5.4.5 Hazardous Materials

This section provides a hazard profile (description, location, extent, previous occurrences and losses, probability of future occurrences, and impact of climate change) and vulnerability assessment of the hazardous materials (HazMat) hazard for the Allegany County Hazard Mitigation Plan (HMP).

5.4.5.1 Hazard Profile

This section presents information regarding the description, location, extent, previous occurrences and losses, and probability of future occurrences for the HazMat hazard.

Hazard Description

HazMats consist of substances considered severely harmful to human health and the environment, as defined by the U.S. Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Superfund Law). Many are commonly used substances that are harmless in their normal uses but quite dangerous if released. The Superfund Law designates more than 800 substances as hazardous and identifies many more as potentially hazardous due to their characteristics and depending on the circumstances of their release (EPA 2016).

The Superfund Law's definition of a hazardous substance includes the following:

- Any element, compound, mixture, solution, or substance designated as hazardous under section 102 of CERCLA.
- Any hazardous substance designated under section 311(b)(2)(a) of the Clean Water Act (CWA), or any toxic pollutant listed under section 307(a) of the CWA. More than 400 substances are designated as either hazardous or toxic under the CWA.
- Any hazardous waste having the characteristics identified or listed under section 3001 of the Resource Conservation and Recovery Act (RCRA).
- Any hazardous air pollutant listed under section 112 of the Clean Air Act (CAA), as amended. More than 200 substances are listed as hazardous air pollutants under the CAA.
- Any imminently hazardous chemical substance or mixture regarding which EPA Administrator has "taken action" under Section 7 of the Toxic Substances Control Act (TSCA) (EPA 2016).

Numerous facilities throughout Allegany County use and store HazMats as defined by EPA. Many products containing HazMats are used and stored in homes, and these products are shipped daily on highways, railroads, waterways, and pipelines. If released or misused, HazMats can cause death, serious injury, long-lasting health effects, and damage to structures and other properties, as well as to the environment.

Transportation of HazMats on highways involves tanker trucks or trailers, which are responsible for the greatest number of hazardous substance release incidents. Allegany County contains approximately 1,901 miles of State and local roads. Approximately 346 miles of roadway are County-owned, and 1,322 miles are municipal roadways (New York State Department of Transportation [NYSDOT] 2014). These roads cross rivers and streams; hazardous substance spills on roads could pollute watersheds that serve as domestic water supplies for areas within Allegany County and other parts of the State. Hazardous substance releases also could occur along rail lines, as collisions and derailments of train cars can result in large spills.

Pipelines transport hazardous liquids and flammable substances such as natural gas and petroleum. If these pipes are corroded, releases of hazardous substances could occur when the pipes are damaged during excavation,

incorrect operation, or by other forces. When HazMats are transported by aircraft or by watercraft, hazards can be posed by crashes, spills of materials, or fires on these vessels.

Nuclear power-generating stations, research reactors, or other stationary sources of radioactivity present the threat of release of radiological material. This type of event could threaten a large, multi-jurisdictional area, and result in property damage, contamination of farm and water supplies, and economic damage. This is not likely to be a significant concern to Allegany County because all four operating nuclear power plants in the State exceed the 50-mile Emergency Planning Zone (EPZ) (U.S. Energy Information Administration [EIA] 2010; U.S. Nuclear Regulatory Commission [NRC] 2015).

Location

The following information pertains to locations of hazardous substance incidents.

Hazardous Materials Fixed Site

In response to the health and environmental risks caused by improper storage and disposal of hazardous waste, Congress established the Superfund program clean up the uncontrolled or abandoned warehouses, manufacturing facilities, processing plants, and landfill sites where wastes had been dumped or left out in the open. The Superfund program was established in 1980 and is administered by EPA in cooperation with individual states. In New York State, the Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal Site Program oversees the Superfund program (NYSDEC 2015).

The Sinclair Refinery site in Wellsville has been the site of remediation since 1983. This facility was a 103-acre oil refinery that closed in 1963 (operations ceased in 1958). When it closed, various types of waste, including cloth filters, fuller's earth, oil sludge, contaminated soil, and fly ash were disposed of in a 10-acre landfill adjacent to the Genesee River. Additionally, oil and spill materials saturated the 90-acre refinery portion of the site. EPA has worked extensively to mediate this area and protect human and environmental health from further damage. In July 2012, in conjunction with NYSDEC and Atlantic Richfield, EPA confirmed that all systems were operating as designed. Environmental easements and restrictive covenants were still in the process of being acquired (EPA 2016; Allegany County 2011).

Federal regulations, including CERCLA and the Superfund Amendments and Reauthorization Act (SARA), require maintenance and (minimally) annual revision of a National Priorities List (NPL) of the worst hazardous waste sites throughout the United States (NYSDEC 2014).

Fixed-site facilities that use, manufacture, or store HazMats in Allegany County pose risk and must comply with Title III of the federal SARA. SARA was signed into law on October 17, 1986, and is a federal law that applies nationwide. This law is linked to 42 *U.S. Code* Chapter 116 – Emergency Planning and Community Right-To-Know (EPCRA). SARA requires the governor of each state to establish a State Emergency Response Commission (SERC). New York's SERC was established by Executive Law, Article 2-B in 1978. The signing of this legislation also established the Disaster Preparedness Commission in 1978. SARA also requires establishment of emergency planning districts by SERC, and specifies that these districts can be existing political subdivisions. The function of the emergency planning district is to facilitate preparation and implementation of emergency plans.

Allegany County is home to 57 fixed facilities that store or use HazMats and that fall under Tier II reporting requirements. For security purposes, they are not mapped in this profile.

Additionally, EPA identifies six facilities under the Toxic Release Inventory (TRI). These facilities are required to report annually how much of each chemical is recycled, combusted for energy recovery, treated for

destruction, and disposed of or otherwise released on and off site. In 2014, the TRI facilities in Allegany County reported a total of 71.7 thousand pounds (lbs) of on-site and off-site disposal or other releases, with the following breakdown:

- Total On-Site: 68.3 thousand lbs
  - Air: 47 lbs
  - Water: 66.1 thousand lbs
  - Land: 2.2 thousand lbs
- Total Off-Site: 3.3 thousand lbs

The top chemicals released to air in Allegany County in 2014 include manganese (49 percent), chromium (26 percent), nickel (15 percent), and copper (11 percent), while the top chemical released to water includes nitrate compounds (100 percent) (EPA 2016).

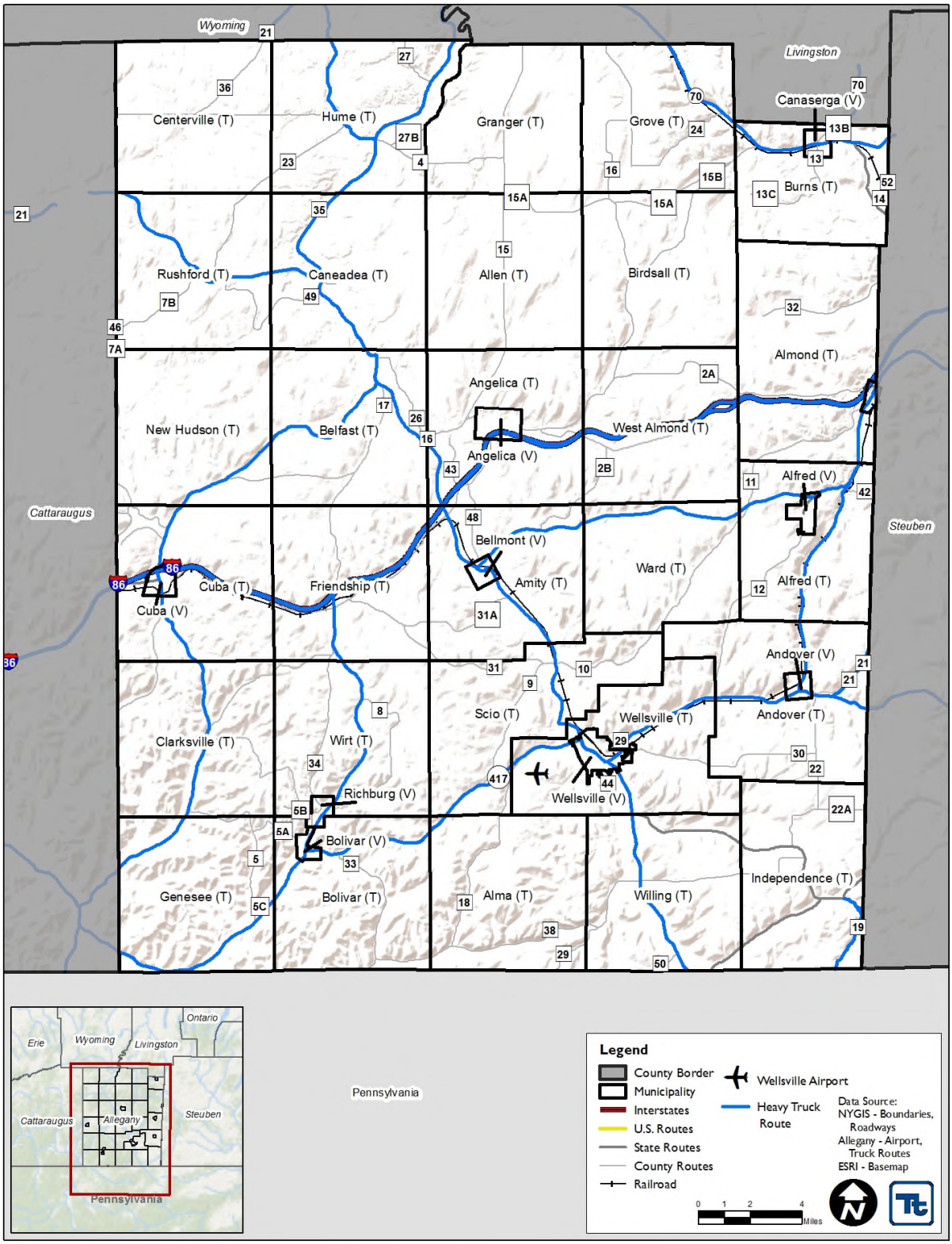
Hazardous Materials In-Transit

Incidents involving HazMats in transit can occur anywhere in Allegany County. Transportation corridors within Allegany County that carry HazMats include highways, railroads, air/flight paths, pipelines, and navigable waterways. Major highways are more likely to be settings for this type of hazard because of interstate and local commercial transport of HazMats. Transport vehicles do not typically travel through residential areas unless en route to destinations such as gasoline service stations or storage facilities.

Hazardous substance releases in navigable waterways are not a significant concern for Allegany County; per U.S. Coast Guard (USCG) determinations, there are no navigable waterways within the County (USCG 2016). The U.S. Army Corps of Engineers (USACE) only finds one waterway within the County as navigable and requiring permits: the Genesee River is considered navigable from its mouth in Belfast, NY, to Black Creek, about 119.1 miles upstream (USACE 1999). USACE also considers Rushford Lake as a traditionally navigable waterway (impacting Caneadea and Rushford); however, this is limited to the areas within the lake proper and therefore, would not apply to commercial shipping (USACE n.d.)

Major transportation routes through Allegany County include Interstate (I-) 86 and State Routes (S.R.-) 17, 19, 19A, 70, 243, 305, and 417. I-86 and S.R.-17 are the same road in Allegany County. Potential for a spill also exists on routes used for industrial and business purposes. Section 4 of this HMP discusses roadways in the County. Figure 5.4.5-1 shows the major transportation routes and railways in Allegany County.

Figure 5.4.5-1. Major Transportation Routes and Railways in Allegany County

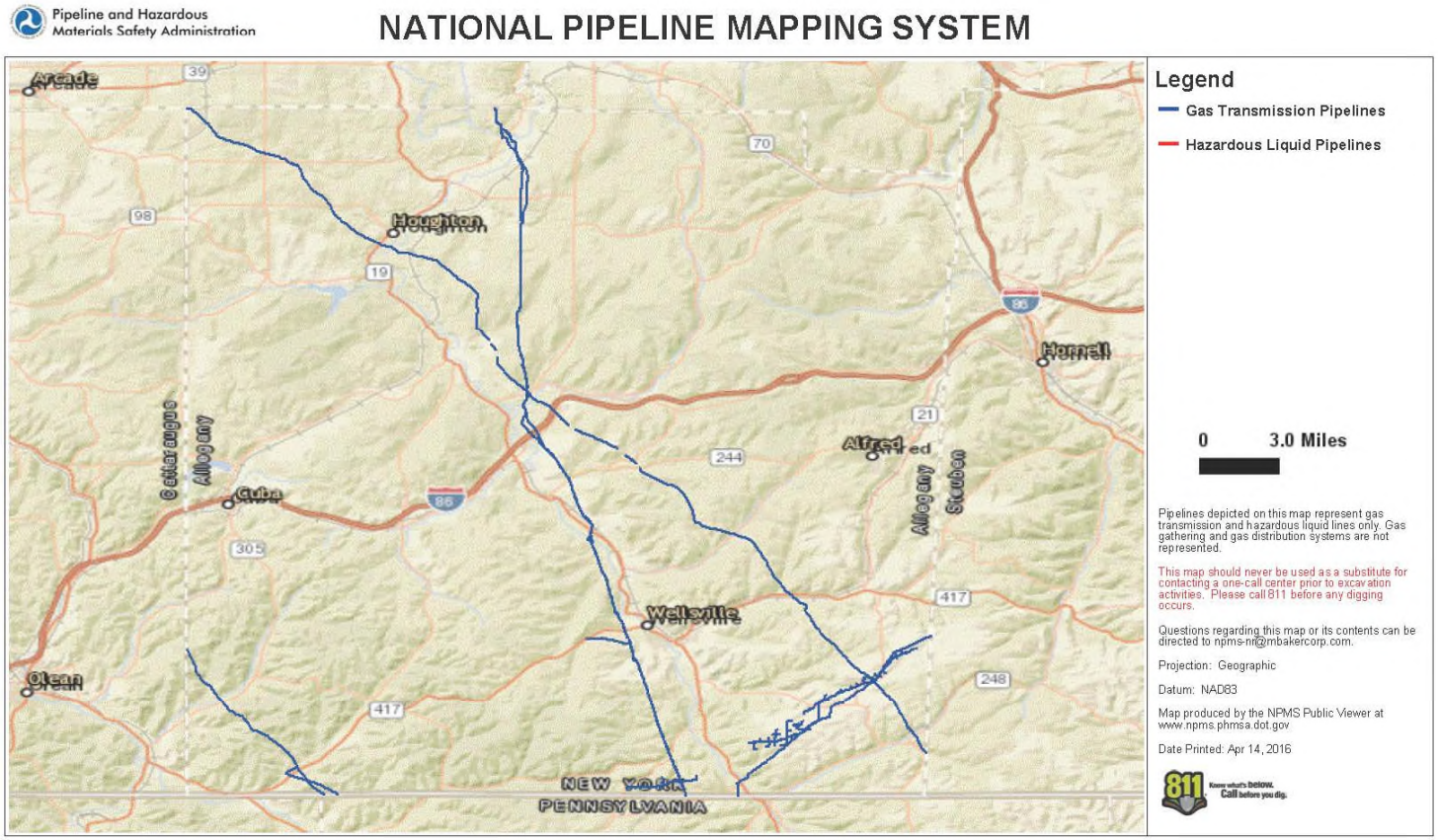


Source: Allegany County 2016

HazMat incidents may occur along railways in Allegany County. Rail lines that may carry HazMats include the Southern Tier Extension Railroad Authority (STERA); the Western New York and Pennsylvania Railroad, LLC (WNYP); and Norfolk-Southern. NYSDOT has a vital interest in preserving and improving the rail freight part of its transportation network. Rail shipments allow cost-effective movement of goods and thus decrease stress on the State's highway system. Major commodities shipped by rail include petrochemicals (including plastic pellets), construction materials, food products, raw materials, and finished goods for manufacturers. Rail cars carrying HazMats are of concern because an accident or release could pose a public safety hazard to the community. Figure 5.4.5-1 above shows railways that run throughout Allegany County.

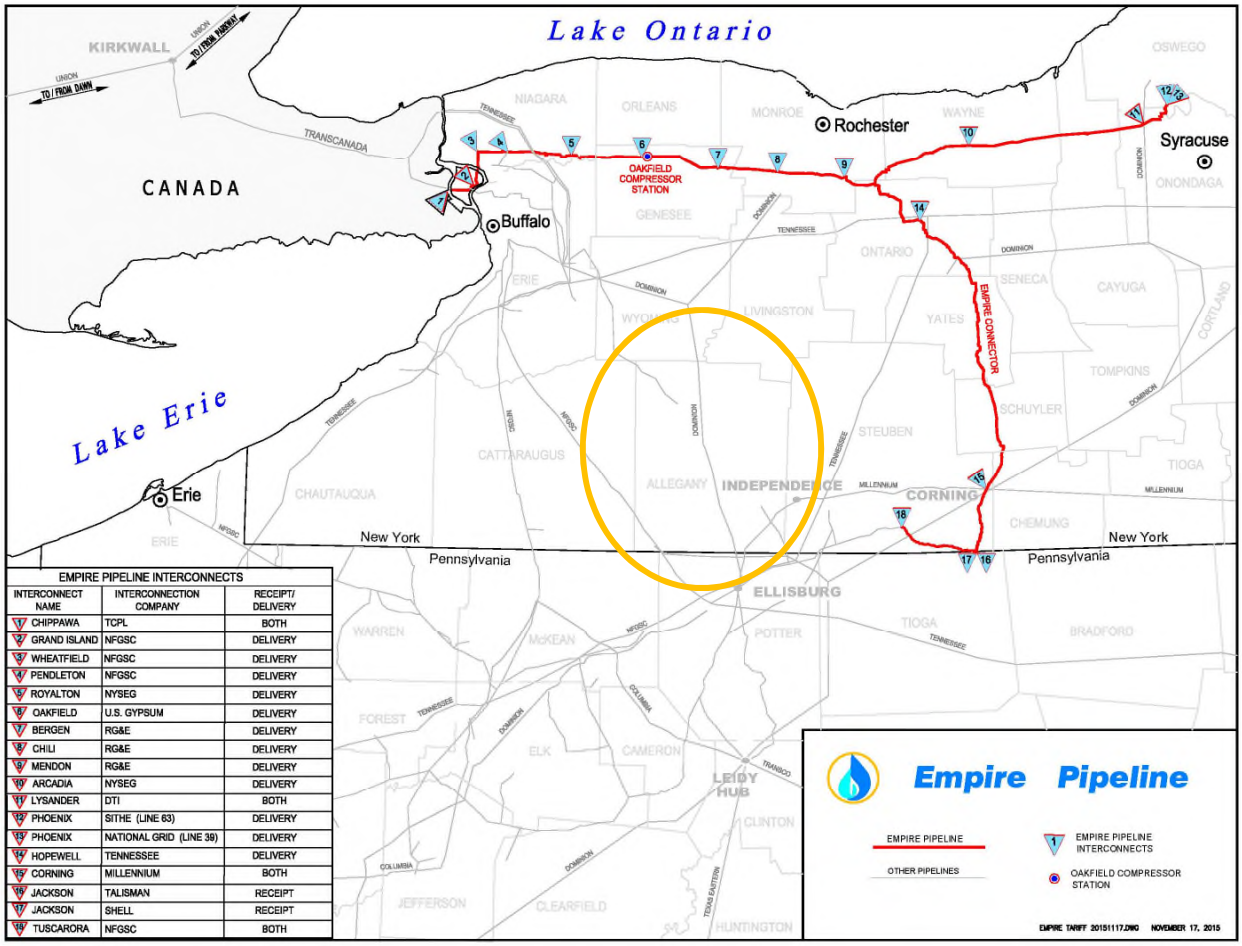
HazMat can also be transported via underground petroleum and gas (natural and propane) pipelines across the State. New York has an extensive network of natural gas and petroleum pipelines, some of which pass through Allegany County. The pipelines operating in Allegany County are owned by Dominion Transmission, Inc. and National Fuel Gas Supply Corporation (NFGSC). Contact information for each company can be located on the National Pipeline Mapping System website (National Pipeline Mapping System [NPMS] 2016). Figure 5.4.5-2 shows the extent and location of pipelines in Allegany County, while Figure 5.4.5-3 show the extent and locations of pipelines throughout western New York State and Pennsylvania.

Figure 5.4.5-2. Allegany County Pipelines



Source: National Pipeline Mapping System 2016

Figure 5.4.5-3. National Fuel Empire Pipeline Map



EMPIRE PIPELINE INTERCONNECTS		
INTERCONNECT NAME	INTERCONNECTION COMPANY	RECEIPT/ DELIVERY
1 CHIPPAWA	TCPL	BOTH
2 GRAND ISLAND	NFGSC	DELIVERY
3 WHEATFIELD	NFGSC	DELIVERY
4 PENDLETON	NFGSC	DELIVERY
5 ROYALTON	NYSEG	DELIVERY
6 OAKFIELD	U.S. GYPSUM	DELIVERY
7 BERGEN	RG&E	DELIVERY
8 CHILI	RG&E	DELIVERY
9 MENDON	RG&E	DELIVERY
10 ARCADIA	NYSEG	DELIVERY
11 LYSANDER	DTI	BOTH
12 PHOENIX	SITHE (LINE 63)	DELIVERY
13 PHOENIX	NATIONAL GRID (LINE 39)	DELIVERY
14 HOPEWELL	TENNESSEE	DELIVERY
15 CORNING	MILLENNIUM	BOTH
16 JACKSON	TALISMAN	RECEIPT
17 JACKSON	SHELL	RECEIPT
18 TUSCARORA	NFGSC	BOTH

Source: National Fuel Empire 2016
Note: Yellow oval indicates the location of Allegany County.
The Empire Pipeline Map has been used because it is the most comprehensive map available both regionally and from the private company maps.

Extent

The extent of a hazardous substance release depends on (1) whether the substance is released from a fixed or mobile source, (2) the size of the impacted area, (3) the toxicity and properties of the substance, (4) the duration of the release, and (5) environmental conditions (for example, wind and precipitation, terrain, etc.).

Hazardous substance releases can contaminate air, water, and soils, possibly resulting in death or injuries. Dispersion can occur rapidly when the hazardous substance is transported by water and wind. While often accidental, releases can occur as a result of human carelessness, intentional acts, or natural hazards. Hazardous releases caused by natural hazards are known as secondary events. HazMats can include toxic chemicals, radioactive substances, infectious substances, and hazardous wastes. Such releases can affect nearby populations and contaminate critical or sensitive environmental areas.

Severity or impact of a hazardous substance release, whether accidental or intentional, depends on several potentially mitigating or exacerbating circumstances. Mitigation involves precautionary measures taken in advance to reduce the impact of a release on the surrounding environment. For example, primary and secondary

containment or shielding by implementation of sheltering-in-place protects people and property from the harmful effects of a hazardous substance release. Exacerbating conditions—characteristics that can enhance or magnify the effects of a hazardous substance release—include the following:

- Weather conditions, which affect the ways in which the hazard occurs and develops
- Micro-meteorological effects of buildings and terrain, which alter dispersion of HazMats in compliance with applicable codes (such as building or fire codes)
- Maintenance failures (such as fire protection and containment features), which can substantially increase damage to a facility and to surrounding buildings

As discussed earlier, the severity of an incident depends not only on the circumstances described above, but also on the type of substance released and the distance from the incident and related response time of emergency response teams. Areas closest to a release are generally at greatest risk; however, depending on the agent, a release can travel great distances or remain present in the environment for a long period of time (for example, centuries to millennia).

Previous Occurrences and Losses

Historical information regarding previous occurrences and losses associated with hazardous substance incidents throughout Allegany County came from many sources. Given the many sources reviewed for the purpose of this HMP, information regarding loss from and impact of many events could vary depending on the source. Notably, monetary amounts cited in this HMP are based only on the available information identified during research for this HMP.

Between 1954 and 2016, the State of New York was included in two Federal Emergency Management Agency (FEMA)-declared emergencies (EM) related to hazardous substance incidents. Typically, EMs cover a wide region of an included state, and therefore could impact many counties within that state. However, not all counties in New York State were included in the two EMs cited above. Importantly, Allegany County was not included in either EM (FEMA 2016).

The U.S. Department of Transportation (USDOT) Pipeline and HazMat Safety Administration (PHMSA) provides an incident report database with information on incidents throughout the United States. The data are from HazMat incident reports. According to this database, six incidents occurred in Allegany County between 1976 and 2016 (five highway and one rail), releasing combustible liquid, sulfuric acid, gasoline, and sodium hydroxide solution (PHMSA 2016). HazMat incidents on site or in transit occur frequently across the State and in Allegany County. These incidents are typically small, localized events. The NYSDEC Spill Incidents Database lists 1,209 spill incidents throughout the County from March 1, 1984, through April 8, 2016, with an average of 30 to 40 incidents per year. The most recent incident was an ammonia spill on March 21, 2016, in the Town of Friendship (NYSDEC 2016).

For this HMP update, major HazMat incidents were summarized from 1965 to 2016 in Table 5.4.5-1. The information from the NYSDEC Spills Incidents Database has not been copied to the hazard incident table on the next page because of the number of events listed. The 1965 HazMat incident also includes photographic documentation, which is included immediately after the table.

Table 5.4.5-1. Hazardous Materials Incidents in Allegany County, 1965 to 2016

Date(s) of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
1965	HazMat (Fixed Site)	N/A	N/A	A gas tank exploded in Allegany County.
April 1, 1976	HazMat Incident (In Transit)	N/A	N/A	A rail incident in Cuba resulted in combustible liquid not otherwise specified (N.O.S.) being spilled.
June 12, 1990	HazMat Incident (In Transit)	N/A	N/A	A highway accident in Cuba resulted in sodium hydroxide solution being spilled. The driver had been unloading liquid caustic soda for approximately 20 minutes at Empire Cheese in Cuba, NY. A female coupling blew apart and sprayed the driver from another trucking company from the knees down. The driver was taken to shower and then to the hospital to be checked. Approximately 50-90 gallons of caustic material spilled into the area as the driver shut down all unloading operations. He fully replaced the parts and balance of load was unloaded.
May 31, 1991	HazMat Incident (In Transit)	N/A	N/A	A highway accident in Cuba resulted in sulfuric acid being spilled. During delivery, a delivery driver noticed a small amount of product leaking from the container. The driver contained the leak right away. Once back at the home facility, the product was transferred into another container.
February 15, 1994	HazMat Incident (In Transit)	N/A	N/A	A highway accident in Cuba resulted in sodium hydroxide solution being spilled. A driver was delivering a load of caustic soda to Empire Cheese in Cuba, NY. When unloading at Empire Cheese, drivers must back into an inside bay where the milk trucks unload so that both the tractor and trailer are inside; the hook-ups for unloading are on the wall behind the trailer. All the equipment to unload milk trucks is behind the trailer. The tank that the caustic goes into is about 30 feet to the rear of the trailer and to get to it, drivers must walk through a small door at the back of the break room. Just on the other side of the door is the caustic tank. The only way in and out of this area is through the break room, and the only way out of the break room is the door that is about 12 feet back from the rear of the trailer. While unloading, drivers must check the level of the tank every so often because the tank only holds about 3,600 gallons and the driver does not want to overflow the tank. The driver had unloaded about half the load and had gone back to check the level of the tank. On his way back, the hose split open about three (3) inches behind the trailer hookup. The split was across the top of the hose and caustic was spraying out in a stream onto the breakroom door. The driver was unable to exit the room to shut the trailer valve off without going through the spray. A plant worker was out by the trailer but he couldn't do anything because he did not have personal protective equipment (PPE) on. The driver was too concerned to run through the spray even though he was the only one wearing PPE. After confirming his PPE was as secure

Date(s) of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts
				as possible, he began to run through the spray. The driver slipped in the caustic about halfway to the trailer, resulting in his hardhat and face shield coming off. The driver had caustic running over the left side of his head. The driver quickly went to the tank and shut off the internal valve, stopping the flow. About 30-45 seconds passed between the hose splitting and the trailer shutting down, resulting in a spill of about 20-25 gallons. After closing the valve, the driver used a water hose to spray his face and head with water to wash off the caustic. The plant worker assisted the driver. The driver was then taken to Cuba Hospital to be checked out for burns; he had only slight burns around his left ear and neck.
July 30, 2001	HazMat Incident (In Transit)	N/A	N/A	A highway accident in Cuba resulted in gasoline being spilled. The driver was starting to offload 1,000 gallons of premium gasoline. The driver was at the rear right side central panel when he observed the three suction supply line from the tanker compartment to the onboard pump had apparently vibrated loose and started to discharge gasoline onto the pavement. The driver immediately closed the internal safety valve, and an employee of the service station immediately obtained spill control material, contained, and cleaned up the gasoline from parking lot area.
October 20, 2008	HazMat Incident (In Transit)	N/A	N/A	A highway accident in Wellsville resulted in sodium hydroxide solution being spilled. The package was unloaded with leakage noted on the box. Examination of the inner container revealed that the container(s) had loose cap(s) and leaked. The leakage was contained. The cap(s) were secured. The carton was wet but otherwise undamaged. The undamaged portion of the package was repacked for return to shipper.
November 11-13, 2012	HazMat (Fixed Site)	N/A	N/A	A major gas explosion occurred on Glen Street in Alfred in 2012, leading to the collapse of 1/3 of the 36-unit apartment building where the explosion occurred. The following fire departments responded: Alfred, Alfred Station, Almond, Andover, Whitesville, Friendship, Cuba, Bolivar, and Wellsville. Fast Teams 2 and 3 also responded, as well as ambulances from Alfred, Almond, Andover, Amity Rescue, Wellsville, Angelica, Friendship, Belfast, and Greenwood.

Source: Allegany County 2016; PHMSA 2016

Figure 5.4.5-4. 1965 Gas Tank Explosion

Source: Allegany County 2016

Probability of Future Occurrences

Predicting future hazardous substance incidents in Allegany County is difficult. These can occur at any time and any location in the County. Incidents can occur suddenly without any warning or develop slowly. Small spills, both fixed-site and in transit, occur throughout the year, and the probability of occurrences of these events is high. Risk of a major incident within a given year is small.

In Section 5.3, the identified hazards of concern within Allegany County were ranked. The probability of occurrence, or likelihood of an event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Partnership, probability of occurrence of HazMat spills within the County is considered "frequent" (likely to occur within 25 years, as presented in Table 5.3-3).

The County is expected to continue to undergo direct and indirect impacts of hazardous substance incidents annually that may induce secondary hazards such as infrastructure deterioration or failure; potential decreases in water quality and supply; and transportation delays, accidents, and inconveniences.

Climate Change Impacts

Non-natural incidents such as hazardous substance incidents are not typically considered vulnerable to climate change; however, this assessment not completely accurate. Climate change and its impact on HazMat sites, particularly waste sites, is a growing concern. Hazardous waste sites near rivers and marine waters are tentatively at highest risk because extreme storms and higher water levels could release pollution into the environment. Many of these sites were built in locations believed to be removed from potential contamination or exposure-increasing factors. However, development, floodplain boundary change, and an increase in extreme events from climate change are increasing the possibility that water may reach HazMat and waste sites (Flatt 2013).

Climate change can impact HazMat and solid waste management (which often includes materials that are or have the potential to be hazardous) in multiple ways. Table 5.4.5.-2 summarizes data collected from a report on climate change impacts on solid waste management in Nigeria. While not all impacts will increase the risk of a HazMat incident (discussed further in the Vulnerability section), the longevity of hazardous substances in the

community may increase. Further study on the impacts of climate change on hazardous substances must be conducted to verify the potential impacts below and explore other impacts of climate change on HazMat incidents.

Table 5.4.5.-2. Climate Change Impacts on Solid Waste Management

Climate Variable	Potential Impacts
Higher Temperatures	Alter waste decomposition rate
	Lead to reduced water availability, alter site hydrology and leachate production
	Waste may enhance disease transmission, by giving rise to increased vermin and increased risk of odor nuisance
	Increase dust potentials (in composting)
	Increase combustion risk
Increased Precipitation	Alter waste decomposition rate
	Alter site hydrology
	Increase leachate strength
	Increase flooding occurrence on site due to saturated waste and rising groundwater
	Lead to disruption to transport infrastructure (road and rail) due to flooding and impact delivery of waste
	Increase slope stability risks
Sea Level Rise	Lead to inundation of sites
Reduced Cloud Cover	Adverse impact on the life of exposed materials

Source: Ifeanyi 2010
Note: Only those impacts related to solid waste management as it relates to HazMats have been listed.

5.4.5.2 Vulnerability Assessment

To understand risk, a community must evaluate its assets that are exposed or vulnerable within the identified hazard area. Regarding the HazMat hazard, all of Allegany County has been identified as the hazard area. Therefore, all assets within the County (population, structures, critical facilities, and lifelines), as described in the County Profile (Section 4), are vulnerable to HazMat incidents. This section addresses the following factors to evaluate and estimates potential impacts of the HazMat incident hazard on Allegany County:

- Overview of vulnerability
- Data and methodology used for the evaluation
- Impacts on (1) life, health, and safety of residents; (2) general building stock; (3) critical facilities; (4) economy; and (5) future growth and development
- Effect of climate change on vulnerability
- Change of vulnerability as compared to that presented in the 2011 Allegany County HMP
- Further data collections that will assist understanding of this hazard over time

Overview of Vulnerability

Overall, potential losses from HazMat incidents are difficult to quantify due to the many variables and human elements. Human safety and welfare can be compromised as a result of negative health effects of poisoning or exposure to toxic substances, fires, or explosions.

Effects from a radiological incident at a fixed facility would vary depending on the product released (type of radiation), amount of radiation released, current weather conditions, and time of day. The priority following an incident at any facility within the State of New York is life and safety of all individuals within the area impacted. Secondary to health and safety would be effects on critical infrastructure, environment, property, and the economy.

Data and Methodology

Data regarding this hazard were obtained from Allegany County and the Planning Partnership, as well as appropriate State and federal resources.

Impacts on Life, Health, and Safety

Several reporting mechanisms and databases exist to support the Resource Conservation and Recovery Act of 1976 (RCRA), which considers solid waste and hazardous waste management. RCRAInfo is a comprehensive information system and has replaced the Resource Conservation and Recovery Information System (RCRIS) and Biennial Reporting System (BRS) previously used to gather data. RCRAInfo tracks many types of information about the regulated hazardous waste handlers, including facility status, regulated activities, and compliance histories. It also captures data on hazardous waste generation from large-quantity generators and waste management practices, including treatment, storage, and disposal facilities. In April 2016, 175 facilities in Allegany County reported information to RCRAInfo.

Superfund is a program administered by EPA to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. Data from the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database indicates that two Superfund sites are present in Allegany County. One site is in Wellsville and the other is in Alfred Station. The Wellsville site is currently on the final National Priorities List (NPL), the list of hazardous waste sites in the United States eligible for long-term remediation (EPA 2016).

Depending on the type and quantity of chemicals released and weather conditions, an incident can affect larger areas that cross jurisdictional boundaries. When HazMats are released into the air, water, or on land, they may contaminate the environment and pose greater danger to human health. The general population may be exposed to a HazMat release through inhalation, ingestion, or dermal exposure. Exposure may be either acute or chronic, depending on the nature of the substance and extent of release and contamination. HazMat incidents can lead to injury, illnesses, and/or death of involved persons and those living within the impacted areas.

Locations of these different HazMats and wastes sites in Allegany County render the entire County vulnerable to HazMat incident hazard. Populations particularly vulnerable to effects of HazMat incidents are those residing along major transportation routes, because significant quantities of chemicals are transported along these major thoroughfares.

Impacts on General Building Stock

Potential losses of general building stock caused by a HazMat incident are difficult to quantify. Extent of damage to the general building stock depends on the scale of the incident. Potential losses may include inaccessibility, loss of service, contamination, and/or potential structural and content losses if an explosion occurs.

Impacts on Critical Facilities

Potential losses of critical facilities caused by a HazMat incident are difficult to quantify. Potential losses may include inaccessibility, loss of service, contamination, and/or potential structural and content losses if an

explosion occurs. Section 4 (County Profile) summarizes the number and type of critical facilities in Allegany County.

Impact on the Economy

If a significant HazMat incident occurs, not only would life, safety, and building stock be at risk, but the economy of Allegany County would be affected as well. A significant incident within an urban area may force businesses to close for an extended period of time because of contamination or direct damage caused by an explosion, if one occurred. Exact impacts on the economy are difficult to predict, given the uncertainty of the size and scope of potential incidents.

HazMat incidents can lead to closures of major transportation routes in Allegany County. Closures of waterways, railroads, airports, and highways as a result of these incidents can hinder delivery of goods and services. Potential impacts may be local, regional, or statewide depending on the magnitude of the event and the extent of disruptions to services.

Future Growth and Development

As discussed in Sections 4 and 9, areas targeted for future growth and development have been identified across Allegany County. Any areas of growth could be impacted by HazMat incidents because the entire County is exposed and vulnerable. An increase in development and population can increase likelihood of a hazardous substance incident. Future migration to larger jurisdictions may also increase the likelihood of an incident. The tables and hazard maps included in the jurisdictional annexes in Volume II, Section 9 of this plan contain information regarding the specific areas of development that would increase County vulnerability to the HazMat incident hazard.

Change of Vulnerability

Overall, the County's vulnerability has not changed, and exposure and vulnerability of the entire County to HazMat incidents will continue.

Additional Data and Next Steps

For the HMP Update, any additional information regarding localized concerns and past impacts will be collected and analyzed. These data will be developed to support future revisions to the plan. Mitigation efforts could include extensions of existing New York State, Allegany County, and local efforts.