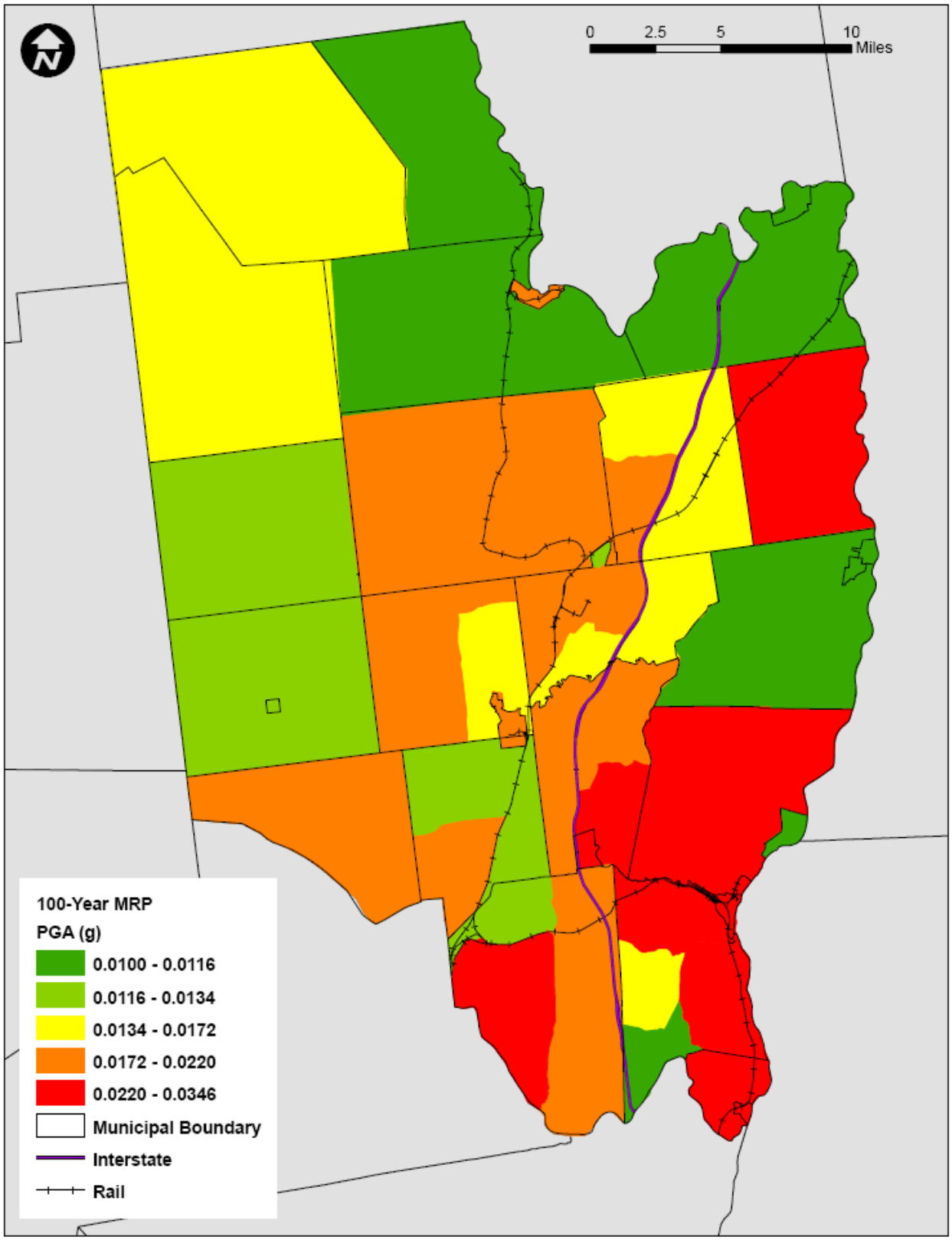
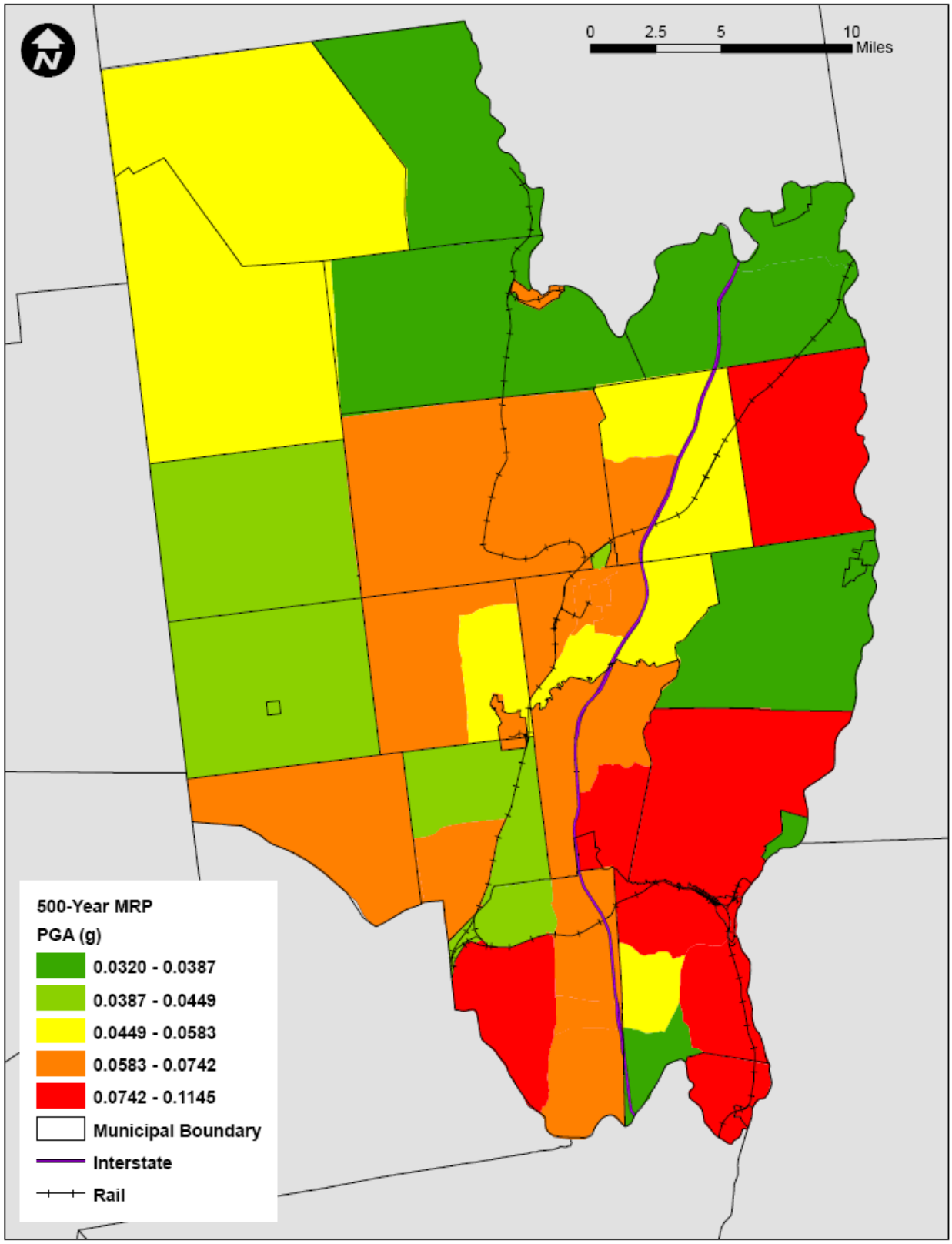
Figure 5.4.5-8. Peak Ground Acceleration in Saratoga County for a 100-Year MRP Earthquake Event by Census Tract



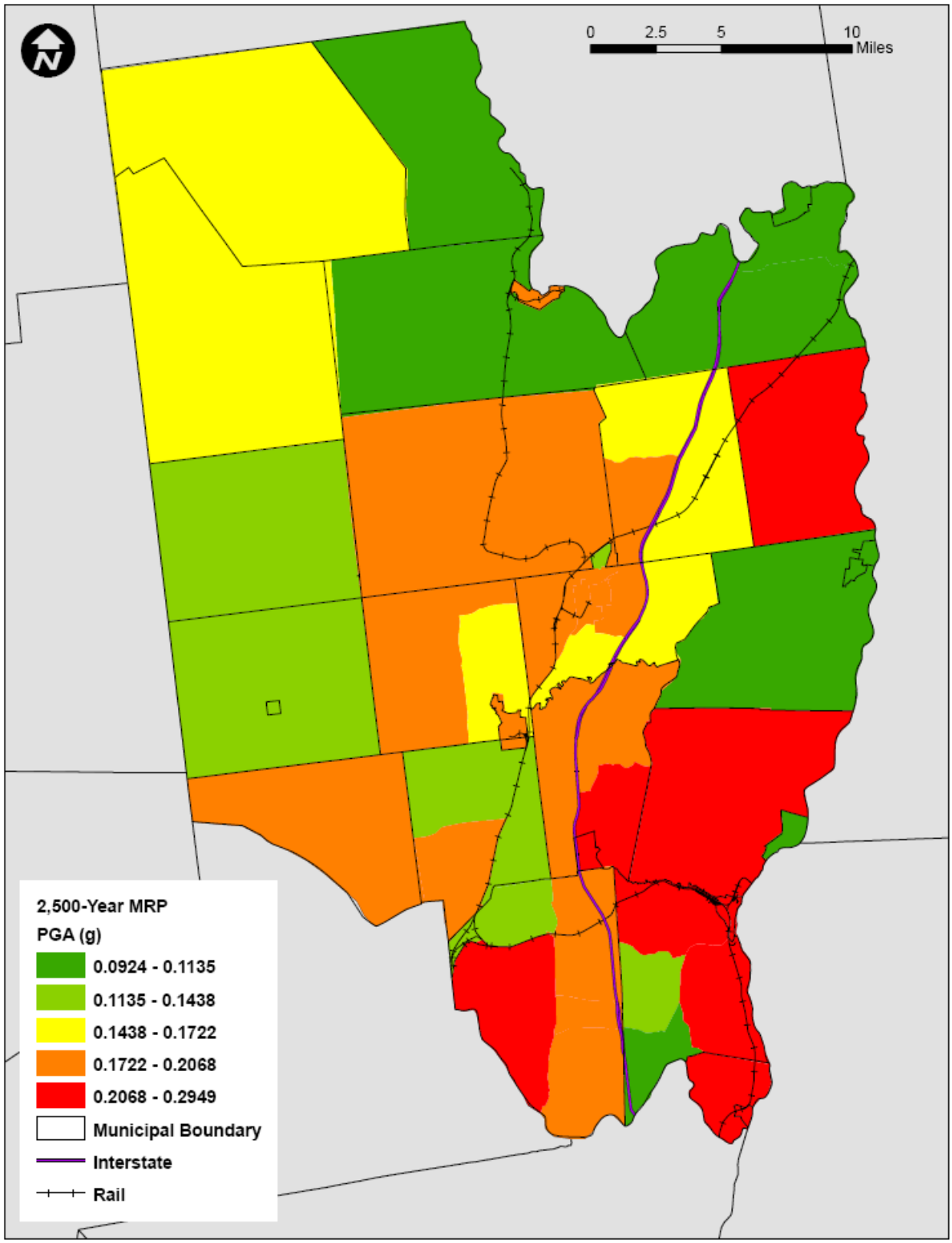
Source: HAZUS-MH MR3, 2007

Figure 5.4.5-9. Peak Ground Acceleration in Saratoga County for a 500-Year MRP Earthquake Event by Census Tract



Source: HAZUS-MH MR3, 2007

Figure 5.4.5-10. Peak Ground Acceleration in Saratoga County for a 2,500-Year MRP Earthquake Event by Census Tract



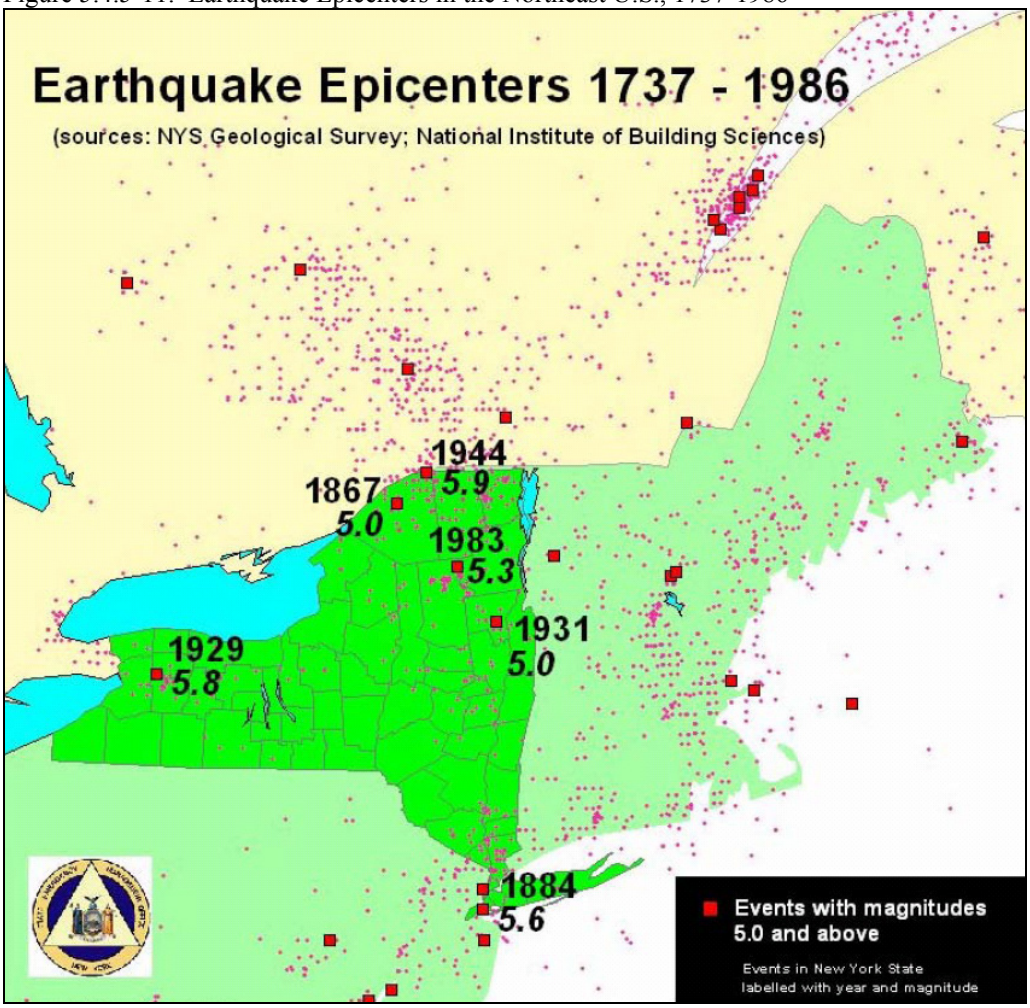
Source: HAZUS-MH MR3, 2007

Location

As noted in the NYS HMP, the importance of the earthquake hazard in New York State is often underestimated because other natural hazards (for example, hurricanes and floods) occur more frequently and because major floods and hurricanes have occurred more recently than a major earthquake event (NYSDPC, 2008). Typically, areas east of the Rocky Mountains experience fewer and generally smaller earthquakes than the western U.S. However, the potential for earthquakes exists across all of New York State and the entire northeastern U.S.

The New York City Area Consortium for Earthquake Loss Mitigation (NYCEM) ranks New York State as having the third highest earthquake activity level east of the Mississippi River (Tantala et al., 2003). Figure 5.4.5-11 illustrates historic earthquake epicenters across the northeast U.S. and New York State between 1737 and 1986. Looking at Figure 5.4.5-11, the concentration of earthquakes in New York State is located in three generally regions. These regions have a seismic risk that tends to be higher than other parts of the State. These regions are: the north and northeast third of the State, which includes the North County/Adirondack region and a portion of the greater Albany-Saratoga region; the southeast cornter, which includes the greater New York City area and western Long Island; and the northwest corner, which includes Buffalo and its surrounding area. Overall, these three regions are the most seismically active areas of the State, with the north-northeast portion having the higher seismic risk and the northwest corner of the State has the lower seismic risk (NYSDPC, 2008).

Figure 5.4.5-11. Earthquake Epicenters in the Northeast U.S., 1737-1986



Source: NYSDPC, 2008

The closest plate boundary to the East Coast is the Mid-Atlantic Ridge, which is approximately 2,000 miles east of Pennsylvania. Over 200 million years ago, when the continent Pangaea rifted apart forming the Atlantic Ocean, the Northeast coast of America was a plate boundary. Being at the plate boundary, many faults were formed in the region. Although these faults are geologically old and are contained in a passive margin, they act as pre-existing planes of weakness and concentrated strain. When a strain exceeds the strength of the ancient fault, it ruptures causing an earthquake (Lehigh Earth Observatory, 2006).

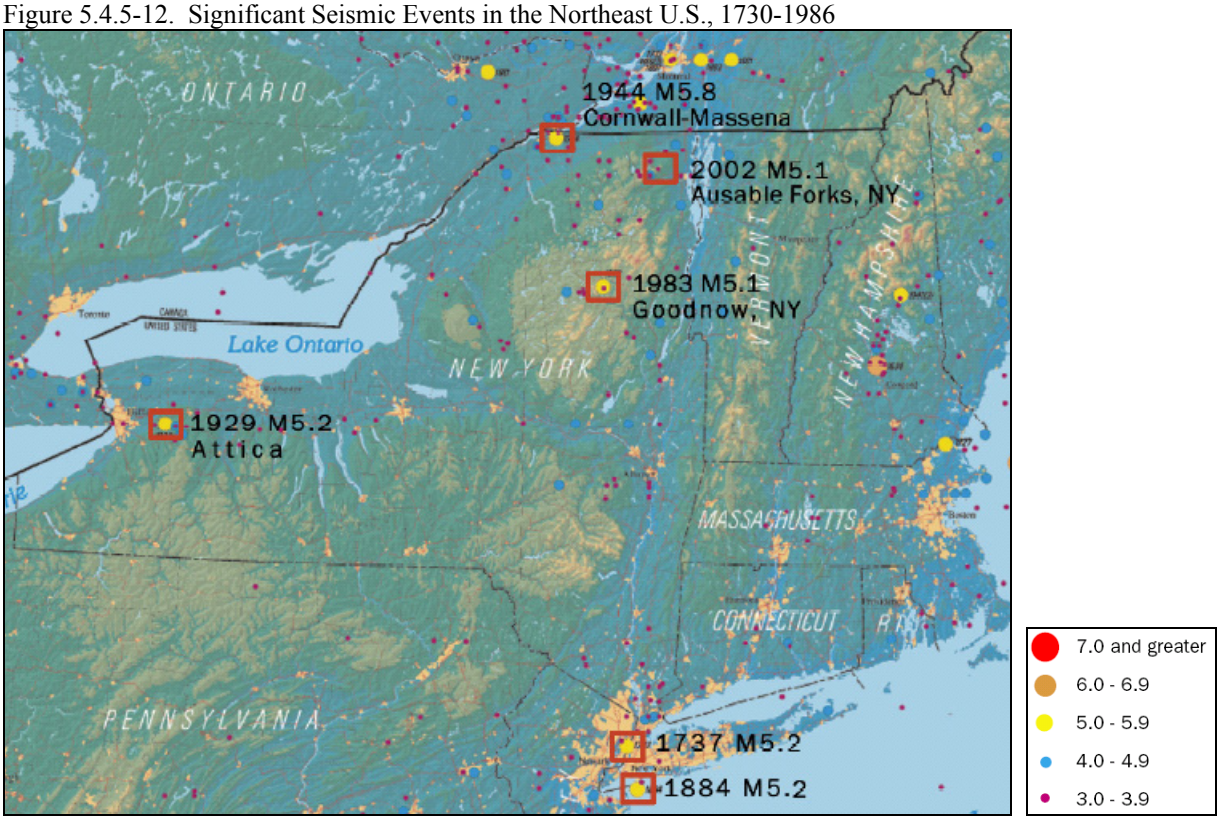
According to a local official in the Town of Charlton, there is a fault located in the western portion of Town, near Route 67, east of Jolly Road. No further information was available or found in the resources consulted during the development of this plan.

Previous Occurrences and Losses

Many sources provided historical information regarding previous occurrences and losses associated with earthquakes throughout New York and Saratoga County. Therefore, with so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary.

Based on seismic records, thousands of earthquakes with magnitudes larger than 2.0, have occurred in New York State over the past few centuries. Between 1730 and 1986, more than 400 earthquakes with a magnitude of greater than 2.0 are on record in New York State, but many more have occurred unrecorded (Figure 5.4.5-12) (Tantala et al., 2003).

Figure 5.4.5-12. Significant Seismic Events in the Northeast U.S., 1730-1986



Source: Tantala et al, 2003

According to the NYSDPC, approximately 48 earthquakes have affected New York State between 1737 and 2009. Additional sources have noted other earthquake events within New York State as well. Table 5.4.5-5 depicts these earthquakes events. None of these events were located within the immediate vicinity of Saratoga County.

Table 5.4.5-5 Earthquake History in New York State, 1737-2009

Event Date / Name	Location	Size / General Magnitude	Losses / Impacts	Source(s)
Earthquake December 18, 1737	New York City	5.0 – 5.2	Bells rang, chimneys down. Felt in Boston and Philadelphia.	NYSDPC, Kim
Earthquake November 18, 1755 (“Cape Ann Earthquake”)	Cape Ann, Massachusetts	6 (VIII max.)	Chimneys and brick buildings down in Boston. Produced a tsunami that grounded boats in the West Indies.	NYSDPC
Earthquake November 30, 1783	West of New York City/North-Central New Jersey	4.9	Felt from New Hampshire to Pennsylvania, threw down chimneys	NYSDPC, Kim
Earthquake December 16, 1811 (“New Madrid Earthquake”)	New Madrid, Missouri	8.0 – 8.8	Four great earthquakes. Changed courses of the Mississippi River. Town of New Madrid in Missouri destroyed. Loss of life low due to sparse settlement. Damage in Chicago.	NYSDPC
Earthquake January 16, 1840	Herkimer, New York	3.7	No reference and/or no damage reported	NYSDPC
Earthquake October 26, 1845	Greater New York City Area	3.8	No reference and/or no damage reported	Kim
Earthquake September 2, 1847	Offshore of New York City	3.5	No reference and/or no damage reported	NYSDPC
Earthquake September 9, 1848	Rockland Lake, New York	4.4	Felt by many throughout New York City	NYSDPC, Kim
Earthquake March 12, 1853	Lowville, New York	4.8 est.	Machinery knocked over	NYSDPC
Earthquake February 7, 1855	Saugerties, New York	VI	Frost quake occurred; caused by a sudden cracking action in frozen soil or rock saturated with water or ice	NYSDPC, Lacroix
Earthquake October 23, 1857	Buffalo, New York	4.0	Bells rang and dishware fell from shelves	NYSDPC
Earthquake December 18, 1867	Canton, New York	4.8 est.	People awaken during the night	NYSDPC
Earthquake October 20, 1870	Charlevoix, Quebec	6.5	The earthquake was felt in the Town of Saratoga in the morning, around 11:30am. Houses shook and some buildings had damage. A rumbling sound followed the quake and lasted for about a minute.	GeoScience World, New York Times
Earthquake December 11, 1874	Tarrytown, New York	3.4 – 4.8	No reference and/or no damage reported	NYSDPC, Kim

Event Date / Name	Location	Size / General Magnitude	Losses / Impacts	Source(s)
Earthquake November 4, 1877	Lyon Mountain, New York	VII	A large earthquake struck along the St. Lawrence River and Lake Champlain. Significant damage was reported near the epicenter and as far as Saratoga Springs, where rumblings were heard and buildings shook. Other reports indicated that chimneys were knocked down, walls cracked, windows damage, and dishware overturned	NYSDPC, Warren
Earthquake August 10, 1884	Rockaway Beach, New York	5.2 – 5.3	Toppled chimneys in New York City and New Jersey. Cracked masonary from Hartford, CT to West Chester, PA. Felt from Maine to Virginia and eastern Ohio.	NYSDPC, Kim
Earthquake January 4, 1885	Hudson Valley, New York	3.4	No reference and/or no damage reported	Kim
Earthquake February 27, 1886	Not Stated	Not Stated	A slight shock from an earthquake was felt around 3:40 am in the Town of Saratoga.	New York Times
Earthquake September 1, 1886	Charleston, South Carolina	7.7	Sixty deaths; over 10,000 chimneys down.	NYSDPC
Earthquake April 27, 1890	Troy, New York	Not Stated	Three small earthquakes struck near Troy, New York around 10:30 pm. Tremors were felt in the Town of Saratoga.	New York Times
Earthquake September 1, 1895	North-Central New Jersey	4.3	Location of earthquake determined by aftershock and fire	Kim
Earthquake May 28, 1897	Plattsburgh, New York	Not Stated	No reference and/or no damage reported	NYSDPC
Earthquake January 13, 1902	Not Stated	Not Stated	Buildings in many parts of the Town of Saratoga shook and many occupants of the buildings were startled by the noise. The surrounding municipalities also felt the earthquake.	New York Times
Earthquake January 20, 1905	Greater New York City Area	4.5	Earthquake most likely located offshore	Kim
Earthquake February 2-3, 1916	Schenectady, New York	3.8	Two distinct shocks from the earthquake were felt around 11:25 pm. Houses were shaken and window panes broke. This quake broke windows, people thrown out of bed. People within a 25-mile radius of Saratoga Springs felt the earthquake.	NYSDPC, New York Times
Earthquake June 1, 1927	Asbury Park, New Jersey	3.9	Very high intensity in Asbury Park, New Jersey.	Kim
Earthquake March 18, 1928	Saranac Lake, New York	4.5 est.	No reference and/or no damage reported	NYSDPC
Earthquake	Attica, New York	5.2	250 chimneys fell, brick buildings damaged,	NYSDPC

Event Date / Name	Location	Size / General Magnitude	Losses / Impacts	Source(s)
August 12, 1920			Attica prison walls damaged, wells went dry	
Earthquake April 20, 1931	Warrensburg, New York	4.8	During the afternoon of the 20th, the first shock of the earthquake hit. The shaking was severe in Warren County, New York, where hotels and other buildings swayed and local stores had their goods fall from shelves. Damage was widespread and included 20 chimney collapses and the spire of a church was twisted.	NYSDPC, National Atlas, Warren
Earthquake April 15, 1934	Damnemora, New York	3.9	House shifted	NYSDPC
Earthquake July 9, 1937	Brooklyn, New York	3.5	No reference and/or no damage reported	NYSDPC
Earthquake July 19, 1937	Western Long Island, New York	3.5	No reference and/or no damage reported	Kim
Earthquake August 23, 1938	Central New Jersey	3.8	No reference and/or no damage reported	Kim
Earthquake September 5, 1944	Massena, New York	4.5 - 6.0	Chimneys destroyed, homes damaged, buildings damaged, $2 M in damages	NYSDPC, Mapes (Saratogian)
Earthquake September 3, 1951	Rockland County, New York	3.6	No reference and/or no damage reported	NYSDPC, Kim
Earthquake March 23, 1957	Central New Jersey	3.5	No reference and/or no damage reported	Kim
Earthquake January 1, 1966	Attica, New York	4.6	Chimneys and walls damaged	NYSDPC
Earthquake June 13, 1967	Attica, New York	4.4	Chimneys and walls damaged	NYSDPC
Earthquake May 23, 1971	Blue Mountain Lake, New York	3.5 - 4.1	No reference and/or no damage reported	NYSDPC
Earthquake June 7, 1974	Wappingers Falls, New York	3.0	Windows broken	NYSDPC
Earthquake June 9, 1975	Plattsburgh, New York	3.5	Chimneys and fireplaces cracked	NYSDPC
Earthquake November 3, 1975	Raquette Lake, New York	4.0	No reference and/or no damage reported	NYSDPC
Earthquake March 10, 1979	Central New Jersey	3.2	Felt by some people in Manhattan, also known as the Cheesequake Earthquake	Kim
Earthquake February 2, 1983	Scarsdale-Livingston, New York	3.0	Chimneys cracked	NYSDPC
Earthquake October 7, 1983	Newcomb, New York	5.1	Tombstones rotated, some cracked chimneys, windows broken, walls damaged	NYSDPC
Earthquake October 19, 1985	Ardsley, New York	4.0	Windows broken, walls damaged; many people in the New York City area reported having felt	NYSDPC, Kim

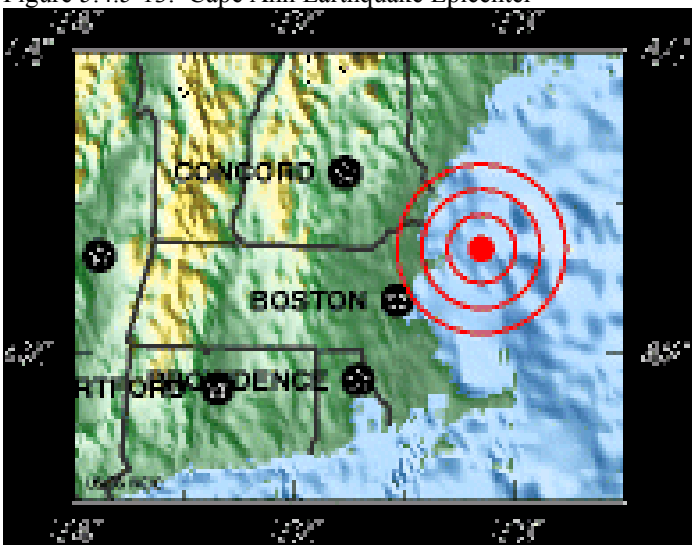
Event Date / Name	Location	Size / General Magnitude	Losses / Impacts	Source(s)
			this earthquake	
Earthquake June 17, 1991	Summit, New York	4.1	No reference and/or no damage reported	NYSDPC
Earthquake March 10, 1992	East Hampton, New York	4.1	No reference and/or no damage reported	NYSDPC
Earthquake March 22, 1994	Cuylerville, New York	3.6	No reference and/or no damage reported	NYSDPC
Earthquake April 20, 2000	Newcomb, New York	3.8	Aftershock of the 1983 event; no damage reported	NYSDPC
Earthquake January 17, 2001	Manhattan, New York	2.4	Felt in the Upper East Side, Long Island City and Queens	Kim
Earthquake October 17, 2001	Manhattan, New York	2.6	Felt in the Upper West Side, Astoria and Queens	Kim
Earthquake April 20, 2002 (FEMA DR-1415)	Au Sable Forks, New York	5.1	Largest earthquake to hit New York State in 20 years. People felt the earthquake from Washington, D.C. to Bangor, Maine. A state of emergency was declared in Essex and Clinton Counties. Many residents of Saratoga County reported having felt the earthquake. Based on their descriptions, the magnitude of the earthquake in the County ranged between 2.0 to 4.3.	NYSDPC, USGS
Earthquake May 24, 2002	Au Sable Forks, New York	3.1	Aftershock of the April 20, 2002 event; no damage reported	NYSDPC, USGS
Earthquake February 27, 2008	Amsterdam, New York	2.7	No reference and/or no damage reported	USGS
Earthquake May 28, 2008	Saratoga Springs, New York	1.8	No reference and/or no damage reported	USGS
Earthquake September 19, 2008	Saranac Lake, New York	2.0	No reference and/or no damage reported	USGS
Earthquake February 17, 2009	Altamont, New York	2.1	No reference and/or no damage reported	USGS
Earthquake February 23, 2009	Altamont, New York	2.1	No reference and/or no damage reported	USGS

Source(s): NYSDPC, 2008; USGS, 2009, New York Times, 1870-1916, Kim, 1999

Earthquakes in Saratoga County are not common, with documented information on earthquake events and their location is being relatively scarce. However, depending on the magnitude, the impacts of earthquake events can be far-reaching; therefore, reported incidences within the surrounding counties or states could have created indirect impacts upon the County. The following events described below may or may not have created indirect impacts upon Saratoga County.

November 18, 1755 ("Cape Ann Earthquake"): This earthquake, also known as the "Cape Ann Earthquake" impacted areas from Halifax, Nova Scotia, south to the Chesapeake Bay in Maryland and from Lake George, New York, east to a ship 320 kilometers east of Cape Ann. The largest impact was felt in Massachusetts, particularly in Cape Ann and Boston. In Boston, much of the damage was confined to areas near the wharfs. Many homes were damaged, with fallen chimneys and roof damage. Homes outside of the Boston area reported their stone fences were thrown down. Many temporary springs were formed that dried up. The ground was cracked in various locations throughout Massachusetts. Additionally, several aftershocks occurred throughout the area resulting in minimal damage (Stover and Coffman, 1993). Figure 5.4.5-13 illustrates the epicenter of the Cape Ann Earthquake. Details regarding the impact of the earthquake in Saratoga County were unavailable in the materials reviewed to develop this plan.

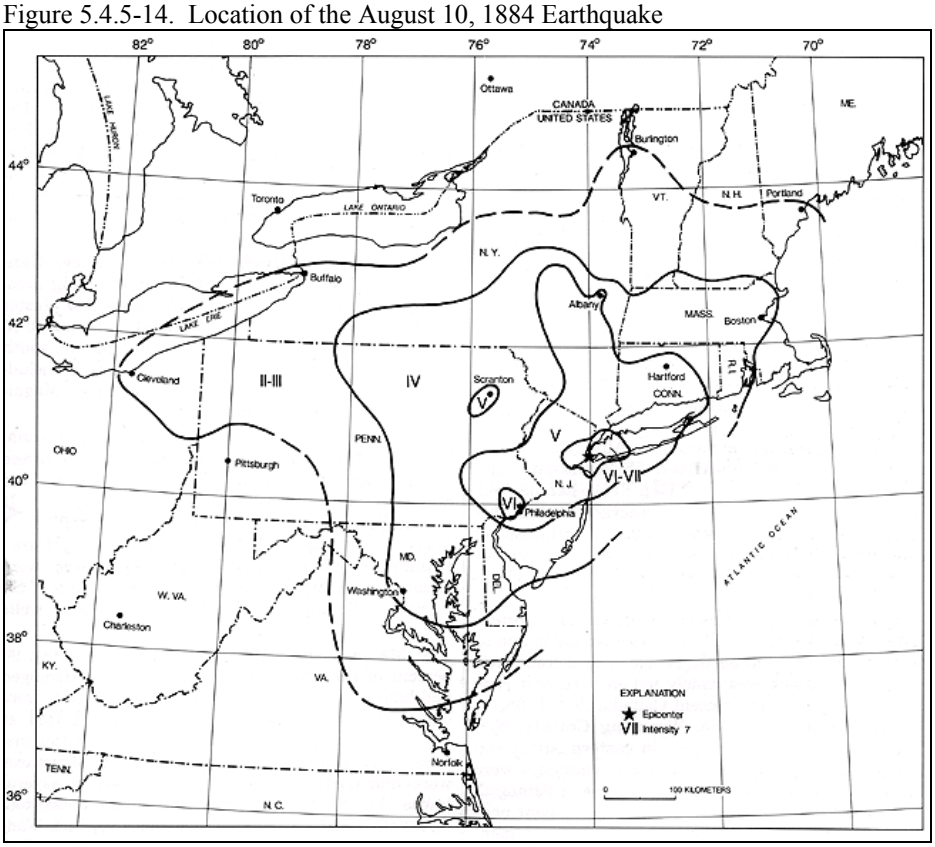
Figure 5.4.5-13. Cape Ann Earthquake Epicenter



Source: USGS, 2007

August 10, 1884: The August 10, 1884 earthquake was felt over 70,000 square miles, extending along the Atlantic Coast from southern Maine to central Virginia and westward to Cleveland, Ohio. It was a strong earthquake, with the epicenter located at a distance of approximately 17 miles from New York City (Figure 5.4.5-14) (NYCEM, 2003).

Figure 5.4.5-14. Location of the August 10, 1884 Earthquake



Source: Stover and Coffman, 1993
Note: In Saratoga County, the August 10, 1884 earthquake had an intensity of V.

Property damage was severe at Amityville and Jamaica, New York, where several chimneys were overturned and large cracks formed in walls. Two chimneys were thrown down and bricks were shaken from other chimneys at Stratford (Fairfield County), Connecticut; water in the Housatonic River was agitated violently. Many other chimneys and walls were downed or damaged in Bloomfield, New Jersey; Mount Vernon, New York; and Allentown, Chester Easton, and Philadelphia Pennsylvania.

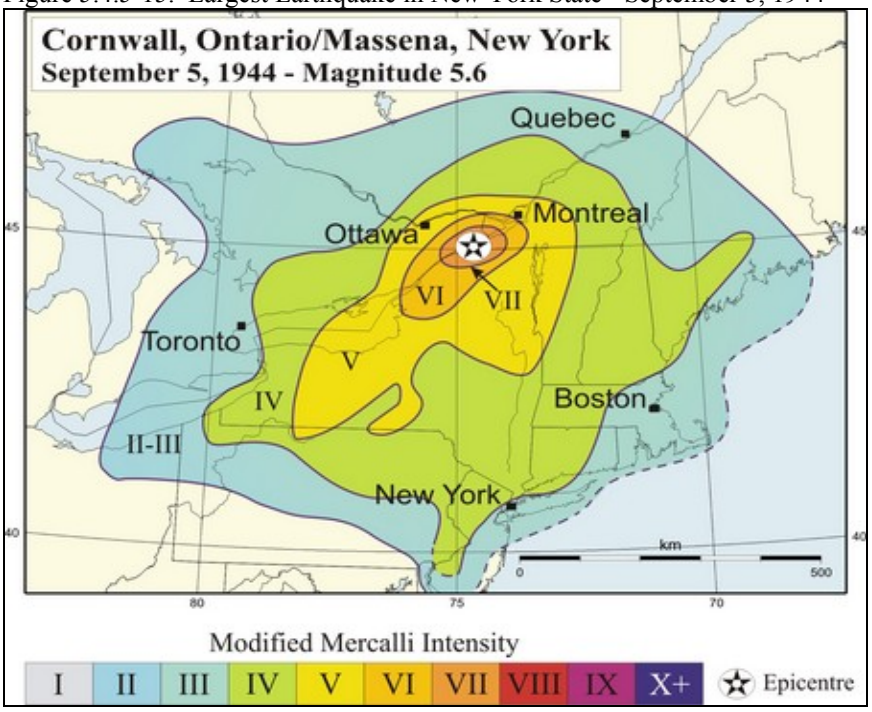
Three aftershocks occurred on August 10th, the second of which was most violent. Several slight aftershocks were also reported on August 11, 1884 (Stover and Coffman, 1993). According to NYCEM, this earthquake remains the best documented earthquake for the New York City region. Details regarding the impact of the earthquake in Saratoga County were unavailable in the materials reviewed to develop this plan.

April 20, 1931: During the afternoon of April 20th, the first shock of an earthquake struck Warren County, New York, just north of Saratoga County. It was centered near Warrensburg, New York. In Warren County, shaking was severe; hotels and other buildings swayed and local stores shook, with their goods falling from shelves. More than 20 chimneys collapsed and the steeple of a church was twisted in Warrensburg. Damage was widespread throughout Warren County. In Saratoga County, the District Attorney reported that the ceiling of his office collapsed. There were at least three shocks in all, with reports of each shock lasting nearly one minute each time. The shocks from this earthquake were felt as far as Boston, Philadelphia and in the Delaware Gap (Warren, 2006).

September 5, 1944: An intensity VII earthquake was felt over 172,000 square miles in the U.S., including all of the New England states, Delaware, Maryland, New Jersey, New York, Pennsylvania, and parts of Michigan and Ohio. Parts of Illinois, Indiana, Virginia, West Virginia, and Wisconsin all reported feeling tremors (Stover and Coffman, 1993).

As identified in Figure 5.4.5-15, the epicenter was located between Massena, New York and Cornwall, Ontario, Canada. It caused an estimated $2 million in damaged between the two cities. With an intensity of VIII (Figure 5.4.5-15), the shock damaged (or destroyed) about 90-percent of the chimneys in Massena. The damage effects were similar in Cornwall as well (Lamantagne and Halchuck, 2001). Although Saratoga County was located within the earthquakes range; details regarding the impact of the earthquake in the County were unavailable in the materials reviewed to develop this plan.

Figure 5.4.5-15. Largest Earthquake in New York State - September 5, 1944



Source: Lamantagne and Halchuck, 2001
Note: The September 5, 1944 earthquake had an intensity between IV and V in Saratoga County.

April 20, 2002 (FEMA DR-1415): A moderate earthquake occurred about 15 miles southwest of Plattsburgh, New York. The earthquake was felt widely across the northeastern U.S., mid-atlantic states and southern Canada, including Montreal, Quebec (USGS, 2002). Boston, Massachusetts; Bangor, Maine; Washington, D.C.; Cleveland, Ohio; and Baltimore, Maryland were among the cities that experienced indirect impacts from this event (Cappiello and Tilghman, 2002).

In New York State, this was the largest earthquake in nearly 20 years with an intensity of 5.1 on the Richter Scale and resulted in widespread impacts. Governor George Pataki declared a state of emergency in Clinton and Essex Counties, after feeling the earthquake in Albany (Cappiello and Tilghman, 2002). Overall damage within the State included tipped chimneys and cracked roads; however, no injuries were reported. Road damage and closures were reported at Keeseville and Au Sable Forks (Essex County). Chimney damage was reported in Lake Placid (Essex County). The Township of Jay (Essex County), there was bridge damage and a reported landslide. Slight damage was reported at Blue Mountain Lake, Indian Lake, Minerva, and North River. The earthquake was also felt in Adirondack, Childwold, Moriah

Center, Newcomb, North Creek, Old Forge, Olmstedville, Piercefield, Severance, Wanakena, and many other locailities of upstate New York, most reporting at an intensity of V (USGS, 2002).

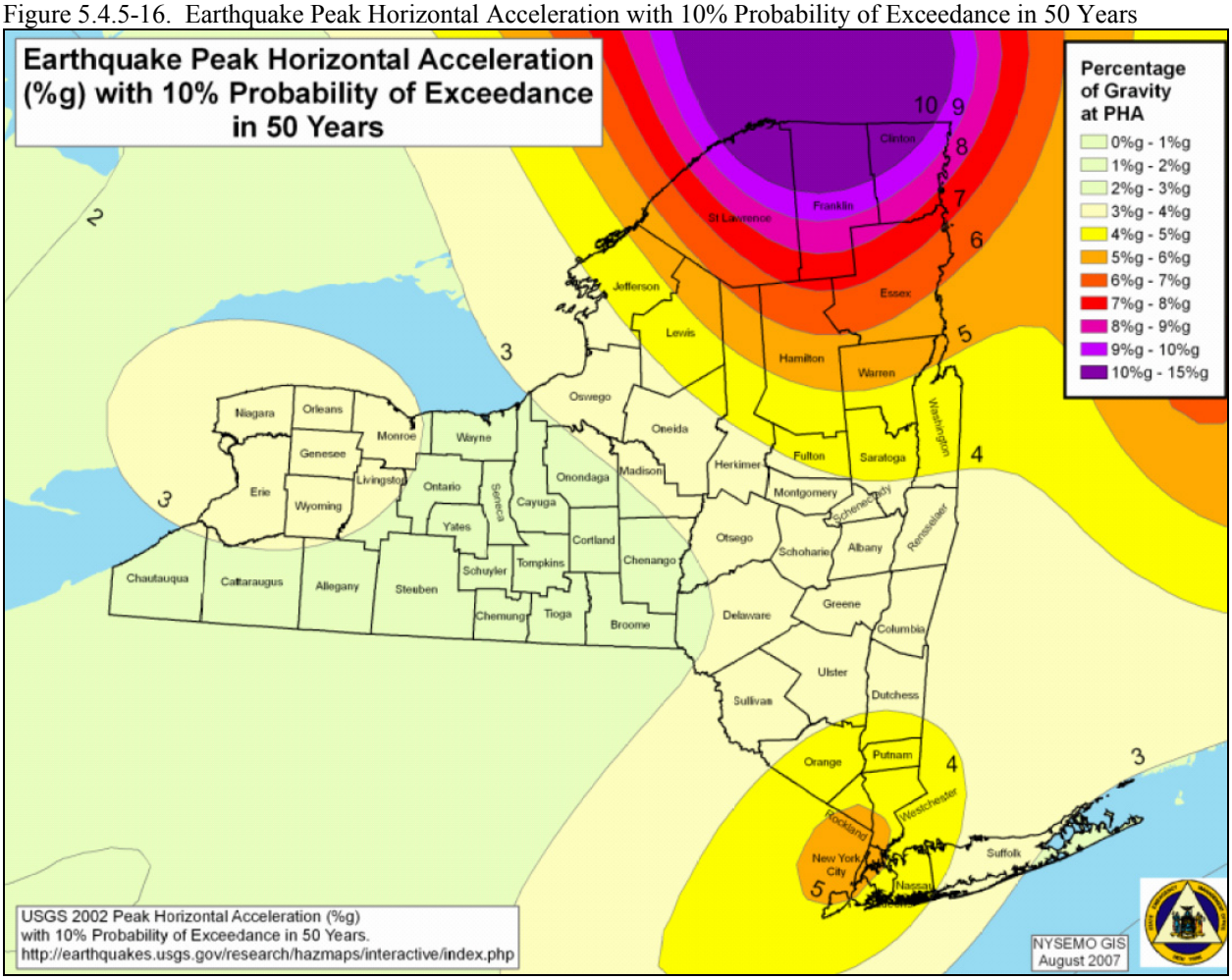
In Saratoga County, reports of having felt the earthquake were noted in Ballston Lake, Ballston Spa, Clifton Park, Corinth, Galway, Greenfield center, Hadley, Mechanicville, Saratoga Springs, Schuylerville, South Glens Falls, and Stillwater (USGS, 2002). Details regarding the impact of the earthquake in Saratoga County were unavailable in the materials reviewed to develop this plan. Additionally, two aftershocks were felt the morning of the earthquake, which registered 2.2 on the Richter Scale. Seven seismographs were set up around the epicenter of the earthquake to gauge activity and pick up data that could help seismologists gain a better understanding of earthquakes (Hughes, 2002).

This earthquake resulted in a FEMA Disaster Declaration (FEMA DR-1415) on May 16, 2002. Through this declaration, the following Counties were declared eligible for federal and State disaster public assistance funds: Clinton, Essex, Franklin, Hamilton, Warren and Washington. Saratoga County was not declared eligible for assistance from this FEMA disaster.

Probability of Future Events

Earthquake hazard maps illustrate the distribution of earthquake shaking levels that have a certain probability of occurring over a given time period. Figure 5.4.5-16 illustrates that Saratoga County has a PGA of 3-5%g for earthquakes with a 10-percent probability of occurring within 50 years. Moderate shaking and very light damage is generally associated with a 3-5%g earthquake.

Figure 5.4.5-16. Earthquake Peak Horizontal Acceleration with 10% Probability of Exceedance in 50 Years



Source: NYSDPC, 2008

Earlier in this section, the identified hazards of concern for Saratoga County were ranked. NYSEMO conducts a similar ranking process for hazards that affect the State. The probability of occurrence, or likelihood of the event, is one parameter used for ranking hazards. Based on historical records and input from the Planning Committee, the probability of occurrence for earthquakes in Saratoga County is considered "rare" as presented in Table 5.3-3. It is anticipated that Saratoga County and all of its jurisdictions will continue to experience indirect impacts from earthquakes that may affect the general building stock, local economy and may induce secondary hazards such ignite fires and cause utility failure.

VULNERABILITY ASSESSMENT

To understand risk, a community must evaluate what assets are exposed or vulnerable in the identified hazard area. For the earthquake hazard, the entire County has been identified as the exposed hazard area. Therefore, all assets in Saratoga County (population, structures, critical facilities and lifelines), as described in the County Profile (Section 4), are vulnerable. The following section includes an evaluation and estimation of the potential impact of the earthquake hazard on Saratoga County including the following:

- Overview of vulnerability
- Data and methodology used for the evaluation
- Impact on: (1) life, safety and health of County residents, (2) general building stock, (3) critical facilities, (4) economy and (5) future growth and development
- Further data collections that will assist understanding of this hazard over time
- Overall vulnerability conclusion

Overview of Vulnerability

Earthquakes usually occur without warning and can impact areas a great distance from their point of origin. The extent of damage depends on the density of population and building and infrastructure construction in the area shaken by the quake. Some areas may be more vulnerable than others based on soil type, the age of the buildings and building codes in place. Compounding the potential for damage – historically, Building Officials Code Administration (BOCA) used in the Northeast were developed to address local concerns including heavy snow loads and wind; seismic requirements for design criteria are not as stringent compared to the west coast's reliance on the more seismically-focused Uniform Building Code). As such, a smaller earthquake in the Northeast can cause more structural damage than if it occurred out west.

The entire population and general building stock inventory of the County is at risk of being damaged or experiencing losses due to impacts of an earthquake. Potential losses associated with the earth shaking were calculated for Saratoga County for three probabilistic earthquake events, the 100-year, 500- and 2,500-year mean return periods (MRP).

As illustrated in Figure 5.4.5-5, Saratoga County is comprised of all NEHRP types: soil classes A (very hard rock) through E (soft soils). Softer soils are concentrated in the southern and eastern portions of the County. According to NYCEM, soft soils can amplify ground shaking to damaging levels even in a moderate earthquake (NYCEM, 2003). Locations within the County with softer soils may be more vulnerable to the earthquake hazard. The impacts on population, existing structures, critical facilities and the economy are presented below, following a summary of the data and methodology used.

Data and Methodology

After reviewing the historic data, a probabilistic assessment was conducted for the 100-, 500- and 2,500-year mean return periods (MRP) through a Level 2 analysis in HAZUS-MH MR3 to analyze the earthquake hazard and provide a range of loss estimates for Saratoga County. The probabilistic method uses information from historic earthquakes and inferred faults, locations and magnitudes, and computes the probable ground shaking levels that may be experienced during a recurrence period by Census tract. According to NYCEM, probabilistic estimates are best for urban planning, land use, zoning and seismic

building code regulations (NYCEM, 2003). The default assumption is a magnitude 7 earthquake for all return periods.

Default demographic and general building stock data in HAZUS-MH MR3 was used for the earthquake analysis. However, critical facilities (essential facilities, transportation features, utilities and user-defined facilities) were updated and used in place of the HAZUS-MH MR3 defaults. Additionally, a local soil map provided by NYSEMO with Saratoga County's NEHRP soil classes was entered into HAZUS-MH MR3 to replace default soil conditions (Figure 5.4.5-5). Please note, according to the HAZUS-MH MR3 technical manual, there is considerable uncertainty related to the characteristics of ground motion in the eastern U.S. Therefore, loss estimates may be overestimated.

The occupancy classes available in HAZUS-MH MR3 were condensed into the following categories (residential, commercial, industrial, agricultural, religious, government, and educational) to facilitate the analysis and the presentation of results. Residential loss estimates address both multi-family and single family dwellings. Impacts to critical facilities were also evaluated.

Data used to assess this hazard include data available in the HAZUS-MH MR3 earthquake model, USGS data, data provided by NYSEMO, professional knowledge, and information provided by the County's Planning Committee. The results of this assessment are discussed below.

Impact on Life, Health and Safety

Overall, the entire population of 200,635 in Saratoga County, based on the 2000 U.S. Census, is exposed to the earthquake hazard event. The impact of earthquakes on life, health and safety is dependent upon the severity of the event. Risk to public safety and loss of life from an earthquake in Saratoga County is minimal with higher risk occurring in buildings as a result of damage to the structure, or people walking below building ornamentation and chimneys that may be shaken loose and fall as a result of the quake.

Populations considered most vulnerable include the elderly (persons over the age of 65) and individuals living below the Census poverty threshold. These socially vulnerable populations are most susceptible, 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 5.4.5-6 summarizes the County population over the age of 65 and individuals living below the Census poverty threshold.

Table 5.4.5-6. Vulnerable Population Exposed to the Earthquake Hazard in Saratoga County

Population Category	Number of Persons Exposed	Percent of Total County Population
Elderly (Over 65 years of age) (1)	22,741	11.3
Persons living below Census poverty threshold* (2)	11,238	5.6
Elderly (Over 65 years of age) living below Census poverty threshold (2)	1,283	0.6

Source(s): (1) HAZUS-MH MR3, 2007; (2) U.S. Census 2000.
* The Census poverty threshold for a three person family unit is approximately $15,000.

Residents may be displaced or require temporary to long-term sheltering due to the event. For the 100-year MRP, HAZUS-MH estimates estimates 4 households will be displaced and of these, 2 people will seek temporary shelter. For the 500-year MRP, HAZUS-MH estimates 90 households will be displaced and of these, 50 people will seek temporary shelter. For the 2,500-year MRP, HAZUS-MH estimates 1,018 households will be displaced due to the earthquake event and of these, 572 people will seek temporary shelter in public shelters. The number of people requiring shelter is generally less than the

number displaced as some displaced persons use hotels or stay with family or friends following a disaster event.

Table 5.4.5-7 summarizes the population HAZUS-MH MR3 estimates will be displaced or will require short-term sheltering as a result of 500- and 2,500-year MRP earthquake events by jurisdiction. In HAZUS-MH MR3, estimated sheltering needs are summarized at the Census-Tract level; therefore, a total is reported for multiple jurisdictions.

Table 5.4.5-7. Estimated Sheltering Needs for the 500- and 2,500-year MRP Earthquake Events for Saratoga County

Jurisdiction	500-Year MRP		2,500-Year MRP	
	Displaced House-holds	People Requiring Short-Term Shelter	Displaced House-holds	People Requiring Short-Term Shelter
Ballston (T)	1	1	13	7
Ballston Spa (V)	4	3	43	26
Charlton (T)	0	0	4	2
Clifton Park (T)	10	5	120	61
Corinth (T)	0	0	1	1
Corinth (V)	2	1	16	11
Day (T) and Edinburg (T)	0	0	1	1
Galway (T) and Galway (V)	0	0	2	1
Greenfield (T)	1	1	13	8
Hadley (T)	0	0	1	1
Halfmoon (T)	5	3	53	29
Malta (T) and Round Lake (V)	8	4	103	51
Mechanicville (C)	15	9	168	99
Milton (T)	1	1	15	9
Moreau (T)	0	0	3	2
Northumberland (T)	2	1	29	18
Providence (T)	0	0	1	0
Saratoga (T)	0	0	1	1
Saratoga Springs (C)	17	10	170	99
Schuylerville (V) and Victory (V)	0	0	2	1
South Glens Falls (V)	0	0	4	3
Stillwater (T)	3	2	46	28
Stillwater (V)	0	0	1	1
Waterford (T)	10	6	123	65
Waterford (V)	6	3	67	39

Jurisdiction	500-Year MRP		2,500-Year MRP	
	Displaced House-holds	People Requiring Short-Term Shelter	Displaced House-holds	People Requiring Short-Term Shelter
Wilton (T)	2	1	20	12
Saratoga County	**90**	**50**	**1,018**	**572**

Source: HAZUS-MH MR3
Notes: Calculated on a Census-Tract level
RV = Replacement Value. T = Town. V = Village

HAZUS-MH estimates the number of people that may potentially be injured and/or killed by an earthquake depending upon the time of day the event occurs. These estimates are provided for three times of day (2:00am, 2:00pm and 5:00pm), representing the periods of the day that different sectors of the community are at their peak. The 2:00am estimate considers the residential occupancy at its maximum, the 2:00pm estimate considers the educational, commercial and industrial sector at their maximum and the 5:00pm estimate represents peak commuter time.

For the 100-year event, one-to-two injuries are estimated; however, there are no injuries estimated that will require hospitalization and no casualties are estimated. For the 500-year event, at 2:00am, there are 34 injuries estimated, four of which are estimated to require hospitalization; and one casualty is estimated. At 2:00pm, 26 injuries are estimated, three of which are estimated to require hospitalization; and one casualty is estimated. At 5:00pm, 27 injuries are estimated, three of which are estimated to require hospitalization; and one casualty is estimated.

Table 5.4.5-8 summarizes the injuries and casualties estimated for the 2,500-year MRP earthquake event.

Table 5.4.5-8. Estimated Number of Injuries and Casualties from the 2,500-Year MRP Earthquake Event

Level of Severity	Time of Day		
	2:00 AM	2:00 PM	5:00 PM
Injuries	260	234	228
Hospitalization	58	56	60
Casualties	12	12	12

Source: HAZUS-MH MR3, 2007

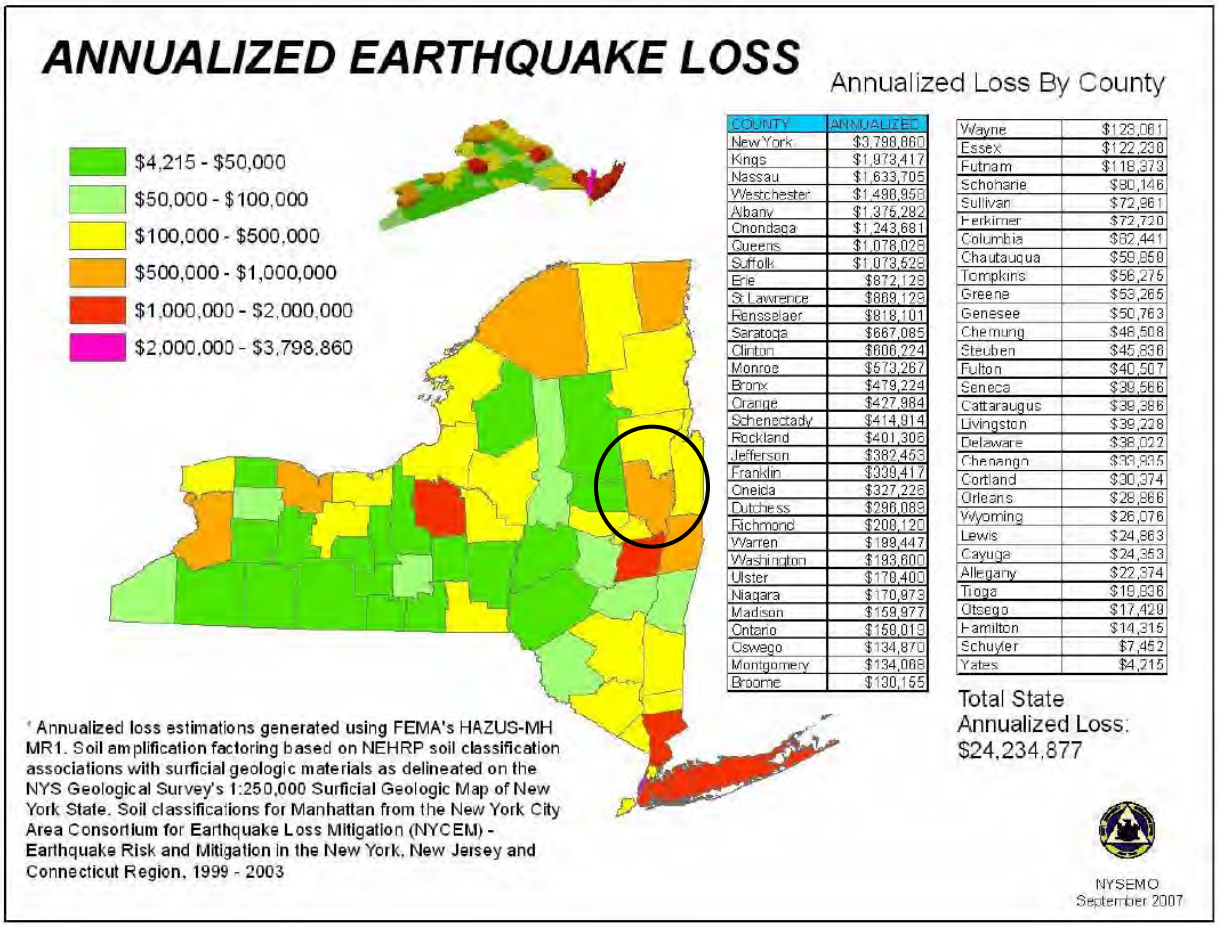
Earthquakes can cause secondary hazard events such as fires. No fires are anticipated as a result of a 100-year MRP event. For the 500-year event, HAZUS-MH MR3 estimates there will be one ignition that will displace one person. For the 2,500-year MRP event, the HAZUS-MH model estimates that there will be eight ignitions that will displace approximately 53 people and damage an estimated $4 million of building value in the County.

Impact on General Building Stock

After considering the population exposed to the earthquake hazard, the value of general building stock exposed to and damaged by 100-, 500- and 2,500-year MRP earthquake events was evaluated. The entire study area's general building stock is considered at risk and exposed to this hazard. The HAZUS-MH MR3 model estimates the value of the exposed building stock and the loss (in terms of damage to the exposed stock). Refer to Table 4-3 in the County Profile (Section 4) for general building stock data replacement value statistics (structure and contents) for each jurisdiction.

The NYS HMP conducted a HAZUS vulnerability assessment and reports estimates of earthquake losses factoring in NEHRP soil classes by County. For Saratoga County, the estimated annualized earthquake loss is $667,085 (Figure 5.4.5-17).

Figure 5.4.5-17. Annualized Earthquake Losses by County



Source: NYSDPC, 2008
Note: The black circle indicates the approximate location of the Saratoga County

According to the New York City Area Consortium for Earthquake Loss Mitigation (NYCEM), where earthquake risks and mitigation were evaluated in the New York, New Jersey and Connecticut region, most damage and loss caused by an earthquake is directly or indirectly the result of ground shaking (NYCEM, 2003). NYCEM indicates there is a strong correlation between PGA and the damage a building might experience. The HAZUS-MH M3 model is based on the best available earthquake science and aligns with these statements. HAZUS-MH MR3 methodology and model were used to analyze the earthquake hazard for the general building stock for Saratoga County. See Figures 5.4.5-8 through 5.4.5-10 earlier in this profile that illustrate the geographic distribution of PGA (g) across Saratoga County for 100-, 500- and 2,500-year MRP events at the Census-Tract level.

According to NYCEM, a building's construction determines how well it can withstand the force of an earthquake. The NYCEM report indicates that un-reinforced masonry buildings are most at risk during an earthquake because the walls are prone to collapse outward, whereas steel and wood buildings absorb more of the earthquake's energy. Additional attributes that contribute to a building's capability to withstand an earthquake's force include its age, number of stories and quality of construction. HAZUS-MH considers building contruction and the age of buildings as part of the analysis. Because the default general building stock was used for this Level 1 HAZUS-MH analysis, the default building ages and building types already incorporated into the inventory were used.

Potential building damage was evaluated by HAZUS-MH MR3 across the following damage categories (none, slight, moderate, extensive and complete). Table 5.4.5-9 provides definitions of these five categories of damage for a light wood-framed building; definitions for other building types are included in HAZUS-MH technical manual documentation. General building stock damage for these damage categories by occupancy class and building type on a County-wide basis is summarized for the 100-, 500- and 2,500-year events in Tables 5.4.5-10 and 5.4.5-11.

Table 5.4.5-9. Example of Structural Damage State Definitions for a Light Wood-Framed Building

Damage Category	Description
Slight	Small plaster or gypsum-board cracks at corners of door and window openings and wall-ceiling intersections; small cracks in masonry chimneys and masonry veneer.
Moderate	Large plaster or gypsum-board cracks at corners of door and window openings; small diagonal cracks across shear wall panels exhibited by small cracks in stucco and gypsum wall panels; large cracks in brick chimneys; toppling of tall masonry chimneys.
Extensive	Large diagonal cracks across shear wall panels or large cracks at plywood joints; permanent lateral movement of floors and roof; toppling of most brick chimneys; cracks in foundations; splitting of wood sill plates and/or slippage of structure over foundations; partial collapse of room-over-garage or other soft-story configurations.
Complete	Structure may have large permanent lateral displacement, may collapse, or be in imminent danger of collapse due to cripple wall failure or the failure of the lateral load resisting system; some structures may slip and fall off the foundations; large foundation cracks.

Source: HAZUS-MH MR3 Technical Manual

HAZUS-MH MR3 estimates a total of nearly $3 million in building stock damages (structural and non-structural damage) to Saratoga County's general building stock as a result of a 100-year MRP event. Table 5.4.5-12 summarizes the damage estimated for the 500- and 2,500-year MRP earthquake events by Census Tract. Damage loss estimates include structural and non-structural damage to the building and loss of contents.

Table 5.4.5-10. Estimated Number of Buildings Damaged by General Occupancy for 100-year, 500-year and 2,500-year MRP Earthquake Events

Category	Average Damage State														
	100-Year MRP					500-Year MRP					2,500-Year MRP				
	None	Slight	Moderate	Extensive	Complete	None	Slight	Moderate	Extensive	Complete	None	Slight	Moderate	Extensive	Complete
Residential (Single and Multi-Family Dwellings)	70,470 (97%)	350 (<1%)	89 (<1%)	7 (<1%)	0 (0%)	65,656 (90%)	3,762 (5%)	1,323 (1.8%)	158 (<1%)	16 (<1%)	49,397 (68%)	12,789 (17.6%)	6,727 (9%)	1,680 (2.3%)	322 (<1%)
Commercial	1.6%	<1%	<1%	0%	0%	1.4%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Industrial	<1%	<1%	0%	0%	0%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Education, Government, Religious and Agricultural	<1%	<1%	0%	0%	0%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%

Source: HAZUS-MH MR3, 2007

Notes (1): Only the residential category contains building counts because the residential sub-categories RES1 (single-family dwellings) and RES2 (manufactured houses) building counts are based on census housing unit counts. All other occupancy class building counts are calculated in HAZUS-MH MR3 based on regional average square footage values for specific occupancy class/building types, and may significantly over- or under-estimate actual structure counts. Therefore, percent buildings are provided for all other occupancy classes in the table above.

Note (2): The percentages in the table above are based on the building count in the HAZUS-MH MR3 earthquake model of 72,632 buildings. This count is approximately 20% less than the total number of buildings documented by the flood and wind models (87,336 buildings).

Table 5.4.5-11. Estimated Number of Buildings Damaged by Building Type for 100-year, 500-year and 2,500-year MRP Earthquake Events

Category	Average Damage State														
	100-Year MRP					500-Year MRP					2,500-Year MRP				
	None	Slight	Moderate	Extensive	Complete	None	Slight	Moderate	Extensive	Complete	None	Slight	Moderate	Extensive	Complete
Wood	71%	<1%	<1%	0%	0%	68%	2.5%	<1%	<1%	0%	55%	12%	3.7%	<1%	<1%
Steel	1.3%	<1%	<1%	0%	0%	1%	<1%	<1%	<1%	0%	<1%	<1%	<1%	<1%	<1%
Concrete	1.3%	<1%	<1%	0%	0%	1%	<1%	<1%	<1%	0%	<1%	<1%	<1%	<1%	<1%
Reinforced Masonry	<1%	<1%	<1%	0%	0%	<1%	<1%	<1%	<1%	0%	<1%	<1%	<1%	<1%	<1%
Un-reinforced Masonry	13%	<1%	<1%	<1%	<1%	11%	1.3%	<1%	<1%	<1%	7%	2.6%	2.2%	<1%	<1%
Mobile Homes	12%	<1%	<1%	0%	0%	10%	1.3%	<1%	<1%	<1%	6%	2.6%	3%	<1%	<1%

Source: HAZUS-MH MR3, 2007

Notes (1): Only the residential category contains building counts because the residential sub-categories RES1 (single-family dwellings) and RES2 (manufactured houses) building counts are based on census housing unit counts. All other occupancy class building counts are calculated in HAZUS-MH MR3 based on regional average square footage values for specific occupancy class/building types, and may significantly over- or under-estimate actual structure counts. Therefore, percent buildings are provided for all other occupancy classes in the table above.

Note (2): The percentages in the table above are based on the building count in the HAZUS-MH MR3 earthquake model of 72,632 buildings. This count is approximately 20% less than the total number of buildings documented by the flood and wind models (87,336 buildings).

Table 5.4.5-12. Estimated Building Value (Building and Contents) Damaged by Jurisdiction for the 500- and 2,500-Year MRP Earthquake Events

Jurisdiction	Estimated Total Damages *		Percent of Total Building and Contents RV		Estimated Residential Damage		Estimated Commercial Damage	
	500-Year	2,500-Year	500-Year	2,500-Year	500-Year	2,500-Year	500-Year	2,500-Year
Ballston (T)	$1,056,629	$15,063,485	0.1	1.5	$554,801	$9,642,187	$303,157	$3,216,984
Ballston Spa (V)	$1,823,989	$17,434,000	0.3	2.6	$1,147,034	$10,529,424	$462,723	$4,729,039
Charlton (T)	$1,046,135	$9,482,037	0.2	2.1	$891,915	$7,901,072	$82,214	$838,065
Clifton Park (T)	$12,332,306	$113,062,174	0.3	2.4	$8,390,610	$74,014,257	$3,176,849	$31,649,072
Corinth (T)	$141,406	$1,527,630	0.0	0.5	$126,279	$1,340,414	$8,851	$105,036
Corinth (V)	$839,755	$7,429,380	0.3	2.7	$446,780	$3,570,846	$181,266	$1,793,363
Day (T) and Edinburg (T)	$955,192	$9,222,168	0.1	1.4	$841,726	$7,884,291	$43,851	$518,342
Galway (T) and Galway (V)	$335,572	$3,619,268	0.1	0.7	$294,371	$3,151,523	$20,642	$232,804
Greenfield (T)	$1,086,607	$15,512,780	0.2	2.3	$682,546	$11,413,008	$240,687	$2,415,684
Hadley (T)	$100,069	$1,105,218	0.0	0.5	$89,293	$975,590	$6,579	$78,134
Halfmoon (T)	$3,581,972	$32,789,605	0.2	1.7	$2,295,847	$20,854,137	$948,773	$8,847,821
Malta (T) and Round Lake (V)	$7,429,513	$61,946,935	0.5	4.0	$5,340,362	$43,917,617	$1,491,666	$12,886,025
Mechanicville (C)	$3,530,727	$29,018,262	0.7	5.9	$2,565,318	$21,123,622	$743,863	$6,063,958
Milton (T)	$1,897,554	$18,429,506	0.2	1.6	$1,349,295	$12,397,130	$264,145	$2,944,737
Moreau (T)	$466,793	$5,066,626	0.0	0.5	$338,561	$3,555,352	$94,161	$1,082,237
Northumberland (T)	$3,193,115	$24,227,417	0.8	6.0	$2,669,124	$20,220,635	$333,430	$2,569,007
Providence (T)	$145,669	$1,484,191	0.1	0.8	$118,867	$1,180,515	$11,029	$120,005
Saratoga (T)	$161,552	$1,840,740	0.0	0.5	$128,124	$1,414,471	$18,636	$228,232
Saratoga Springs (C)	$12,770,035	$120,874,635	0.3	2.5	$6,373,356	$56,439,932	$3,854,780	$38,754,810
Schuylerville (V) and Victory (V)	$75,177	$876,631	0.0	0.5	$49,977	$568,678	$15,088	$182,091
South Glens Falls (V)	$155,863	$1,737,079	0.0	0.5	$108,952	$1,188,177	$35,902	$423,172
Stillwater (T)	$3,999,718	$31,584,863	0.7	5.7	$2,961,899	$23,248,748	$531,672	$4,304,104
Stillwater (V)	$52,769	$634,029	0.0	0.4	$41,227	$490,134	$5,495	$67,611
Waterford (T)	$5,003,151	$41,396,647	0.6	5.3	$3,468,035	$28,715,815	$534,374	$4,409,506
Waterford (V)	$1,493,264	$12,486,304	0.7	5.7	$1,048,993	$8,776,659	$247,017	$2,040,824
Wilton (T)	$2,488,578	$23,825,169	0.2	1.8	$1,760,692	$15,987,611	$574,844	$6,175,010
Saratoga County	**$66,163,111**	**$601,676,781**	**0.3**	**2.4**	**$44,083,984**	**$390,501,843**	**$14,231,694**	**$136,675,673**

Source: HAZUS-MH MR3, 2007

Notes: RV = Replacement Value. T = Town. V = Village.

*Total is sum of damages for all occupancy classes (residential, commercial, industrial, agricultural, educational, religious and government).

It is estimated that there would be greater $66 million in building damages during a 500-year earthquake event. This includes structural damage, non-structural damage and loss of contents, representing less than one-percent of the total replacement value for general building stock in Saratoga County. For a 2,500-year MRP earthquake event, the estimated total building damage is greater than $601 million or more than two-percent of the total general building stock replacement value. Residential buildings account for most of the damage for earthquake events. This is likely because they comprise the majority of the building inventory.

Impact on Critical Facilities

After considering the general building stock exposed to, and damaged by, 100-, 500- and 2,500-year MRP earthquake events, critical facilities were evaluated. All critical facilities (essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities and user-defined facilities) in Saratoga County are considered exposed and vulnerable to the earthquake hazard. Refer to subsection "Critical Facilities" in Section 4 (County Profile) of this Plan for a complete inventory of critical facilities in the County.

HAZUS-MH MR3 estimates the probability that critical facilities may sustain damage as a result of 100-, 500- and 2,500-year MRP earthquake events. Additionally, HAZUS-MH estimates percent functionality for each facility days after the event. For the 100-Year MRP event, HAZUS-MH MR3 estimates it is greater than 97% probable that emergency facilities (police, fire, EMS and medical facilities) and schools will not experience any structural damage. These facilities are estimated to be nearly 100% functional on day one of the 100-year MRP earthquake event. Therefore, the impact to critical facilities is not significant for the 100-year event.

Tables 5.4.5-13 and 5.4.5-14 list the probability of critical facilities sustaining the damage category as defined by the column heading and percent functionality after the event for the 500-year and 2,500-year MRP earthquake events.

Table 5.4.5-13. Estimated Damage and Loss of Functionality for Critical Facilities in Saratoga County for the 500-Year MRP Earthquake Event

500-Year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
Burnt Hills Station 2	Ballston (T)	Fire/EMS	89.2	7.4	2.9	0.4	0	89.2	96.4
Burnt Hills Station 1	Ballston (T)	Fire/EMS	89.2	7.4	2.9	0.4	0	89.2	96.4
BALLSTON SPA MS	Ballston (T)	School	93.3	4.8	1.7	0.2	0	93.3	97.9
BALLSTON SPA SHS	Ballston (T)	School	93.3	4.8	1.7	0.2	0	93.3	97.9
BURNT HILLS-BALLSTON LAKE SHS	Ballston (T)	School	95.6	3.2	1	0.1	0	95.6	98.7
FRANCIS L. STEVENS ES	Ballston (T)	School	95.6	3.2	1	0.1	0	95.6	98.7
WOOD ROAD IS	Ballston (T)	School	93.3	4.8	1.7	0.2	0	93.3	97.9
MILTON TERRACE PRIMARY SCHOOL	Ballston (T)	School	93.3	4.8	1.7	0.2	0	93.3	97.9
Ballston Spa Police Dept	Ballston Spa (V)	Police	88.8	7.7	3.1	0.5	0	88.7	96.2
Union Fire Dept	Ballston Spa (V)	Fire/EMS	88.8	7.7	3.1	0.5	0	88.7	96.2
Eagle-Matt Lee Fire Dept	Ballston Spa (V)	Fire/EMS	88.8	7.7	3.1	0.5	0	88.7	96.2
ST MARYS SCHOOL	Ballston Spa (V)	School	88.8	7.7	3.1	0.5	0	88.7	96.2
MALTA AVE IS	Ballston Spa (V)	School	88.8	7.7	3.1	0.5	0	88.7	96.2
Harmony Corners Fire Dist	Charlton (T)	Fire/EMS	88.8	7.7	3.1	0.5	0	88.7	96.2
West Charlton Fire Dept 2	Charlton (T)	Fire/EMS	95.4	3.4	1.1	0.1	0	95.4	98.6
CHARLTON HTS ES	Charlton (T)	School	93.6	4.6	1.6	0.2	0	93.6	98.1
The Charlton School - KGS	Charlton (T)	School	93.6	4.6	1.6	0.2	0	93.6	98.1
Ballston Lake Fire Dept	Clifton Park (T)	Fire/EMS	89.2	7.4	2.9	0.4	0	89.2	96.4
Rexford Fire District	Clifton Park (T)	Fire/EMS	95.6	3.2	1	0.1	0	95.6	98.7
Vischer Ferry Fire District	Clifton Park (T)	Fire/EMS	89.6	7.1	2.8	0.4	0	89.6	96.5
Vischer Ferry Fire District	Clifton Park (T)	Fire/EMS	89.6	7.1	2.8	0.4	0	89.6	96.5
Vischer Ferry Fire District	Clifton Park (T)	Fire/EMS	79.2	13	6.4	1.2	0.1	79.2	91.9
Jonesville Fire District	Clifton Park (T)	Fire/EMS	89.2	7.4	2.9	0.4	0	89.1	96.4
Jonesville Fire District	Clifton Park (T)	Fire/EMS	93.6	4.6	1.6	0.2	0	93.6	98
ACADIA MS	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
GOWANA MS	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
KARIGON ES	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
KODA MS	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
ORENDA ES	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4

500-Year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
SHENENDEHOWA HS-East	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
SHENENDEHOWA HS-West	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
SKANO ES	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
TESAGO ES	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
ARONGEN ES	Clifton Park (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
OKTE ES	Clifton Park (T)	School	89.6	7.1	2.8	0.4	0	89.6	96.5
GLENCLIFF SCHOOL	Clifton Park (T)	School	95.6	3.2	1	0.1	0	95.6	98.7
Shatekon ES	Clifton Park (T)	School	93.6	4.6	1.6	0.2	0	93.6	98
Corinth Police Dept	Corinth (T)	Police	87.8	8.3	3.4	0.5	0.1	87.8	95.8
Corinth Fire Dept	Corinth (T)	Fire/EMS	87.8	8.3	3.4	0.5	0.1	87.8	95.8
Evergreen Health Center	Corinth (V)	Medical	97.4	2	0.5	0	0	97.4	99.3
CORINTH HS	Corinth (V)	School	87.8	8.3	3.4	0.5	0.1	87.8	95.8
CORINTH MS	Corinth (V)	School	87.8	8.3	3.4	0.5	0.1	87.8	95.8
CORINTH ES	Corinth (V)	School	87.8	8.3	3.4	0.5	0.1	87.8	95.8
Edinburg Fire Dept	Edinburg (T)	Fire/EMS	92.7	5.2	1.8	0.2	0	92.7	97.7
EDINBURG CHAPEL ACADEMY	Edinburg (T)	School	94.9	3.7	1.2	0.1	0	94.9	98.5
EDINBURG COMN SCHOOL	Edinburg (T)	School	94.9	3.7	1.2	0.1	0	94.9	98.5
GALWAY HS	Galway (T)	School	95.4	3.4	1.1	0.1	0	95.4	98.6
JOSEPH HENRY ES	Galway (T)	School	95.4	3.4	1.1	0.1	0	95.4	98.6
GALWAY MS	Galway (T)	School	95.4	3.4	1.1	0.1	0	95.4	98.6
Galway Volunteer Fire Dept	Galway (V)	Fire/EMS	95.4	3.4	1.1	0.1	0	95.4	98.6
Porter Corners Fire CO	Greenfield (T)	Fire/EMS	95.1	3.6	1.2	0.1	0	95.1	98.6
Greenfield Center Fire CO	Greenfield (T)	Fire/EMS	95.1	3.6	1.2	0.1	0	95.1	98.6
GREENFIELD ES	Greenfield (T)	School	95.1	3.6	1.2	0.1	0	95.1	98.6
Clifton Park Fire Dept	Halfmoon (T)	Fire/EMS	93.6	4.6	1.6	0.2	0	93.6	98
West Crescent Fire Dept	Halfmoon (T)	Fire/EMS	97.5	1.9	0.5	0.1	0	97.4	99.3
Halfmoon-Waterford Station #2	Halfmoon (T)	Fire/EMS	79.3	13	6.4	1.2	0.1	79.2	91.9
MECHANICVILLE MS	Halfmoon (T)	School	95.6	3.2	1	0.1	0	95.6	98.7
MECHANICVILLE HS	Halfmoon (T)	School	95.6	3.2	1	0.1	0	95.6	98.7
Malta #2 Station	Malta (T)	Fire/EMS	93.3	4.8	1.7	0.2	0	93.3	97.9

500-Year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
Malta Ridge Fire Dept #1	Malta (T)	Fire/EMS	77.9	13.7	6.9	1.3	0.2	77.8	91.2
Round Lake Station 2	Malta (T)	Fire/EMS	93.3	4.8	1.7	0.2	0	93.3	97.9
CHANGO ES	Malta (T)	School	89.2	7.4	2.9	0.4	0	89.1	96.4
Hillcrest Fire Dept	Mechanicville	Fire/EMS	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Mechanicville Police	Mechanicville (C)	Police	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Strang Fire Dept	Mechanicville (C)	Fire/EMS	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Mechanicville Central Fire Sta	Mechanicville (C)	Fire/EMS	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Mechanicville Civil Defense	Mechanicville (C)	EOC	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Mechanicville Public Safety	Mechanicville (C)	EOC	78.6	13.4	6.6	1.3	0.1	78.5	91.6
MECHANICVILLE ES	Mechanicville (C)	School	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Sheriff's Dept-Civil Div	Milton (T)	Police	93.3	4.8	1.7	0.2	0	93.3	97.9
Rock City Falls Station #1	Milton (T)	Fire/EMS	88.3	8	3.2	0.5	0	88.2	96
Middle Grove Fire CO	Milton (T)	Fire/EMS	88.3	8	3.2	0.5	0	88.2	96
Rock City Falls Station 2	Milton (T)	Fire/EMS	93.3	4.8	1.7	0.2	0	93.3	97.9
SPA CHRISTIAN SCHOOL	Milton (T)	School	93.3	4.8	1.7	0.2	0	93.3	97.9
MOREAU ES	Moreau (T)	School	96.7	2.5	0.7	0.1	0	96.6	99.1
SOUTH GLENS FALLS SHS	Moreau (T)	School	96.7	2.5	0.7	0.1	0	96.6	99.1
TANGLEWOOD ES	Moreau (T)	School	96.7	2.5	0.7	0.1	0	96.6	99.1
Providence Station #2	Providence (T)	Fire/EMS	93	5	1.7	0.2	0	93	97.8
Providence Station #1	Providence (T)	Fire/EMS	95.1	3.6	1.2	0.1	0	95.1	98.6
Round Lake Fire Dept	Round Lake (V)	Fire/EMS	89.2	7.4	2.9	0.4	0	89.1	96.4
Quaker Springs Fire Dept	Saratoga (T)	Fire/EMS	88.8	7.7	3.1	0.5	0	88.7	96.2
SARATOGA HOSPITAL	Saratoga Springs (C)	Medical	97.8	1.8	0.4	0	0	97.7	99.4
Saratoga Springs Police Dept and EOC	Saratoga Springs (C)	Police	88.3	8	3.2	0.5	0	88.2	96
Saratoga Springs Fire Dept	Saratoga Springs (C)	Fire/EMS	88.3	8	3.2	0.5	0	88.2	96
Saratoga Springs Fire Dept	Saratoga Springs (C)	Fire/EMS	88.3	8	3.2	0.5	0	88.2	96
Saratoga Springs Police Dept and EOC	Saratoga Springs (C)	EOC	88.3	8	3.2	0.5	0	88.2	96
ST CLEMENTS REGIONAL CATHOLIC	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
SARATOGA CENTRAL CATHOLIC HS	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
SARATOGA INDEPENDENT SCHOOL	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96

500-Year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
SPRING HILL WALDORF SCHOOL	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
SARATOGA HANSEL GRETEL	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
CAROLINE STREET ELEMENTARY SC	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
LAKE AVE ES	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
SARATOGA SPRINGS JHS	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
DIV STREET ES	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
SARATOGA SPRINGS SHS	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
GEYSER ROAD ES	Saratoga Springs (C)	School	88.3	8	3.2	0.5	0	88.2	96
Schuylerville Fire Dept	Schuylerville (V)	Fire/EMS	95.2	3.5	1.1	0.1	0	95.1	98.6
Schuylerville Volunteer Ambulance	Schuylerville (V)	Fire/EMS	97	2.2	0.7	0.1	0	97	99.1
SCHUYLERVILLE ES	Schuylerville (V)	School	95.2	3.5	1.1	0.1	0	95.1	98.6
SCHUYLERVILLE JSHS	Schuylerville (V)	School	95.2	3.5	1.1	0.1	0	95.1	98.6
South Glens Falls Fire Dept	South Glens Falls (V	Fire/EMS	96.7	2.5	0.7	0.1	0	96.6	99.1
South Glens Falls Fire Dept	South Glens Falls (V	Fire/EMS	96.9	2.4	0.7	0.1	0	96.8	99.1
HARRISON AVE ES	South Glens Falls (V	School	96.7	2.5	0.7	0.1	0	96.6	99.1
OLIVER W. WINCH MS	South Glens Falls (V	School	96.7	2.5	0.7	0.1	0	96.6	99.1
South Glens Falls Police Dept	South Glens Falls (V)	Police	96.7	2.5	0.7	0.1	0	96.6	99.1
Arvin Hart Fire CO	Stillwater (T)	Fire/EMS	97.3	2	0.6	0.1	0	97.3	99.2
Arvin Hart Station 2	Stillwater (T)	Fire/EMS	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Arvin Hart Station 3	Stillwater (T)	Fire/EMS	88.8	7.7	3.1	0.5	0	88.7	96.2
Arvin Hart Station 4	Stillwater (T)	Fire/EMS	97.3	2	0.6	0.1	0	97.3	99.2
COMMUNITY CHRISTIAN ACADEMY	Stillwater (T)	School	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Stillwater Police Dept	Stillwater (V)	Police	78.6	13.4	6.6	1.3	0.1	78.5	91.6
Stillwater Fire Station	Stillwater (V)	Fire/EMS	78.6	13.4	6.6	1.3	0.1	78.5	91.6
STILLWATER ES	Stillwater (V)	School	97.3	2	0.6	0.1	0	97.3	99.2
STILLWATER MS HS	Stillwater (V)	School	97.3	2	0.6	0.1	0	97.3	99.2
David Nevins Fire Co	Victory (V)	Fire/EMS	77.2	14.1	7.1	1.4	0.2	77.2	90.9
Halfmoon-Waterford Station #1	Waterford (T)	Fire/EMS	89.6	7.1	2.8	0.4	0	89.6	96.6
WATERFORD ES	Waterford (T)	School	79.3	13	6.4	1.2	0.1	79.2	91.9
WATERFORD JSHS	Waterford (T)	School	79.3	13	6.4	1.2	0.1	79.2	91.9

500-Year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
Waterford Police Dept	Waterford (V)	Police	79.3	13	6.4	1.2	0.1	79.2	91.9
Waterford Volunteer Fire CO	Waterford (V)	Fire/EMS	79.3	13	6.4	1.2	0.1	79.2	91.9
Kavanaugh Hook & Ladder CO	Waterford (V)	Fire/EMS	79.3	13	6.4	1.2	0.1	79.2	91.9
Ford Hose CO	Waterford (V)	Fire/EMS	79.3	13	6.4	1.2	0.1	79.2	91.9
Northside Fire Dept	Waterford (V)	Fire/EMS	79.3	13	6.4	1.2	0.1	79.2	91.9
WATERFORD CENTRAL CATH SCHOOL	Waterford (V)	School	79.3	13	6.4	1.2	0.1	79.2	91.9
Wilton Medical Arts	Wilton (T)	Medical	98.5	1.2	0.3	0	0	98.4	99.6
Surgery Center	Wilton (T)	Medical	97.8	1.8	0.4	0	0	97.7	99.4
Glens Falls Medical Center	Wilton (T)	Medical	87.3	8.6	3.8	0.3	0.1	87.3	95.6
Wilton State Police	Wilton (T)	Police	76.5	14.4	7.4	1.5	0.2	76.4	90.5
Wilton Volunteer Fire CO	Wilton (T)	Fire/EMS	76.5	14.4	7.4	1.5	0.2	76.4	90.5
Maple Ave Fire CO	Wilton (T)	Fire/EMS	88.3	8	3.2	0.5	0	88.2	96
Wilton Town Hall - EOC	Wilton (T)	EOC	92.7	5.2	1.8	0.2	0	92.7	97.7
BALLARD ES	Wilton (T)	School	87.9	8.2	3.4	0.5	0.1	87.8	95.8
MAPLE AVE MS	Wilton (T)	School	88.3	8	3.2	0.5	0	88.2	96
DOROTHY NOLAN ES	Wilton (T)	School	93	5	1.7	0.2	0	93	97.8

Source: HAZUS-MH MR3, 2007
Notes:
C = City; T = Town; V = Village.

Table 5.4.5-14. Estimated Damage and Loss of Functionality for Critical Facilities in Saratoga County for the 2,500-Year MRP Earthquake Event

2,500-Year MRP Event										
Name	Town	Type	Percent Probability of Sustaining Damage					Percent Functionality		
			None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
Burnt Hills Station 2	Ballston (T)	Fire/EMS	59	21.6	14.6	4	0.7	59	80.6	95.2
Burnt Hills Station 1	Ballston (T)	Fire/EMS	59	21.6	14.6	4	0.7	59	80.6	95.2
BALLSTON SPA MS	Ballston (T)	School	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
BALLSTON SPA SHS	Ballston (T)	School	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
BURNT HILLS-BALLSTON LAKE SHS	Ballston (T)	School	78.2	13.6	6.8	1.3	0.2	78.1	91.7	98.5
FRANCIS L. STEVENS ES	Ballston (T)	School	78.2	13.6	6.8	1.3	0.2	78.1	91.7	98.5
WOOD ROAD IS	Ballston (T)	School	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
MILTON TERRACE PRIMARY SCHOOL	Ballston (T)	School	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
Ballston Spa Police Dept	Ballston Spa (V)	Police	59.2	21.6	14.6	4	0.7	59.1	80.7	95.3
Union Fire Dept	Ballston Spa (V)	Fire/EMS	59.2	21.6	14.6	4	0.7	59.2	80.8	95.3
Eagle-Matt Lee Fire Dept	Ballston Spa (V)	Fire/EMS	59.2	21.6	14.6	4	0.7	59.1	80.7	95.3
ST MARYS SCHOOL	Ballston Spa (V)	School	59.2	21.6	14.6	4	0.7	59.1	80.7	95.3
MALTA AVE IS	Ballston Spa (V)	School	59.2	21.6	14.6	4	0.7	59.2	80.8	95.3
Harmony Corners Fire Dist	Charlton (T)	Fire/EMS	59.1	21.6	14.6	4	0.7	59	80.7	95.3
West Charlton Fire Dept 2	Charlton (T)	Fire/EMS	77.6	13.9	7	1.4	0.2	77.6	91.4	98.4
CHARLTON HTS ES	Charlton (T)	School	72.4	16.4	9	2	0.3	72.4	88.7	97.7
The Charlton School - KGS	Charlton (T)	School	72.4	16.4	9	2	0.3	72.4	88.7	97.7
Ballston Lake Fire Dept	Clifton Park (T)	Fire/EMS	59	21.6	14.6	4	0.7	59	80.6	95.2
Rexford Fire District	Clifton Park (T)	Fire/EMS	78.2	13.6	6.8	1.3	0.2	78.1	91.7	98.5
Vischer Ferry Fire District	Clifton Park (T)	Fire/EMS	59.9	21.4	14.3	3.9	0.6	59.8	81.2	95.5
Vischer Ferry Fire District	Clifton Park (T)	Fire/EMS	59.9	21.4	14.3	3.9	0.6	59.8	81.2	95.5
Vischer Ferry Fire District	Clifton Park (T)	Fire/EMS	31.4	26	27.3	11.8	3.5	31.4	57.4	84.6
Jonesville Fire District	Clifton Park (T)	Fire/EMS	59.1	21.6	14.6	4	0.7	59	80.7	95.3
Jonesville Fire District	Clifton Park (T)	Fire/EMS	72.4	16.4	9	2	0.3	72.4	88.7	97.7
ACADIA MS	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
GOWANA MS	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
KARIGON ES	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
KODA MS	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
ORENDA ES	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3

2,500-Year MRP Event										
Name	Town	Type	Percent Probability of Sustaining Damage					Percent Functionality		
			None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
SHENENDEHOWA HS-East	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
SHENENDEHOWA HS-West	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
SKANO ES	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
TESAGO ES	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
ARONGEN ES	Clifton Park (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
OKTE ES	Clifton Park (T)	School	59.9	21.4	14.3	3.9	0.6	59.8	81.2	95.5
GLENCLIFF SCHOOL	Clifton Park (T)	School	78.2	13.6	6.8	1.3	0.2	78.1	91.7	98.5
Shatekon ES	Clifton Park (T)	School	72.4	16.4	9	2	0.3	72.4	88.7	97.7
Corinth Police Dept	Corinth (T)	Police	56.9	22.3	15.6	4.4	0.8	56.8	79.2	94.7
Corinth Fire Dept	Corinth (T)	Fire/EMS	56.9	22.3	15.6	4.4	0.8	56.8	79.2	94.7
Evergreen Health Center	Corinth (V)	Medical	60.1	20.2	16.2	2.7	0.8	60	80.2	96.4
CORINTH HS	Corinth (V)	School	56.9	22.3	15.6	4.4	0.8	56.8	79.2	94.7
CORINTH MS	Corinth (V)	School	56.9	22.3	15.6	4.4	0.8	56.8	79.2	94.7
CORINTH ES	Corinth (V)	School	56.9	22.3	15.6	4.4	0.8	56.8	79.2	94.7
Edinburg Fire Dept	Edinburg (T)	Fire/EMS	70.5	17.2	9.8	2.2	0.3	70.5	87.7	97.4
EDINBURG CHAPEL ACADEMY	Edinburg (T)	School	76.5	14.4	7.4	1.5	0.2	76.4	90.9	98.3
EDINBURG COMN SCHOOL	Edinburg (T)	School	76.5	14.4	7.4	1.5	0.2	76.4	90.9	98.3
GALWAY HS	Galway (T)	School	77.6	13.9	7	1.4	0.2	77.6	91.4	98.4
JOSEPH HENRY ES	Galway (T)	School	77.6	13.9	7	1.4	0.2	77.6	91.4	98.4
GALWAY MS	Galway (T)	School	77.6	13.9	7	1.4	0.2	77.6	91.4	98.4
Galway Volunteer Fire Dept	Galway (V)	Fire/EMS	77.6	13.9	7	1.4	0.2	77.6	91.4	98.4
Porter Corners Fire CO	Greenfield (T)	Fire/EMS	77.1	14.1	7.2	1.4	0.2	77	91.2	98.3
Greenfield Center Fire CO	Greenfield (T)	Fire/EMS	77.1	14.1	7.2	1.4	0.2	77	91.2	98.3
GREENFIELD ES	Greenfield (T)	School	77.1	14.1	7.2	1.4	0.2	77.1	91.2	98.3
Clifton Park Fire Dept	Halfmoon (T)	Fire/EMS	72.4	16.4	9	2	0.3	72.4	88.7	97.7
West Crescent Fire Dept	Halfmoon (T)	Fire/EMS	84.7	10.1	4.4	0.7	0.1	84.6	94.7	99.1
Halfmoon-Waterford Station #2	Halfmoon (T)	Fire/EMS	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
MECHANICVILLE MS	Halfmoon (T)	School	78.3	13.5	6.7	1.3	0.2	78.2	91.8	98.5
MECHANICVILLE HS	Halfmoon (T)	School	78.3	13.5	6.7	1.3	0.2	78.2	91.8	98.5
Malta #2 Station	Malta (T)	Fire/EMS	71.9	16.6	9.2	2	0.3	71.8	88.5	97.7

2,500-Year MRP Event										
Name	Town	Type	Percent Probability of Sustaining Damage					Percent Functionality		
			None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
Malta Ridge Fire Dept #1	Malta (T)	Fire/EMS	29	25.8	28.3	12.9	4	29	54.8	83.1
Round Lake Station 2	Malta (T)	Fire/EMS	71.9	16.6	9.2	2	0.3	71.8	88.5	97.7
CHANGO ES	Malta (T)	School	59.1	21.6	14.6	4	0.7	59	80.7	95.3
Hillcrest Fire Dept	Mechanicville	Fire/EMS	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Mechanicville Police	Mechanicville (C)	Police	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Strang Fire Dept	Mechanicville (C)	Fire/EMS	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Mechanicville Central Fire Sta	Mechanicville (C)	Fire/EMS	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Mechanicville Civil Defense	Mechanicville (C)	EOC	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Mechanicville Public Safety	Mechanicville (C)	EOC	30.4	26	27.7	12.2	3.7	30.4	56.4	84
MECHANICVILLE ES	Mechanicville (C)	School	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Sheriff's Dept-Civil Div	Milton (T)	Police	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
Rock City Falls Station #1	Milton (T)	Fire/EMS	57.9	22	15.2	4.2	0.7	57.8	79.9	95
Middle Grove Fire CO	Milton (T)	Fire/EMS	57.9	22	15.2	4.2	0.7	57.8	79.9	95
Rock City Falls Station 2	Milton (T)	Fire/EMS	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
SPA CHRISTIAN SCHOOL	Milton (T)	School	71.9	16.6	9.2	2	0.3	71.8	88.4	97.7
MOREAU ES	Moreau (T)	School	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
SOUTH GLENS FALLS SHS	Moreau (T)	School	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
TANGLEWOOD ES	Moreau (T)	School	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
Providence Station #2	Providence (T)	Fire/EMS	71.2	16.9	9.5	2.1	0.3	71.1	88.1	97.5
Providence Station #1	Providence (T)	Fire/EMS	77	14.2	7.2	1.4	0.2	77	91.1	98.3
Round Lake Fire Dept	Round Lake (V)	Fire/EMS	59.1	21.6	14.6	4	0.7	59	80.7	95.3
Quaker Springs Fire Dept	Saratoga (T)	Fire/EMS	59.5	21.5	14.4	3.9	0.7	59.4	80.9	95.4
SARATOGA HOSPITAL	Saratoga Springs (C)	Medical	61	20	15.8	2.6	0.8	60.9	80.9	96.6
Saratoga Springs Police Dept and EOC	Saratoga Springs (C)	Police	58	22	15.1	4.2	0.7	57.9	79.9	95
Saratoga Springs Fire Dept	Saratoga Springs (C)	Fire/EMS	58	22	15.1	4.2	0.7	57.9	79.9	95
Saratoga Springs Fire Dept	Saratoga Springs (C)	Fire/EMS	58	22	15.1	4.2	0.7	57.9	79.9	95
Saratoga Springs Police Dept and EOC	Saratoga Springs (C)	EOC	58	22	15.1	4.2	0.7	57.9	79.9	95
ST CLEMENTS REGIONAL CATHOLIC	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
SARATOGA CENTRAL CATHOLIC HS	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
SARATOGA INDEPENDENT SCHOOL	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95

2,500-Year MRP Event										
Name	Town	Type	Percent Probability of Sustaining Damage					Percent Functionality		
			None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
SPRING HILL WALDORF SCHOOL	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
SARATOGA HANSEL GRETEL	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
CAROLINE STREET ELEMENTARY SC	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
LAKE AVE ES	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
SARATOGA SPRINGS JHS	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
DIV STREET ES	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
SARATOGA SPRINGS SHS	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
GEYSER ROAD ES	Saratoga Springs (C)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
Schuylerville Fire Dept	Schuylerville (V)	Fire/EMS	77.4	14	7.1	1.4	0.2	77.3	91.3	98.4
Schuylerville Volunteer Ambulance	Schuylerville (V)	Fire/EMS	83.5	10.7	4.8	0.8	0.1	83.5	94.2	99
SCHUYLERVILLE ES	Schuylerville (V)	School	77.4	14	7.1	1.4	0.2	77.3	91.3	98.4
SCHUYLERVILLE JSHS	Schuylerville (V)	School	77.4	14	7.1	1.4	0.2	77.3	91.3	98.4
South Glens Falls Fire Dept	South Glens Falls (V	Fire/EMS	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
South Glens Falls Fire Dept	South Glens Falls (V	Fire/EMS	83	11	5	0.9	0.1	82.9	94	99
HARRISON AVE ES	South Glens Falls (V	School	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
OLIVER W. WINCH MS	South Glens Falls (V	School	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
South Glens Falls Police Dept	South Glens Falls (V)	Police	82.6	11.2	5.1	0.9	0.1	82.6	93.8	98.9
Arvin Hart Fire CO	Stillwater (T)	Fire/EMS	84.3	10.3	4.6	0.8	0.1	84.2	94.5	99.1
Arvin Hart Station 2	Stillwater (T)	Fire/EMS	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Arvin Hart Station 3	Stillwater (T)	Fire/EMS	59.5	21.5	14.4	3.9	0.7	59.4	80.9	95.4
Arvin Hart Station 4	Stillwater (T)	Fire/EMS	84.3	10.3	4.6	0.8	0.1	84.2	94.5	99.1
COMMUNITY CHRISTIAN ACADEMY	Stillwater (T)	School	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Stillwater Police Dept	Stillwater (V)	Police	30.4	26	27.7	12.2	3.7	30.4	56.4	84
Stillwater Fire Station	Stillwater (V)	Fire/EMS	30.4	26	27.7	12.2	3.7	30.4	56.4	84
STILLWATER ES	Stillwater (V)	School	84.3	10.3	4.6	0.8	0.1	84.2	94.5	99.1
STILLWATER MS HS	Stillwater (V)	School	84.3	10.3	4.6	0.8	0.1	84.2	94.5	99.1
David Nevins Fire Co	Victory (V)	Fire/EMS	28.3	25.7	28.6	13.2	4.2	28.2	54	82.6
Halfmoon-Waterford Station #1	Waterford (T)	Fire/EMS	60	21.3	14.2	3.8	0.6	60	81.3	95.5
WATERFORD ES	Waterford (T)	School	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
WATERFORD JSHS	Waterford (T)	School	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8

2,500-Year MRP Event										
Name	Town	Type	Percent Probability of Sustaining Damage					Percent Functionality		
			None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
Waterford Police Dept	Waterford (V)	Police	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
Waterford Volunteer Fire CO	Waterford (V)	Fire/EMS	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
Kavanaugh Hook & Ladder CO	Waterford (V)	Fire/EMS	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
Ford Hose CO	Waterford (V)	Fire/EMS	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
Northside Fire Dept	Waterford (V)	Fire/EMS	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
WATERFORD CENTRAL CATH SCHOOL	Waterford (V)	School	31.7	26	27.1	11.7	3.4	31.6	57.7	84.8
Wilton Medical Arts	Wilton (T)	Medical	78.9	13	7.2	0.7	0.2	78.9	91.9	99
Surgery Center	Wilton (T)	Medical	61	19.9	15.7	2.6	0.8	61	80.9	96.6
Glens Falls Medical Center	Wilton (T)	Medical	37.4	23.4	28.3	8.2	2.6	37.4	60.8	89.1
Wilton State Police	Wilton (T)	Police	26.4	25.5	29.4	14.1	4.7	26.3	51.9	81.2
Wilton Volunteer Fire CO	Wilton (T)	Fire/EMS	26.4	25.5	29.4	14.1	4.7	26.3	51.9	81.2
Maple Ave Fire CO	Wilton (T)	Fire/EMS	58	22	15.1	4.2	0.7	57.9	79.9	95
Wilton Town Hall - EOC	Wilton (T)	EOC	70.8	17.1	9.7	2.2	0.3	70.8	87.9	97.5
BALLARD ES	Wilton (T)	School	57.2	22.2	15.5	4.4	0.8	57.1	79.4	94.8
MAPLE AVE MS	Wilton (T)	School	58	22	15.1	4.2	0.7	57.9	79.9	95
DOROTHY NOLAN ES	Wilton (T)	School	71.4	16.8	9.4	2.1	0.3	71.3	88.2	97.6

Source: HAZUS-MH MR3, 2007
Notes:
C = City; T = Town; V = Village.

Impact on Economy

Earthquakes also have impacts on the economy, including: loss of business function, damage to inventory, relocation costs, wage loss and rental loss due to the repair/replacement of buildings. A Level 2 HAZUS-MH analysis estimates the total economic loss associated with each earthquake scenario, which includes building- and lifeline-related losses (transportation and utility losses) based on the available inventory [facility (or GIS point) data only]. Direct building losses are the estimated costs to repair or replace the damage caused to the building. This is reported in the "Impact on General Building Stock" section discussed earlier. Lifeline-related losses include the direct repair cost to transportation and utility systems and are reported in terms of the probability of reaching or exceeding a specified level of damage when subjected to a given level of ground motion. These losses are discussed below.

For the 100-year MRP event, in terms of utilities, HAZUS-MH MR3 estimates each potable water facility, wastewater facility, electric transfer/substation and communication facility will be fully functional day one of the event. Damage results are not considered to be significant as a result of a 100-year event; therefore, utility loss estimates are not discussed further in this assessment for this HMP.

Tables 5.4.5-15 and 5.4.5-16 summarize the HAZUS-MH MR3 estimated probability of damage that each utility may sustain (as defined by the column heading) and estimated loss of use in days a result of a 500-year and 2,500-year MRP earthquake event, respectively. Damage categories are related to the damage ratio (defined as ratio of repair to replacement cost) for evaluation of direct economic loss. Refer to the HAZUS-MH MR3 Earthquake Technical Manual for a description of the damage categories for each utility feature.

HAZUS-MH did not compute damage estimates for roadway segments and railroad tracks. However, it is assumed these features will experience damage due to ground failure and regional transportation and distribution of these materials will be interrupted as a result of an earthquake event. Losses to the community that result from damages to lifelines can be much greater than the cost of repair (HAZUS-MH MR3 Earthquake User Manual, 2007).

For the 100-year MRP event, HAZUS-MH MR3 estimates all highway and railway bridges in Saratoga County will be fully functional day one of the event. For the 500-year and 2,500- year MRP events, HAZUS-MH MR3 estimates almost all highway and railway bridges will nearly 100% functional day one of the event. Tables 5.4.5-17 and 5.4.5-18 summarize the estimated probibility of sustaining damages and functionality of transportation features in Saratoga County for 500- and 2,500-year MRP events.

Table 5.4.5-15. Estimated Utility Impacts in Saratoga County from the 500-year MRP Earthquake Event

500-year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
Olde Knott Farm STP	Clifton Park (T)	WW	99.3	0.6	0.1	0	0	99.4	99.9
NY State Power Authority	Clifton Park (T)	Electric	86.7	8.8	4.3	0.2	0	91.4	99.9
WKKF CH 272	Clifton Park (T)	Communication	86.6	8.8	4.3	0.2	0	97.6	99.9
WABT CH 283	Clifton Park (T)	Communication	86.6	8.8	4.3	0.2	0	97.6	99.9
WDCD-FM CH 244	Clifton Park (T)	Communication	86.6	8.8	4.3	0.2	0	97.6	99.9
Corinth (V) WWTP	Corinth (V)	WW	99.1	0.7	0.1	0	0	99.3	99.9
Indeck Corinth Energy Center	Corinth (V)	Electric	99.1	0.7	0.1	0	0	99.5	99.9
Palmer Falls Hydro-Electric Plant	Corinth (V)	Electric	99.1	0.7	0.1	0	0	99.5	99.9
Curtis-Epcore Hydro-Electric Plant	Corinth (V)	Electric	94.7	4	1.2	0	0	96.8	99.9
Hadley (T) STP	Hadley (T)	WW	94.8	4	1.2	0	0	96.1	99.9
Saratoga SD# 1 WWTP	Halfmoon (T)	WW	86.6	8.9	4.3	0.2	0	90	99.7
Mechanicville (C) CSO	Mechanicville (C)	WW	86.6	8.9	4.3	0.2	0	90	99.7
Saratoga Springs WWTP	Saratoga Springs (C)	WW	95	3.8	1.2	0	0	96.3	99.9
WUAM 900	Saratoga Springs (C)	Communication	95	3.8	1.2	0	0	99.3	99.9
WSPN CH 216	Saratoga Springs (C)	Communication	99.2	0.7	0.1	0	0	99.9	99.9
Schuylerville (V) WWTP 2	Schuylerville (V)	WW	85.2	9.6	4.9	0.2	0.1	88.8	99.6
Schuylerville (V) WWTP	Schuylerville (V)	WW	85.2	9.6	4.9	0.2	0.1	88.8	99.6
Saratoga Co Waste Treatment	Stillwater (T)	WW	86.6	8.9	4.3	0.2	0	90	99.7
Stillwater (V) STP	Stillwater (T)	WW	86.6	8.9	4.3	0.2	0	90	99.7
WMVI 1160	Stillwater (T)	Communication	86.6	8.9	4.3	0.2	0	97.6	99.9
WQAR CH 267	Stillwater (T)	Communication	99.3	0.6	0.1	0	0	99.9	99.9
Waterford (T) WWTP	Waterford (T)	WW	86.7	8.8	4.3	0.2	0	90	99.7
Wilton Substation #1	Wilton (T)	Electric	97.7	1.9	0.4	0	0	98.6	99.9
WSSK CH 209	Wilton (T)	Communication	99.6	0.4	0.1	0	0	99.9	99.9

Source: HAZUS-MH MR3, 2007
Note(s):
C = City; T = Town; V = Village; WW = Wastewater facility

Table 5.4.5-16. Estimated Utility Impacts in Saratoga County from the 2,500-year MRP Earthquake Event

2,500-year MRP Event										
			Percent Probability of Sustaining Damage					Percent Functionality		
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
Olde Knott Farm STP	Clifton Park (T)	WW	92	5.7	2.1	0.1	0	94.1	99.9	99.9
NY State Power Authority	Clifton Park (T)	Electric	45	20.2	27.7	5.6	1.4	57.9	98.6	99.2
WKKF CH 272	Clifton Park (T)	Communication	44	20.2	28.4	6	1.5	79.6	97.9	99
WABT CH 283	Clifton Park (T)	Communication	44	20.2	28.4	6	1.5	79.6	97.9	99
WDCD-FM CH 244	Clifton Park (T)	Communication	44	20.2	28.4	6	1.5	79.6	97.9	99
Corinth (V) WWTP	Corinth (V)	WW	90.6	6.6	2.7	0.1	0	93	99.8	99.8
Indeck Corinth Energy Center	Corinth (V)	Electric	90.6	6.6	2.7	0.1	0	94.1	99.9	99.9
Palmer Falls Hydro-Electric Plant	Corinth (V)	Electric	90.6	6.6	2.7	0.1	0	94.1	99.9	99.9
Curtis-Epcore Hydro-Electric Plant	Corinth (V)	Electric	60.5	18.4	18.2	2.3	0.5	71.4	99.4	99.7
Hadley (T) STP	Hadley (T)	WW	59.2	18.7	19	2.5	0.5	67.8	97	97.3
Saratoga SD# 1 WWTP	Halfmoon (T)	WW	44	20.2	28.4	6	1.5	54.5	92.8	93.5
Mechanicville (C) CSO	Mechanicville (C)	WW	44	20.2	28.4	6	1.5	54.5	92.8	93.5
Saratoga Springs WWTP	Saratoga Springs (C)	WW	61.5	18.2	17.6	2.2	0.5	69.8	97.4	97.6
WUAM 900	Saratoga Springs (C)	Communication	61.5	18.2	17.6	2.2	0.5	88.9	99.2	99.6
WSPN CH 216	Saratoga Springs (C)	Communication	90.9	6.4	2.6	0.1	0	98.5	99.9	99.9
Schuylerville (V) WWTP 2	Schuylerville (V)	WW	42	20.2	29.6	6.6	1.7	52.7	92	92.7
Schuylerville (V) WWTP	Schuylerville (V)	WW	42	20.2	29.6	6.6	1.7	52.7	92	92.7
Saratoga Co Waste Treatment	Stillwater (T)	WW	44	20.2	28.4	6	1.5	54.5	92.8	93.5
Stillwater (V) STP	Stillwater (T)	WW	44	20.2	28.4	6	1.5	54.5	92.8	93.5
WMVI 1160	Stillwater (T)	Communication	44	20.2	28.4	6	1.5	79.6	97.9	99
WQAR CH 267	Stillwater (T)	Communication	91.7	5.9	2.3	0.1	0	98.7	99.9	99.9
Waterford (T) WWTP	Waterford (T)	WW	45.1	20.2	27.7	5.6	1.4	55.5	93.2	93.8
Wilton Substation #1	Wilton (T)	Electric	76.1	13.7	9.3	0.7	0.1	83.8	99.8	99.9
WSSK CH 209	Wilton (T)	Communication	94.2	4.3	1.4	0	0	99.2	99.9	99.9

Source: HAZUS-MH MR3, 2007
Note(s):
C = City; T = Town; V = Village; WW = Wastewater facility

Table 5.4.5-17. Estimated Impacts to Transportation Features in Saratoga County from the 500-year MRP Earthquake Event

500-year MRP Event									
			Percent Probability of Sustaining Damage					Percent Functionality	
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 7
Saratoga Reload Ctr: Ballston Spa	Ballston (T)	RR Facility	99.3	0.6	0.1	0	0	99.9	99.9
SNOW FIELD	Charlton (T)	Airport	99.3	0.6	0.1	0	0	99.9	99.9
WESTWIND FARM	Charlton (T)	Airport	95.2	3.6	1.1	0	0	99.2	99.9
English Rd Airfield	Clifton Park (T)	Airport	99.3	0.6	0.1	0	0	99.9	99.9
PLATEAU SKY RANCH	Edinburg (T)	Airport	97.7	1.9	0.4	0	0	99.7	99.9
GALWAY	Galway (T)	Airport	99.3	0.6	0.1	0	0	99.9	99.9
ROUND LAKE	Malta (T)	Airport	86.6	8.9	4.3	0.2	0	97	99.7
Leonard Bus Sales Inc	Mechanicville (C)	Bus	86.6	8.9	4.3	0.2	0	97	99.7
SARATOGA COUNTY	Milton (T)	Airport	97.9	1.7	0.4	0	0	99.7	99.9
HEBER AIRPARK	Northumberland (T)	Airport	94.8	4	1.2	0	0	99.1	99.9
SHAW FIELD	Northumberland (T)	Airport	84.5	10	5.2	0.3	0.1	96.4	99.7
RUSSELL FLD	Northumberland (T)	Airport	95	3.8	1.2	0	0	99.2	99.9
CIRCLE K RANCH	Providence (T)	Airport	99.2	0.7	0.1	0	0	99.9	99.9
LEWIS FIELD	Providence (T)	Airport	99.2	0.7	0.1	0	0	99.9	99.9
GARNSEYS	Saratoga (T)	Airport	85.2	9.6	4.9	0.2	0.1	96.6	99.7
Saratoga Springs	Saratoga Springs (C)	RR Facility	95	3.8	1.2	0	0	99.2	99.9
Saratoga Whse Assoc: Saratoga Sprgs	Saratoga Springs (C)	RR Facility	95	3.8	1.2	0	0	99.2	99.9
Adirondack Trails Bus	Saratoga Springs (C)	Bus	95	3.8	1.2	0	0	99.2	99.9
Dennis Farone Airfield	Wilton (T)	Airport	95	3.8	1.2	0	0	99.2	99.9

Source: HAZUS-MH MR3, 2007
Note(s):
C = City; RR = Railroad; T = Town; V = Village.

Table 5.4.5-18. Estimated Impacts to Transportation Features in Saratoga County from the 2,500-year MRP Earthquake Event

2,500-year MRP Event										
			Percent Probability of Sustaining Damage					Percent Functionality		
Name	Town	Type	None	Slight	Moderate	Extensive	Complete	Day 1	Day 14	Day 30
Saratoga Reload Ctr: Ballston Spa	Ballston (T)	RR Facility	91.7	5.9	2.3	0.1	0	98.4	99.9	99.9
SNOW FIELD	Charlton (T)	Airport	91.8	5.9	2.2	0.1	0	98.4	99.9	99.9
WESTWIND FARM	Charlton (T)	Airport	62.8	17.9	16.8	2	0.4	87.2	98	98.2
English Rd Airfield	Clifton Park (T)	Airport	92	5.7	2.2	0.1	0	98.5	99.9	99.9
PLATEAU SKY RANCH	Edinburg (T)	Airport	76.2	13.7	9.3	0.7	0.1	93.4	99.3	99.4
GALWAY	Galway (T)	Airport	91.8	5.9	2.2	0.1	0	98.4	99.9	99.9
ROUND LAKE	Malta (T)	Airport	43.9	20.2	28.4	6	1.5	75.7	94.1	94.8
Leonard Bus Sales Inc	Mechanicville (C)	Bus	44	20.2	28.4	6	1.5	75.7	94.1	94.8
SARATOGA COUNTY	Milton (T)	Airport	76.9	13.4	8.9	0.6	0.1	93.7	99.3	99.4
HEBER AIRPARK	Northumberland (T)	Airport	60.7	18.4	18.1	2.3	0.5	86.2	97.7	98
SHAW FIELD	Northumberland (T)	Airport	40.9	20.1	30.2	6.9	1.8	73.5	93.1	93.9
RUSSELL FLD	Northumberland (T)	Airport	61.7	18.2	17.5	2.2	0.5	86.7	97.9	98.1
CIRCLE K RANCH	Providence (T)	Airport	91.3	6.2	2.4	0.1	0	98.3	99.8	99.9
LEWIS FIELD	Providence (T)	Airport	91.3	6.2	2.4	0.1	0	98.3	99.8	99.9
GARNSEYS	Saratoga (T)	Airport	42	20.2	29.6	6.6	1.7	74.3	93.4	94.2
Saratoga Springs	Saratoga Springs (C)	RR Facility	61.5	18.2	17.6	2.2	0.5	86.6	97.9	98.1
Saratoga Whse Assoc: Saratoga Sprgs	Saratoga Springs (C)	RR Facility	61.5	18.2	17.6	2.2	0.5	86.6	97.9	98.1
Adirondack Trails Bus	Saratoga Springs (C)	Bus	61.5	18.2	17.6	2.2	0.5	86.6	97.9	98.1
Dennis Farone Airfield	Wilton (T)	Airport	61.5	18.2	17.6	2.2	0.5	86.6	97.9	98.1

Source: HAZUS-MH MR3, 2007
Note(s):
C = City; RR = Railroad; T = Town; V = Village.

HAZUS-MH MR3 also estimates the volume of debris that may be generated as a result of an earthquake event to enable the study region to prepare and rapidly and efficiently manage debris removal and disposal. Debris estimates are divided into two categories: (1) reinforced concrete and steel that require special equipment to break it up before it can be transported, and (2) brick, wood and other debris that can be loaded directly onto trucks with bulldozers (HAZUS-MH Earthquake User's Manual). For the 100-year MRP event, HAZUS-MH MR3 estimates 3,200 tons of debris will be generated. For the 500-year MRP event, HAZUS-MH MR3 estimates more than 42,000 tons of debris will be generated (nearly 29,000 tons of brick/wood debris and more than 13,000 tons of reinforced concrete/steel debris). For the 2,500-year MRP event, HAZUS-MH MR3 estimates greater than 315,000 tons of debris will be generated (greater than 162,000 tons of brick/wood debris and nearly 153,000 tons of reinforced concrete/steel debris). Table 5.4.5-19 below displays these results.

Table 5.4.5-19. Estimated Debris Generated by the 500- and 2,500-year MRP Earthquake Events

Town	500-Year		2,500-Year	
	Brick/Wood (tons)	Concrete/Steel (tons)	Brick/Wood (tons)	Concrete/Steel (tons)
Ballston (T)	692	262	3,873	3,061
Ballston Spa (V)	939	427	4,901	5,357
Charlton (T)	432	141	2,164	1,489
Clifton Park (T)	4,865	2,030	26,156	23,575
Corinth (T)	112	27	621	229
Corinth (V)	429	196	2,245	2,431
Day (T) and Edinburg (T)	535	144	2,829	1,527
Galway (T) and Galway (V)	215	53	1,120	440
Greenfield (T)	811	313	4,823	3,710
Hadley (T)	77	19	419	158
Halfmoon (T)	1,694	785	9,983	8,520
Malta (T) and Round Lake (V)	2,785	1,413	16,208	15,055
Mechanicville (C)	1,614	939	9,437	10,127
Milton (T)	1,017	375	6,071	4,610
Moreau (T)	354	97	1,893	824
Northumberland (T)	1,113	543	6,682	5,345
Providence (T)	97	26	509	216
Saratoga (T)	123	32	677	280
Saratoga Springs (C)	5,475	2,747	29,220	35,736
Schuylerville (V) and Victory (V)	72	20	390	178
South Glens Falls (V)	146	39	758	335
Stillwater (T)	1,529	802	9,433	8,170
Stillwater (V)	50	13	283	114
Waterford (T)	1,831	1,084	10,870	11,590
Waterford (V)	710	398	4,164	4,402
Wilton (T)	1,271	473	6,913	5,378
Saratoga County	**28,990**	**13,395**	**162,640**	**152,852**

Source: HAZUS-MH MR3, 2007
Notes: C = City; T = Town; V = Village.

Future Growth and Development

As discussed in Section 4 and in each community's annex (Volume II, Section 9), areas targeted for future growth and development have been identified across the County. For the earthquake hazard, the entire County has been identified as the hazard area. It is anticipated that the human exposure and vulnerability to earthquake impacts in newly developed areas will be similar to those that currently exist within the County. Current building codes require seismic provisions that should render new construction less vulnerable to seismic impacts than older, exisiting construction that may have been built to lower construction standards. Please refer to Section 4 (County Profile) and each jurisdictions' annex (Section 9) for hazard maps that illustrate where potential new development is located in relation to Saratoga County's hazard areas.

Additional Data and Next Steps

A Level 2 HAZUS-MH earthquake analysis was conducted for Saratoga County using the default model data, with the exception of the updated critical facility inventory which included user-defined data. For future plan updates, the national default inventories with more accurate local inventories can replace inventory default data. Additional data that can enhance the County's analysis would include: (1) updated demographic and building stock data to refine/update the default data for all jurisdictions; and (2) soil liquefaction data. In terms of general building stock data, updated building age, construction type and current replacement value would further support the refined analysis.

Overall Vulnerability Assessment

Earthquakes are rare events in the study area causing impacts and losses mainly to the County's structures and facilities. Existing and future mitigation efforts should continue to be developed and employed that will enable the study area to be prepared for these events when they occur. The overall hazard ranking determined by the Planning Committee for this hazard is "Low" (see Table 5.3-6).