	Owego (T)	Radio Tower	TBD
Carmichael Hill Road Radio Tower Site	Owego (T)	Radio Tower	TBD
Popple Hill Radio Tower Site	Richford (T)	Radio Tower	TBD
Tioga County Highway Department	Tioga (T)	Radio Tower	TBD
Ballou Hill Road Microwave Tower Site	Tioga (T)	Microwave	TBD
Spaulding Hill Backup Radio Tower Site	Tioga (T)	Radio Tower	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

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Table 4-19. Microwave Towers in Tioga County

Name	Address	Municipality	Backup Power
WATS BROADCASTING, INC.		Barton (T)	TBD
NEW CINGULAR WIRELESS PCS, LLC		Nichols (T)	TBD
NEW CINGULAR WIRELESS PCS, LLC		Nichols (T)	TBD
NEW CINGULAR WIRELESS PCS, LLC		Owego (T)	TBD
NEW CINGULAR WIRELESS PCS, LLC		Owego (T)	TBD
NEW CINGULAR WIRELESS PCS, LLC		Owego (T)	TBD
FAMILY LIFE MINISTRIES, INC.		Owego (T)	TBD
NYNEX Mobile of New York, LP		Owego (T)	TBD
BINGHAMTON MSA LIMITED PARTNERSHIP		Owego (T)	TBD
RADIGAN BROADCASTING GROUP, LLC		Owego (T)	TBD
RADIGAN BROADCASTING GROUP, LLC		Owego (T)	TBD

Name	Address	Municipality	Backup Power
New York State Electric & Gas Corporation		Owego (T)	TBD
New York State Electric & Gas Corporation		Owego (T)	TBD
NEW CINGULAR WIRELESS PCS, LLC		Owego (T)	TBD
New York State Electric & Gas Corporation		Owego (T)	TBD
RADIGAN BROADCASTING GROUP, LLC		Owego (V)	TBD
New York State Electric & Gas Corporation		Richford (T)	TBD
New York State Electric & Gas Corporation		Richford (T)	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

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High-Potential Loss Facilities

High-potential loss facilities include dams, levees, nuclear power plants, military installations and hazardous materials (HAZMAT) facilities. No levees, nuclear power plants or military installations were identified in the County. Dams and HAZMAT facilities are discussed below however HAZMAT facility locations are considered sensitive for the purposes of this plan.

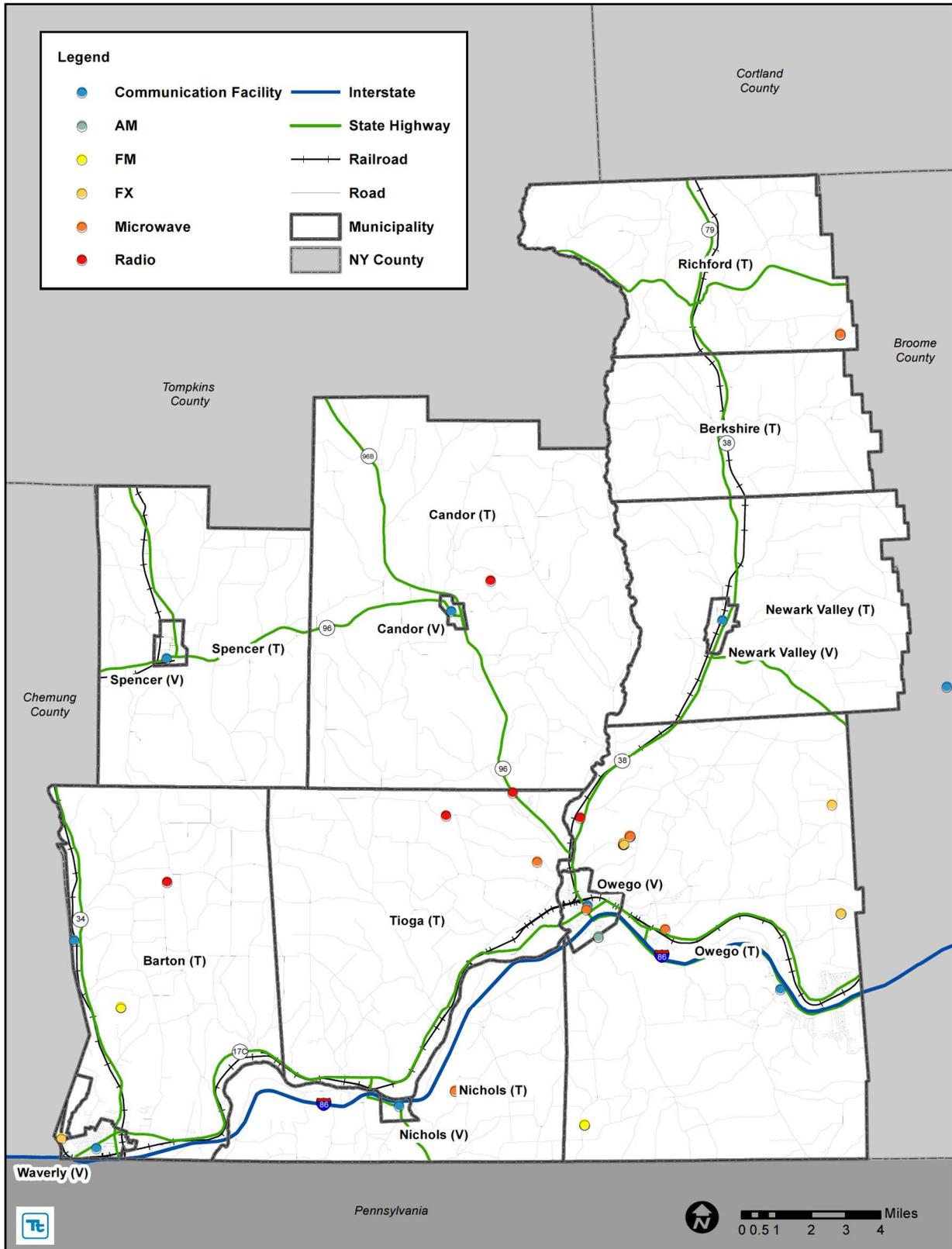
Dams

According to the National Inventory of Dams (NID) there are 25 dams in Tioga County. Table 4-20 lists the dams in Tioga County.

HAZMAT Facilities

Tioga County has identified HAZMAT facilities in the County. However, specific information regarding each facility is considered sensitive and is not included in the public portion of this plan.

Figure 4-17. Communication Facilities within Tioga County



Source: Tioga County GIS

SECTION 4: COUNTY PROFILE

Table 4-20. Dams in Tioga County

Dam Name	NIDID	Inspection Date	Owner Type	Owner Name	NID Height (Ft.)	NID Storage	Primary Purpose	All Purposes	Dam Type	River
ED PYLKAS DAM	NY00355	8/17/2006	Private	ERNEST VON BORSTEL	37	206	Flood Control	Flood Control	Earth	DEAN CREEK
EMPIRE LAKE DAM	NY00543	5/25/1994	Private	HARRIS ENTERPRISES INC	18	166	Recreation	Recreation	Earth	EVELIN HILL CREEK
PELTO DAM	NY00680	8/17/2006	Local Government	TIOGA COUNTY SOIL & WATER CONSERVATION DISTRICT	39	60	Flood Control	Flood Control	Earth	BURHEIGHT CREEK
NANTICOKE CREEK SITE 7B DAM	NY00605	6/12/2006	Local Government	BROOME COUNTY	44	1007	Flood Control	Flood Control	Earth	KETCHUMVILLE BR NANTICOKE CR
HALSEY VALLEY RECREATION POND DAM	NY00940	10/22/1976	Private	RAY COURTRIGHT	20	72	Recreation	Recreation	Earth	TR-PIPE CREEK
SPENCER LAKE DAM	NY00941	5/12/2000	Private	JACK MOUILLESSEAU X	7	420	Recreation	Recreation	Gravity	CATATONK CREEK
CLARK SEED FARMS POND DAM #3	NY00942	10/18/2001	Private	VALIDMIR MANOV	32	96	Irrigation	Irrigation	Earth	TR-WEST BRANCH OWEGO CREEK
IBM POND #1 DAM	NY00943	7/2/2003	Private	IBM CORPORATION/PALISADES	17	70	Flood Control	Flood Control	Earth	TR-BARNES CREEK
WAVERLY LOWER RESERVOIR DAM	NY00623	8/17/2006	Local Government	VILLAGE OF WAVERLY	54	360	Water Supply	Water Supply	Earth	DRY BROOK
SPENCERS LAKE DAM	NY01425	7/2/2003	Private	JUDSON W SPENCER JR	30	491	Recreation	Recreation	Earth	E BR LITTLE NANTICOKE CREEK



SECTION 4: COUNTY PROFILE

Dam Name	NIDID	Inspection Date	Owner Type	Owner Name	NID Height (Ft.)	NID Storage	Primary Purpose	All Purposes	Dam Type	River
OWEGO CONTRACTING COMPANY DAM	NY00933	-	Private	OWEGO CONTRACTING COMPANY	22	350	Recreation	Recreation	Earth	PIPE CREEK
CLARK SEED FARM POND DAM	NY00934	9/16/1976	Private	VALIDMIR MANOV	18	72	Irrigation	Irrigation	Earth	TR-EAST BRANCH OWEGO CREEK
TOMSEY POND DAM	NY00935	5/5/1993	Private	FRANK J TOMSEY	18	51	Recreation	Recreation	Earth	KETCHUMVILLE BR NANTICOKE
ALEXANDER LAKE DAM	NY00936	8/17/2006	Local Government	NEWARK VALLEY CENTRAL SCHOOL DISTRICT	12	158	Recreation	Recreation	Earth	TR-EAST BRANCH OWEGO CREEK
OAKLEY SWAMP WILDLIFE POND DAM	NY00937	10/5/1976	State	NYS DEC	8	81	-	-	Earth	TR-LITTLE NANTICOKE CREEK
UPPER CANDOR DAM	NY00938	7/15/1998	Local Government	TOWN OF CANDOR	7	55	Other	Other	Gravity	CATATONK CREEK
GOWAN & WARD REC POND DAMS A & B	NY00939	10/22/1976	Private	D GOWAN	20	72	Recreation	Recreation	Earth	TR-WILLSEYVILLE CREEK
REVEREND BURTON D HUTH DAM	NY01002	-	Private	REVEREND BURTON D HUTH	15	54	Recreation	Recreation	Earth	TR-DOOLITTLE CREEK
JAYNE DESISTI WILDLIFE DAM	NY01003	10/25/1993	Private	S JAYNE/M DESISTI/O BRAUND	8	56	Fish and Wildlife Pond	Fish and Wildlife Pond	Earth	TR-SUSQUEHANNA RIVER
H F MEYERS DAM & DIKES	NY01004	10/22/1976	Private	HARRY F MEYERS	11	73	Recreation	Recreation	Earth	TR-DEAN CREEK
CHARLES J OWENS DAM	NY01005	5/6/1980	Private	CHARLES J OWENS	10	52	Recreation	Recreation	Earth	TR-HUNTS CREEK

SECTION 4: COUNTY PROFILE

Dam Name	NIDID	Inspection Date	Owner Type	Owner Name	NID Height (Ft.)	NID Storage	Primary Purpose	All Purposes	Dam Type	River
L SIGNS WILDLIFE DAM	NY11638	10/28/1997	Private	LLOYD SIGNS	15	9	Recreation	Recreation	Earth	TR-OWEGO CREEK
GEORGE WILLIAMSON FARM POND DAM	NY11825	-	Private	GEORGE WILLIAMSON	12	8	Recreation	Recreation	Earth	TR-SUSQUEHANNA RIVER
IBM MILITARY POND 3A DAM	NY11830	5/25/1994	Private	IBM MILITARY PRODUCTS DIVISION	20	45	Recreation	Recreation	Earth	TR-BARNES CREEK
LEO A YEIER RECREATIONAL POND DAM	NY00910	-	Private	LEO A YEIER	19	50	Recreation	Recreation	Earth	TR-DOOLITTLE CREEK

Source: NID, 2012



Other Facilities

The Planning Committee identified additional facilities (user-defined facilities) as critical including municipal buildings and garages. These facilities were included in the risk assessment conducted for the County. Table 4-21 lists the other critical facilities identified by Tioga County.

Table 4-21. Public Buildings in Tioga County

Facility Name	Address	Municipality	Building Type	Backup Power
Barton Municipal Building	304 State Route 17C	Barton (T)	Concrete	TBD
Berkshire Town Hall	18 Railroad Ave	Berkshire (T)	Concrete	TBD
Candor Town Hall	101 Owego Rd	Candor (T)	Concrete	TBD
Candor Village Hall	138 Main St	Candor (V)	Concrete	TBD
Newark Valley Town Hall	109 Whig St	Newark Valley	Concrete	TBD
Village of Newark Valley Hall	9 Park Street	Newark Valley (V)	Concrete	TBD
Nichols Town Hall	54 E. River Road	Nichols	Concrete	TBD
Nichols Village Hall	54 E. River Road	Nichols (V)	Concrete	TBD
Owego Town Hall	2354-2356 State Route 434	Owego (T)	Concrete	TBD
Owego Village Hall	178 Main Street	Owego (V)	Concrete	TBD
Richford Town Hall		Richford (T)	Concrete	TBD
Spencer Town Hall	79 E. Tioga Street	Spencer (T)	Concrete	TBD
Spencer Village Hall	41 Main Street	Spencer (V)	Concrete	TBD
Tioga Town Hall	54 Fifth Ave	Tioga (T)	Concrete	TBD
Tioga County Jail	103 Corporate Dr	Owego (T)	Concrete	TBD
Tioga County Health & Human Services Building	1062 State Route 38	Owego (T)	Concrete	TBD
Village Court House	90 Temple St	Owego (V)	Concrete	TBD
Tioga County Building & Grounds	62-64 Temple St	Owego (V)	Concrete	TBD
Tioga County Building & Grounds	68 Temple St	Owego (V)	Concrete	TBD
Tioga County Highway Department	477 Rt 96	Tioga (T)	Concrete	TBD
County Office Building	56 Main Street	Owego (V)	Concrete	TBD
County Court House	Court Street	Owego (V)	Concrete	TBD
County Clerks Building	16 Court Street	Owego (V)	Concrete	TBD
Court Annex	Court Street	Owego (V)	Concrete	TBD
Tioga County SWCD	183 Corporate Drive	Owego (T)	Concrete	TBD
DSS Waverly Satellite Clinic	80 Williams Donnelly Parkway	Waverly (V)	Concrete	TBD
Village of Waverly Justice Court	358 Broad St	Waverly (V)	Concrete	TBD
Waverly Village Hall	32 Ithaca St	Waverly (V)	Concrete	TBD
Barton Municipal Building	304 State Route 17C	Barton (T)	Concrete	TBD
Berkshire Town Hall	18 Railroad Ave	Berkshire (T)	Concrete	TBD
Candor Town Hall	101 Owego Rd	Candor (T)	Concrete	TBD
Candor Village Hall	138 Main St	Candor (V)	Concrete	TBD
Newark Valley Town Hall	109 Whig St	Newark Valley (V)	Concrete	TBD
Tioga County Public Safety Building	103 Corporate Dr	Owego (T)	Concrete	TBD

Source: Tioga County GIS

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Table 4-22. DPW Garages/Facilities in Tioga County

Facility Name	Address	Municipality	Building Type	Backup Power
Barton Highway Barn	221 Shepard Rd	Barton	Concrete	TBD
Berkshire Town Barn	12633 State Rt 38	Berkshire	Concrete	TBD
(T) Candor Highway Barn	33 Humiston Street	Candor	Concrete	TBD
(V) Candor Public Works Garage	8 Ridge Street	Candor (V)	Concrete	TBD
(T) Newark Valley Highway Barn	89 Whig Street	Newark Valley (T)	Concrete	TBD
(V) Newark Valley Public Works Garage	83 Whig Street	Newark Valley (V)	Concrete	TBD
(T) Nichols Highway Garage	E. River Road	Nichols (T)	Concrete	TBD
(V) Nichols Highway Garage	E. River Road	Nichols (T)	Concrete	TBD
(T) Owego Highway Garage	70 Delphine Street	Owego (T)	Concrete	TBD
(V) Owego Public Works Garage	20 Elm Street	Owego (V)	Concrete	TBD
Richford Highway Garage		Richford (T)	Concrete	TBD
(T) Spencer Highway Garage	81 E. Tioga Street	Spencer (T)	Concrete	TBD
Tioga Highway Garage	Halsey Valley Road	Tioga	Concrete	TBD
Waverly Public Works Garage	81 Spring St	Waverly (V)	Concrete	TBD
Tioga County Public Works	477 Route 96	Tioga (T)	Concrete	TBD
NYS DOT Residency	1497 State Route 96	Owego (T)	Concrete	TBD
NYS DOT Satellite Salt Facility	State Route 38	Richford (T)	Concrete	TBD
NYS Bridge Center		Waverly	Concrete	TBD

Source: Tioga County GIS

Note: Where replacement cost value was not available, the percent damage to the structure as calculated by HAZUS will be reported. Where building type was not provided, concrete was assigned.

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