# Appendix G – HAZNY

# CATTARAUGUS COUNTY Hazard Analysis Report

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New York State Emergency Management Office January 1999

#### Background

On August 25, 1998, Cattaraugus County, in conjunction with the New York State Emergency Management Office, conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

# **HAZNY** and Cattaraugus County

'HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. HAZNY is designed specifically for group, rather than individual use. Cattaraugus County assembled a group of eleven local officials to consider and discuss the questions and issues raised by the HAZNY program. Representatives from the State Emergency Management Office facilitated the meeting and recorded the results.

#### The Results

The Group analyzed 23 hazards potentially affecting Cattaraugus County. *HAZNY* rated each hazard based on the Group's assessment and assigned a numerical value. These values are categorized as follows:

301 to 400	HIGH HAZARD
201 to 300	MODERATELY HIGH HAZARD
101 to 200	MODERATELY LOW HAZARD
44 to 100	LOW HAZARD

The Group rated the 25 hazards as follows:

Ice Storm	281.2
Flood	260.5
Power Failure	
Winter Storm	243.8
Ice Jam	237.8
Civil Unrest	218.2
Wind Storm	209.8
Thunderstorm	203.2
Hazardous Materials at Fixed Sites	198.2
Drought	195.8
Transportation Accident	194.2
Fire	190.8
Dam Failure	190.8
Hazardous Materials in Transit	
Terrorism	181.8
Oil Spill	180.2
Infestation	179.8
Tornado	179.2
Wildfire	174.8
Water Supply Failure	174.2
Year 2000 Date Change	158.2
Earthquake	143.2
Extreme Temperatures	138.5
Epidemic	137.2
Radiological Materials at Fixed Site	128.2

#### **High Hazards**

None of the hazards reviewed were rated as a High Hazard.

#### **Moderately High Hazards**

Eight hazards were determined to be Moderately High Hazards. These are Ice Storm, Flood, Power Failure, Winter Storm, Ice Jam, Civil Unrest, Windstorm, and Thunderstorm.

Ice Storm, rated at 281.2, was the highest rated hazard in the County. In terms of its ability to cause serious injury or death, the Group considered highway accidents as the primary impact during an ice storm. However, it was believed that serious injury or death would not be in large numbers, and any casualties could be adequately treated through the normal operation of

the emergency medical system within the County. Ice Storm is a frequent event in Cattaraugus County, occurring at least once each year. Some ice storms, such as the storm in 1993, last two to three days before the ice melts. The damage caused by ice storms was described as moderate and consists primarily of power outages and damage to utility poles and wires.

Flood, rated at 260.5, is a regular event in Cattaraugus County, occurring between once a year and once every seven years. There has been major flooding declared as Federal disasters in 1956, 1967, 1972, 1996, and 1998. The flood in 1972 resulting from Tropical Storm Agnes covered a large region of the County and remained at flood stage for four days to a week. During this time, the flooding covered an area approximately 25% greater than the designated flood plains. Based on previous experience, recovery would be expected to take three days to one week before all of the basements are pumped out and traffic returned to normal.

The County is at high risk for flash flooding which increases the possibility of serious injury or death. However, in a worse case event, the Group determined that any casualties could be adequately treated through the normal operation of the County's emergency medical system. Historically, there has not been any serious injuries or death in the County as a result of flash flooding, even with Agnes in 72. Because of the flash flood potential, it was determined that there would be severe damage to private property and well as severe structural damage to public facilities, such as roads and bridge abutments. The Group determined that it is highly likely that there could be a cascade effect in a worse case flood, such as power failures.

**Power Failures,** rated at 259.5, are largely a cascade effect of other hazards, such as flooding, ice storms, and high winds. It was determined that a worst case power failure could cover a large region, and likely cause serious injury or death, but not in large numbers. Power Failures were determined to be a regular event, occurring between once a year and once every seven years.

Winter Storm, rated at 243.8, occur frequently, more than once a year in Cattaraugus County. Being in a "Snow Belt" exacerbates the situation, causing cascade effects such as power outages and transportation accidents. The damage to private property was described as moderate, resulting in collapsed roofs and frozen pipes. There is usually up to a day warning time, but this can be shorter when lake effect snows are predominating.

Ice Jams, rated at 237.8, occur as a regular event, between once a year a once every seven years in the Allegany River and Cattaraugus Creek. Some of the worst events have occurred recently, in 1994 and 1996.

Civil Unrest, rated at 218.2, has been a regular event primarily due to the presence of the Seneca Nation of Indians, who have on various occasions, protested the collection of State sales taxes for products sold to non-Native Americans on reservations. In the event of a worst case scenario, it was believed that cascade effects, such as fires, could occur. Serious injury or death

is likely, but not in large numbers. In the past, there have been some injuries to law enforcement personnel.

Windstorm, rated at 209.8, is defined as a storm with winds in excess of 55 mph. These have been regular events. Damage to private property would be expected to be moderate, such as root damage and uprooted trees.

**Thunderstorms**, rated at 203.2, are a regular event with the potential to cause cascade effects such as power outages and flash floods.

#### **Moderately Low Hazards**

Fifteen hazards were determined by the Group to be Moderately Low Hazards. These are Hazardous Materials at Fixed Sites, Drought, Fire, Dam Failure, Hazardous Materials in Transit, Terrorism, Transportation Accidents, Oil Spill, Tornado, Wildfire, Water Supply Failure, Infestation, Year 2000 Date Change, Earthquake, Extreme Temperatures, Epidemic, and Radiological at Fixed Sites.

The hazard Radiological at Fixed Sites was identified because of the location of the West Valley Demonstration Project in the County. However, the process of vitrification of radioactive sludge is such that there is no significant threat of a radioactive release off-site.

#### Low Hazards

The analysis produced no Low Hazards. This might be due to the fact that several hazards were deemed not applicable to the County, and thus, were not analyzed. This includes Air Contamination, Avalanche, Blight, Explosion, Food Shortage, Fuel Shortage, and Radiological in Transit.

#### Recommendations

The State Emergency Management Office recommends that Cattaraugus County investigate mitigation measures for the hazards Ice Storm, Flood, and Winter Storm, which are among the four highest rated hazards. Power Failure, although rated as the third highest hazard, is essentially a cascade effect of ice storms and flooding, and would be addressed during the mitigation efforts for these hazards.

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# CATTARAUGUS COUNTY NEW YORK

# Hazard Analysis Report



Prepared by:
New York State Emergency Management Office
July 2003

#### Background

On July 1, 2003, the County of Cattaraugus, in conjunction with the New York State Emergency Management Office, conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

# HAZNY and the County of Cattaraugus

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. HAZNY is designed specifically for groups, rather than individual use. The County assembled a group of 12 local, county and state officials to consider and discuss the questions and issues raised by the HAZNY program. Representatives from the State Emergency Management Office and The Finger Lakes Regional Planning Council facilitated the meeting and recorded the results.

#### The Results

The Group analyzed 21 hazards potentially affecting Cattaraugus, electing to break Terrorism into three (3) categories as Biological, Radiological and Chemical. *HAZNY* rated each hazard based on the Group's assessment and assigned a numerical value. These values are categorized as follows:

321 to 400	HIGH HAZARD
241 to 320	MODERATELY HIGH HAZARD
161 to 240	MODERATELY LOW HAZARD
44 to 160	LOW HAZARD

The Group rated the 21 hazards as follows:

u	
Civil Unrest	293.2
Hazardous Materials in Transit	274.7
Ice Storm	271.8
Severe Storms	270.2
Explosion	261.2
Flood	249.8
Winter Storm	245.2
Terrorism-Biological	242.0
Epidemic	242.0
Hazardous Material at Fixed Sites	238.7
Water Supply Contamination	238.7
Terrorism-Radiological	235.0
Wildfire	232.5
Terrorism-Chemical	230.3
Tornado	217.5
Ice Jam	217.2
Transportation Accident	208.5
Dam Failure	186.2
Earthquake	162.5
Radiological (Fixed Site)	157.5
Radiological (in-transit)	119.8

All other hazards listed in the Hazny program were deem by the group to be extremely low and therefore were not given a numerical rating.

#### **High Hazards**

None of the hazards listed were rated as high hazards by the planning group.

#### **Moderately High Hazards**

Nine hazards were determined to be Moderately High Hazards. They are, Civil Unrest, HazMat In-transit, Ice Storm, Severe Storm, Explosion, Flood, Winter Storm, Terrorism-Biological and Epidemic.

# CIVIL UNREST: 293.2, Moderately High Hazard

Potential Impact: Large Region Cascade Effects: Highly Likely

Frequency: Regular Event Onset: No Warning

Hazard Duration: More than one week Recovery Time: Moe than two weeks

#### Impact:

Serious injury or death is likely but not in large numbers.

• Little or no damage to private property.

Moderate structural damage to public facilities/infrastructure.

# HAZMAT IN TRANSIT: 274.7, Moderately High Hazard

Potential Impact: Small Region Cascade Effects: Highly Likely

Frequency: Infrequent Event Onset: No Warning

<u>Hazard Duration:</u> More than one week <u>Recovery Time:</u> One to two days

Impact:

Serious injury or death is likely to extremely large numbers.

• Severe damage to private property.

• Little or no structural damage to public facilities.

# ICE STORM: 271.8, Moderately High Hazard

<u>Potential Impact</u>: Large Region <u>Cascade Effects</u>: Highly Likely <u>Frequency</u>: Infrequent Event <u>Onset</u>: Several Hours Warning

<u>Hazard Duration:</u> Four days to one week <u>Recovery Time:</u> More Than Two Weeks.

#### Impact:

• Serious injury or death is likely but not in large numbers.

Severe damage to private property.

Severe structural damage to public facilities.

#### SEVERE STORM: 270.2, Moderately High Hazard

<u>Potential Impact</u>: A large region <u>Cascade Effects</u>: Highly Likely

<u>Frequency</u>: Regular Event <u>Onset</u>: No Warning

Hazard Duration: Less than one day Recovery Time: Three days to one week

#### Impact:

• Serious injury or death likely, but not in large numbers.

• Severe damage to private property.

Moderate structural damage to public facilities.

# EXPLOSION: 261.2, Moderately High Hazard

<u>Frequency</u>: Regular event <u>Onset:</u> No warning

Hazard Duration: Less than one day Recovery Time: More than two weeks

#### Impact:

Serious injury or death in large numbers.

Moderate damage to private property.

Moderate structural damage to public facilities/infrastructure.

# FLOOD: 249.8, Moderately High Hazard

Potential Impact: Large Region <u>Cascade Effects</u>: Highly likely

Frequency: Infrequent event Onset: Several days

Hazard Duration: More than one week

Recovery Time: More than two weeks

#### Impact:

Serious injury or death is likely but not in large numbers.

Severe damage to private property.

Severe structural damage to public facilities.

# WINTER STORM: 245.2, Moderately High Hazard

Potential Impact:Large regionCascade Effects:Highly likelyFrequency:Regular eventOnset:Several hours warningHazard Duration:Two to three daysRecovery Time:One to two days

#### Impact:

Serious injury or death is likely but not in large numbers

Moderate damage to private property.

Little or no damage to public facilities.

# TERRORISM (Biological): 242.0, Moderately High Hazard

Frequency: Rare event Onset: No warning

Hazard Duration: More than one week Recovery Time: More than two weeks

#### Impact:

Serious injury or death is likely, in extremely large numbers.

Little or no damage to private property.

Little or no structural damage to public facilities.

#### EPIDEMIC: 242.0, Moderately High Hazard

Potential Impact: Large region Cascade Effects: Highly likely

<u>Frequency</u>: Rare event <u>Onset:</u> No warning

Hazard Duration: More than one week Recovery Time: More than two weeks

#### Impact:

Serious injury or death is likely in extremely large numbers.

Little or no damage to private property.

Little or no structural damage to public facilities.

#### Moderately Low Hazards

Ten hazards were determined by the Group to be Moderately Low Hazards. They are, HazMat Fixed Site, Water Supply Contamination, Terrorism-Radiological, Wildfire, Terrorism-Chemical, Tornado, Ice Jam, Transportation Accident, Dam Failure, and Earthquake.

# HAZMAT FIXED SITE: 238.7, Moderately Low Hazard

Potential Impact: Small region Cascade Effects: Highly likely

Frequency: Rare event Onset: No warning

<u>Hazard Duration:</u> More than one week <u>Recovery Time</u>: One to two days

#### Impact:

Serious injury or death is likely in extremely large numbers.

Severe damage to private property.

Little or no structural damage to public facilities.

# WATER SUPPLY CONTAMINATION: 238.7, Moderately Low Hazard

Frequency: Rare event Onset: No warning

<u>Hazard Duration:</u> More than one week <u>Recovery Time</u>: More than two weeks

- Serious injury or death is likely in extremely large numbers.
- Moderate damage to private property.
- Moderate structural damage to public facilities.

# TERRORISM (Radiological): 235.0, Moderately Low Hazard

Frequency: Rare event Onset: No warning

Hazard Duration: Less than one day Recovery Time: More than two weeks

#### Impact:

Serious injury or death is likely in extremely large numbers.

Severe damage to private property.

Moderate structural damage to public facilities.

# WILDFIRE: 232.5, Moderately Low Hazard

Frequency: Regular Event Onset: No Warning

Hazard Duration: Two to three days Recovery Time: Less than one day

#### Impact:

Serious injury or death is unlikely.

Moderate damage to private property.

Little or no structural damage to public facilities.

# TERRORISM (Chemical): 230.3, Moderately Low Hazard

Frequency: Rare Event Onset: No Warning

Hazard Duration: More than one week Recovery Time: One to two days

#### Impact:

Serious injury or death is likely in extremely large numbers.

Moderate damage to private property.

Moderate structural damage to public facilities.

# TORNADO: 217.5, Moderately Low Hazard

Frequency: Infrequent event Onset: No warning

Hazard Duration: Less than one day Recovery Time: Three days to one week

#### Impact:

Serious injury or death is likely, but not in large numbers.

Moderate damage to private property.

Moderate structural damage to public facilities.

# ICE JAM: 217.2, Moderately Low Hazard

Potential Impact: Several individual locations

Frequency: Regular event

Hazard Duration: Four days to one week

Cascade Effects: Highly likely Onset: One day warning

Recovery Time: One to two days

#### Impact:

Serious injury or death is unlikely.

Moderate damage to private property.

Moderate structural damage to public facilities.

# TRANSPORTATION ACCIDENT: 208.5, Moderately Low Hazard

Frequency: Infrequent event Onset: No warning

Hazard Duration: More than one week Recovery Time: One to two days

#### Impact:

Serious injury or death is likely to large numbers.

• Little or no damage to private property.

Little or no structural damage to public facilities.

# DAM FAILURE: 186.2, Moderately Low Hazard

Potential Impact: Small region <u>Cascade Effects</u>: Highly likely

Frequency: Rare event Onset: No warning

Hazard Duration: One day Recovery Time: One week to two weeks

#### Impact:

Serious injury or death is likely, but not in large numbers.

Moderate damage to private property.

Moderate structural damage to public facilities.

# EARTHQUAKE: 162.5, Moderately Low Hazard

Frequency: Rare event Onset: No warning

Hazard Duration: Less than one day Recovery Time: One to two days

#### Impact:

Serious injury or death is unlikely.

Little or no damage to private property.

Little or no structural damage to public facilities.

#### Low Hazards

Two low hazards were identified. They are, Radiological Fixed Site and Radiological In-Transit.

#### RADIOLOGICAL (Fixed Site): 157.5, Low Hazard

Potential Impact: Small region

Cascade Effects: Some potential

Frequency: Rare Event

Onset: No Warning

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<u>Hazard Duration:</u> Four days to one week

Recovery Time: Three days to one week

#### Impact:

Serious injury or death is unlikely.

• Little or no damage to private property.

Little or no structural damage to public facilities.

#### RADIOLOGICAL (In-Transit): 119.8, Low Hazard

Potential Impact: A Single location

Cascade Effects: Some potential

Frequency: Rare Event

Onset: No Warning

Hazard Duration: One day

Recovery Time: Less than one day

#### Impact:

- Serious injury or death is unlikely.
- Little or no damage to private property.
- Little or no structural damage to public facilities.

#### Recommendations

Based upon this analysis, the State Emergency Management Office recommends that the County of Cattaraugus investigate initial mitigation measures for moderately high hazards, followed by moderately low and low hazards.

Hazards not selected for evaluation should be reviewed periodically to determine if threat or potential has changed since the last Hazny.

As threat potential of hazards change or as the capabilities of the county change, a new hazard analysis should be completed.

# **HAZNY**

#### **Background**

On **4/14/11**, the Cattaraugus County DPW conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Cattaraugus County DPW

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. Cattaraugus County completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Operations Manager analyzed hazards potentially affecting the Cattaraugus County DPW. *HAZNY* rated each hazard based on the Operation Manager's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	314
WINTER STORM (SEVERE)	271
SEVERE STORMS	253
ICE STORM	223
EARTHQUAKE	203
HAZMAT (FIXED SITE)	201
ICE JAM	196
DAM FAILURE	190
TORNADO	188
WATER SUPPLY CONTAMINATION	178
TERRORISM BIOLOGICAL	170
TERRORISM CHEMICAL	170
WILDFIRE/DROUGHT	168
TERRORISM RADIOLOGICAL	164
HAZMAT (IN TRANSIT)	157
RADIOLOGICAL (IN TRANSIT)	148
RADIOLOGICAL (FIXED SITE)	141
CIVIL UNREST	140
EXPLOSION	140
LANDSLIDE	140
<b>EPIDEMIC</b>	136
TRANS ACCIDENT	134
LANDSUBSIDENCE	125

# Hazard(s) rated as moderately high: FLOOD, WINTER STORM (SEVERE), SEVERE STORMS

**FLOOD:** 314, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:One Day WarningHazard Duration:More Than One WeekRecovery Time:More Than Two Weeks

**Impact:** 

• Serious Injury or Death Unlikely

• Severe Damage to Private Property

• Severe Structural Damage to Public Facilities

WINTER STORM (SEVERE): 271, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects: Highly Likely

Frequency: A Frequent Event
Onset: One Day Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Weeks

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**SEVERE STORMS:** 253, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:Several Days WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: ICE STORM, EARTHQUAKE, HAZMAT (FIXED SITE), ICE JAM, DAM FAILURE, TORNADO, WATER SUPPLY CONTAMINATION, TERRORISM BIOLOGICAL, TERRORISM CHEMICAL, WILDFIRE/DROUGHT, TERRORISM RADIOLOGICAL

ICE STORM: 223, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:Several Days WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

EARTHQUAKE: 203, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **HAZMAT** (**FIXED SITE**): 201, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### ICE JAM: 196, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:Several Days WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **DAM FAILURE:** 190, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

TORNADO: 188, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 178, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM BIOLOGICAL: 170, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property

Little or No Structural Damage to Public Facilities

#### TERRORISM CHEMICAL: 170, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WILDFIRE/DROUGHT: 168, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM RADIOLOGICAL: 164, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** More Than Two Weeks

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as low: HAZMAT (IN TRANSIT), RADIOLOGICAL (FIXED SITE), CIVIL UNREST, EXPLOSION, LANDSLIDE, EPIDEMIC, TRANS ACCIDENT, LANDSUBSIDENCE

#### **HAZMAT (IN TRANSIT):** 157, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 148, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: Several Hours Warning Hazard Duration: Two to Three Days

**Recovery Time:** One Week to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 141, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: More Than Two Weeks

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

CIVIL UNREST: 140, Low Hazard

**Potential Impact:** Single Location Some Potential

Frequency: An Infrequent Event
Onset: Several Days Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Weeks

Impact:

Serious Injury or Death Unlikely

• Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

**EXPLOSION:** 140, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Weeks

Impact:

• Serious Injury or Death Unlikely

• Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

**LANDSLIDE:** 140, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Two to Three Days One to Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 136, Low Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Highly Unlikely

Frequency: A Rare Event
Onset: One Day Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TRANS ACCIDENT: 134, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# LANDSUBSIDENCE: 125, Low Hazard

Potential Impact:
Cascade Effects:
Frequency:
Onset:
No Warning
Hazard Duration:
Single Location
Highly Unlikely
A Rare Event
No Warning
One Day

**Recovery Time:** Three Days to One Week

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

EARTHQUAKE
HAZMAT (FIXED SITE)
DAM FAILURE
WATER SUPPLY CONTAMINATION
TERRORISM BIOLOGICAL
TERRORISM CHEMICAL
TERRORISM RADIOLOGICAL
HAZMAT (IN TRANSIT)
EXPLOSION

LANDSLIDE TRANS ACCIDENT LANDSUBSIDENCE

\* No warning was selected from the Onset Tab.

HAZARDS THAT OCCUR MOST OFTEN\*
FLOOD
WINTER STORM (SEVERE)
SEVERE STORMS

<sup>\*</sup>A frequent event was selected on frequency Tab.

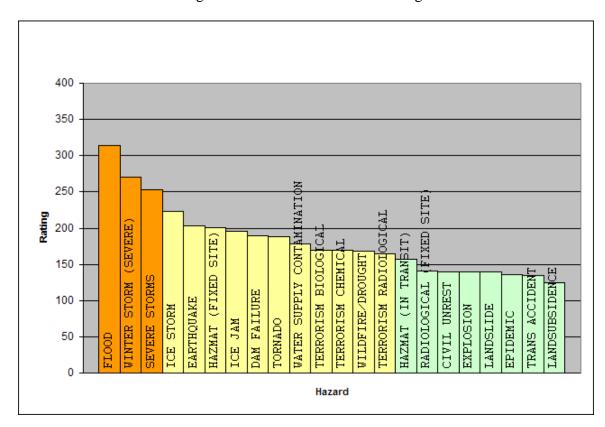


Figure 1. Chart of Hazards vs. Ratings

# **HAZNY**

#### Background

On **4/14/11**, the City of Olean conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the City of Olean

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The City of Olean completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the City of Olean. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

City of Olean Page 1 of 11

# The Group rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	294
SEVERE STORMS	270
FLOOD	266
LANDSUBSIDENCE	248
ICE STORM	245
WATER SUPPLY CONTAMINATION	245
TORNADO	222
TERRORISM - CHEMICAL	211
EARTHQUAKE	198
TERRORISM-BIOLOGICAL	193
TRANS ACCIDENT	185
TERRORISM - RADIOLOGICAL	184
HAZMAT (FIXED SITE)	168
ICE JAM	162
WILDFIRE / DROUGHT	151
EXPLOSION	148
RADIOLOGICAL (FIXED SITE)	144
LANDSLIDE	134
EPIDEMIC	130
HAZMAT (IN TRANSIT)	113
RADIOLOGICAL (IN TRANSIT)	113
CIVIL UNREST	107
DAM FAILURE	107

Hazard(s) rated as moderately high: WINTER STORM (SEVERE), SEVERE STORMS, FLOOD, LANDSUBSIDENCE, ICE STORM, WATER SUPPLY CONTAMINATION

#### WINTER STORM (SEVERE): 294, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

City of Olean Page 2 of 11

**SEVERE STORMS:** 270, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

**FLOOD:** 266, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event
Onset: Several Days Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

**Impact:** 

- Serious Injury or Death to Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

LANDSUBSIDENCE: 248, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Frequent EventOnset:No Warning

Hazard Duration: Two to Three Days Recovery Time: Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 245, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential

City of Olean Page 3 of 11

Frequency: An Infrequent Event
Onset: One Day Warning
Hazard Duration: Two to Three Days
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 245, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Rare Event

Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: One to Two Weeks

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: TORNADO, TERRORISM - CHEMICAL, EARTHQUAKE, TERRORISM-BIOLOGICAL, TRANS ACCIDENT, TERRORISM - RADIOLOGICAL, HAZMAT (FIXED SITE), ICE JAM

**TORNADO:** 222, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential Frequency: A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Three Days to One Week

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### **TERRORISM - CHEMICAL:** 211, Moderately Low Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Some Potential

City of Olean Page 4 of 11

Frequency: A Rare Event No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

Serious Injury or Death to Large NumbersLittle or No Damage to Private Property

• Moderate Structural Damage to Public Facilities

**EARTHQUAKE:** 198, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Weeks

Impact:

• Serious Injury or Death Unlikely

Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

#### TERRORISM-BIOLOGICAL: 193, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death to Large NumbersLittle or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

TRANS ACCIDENT: 185, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Less Than One Day

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# Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 184, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (FIXED SITE):** 168, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# ICE JAM: 162, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

City of Olean Page 6 of 11

# Hazard(s) rated as low: WILDFIRE / DROUGHT, EXPLOSION, RADIOLOGICAL (FIXED SITE), LANDSLIDE, EPIDEMIC, HAZMAT (IN TRANSIT), RADIOLOGICAL (IN TRANSIT), CIVIL UNREST, DAM FAILURE

WILDFIRE / DROUGHT: 151, Low Hazard

Potential Impact: Single Location Some Potential Frequency: A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Three Days to One Week

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EXPLOSION:** 148, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 144, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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**LANDSLIDE:** 134, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 130, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Four days to One WeekRecovery Time:Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 113, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### RADIOLOGICAL (IN TRANSIT): 113, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event
No Warning
Hazard Duration: One Day

**Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **DAM FAILURE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

LANDSUBSIDENCE
TERRORISM - CHEMICAL
EARTHQUAKE
TERRORISM-BIOLOGICAL
TRANS ACCIDENT
TERRORISM - RADIOLOGICAL
EXPLOSION
RADIOLOGICAL (FIXED SITE)
LANDSLIDE
HAZMAT (IN TRANSIT)
RADIOLOGICAL (IN TRANSIT)
CIVIL UNREST
DAM FAILURE

#### HAZARDS THAT OCCUR MOST OFTEN\*

WINTER STORM (SEVERE) LANDSUBSIDENCE

#### HAZARDS THAT PRESENT THE GREATEST THREAT TO LIFE\*

FLOOD WATER SUPPLY CONTAMINATION TORNADO TERRORISM - CHEMICAL TERRORISM-BIOLOGICAL

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

<sup>\*</sup>Serious injury and death in extremely large numbers was selected from the Impact Tab.

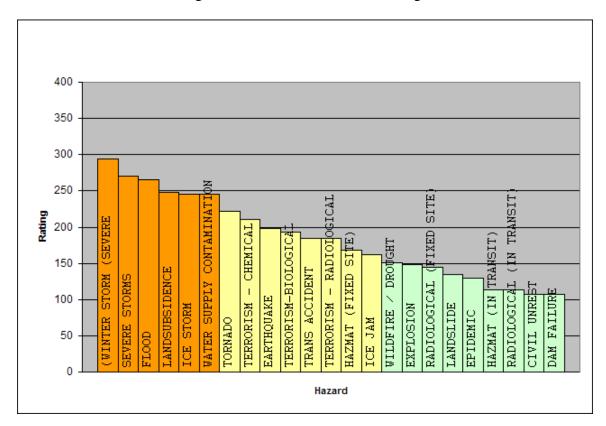


Figure 1. Chart of Hazards vs. Ratings

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### **Hazard Analysis Matrix - City of Olean**

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ICE JAM	162	$\neg$																					П		T	十	1	1	T	$\neg$			┪		$\dashv$	ヿ	┪
WILDFIRE / DROUGHT	151																			一					1	十	1	十	_				ヿ	$\neg$		ヿ	┪
EXPLOSION	148																							$\neg$		十	1						$\neg$	$\neg$		ヿ	┪
RADIOLOGICAL (FIXED SITE)	144																									1		T	$\neg$						$\neg$	$\exists$	$\neg$
LANDSLIDE	134							$\neg$				$\neg$												T	T	寸	1	1			$\neg$		╗	$\neg$		ヿ	╗
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HAZMAT (IN TRANSIT)	113																							T	7	十	十	$\neg$		T	一				$\neg$	ヿ	$\exists$
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DAM FAILURE	107							$\neg$				$\neg$													T	寸			T		一	╗			寸	$\dashv$	$\neg$

## **HAZNY**

#### Background

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The results of this hazard analysis are presented in this report.

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#### The Results

The Highway Superintendant analyzed hazards potentially affecting the City of Salamanca. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### **Hazard Analysis Matrix - City of Salamanca**

		SCOPE								EQL	JENG	CY					IMP	ACT	•					ON	ISE	Γ				D	URA	ATIC	N			$\neg$
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		ation	Several Individual Location	on	ion	kely	ıntial	λį	ent	ent Event	Event	: Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Damage	Jamage	mage	Damage	Jamage	mage	ð	Several Hours Warning	Jp to One Day Warning	Up to One Week Warning More Than a Week Warnin	One Day	5	ee Days	our days to One Week	More Than One Week	One Day	o Days	Three Days to One Week	o Weeks	More Than Two Weeks
Hazard	Rating	Single Location	everal Inc	Small Region	arge Region-	Highly Unlikely	Some Potentia	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	Jury or D	njury/Deat	njury/Deat	ıjury/Deat	ittle or No Damage	Moderate Damage	Severe Damage	ittle or No Damage	Moderate Damage	Severe Damage	No Warning	several Ho	Jp to One	Jp to One	ess Than Ope Day	One Day	Two to Three Days	our days	Nore Than	ess Than One Day	One to Two Days	hree Day	One to Two Weeks	Nore Than
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WINTER STORM (SEVERE)	268			一							$\neg$												П		T	十	T	Т						$\neg$	一	$\neg$
LEVIES	256		$\neg$				$\neg$				T	$\neg$			$\neg$						$\neg$		П			十	T		Т				$\neg$		$\neg$	
TERRORISM - CHEMICAL	250		ヿ				╗					$\neg$												$\neg$		十										
TERRORISM - BIOLOGICAL	242														$\neg$											十									$\neg$	
CIVIL UNREST	238														$\Box$											Т										
TORNADO	238																																			
TRANS ACCIDENT	238																																		$\Box$	
FLOOD	225																																			
EARTHQUAKE	221																																			
DAM FAILURE	204																																			
HAZMAT (IN TRANSIT)	202																																			
ICE STORM	202																																			
WILDFIRE / DROUGHT	196																																			
HAZMAT (FIXED SITE)	192																																			
WATER SUPPLY CONTAMINATION	191																									$\perp$										
LANDSLIDE	190																									┸										
EPIDEMIC	186																																			
ICE JAM	180																						Ш			$\perp$		上								
RADIOLOGICAL (IN TRANSIT)	154							]									Ш			]				$\Box$		$\perp$						Ш			$\perp$	$\Box$
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RADIOLOGICAL (FIXED SITE)	44																																		ightharpoonup	

#### The Group rated the 24 hazards as follows:

Hazard	Rating
TERRORISM - RADIOLOGICAL	292
SEVERE STORMS	270
WINTER STORM (SEVERE)	268
LEVIES	256
TERRORISM - CHEMICAL	250
TERRORISM - BIOLOGICAL	242
CIVIL UNREST	238
TORNADO	238
TRANS ACCIDENT	238
FLOOD	225
EARTHQUAKE	221
DAM FAILURE	204
HAZMAT (IN TRANSIT)	202
ICE STORM	202
WILDFIRE / DROUGHT	196
HAZMAT (FIXED SITE)	192
WATER SUPPLY CONTAMINATION	191
LANDSLIDE	190
<b>EPIDEMIC</b>	186
ICE JAM	180
RADIOLOGICAL (IN TRANSIT)	154
EXPLOSION	152
LANDSUBSIDENCE	138
RADIOLOGICAL (FIXED SITE)	44

Hazard(s) rated as moderately high: TERRORISM - RADIOLOGICAL, SEVERE STORMS, WINTER STORM (SEVERE), LEVIES, TERRORISM - CHEMICAL, TERRORISM - BIOLOGICAL

#### TERRORISM - RADIOLOGICAL: 292, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

- Serious Injury or Death to Extremely Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### **SEVERE STORMS:** 270, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** Three Days to One Week

Impact:

Serious Injury or Death UnlikelySevere Damage to Private Property

• Severe Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 268, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **LEVIES:** 256, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event

Onset: Several Hours Warning

Hazard Duration: More Than One Week

Recovery Time: More Than Two Weeks

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 250, Moderately High Hazard

Potential Impact:Single LocationCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death to Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### TERRORISM - BIOLOGICAL: 242, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death to Extremely Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as moderately low: CIVIL UNREST, TORNADO, TRANS ACCIDENT, FLOOD, EARTHQUAKE, DAM FAILURE, HAZMAT (IN TRANSIT), ICE STORM, WILDFIRE / DROUGHT, HAZMAT (FIXED SITE), WATER SUPPLY CONTAMINATION, LANDSLIDE, EPIDEMIC, ICE JAM

**CIVIL UNREST:** 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

Hazard Duration: More Than One Week One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

City of Salamanca

**TORNADO:** 238, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

TRANS ACCIDENT: 238, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

FLOOD: 225, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Three Days to One Week

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### EARTHQUAKE: 221, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

**DAM FAILURE:** 204, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 202, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

ICE STORM: 202, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

WILDFIRE / DROUGHT: 196, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Rare Event

Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

**HAZMAT (FIXED SITE):** 192, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 191, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSLIDE: 190, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

**EPIDEMIC:** 186, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Rare Event

Onset: Several Days Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

- Serious Injury or Death to Extremely Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

ICE JAM: 180, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: Less Than One Day

Impact:

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

Hazard(s) rated as low: RADIOLOGICAL (IN TRANSIT), EXPLOSION, LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE)

RADIOLOGICAL (IN TRANSIT): 154, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EXPLOSION:** 152, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

LANDSUBSIDENCE: 138, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

TERRORISM - RADIOLOGICAL TERRORISM - CHEMICAL TERRORISM - BIOLOGICAL

CIVIL UNREST TRANS ACCIDENT EARTHQUAKE DAM FAILURE

HAZMAT (IN TRANSIT) HAZMAT (FIXED SITE)

**WATER SUPPLY CONTAMINATION** 

**LANDSLIDE** 

RADIOLOGICAL (IN TRANSIT)

**EXPLOSION** 

LANDSUBSIDENCE

City of Salamanca

<sup>\*</sup> No warning was selected from the Onset Tab.

#### HAZARDS THAT OCCUR MOST OFTEN\* WINTER STORM (SEVERE) TRANS ACCIDENT

\*A frequent event was selected on frequency Tab.

#### HAZARDS THAT PRESENT THE GREATEST THREAT TO LIFE\*

TERRORISM - RADIOLOGICAL TERRORISM - CHEMICAL TERRORISM - BIOLOGICAL EPIDEMIC

\*Serious injury and death in extremely large numbers was selected from the Impact Tab.

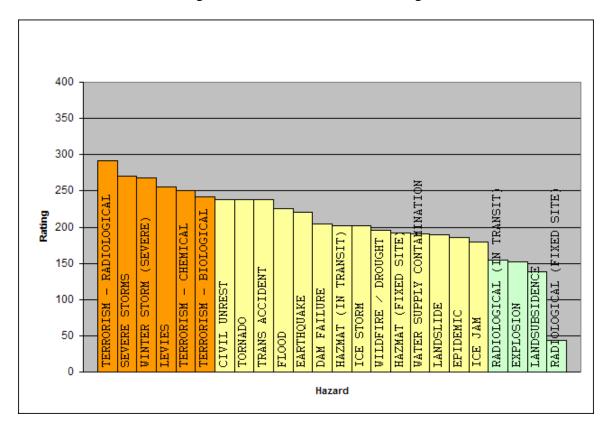


Figure 1. Chart of Hazards vs. Ratings

#### **Hazard Analysis Matrix - City of Salamanca**

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	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	-ittle or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Jp to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	I wo to Inree Days	Four days to One week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks
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RADIOLOGICAL (FIXED SITE)	44																														$oxed{\mathbb{L}}$						

## **HAZNY**

#### Background

On **4/14/11**, the Town of Allegany conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Allegany

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Allegany completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Allegany. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	256
SEVERE STORMS	248
WINTER STORM (SEVERE)	247
TRANS ACCIDENT	238
WILDFIRE / DROUGHT	238
LANDSUBSIDENCE	237
LANDSLIDE	228
EXPLOSION	222
HAZMAT (IN TRANSIT)	219
TORNADO	207
RADIOLOGICAL (IN TRANSIT)	192
ICE STORM	191
HAZMAT (FIXED SITE)	188
WATER SUPPLY CONTAMINATION	180
ICE JAM	146
EARTHQUAKE	130
<b>EPIDEMIC</b>	116
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107
CIVIL UNREST	86
DAM FAILURE	58
RADIOLOGICAL (FIXED SITE)	44

## Hazard(s) rated as moderately high: FLOOD, SEVERE STORMS, WINTER STORM (SEVERE)

**FLOOD:** 256, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Days Warning
Hazard Duration: Four days to One Week
Three Days to One Week

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

SEVERE STORMS: 248, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

Impact:

Serious Injury or Death UnlikelySevere Damage to Private Property

• Moderate Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 247, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:Several Days WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

**Impact:** 

• Serious Injury or Death is Likely, but not in Large Numbers

Moderate Damage to Private Property

• Little or No Structural Damage to Public Facilities

Hazard(s) rated as moderately low: TRANS ACCIDENT, WILDFIRE / DROUGHT, LANDSUBSIDENCE, LANDSLIDE, EXPLOSION, HAZMAT (IN TRANSIT), TORNADO, RADIOLOGICAL (IN TRANSIT), ICE STORM, HAZMAT (FIXED SITE), WATER SUPPLY CONTAMINATION

TRANS ACCIDENT: 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WILDFIRE / DROUGHT: 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### LANDSUBSIDENCE: 237, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Likely
An Infrequent Event

An infrequent Ev

Onset: No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **LANDSLIDE:** 228, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

**EXPLOSION:** 222, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 219, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**TORNADO:** 207, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 192, Moderately Low Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Highly Likely

Frequency: A Rare Event No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**ICE STORM:** 191, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**HAZMAT** (**FIXED SITE**): 188, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Four days to One Week

Recovery Time: Four days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

WATER SUPPLY CONTAMINATION: 180, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: ICE JAM, EARTHQUAKE, EPIDEMIC, TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, CIVIL UNREST, DAM FAILURE, RADIOLOGICAL (FIXED SITE)

ICE JAM: 146, Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Days

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EARTHQUAKE:** 130, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 116, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - BIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Allegany

Page **8** of **11** 

#### CIVIL UNREST: 86, Low Hazard

Potential Impact: Single Location Highly Unlikely Frequency: A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **DAM FAILURE:** 58, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset:Several Days WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

**Onset:** More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

TRANS ACCIDENT
WILDFIRE / DROUGHT
LANDSUBSIDENCE
LANDSLIDE
EXPLOSION
HAZMAT (IN TRANSIT)
RADIOLOGICAL (IN TRANSIT)
HAZMAT (FIXED SITE)
WATER SUPPLY CONTAMINATION
EARTHQUAKE
EPIDEMIC
TERRORISM - BIOLOGICAL
TERRORISM - RADIOLOGICAL

HAZARDS THAT OCCUR MOST OFTEN\* WINTER STORM (SEVERE)

\*A frequent event was selected on frequency Tab.

<sup>\*</sup> No warning was selected from the Onset Tab.

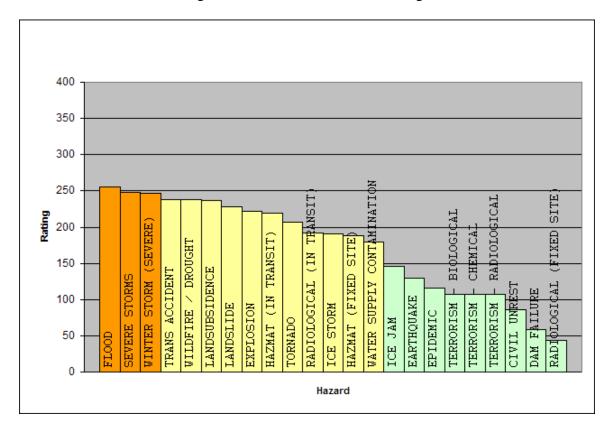


Figure 1. Chart of Hazards vs. Ratings

#### **Hazard Analysis Matrix - Town of Allegany**

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	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks
Hazard FLOOD	256	S	Ŏ	Ś	تــــــــــــــــــــــــــــــــــــــ	I	Ŏ	エ	⋖	₹	⋖	∢	드	드	드	<u></u>		Σ	Š		Σ	Ŏ	Ž	Ŏ	5	키	Σ	4	0	F	Щ	Σ		0	Ė	-	Σ
SEVERE STORMS	248						$\dashv$			-		$\dashv$			Н					-			-	-	-	-	+	+	-	-		-		$\dashv$		$\dashv$	$\dashv$
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WINTER STORM (SEVERE) TRANS ACCIDENT	238												-		Н									$\dashv$	+	-	+	+	-		$\dashv$	$\dashv$			$\dashv$	$\dashv$	-
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WILDFIRE / DROUGHT LANDSUBSIDENCE	237						$\dashv$				$\dashv$	$\dashv$								$\dashv$				$\dashv$	+	+	+	+	$\dashv$	$\dashv$	$\dashv$			$\dashv$	$\dashv$	$\dashv$	
	228											$\dashv$								$\dashv$				-	-	+	+	+	$\dashv$	-	$\dashv$			$\dashv$	$\dashv$	$\dashv$	
LANDSLIDE	222											-												$\dashv$	-	+	+	+	-	$\dashv$				$\vdash$	$\dashv$	$\dashv$	
EXPLOSION HAZMAT (IN TRANSIT)	219						$\dashv$				$\dashv$	$\dashv$	$\dashv$		Н					$\dashv$				$\dashv$	+	+	+	+	-	-		$\dashv$			-	$\dashv$	$\dashv$
TORNADO	207						$\dashv$				$\dashv$	$\dashv$	$\dashv$		Н					$\dashv$				-		+	+	+	$\dashv$		$\dashv$	$\dashv$			$\dashv$		$\dashv$
RADIOLOGICAL (IN TRANSIT)	192						$\dashv$				-	-	-		Н						-			-		+	+	+	-		$\dashv$			$\vdash$	$\dashv$		$\dashv$
ICE STORM	191										$\dashv$	$\dashv$	$\dashv$		Н				Н			-		-		+	+	+	-		$\dashv$		-		$\dashv$		$\dashv$
HAZMAT (FIXED SITE)	188										$\dashv$	$\dashv$	$\dashv$		Н					$\dashv$				-		+	+	+	-			$\dashv$				$\dashv$	$\dashv$
WATER SUPPLY CONTAMINATION	180						-				-		-		Н									$\dashv$	-	+	+	+	$\dashv$	-				$\vdash$		$\dashv$	
ICE JAM	146							$\dashv$		-	$\dashv$	$\dashv$			Н							_	Н		+	+	+	+	$\dashv$	$\dashv$			-		$\dashv$	$\dashv$	-
EARTHQUAKE	130				-			$\dashv$			$\dashv$	$\dashv$			Н				Н			_			+	+	-		$\dashv$	-		$\dashv$			$\dashv$	$\dashv$	$\dashv$
EPIDEMIC	116							$\dashv$			-	$\dashv$												+	-	+	-		$\dashv$	-	$\dashv$	$\dashv$		$\vdash$	$\dashv$	$\dashv$	$\dashv$
TERRORISM - BIOLOGICAL	107						_	$\dashv$		_	$\dashv$	$\dashv$			Н						-	-		$\dashv$	$\dashv$	+	-		$\dashv$	$\dashv$	$\dashv$	$\dashv$		$\vdash$	$\dashv$	$\dashv$	$\dashv$
TERRORISM - CHEMICAL	107				-		$\dashv$	$\dashv$			$\dashv$	$\dashv$			Н				Н			_		$\dashv$	+	+	-		$\dashv$	$\dashv$	$\dashv$	$\dashv$		$\dashv$	$\dashv$	$\dashv$	$\dashv$
TERRORISM - RADIOLOGICAL	107						$\dashv$	$\dashv$			-	$\dashv$									_			$\dashv$	$\dashv$	+	+		+	$\dashv$	$\dashv$	$\dashv$		$\dashv$	$\dashv$	$\dashv$	$\dashv$
CIVIL UNREST	86						$\dashv$	$\dashv$		$\dashv$	$\dashv$	$\dashv$			$\vdash$						$\dashv$			_	+	+	+		$\dashv$	$\dashv$	$\dashv$	$\dashv$		$\dashv$	一	$\dashv$	$\dashv$
DAM FAILURE	58						$\dashv$	$\dashv$		$\dashv$	$\dashv$	$\dashv$			$\vdash$						-	$\dashv$	$\dashv$		-		+		$\dashv$	$\dashv$	$\dashv$	$\dashv$		$\dashv$	$\dashv$	$\dashv$	$\dashv$
	44						$\dashv$	$\dashv$			-	$\dashv$			Н						-		$\dashv$	+	+				$\dashv$	$\dashv$	$\dashv$	$\dashv$		$\dashv$	$\dashv$	$\dashv$	$\dashv$
RADIOLOGICAL (FIXED SITE)	44																		Ш					$\perp$	$\perp$												

## **HAZNY**

#### **Background**

On **4/14/11**, the Town of Ashford conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Town of Ashford

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Ashford completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendent analyzed hazards potentially affecting the Town of Ashford. *HAZNY* rated each hazard based on the Highway Superintendent's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	328
WINTER STORM (SEVERE)	253
ICE STORM	246
SEVERE STORMS	222
TORNADO	222
EARTHQUAKE	201
HAZMAT (FIXED SITE)	176
HAZMAT (IN TRANSIT)	154
WILDFIRE / DROUGHT	153
LANDSLIDE	147
TERRORISM - RADIOLOGICAL	146
RADIOLOGICAL (FIXED SITE)	141
RADIOLOGICAL (IN TRANSIT)	140
EPIDEMIC	128
TRANS ACCIDENT	122
LANDSUBSIDENCE	119
TERRORISM - CHEMICAL	119
WATER SUPPLY CONTAMINATION	119
CIVIL UNREST	116
EXPLOSION	114
TERRORISM - BIOLOGICAL	113
ICE JAM	106
DAM FAILURE	92

Hazard(s) rated as high: FLOOD

FLOOD: 328, High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

Impact:

• Serious Injury or Death is Likely, but not in Large Numbers

- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Ashford Page 2 of 11

#### Hazard(s) rated as moderately high: WINTER STORM (SEVERE), ICE STORM

WINTER STORM (SEVERE): 253, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**ICE STORM:** 246, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: SEVERE STORMS, TORNADO, EARTHQUAKE, HAZMAT (FIXED SITE)

**SEVERE STORMS:** 222, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Ashford Page 3 of 11

**TORNADO:** 222, Moderately Low Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Highly Likely

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

EARTHQUAKE: 201, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

**HAZMAT (FIXED SITE):** 176, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: HAZMAT (IN TRANSIT), WILDFIRE / DROUGHT, LANDSLIDE, TERRORISM - RADIOLOGICAL, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT), EPIDEMIC, TRANS ACCIDENT,

Town of Ashford Page 4 of 11

# LANDSUBSIDENCE, TERRORISM - CHEMICAL, WATER SUPPLY CONTAMINATION, CIVIL UNREST, EXPLOSION, TERRORISM - BIOLOGICAL, ICE JAM, DAM FAILURE

**HAZMAT (IN TRANSIT):** 154, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three Days

**Recovery Time:** Two to Three Days

Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

WILDFIRE / DROUGHT: 153, Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Rare Event

Onset: Several Hours Warning Hazard Duration: Two to Three Days

**Recovery Time:** Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**LANDSLIDE:** 147, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### TERRORISM - RADIOLOGICAL: 146, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Weeks

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 141, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 140, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 128, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects: Highly Unlikely

Town of Ashford Page **6** of **11** 

Frequency: A Rare Event
Onset: One Day Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TRANS ACCIDENT: 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **LANDSUBSIDENCE:** 119, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 119, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Town of Ashford Page 7 of 11

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 119, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 116, Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **EXPLOSION:** 114, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### TERRORISM - BIOLOGICAL: 113, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**ICE JAM:** 106, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **DAM FAILURE:** 92, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: One to Two Days

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

FLOOD

**EARTHQUAKE** 

HAZMAT (FIXED SITE)

HAZMAT (IN TRANSIT)

**LANDSLIDE** 

TERRORISM - RADIOLOGICAL

RADIOLOGICAL (FIXED SITE)

RADIOLOGICAL (IN TRANSIT)

TRANS ACCIDENT

**LANDSUBSIDENCE** 

TERRORISM - CHEMICAL

WATER SUPPLY CONTAMINATION

**EXPLOSION** 

TERRORISM - BIOLOGICAL

Town of Ashford Page 10 of 11

<sup>\*</sup> No warning was selected from the Onset Tab.

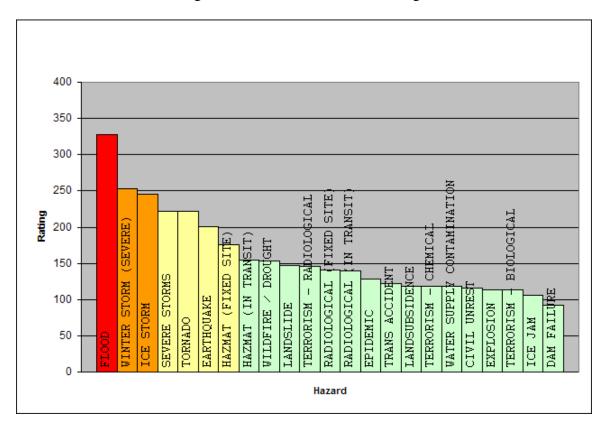


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Ashford**

		SCOPE						FR	EQL	JEN(	CY					IMPACT							ONSET						D	UR/	ATION										
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		<u>P</u> c	Potential Area																			<u> </u>	rivat	<u>:e</u>	<u> </u>	ublic	<u>.</u>														
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	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	-ittle or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to One week walling More Than a Week Warnin	ess Than One Dav	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks					
Hazard	328	ίΣ	ű	ισ	۳	프	ŏ	Ξ	∢	₹	∢	∢	⊑`	_⊑`	드	n.		Ž	Š	=	Σ	Ϋ́	ž	ő	5   5	<u> </u>	-	<u>i o</u>	F	Щ	Σ	٣	Ō	Ĥ	힉	Σ					
FLOOD	253	$\vdash$	$\dashv$	$\dashv$		$\dashv$		$\dashv$	-	$\dashv$		-					$\vdash$				-		-	+	+	+	+	+	-	$\vdash$			$\dashv$	$\dashv$	4						
WINTER STORM (SEVERE)	246	$\vdash$	$\dashv$			-			$\dashv$	$\dashv$		-	$\dashv$		$\vdash$				$\vdash$	-		_	$\dashv$		+	+	+	+		H			$\dashv$	$\dashv$	$\dashv$	$\dashv$					
ICE STORM	222		$\dashv$			-	-		-														-		+	+		Н					$\dashv$	$\dashv$	-	$\dashv$					
SEVERE STORMS		$\vdash$	_		_	$\dashv$	$\dashv$		$\dashv$		$\dashv$	_	$\dashv$								$\dashv$		$\dashv$		+	+		Н	-				$\dashv$	-	$\dashv$	-					
TORNADO	222	Ш			_	-	_				$\dashv$	-			Н						-		_		+	+		₩	-				_	-	4						
EARTHQUAKE	201		_			-		_			$\dashv$		_											+	+	+	+	+	-				$\rightarrow$	+	-						
HAZMAT (FIXED SITE)	176		_			-		_		_	_	_	_											+	_	+	+	+					$\rightarrow$	$\dashv$	-	4					
HAZMAT (IN TRANSIT)	154		-		_	-		_		$\dashv$	$\dashv$	_								-				_	+	+	+	+					$\rightarrow$	_	$\dashv$	-					
WILDFIRE / DROUGHT	153		-		_	-		_		_	_	_											_		_	+	+	_					_	_	-	_					
LANDSLIDE	147					-		_			_													4	_	+	+		H				$\rightarrow$	4	4						
TERRORISM - RADIOLOGICAL	146		_			4		_		_	_	_	_								_			4	$\bot$	$\bot$							$\rightarrow$	4	4						
RADIOLOGICAL (FIXED SITE)	141		_		_	_		_			_	_												4	4	+		щ	ш				$\rightarrow$	4	4						
RADIOLOGICAL (IN TRANSIT)	140		_		_		_																	4	_	$\bot$							ightharpoonup	4	_						
EPIDEMIC	128	Ш	_		_		_	_		_		_											_	4		$\bot$	┸	┷					_	4		_					
TRANS ACCIDENT	122		_		_		_	_			_		_											4	_	┸		ш	┖					$\dashv$	$\dashv$	_					
LANDSUBSIDENCE	119																									┸									ightharpoonup						
TERRORISM - CHEMICAL	119																									$\perp$								$\Box$	$\Box$						
WATER SUPPLY CONTAMINATION	119																									┸									$\Box$						
CIVIL UNREST	116																																								
EXPLOSION	114					╝																				$oxed{\bot}$															
TERRORISM - BIOLOGICAL	113																																								
ICE JAM	106																									$\prod$															
DAM FAILURE	92																																								

## **HAZNY**

#### Background

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The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Conewango

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Conewango completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Conewango. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
EPIDEMIC	296
SEVERE STORMS	295
FLOOD	276
HAZMAT (IN TRANSIT)	274
TORNADO	269
ICE STORM	257
WINTER STORM (SEVERE)	248
TRANS ACCIDENT	242
DAM FAILURE	238
EXPLOSION	238
WILDFIRE/DROUGHT	193
CIVIL UNREST	188
EARTHQUAKE	159
HAZMAT (FIXED SITE)	107
ICE JAM	107
LANDSLIDE	107
LANDSUBSIDENCE	107
RADIOLOGICAL (FIXED SITE)	107
RADIOLOGICAL (IN TRANSIT)	107
TERRORISM BIOLOGICAL	107
TERRORISM CHEMICAL	107
TERRORISM RADIOLOGICAL	107
WATER SUPPLY CONTAMINATION	107

Hazard(s) rated as moderately high: EPIDEMIC, SEVERE STORMS, FLOOD, HAZMAT (IN TRANSIT), TORNADO, ICE STORM, WINTER STORM (SEVERE), TRANS ACCIDENT

**EPIDEMIC:** 296, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Conewango Page 2 of 11

#### **SEVERE STORMS:** 295, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **FLOOD:** 276, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Frequent EventOnset:One Day WarningHazard Duration:More Than One WeekRecovery Time:More Than Two Weeks

#### **Impact:**

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 274, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Likely

**Frequency:** An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 269, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Highly Likely

Town of Conewango Page 3 of 11

**Frequency:** An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

• Serious Injury or Death is Likely, but not in Large Numbers

- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

ICE STORM: 257, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** More Than Two Weeks

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 248, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Frequent Event <u>Onset:</u> Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

TRANS ACCIDENT: 242, Moderately High Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

Town of Conewango Page 4 of 11

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: DAM FAILURE, EXPLOSION, WILDFIRE/DROUGHT, CIVIL UNREST

**DAM FAILURE:** 238, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death to Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

**EXPLOSION:** 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WILDFIRE/DROUGHT: 193, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
Frequency: An Infrequent Event

Onset: No Warning Hazard Duration: No Day

**Recovery Time:** More Than Two Weeks

Impact:

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- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

CIVIL UNREST: 188, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: EARTHQUAKE, HAZMAT (FIXED SITE), ICE JAM, LANDSLIDE, LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT), TERRORISM BIOLOGICAL, TERRORISM CHEMICAL, TERRORISM RADIOLOGICAL, WATER SUPPLY CONTAMINATION

**EARTHQUAKE:** 159, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**HAZMAT (FIXED SITE):** 107, Low Hazard

Potential Impact:
Cascade Effects:
Frequency:
Onset:
Single Location
Highly Unlikely
A Rare Event
No Warning

**Hazard Duration:** Less Than One Day

Town of Conewango Page 6 of 11

**Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

ICE JAM: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSLIDE: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**LANDSUBSIDENCE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property

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Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM BIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### TERRORISM CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM RADIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### **Biggest Hazards**

### HAZARDS THAT OCCUR WITH NO WARNING\*

**EPIDEMIC** 

SEVERE STORMS

HAZMAT (IN TRANSIT)

**TORNADO** 

TRANS ACCIDENT

DAM FAILURE

**EXPLOSION** 

WILDFIRE/DROUGHT

**CIVIL UNREST** 

**EARTHQUAKE** 

HAZMAT (FIXED SITE)

**ICE JAM** 

**LANDSLIDE** 

**LANDSUBSIDENCE** 

RADIOLOGICAL (FIXED SITE)

RADIOLOGICAL (IN TRANSIT)

TERRORISM BIOLOGICAL

TERRORISM CHEMICAL

TERRORISM RADIOLOGICAL

WATER SUPPLY CONTAMINATION

#### HAZARDS THAT OCCUR MOST OFTEN\*

**SEVERE STORMS** 

**FLOOD** 

ICE STORM

WINTER STORM (SEVERE)

TRANS ACCIDENT

# HAZARDS THAT PRESENT THE GREATEST THREAT TO LIFE\* DAM FAILURE

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

<sup>\*</sup>Serious injury and death in extremely large numbers was selected from the Impact Tab.

400 350 300 250 SITE Rating 200 JINTER STORM (SEVERE) IXED WILDFIRE/DROUGHT 150 TRANS ACCIDENT LANDSUBSIDENCE HAZMAT (FIKED WATER SUPPLY RADIOLOGICAL RADIOLOGICAL CIVIL UNREST DAM FAILURE NI) 100 EARTHQUAKE TERRORISM TERRORISM TERRORISM CANDSLIDE CE STORM EXPLOSION ICE JAM HAZMAT 50 0 Hazard

Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Conewango**

	[	SCOPE						FREQUENCY								<u>IMPACT</u>							<u>ONSET</u>							Dι	JRA	ATION					
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			Of Impact			=	Effect			requ	iency			<u> </u>	ople		<u> </u>	rope	rt <u>y</u>	<u> </u>	cilitie	<u>ss</u>		Wa	rnin	=-	<u> </u>	_	Ha	azaro	1	_	_	Re	cove	<u>ry</u>	4
	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #s	njury/Death Large #'s	Injury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	Less Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks
Hazard		ÿ	Se	S	Гa	Ξ̈́	တိ	Ξ̈́	∢	Ā	₹	∢	ī	Inj	ī	Inj	三	ĭ	Se	===	ĭ	Se	ž	Š	ᆰ	의	ĭ	<u>e</u>	٥	ź	요	ĭ	<u>e</u>	ŏ	ㅂ	٥	Ĭ
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	295	_	_				_				_								Ш	_				4	_	4	4	4		_	4		_	_	$\dashv$	_	
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	242																																				
	238																																				
EXPLOSION	238																																				
WILDFIRE/DROUGHT	193																																			$\Box$	
CIVIL UNREST	188																																				
EARTHQUAKE	159																									Т										П	
HAZMAT (FIXED SITE)	107																																				
ICE JAM	107																									Т						П				П	
LANDSLIDE	107																		П													П				П	
LANDSUBSIDENCE	107																		П							T			T			П			П	П	
RADIOLOGICAL (FIXED SITE)	107							$\Box$											П					T		T			T	T	T	ヿ			$\Box$	T	╗
RADIOLOGICAL (IN TRANSIT)	107							$\Box$											П					丁		T			丁	T	一	╗			$\Box$	П	
TERRORISM BIOLOGICAL	107																		П					$\neg$					T						寸	$\neg$	コ
TERRORISM CHEMICAL	107		$\neg$					$\neg$											П					$\dashv$		T			寸	$\neg$	一	╗		$\neg$	$\exists$	$\exists$	$\neg$
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WATER SUPPLY CONTAMINATION	107																																				

# **HAZNY**

#### Background

On **4/14/11**, the Town of Dayton conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Dayton

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Dayton completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Dayton. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

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#### The Group rated the 23 hazards as follows:

Hazard	Rating
TRANS ACCIDENT	296
WINTER STORM (SEVERE)	240
FLOOD	239
ICE STORM	226
SEVERE STORMS	218
ICE JAM	174
TORNADO	171
HAZMAT (IN TRANSIT)	168
RADIOLOGICAL (IN TRANSIT)	156
DAM FAILURE	152
EXPLOSION	138
TERRORISM - BIOLOGICAL	137
TERRORISM - CHEMICAL	137
TERRORISM - RADIOLOGICAL	137
WILDFIRE / DROUGHT	137
LANDSLIDE	126
WATER SUPPLY CONTAMINATION	124
RADIOLOGICAL (FIXED SITE)	122
LANDSUBSIDENCE	113
CIVIL UNREST	107
EARTHQUAKE	107
EPIDEMIC	107
HAZMAT (FIXED SITE)	107

#### Hazard(s) rated as moderately high: TRANS ACCIDENT

TRANS ACCIDENT: 296, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# Hazard(s) rated as moderately low: WINTER STORM (SEVERE), FLOOD, ICE STORM, SEVERE STORMS, ICE JAM, TORNADO, HAZMAT (IN TRANSIT)

WINTER STORM (SEVERE): 240, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**FLOOD:** 239, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**ICE STORM:** 226, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### **SEVERE STORMS:** 218, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Likely

**Frequency:** An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### ICE JAM: 174, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TORNADO: 171, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three Days

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### HAZMAT (IN TRANSIT): 168, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: RADIOLOGICAL (IN TRANSIT), DAM FAILURE, EXPLOSION, TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, WILDFIRE / DROUGHT, LANDSLIDE, WATER SUPPLY CONTAMINATION, RADIOLOGICAL (FIXED SITE), LANDSUBSIDENCE, CIVIL UNREST, EARTHQUAKE, EPIDEMIC, HAZMAT (FIXED SITE)

#### RADIOLOGICAL (IN TRANSIT): 156, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**DAM FAILURE:** 152, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day
Recovery Time: Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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**EXPLOSION:** 138, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM - BIOLOGICAL:** 137, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 137, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### TERRORISM - RADIOLOGICAL: 137, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **WILDFIRE / DROUGHT:** 137, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSLIDE: 126, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### WATER SUPPLY CONTAMINATION: 124, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **LANDSUBSIDENCE:** 113, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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### HAZMAT (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

### HAZARDS THAT OCCUR WITH NO WARNING\*

TRANS ACCIDENT

**FLOOD** 

SEVERE STORMS

**TORNADO** 

HAZMAT (IN TRANSIT)

RADIOLOGICAL (IN TRANSIT)

DAM FAILURE EXPLOSION

TERRORISM - BIOLOGICAL

TERRORISM - CHEMICAL

TERRORISM - RADIOLOGICAL

WILDFIRE / DROUGHT

LANDSLIDE

WATER SUPPLY CONTAMINATION

RADIOLOGICAL (FIXED SITE)

**LANDSUBSIDENCE** 

**CIVIL UNREST** 

**EARTHQUAKE** 

**EPIDEMIC** 

HAZMAT (FIXED SITE)

HAZARDS THAT OCCUR MOST OFTEN\*

TRANS ACCIDENT

**ICE STORM** 

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

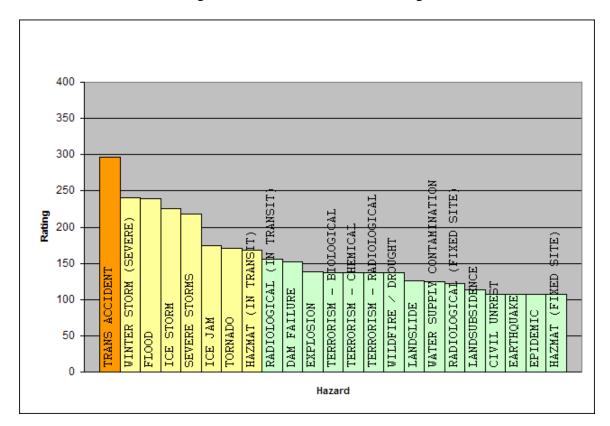


Figure 1. Chart of Hazards vs. Ratings

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## **Hazard Analysis Matrix - Town of Dayton**

	SCOPE						FREQUENCY								IMP	ACT						ON	SET					DI	JRA	ATION					
	<u> </u>		ntial A		_	asca										_	rivat			ublic						·									
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# **HAZNY**

#### Background

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The results of this hazard analysis are presented in this report.

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HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of East Otto completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of East Otto. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of East Otto Page 1 of 11

#### The Group rated the 23 hazards as follows:

Hazard	Rating
HAZMAT (IN TRANSIT)	241
LANDSLIDE	240
FLOOD	216
RADIOLOGICAL (IN TRANSIT)	205
ICE JAM	194
SEVERE STORMS	188
TERRORISM - BIOLOGICAL	188
WILDFIRE / DROUGHT	188
TORNADO	182
WINTER STORM (SEVERE)	179
TERRORISM - CHEMICAL	178
ICE STORM	173
TRANS ACCIDENT	172
EARTHQUAKE	169
TERRORISM - RADIOLOGICAL	168
DAM FAILURE	158
EXPLOSION	158
EPIDEMIC	153
LANDSUBSIDENCE	138
CIVIL UNREST	132
RADIOLOGICAL (FIXED SITE)	132
WATER SUPPLY CONTAMINATION	132
HAZMAT (FIXED SITE)	97

Hazard(s) rated as moderately low: HAZMAT (IN TRANSIT), LANDSLIDE, FLOOD, RADIOLOGICAL (IN TRANSIT), ICE JAM, SEVERE STORMS, TERRORISM - BIOLOGICAL, WILDFIRE / DROUGHT, TORNADO, WINTER STORM (SEVERE), TERRORISM - CHEMICAL, ICE STORM, TRANS ACCIDENT, EARTHQUAKE, TERRORISM - RADIOLOGICAL

**HAZMAT (IN TRANSIT):** 241, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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#### LANDSLIDE: 240, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **FLOOD:** 216, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** Three Days to One Week

#### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 205, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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#### ICE JAM: 194, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

Impact:

Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **SEVERE STORMS:** 188, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:Several Days Warning

**Hazard Duration:** One Day

**Recovery Time:** Three Days to One Week

**Impact:** 

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM - BIOLOGICAL: 188, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### WILDFIRE / DROUGHT: 188, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 182, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 179, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular Event

Onset: Several Days Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of East Otto Page **5** of **11** 

#### TERRORISM - CHEMICAL: 178, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Unlikely
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 173, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:Several Days Warning

**Hazard Duration:** One Day

**Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

TRANS ACCIDENT: 172, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 169, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential

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Frequency: A Rare Event
Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 168, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: DAM FAILURE, EXPLOSION, EPIDEMIC, LANDSUBSIDENCE, CIVIL UNREST, RADIOLOGICAL (FIXED SITE), WATER SUPPLY CONTAMINATION, HAZMAT (FIXED SITE)

**DAM FAILURE:** 158, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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**EXPLOSION:** 158, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 153, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**LANDSUBSIDENCE:** 138, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# CIVIL UNREST: 132, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

# Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 132, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# WATER SUPPLY CONTAMINATION: 132, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# HAZMAT (FIXED SITE): 97, Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infragrant Free

**Frequency:** An Infrequent Event

**Onset:** More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

• Serious Injury or Death Unlikely

Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

# **Biggest Hazards**

# HAZARDS THAT OCCUR WITH NO WARNING\*

HAZMAT (IN TRANSIT)

LANDSLIDE

RADIOLOGICAL (IN TRANSIT) TERRORISM - BIOLOGICAL WILDFIRE / DROUGHT

**TORNADO** 

TERRORISM - CHEMICAL

TRANS ACCIDENT

**EARTHQUAKE** 

TERRORISM - RADIOLOGICAL

DAM FAILURE EXPLOSION

**LANDSUBSIDENCE** 

**CIVIL UNREST** 

RADIOLOGICAL (FIXED SITE)

**WATER SUPPLY CONTAMINATION** 

Town of East Otto Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

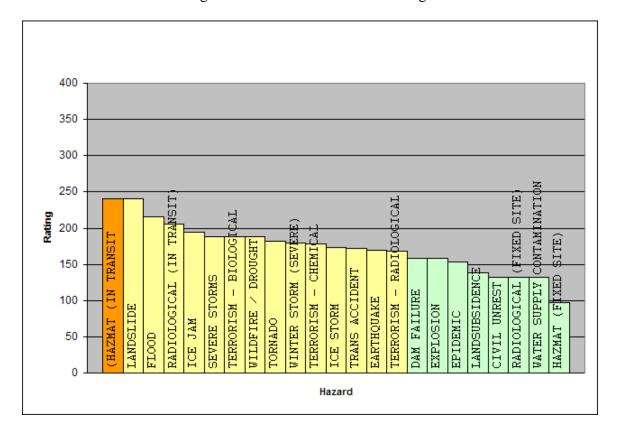


Figure 1. Chart of Hazards vs. Ratings

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# **Hazard Analysis Matrix - Town of East Otto**

		SCOPE							FREQUENCY								<u>IMP</u>	ACT	•					ON	SET	<u> </u>					DU	RA	ATION							
			otent Of Im			<u>Cascade</u> <u>Effect</u>			<u> </u>	requ	iency	<u>,</u>		Pe	ople		_	rivat ropei			ublic cilitie		Warning					<u>Hazard</u>						<u>Recovery</u>						
	Rating	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin(	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks			
Hazard		ίδ	Š	ß	La	Ĭ	Š	Ï	∢	₹	∢	∢	Ē	Ē	Ē	Ē	Ĕ	Ĭ	Se	_==	ž	Š	ž	<u> </u>	<u>5</u> :	<del>5 </del> :	Ĭ	<u>ا ۲</u>	֡֡֡֞֓֓֡֡֞֜֞֓֓֡֓֡֓֡֓֡֡֞֜֞֡֡֓֡֡֡֡֡֡	<u>}</u>	ピ	ž	의	<u>ŏ</u>	튀	힉	ž			
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RADIOLOGICAL (IN TRANSIT)	205	_		_				_				_								_				4	_	4			_	$\bot$	4	4		4	_	$\dashv$	_			
ICE JAM	194					_		_		_		_			Ш					_			4	4		4	4	_	_	4	4	_	_	4	4	_	_			
SEVERE STORMS	188									_													_	_			_			丄	4	_	_	4		$\dashv$				
TERRORISM - BIOLOGICAL	188																							4		┵			┸	$\bot$	4	4		$\dashv$	$\dashv$	$\dashv$	_			
WILDFIRE / DROUGHT	188														Ш										$\perp$	丄			┸	丄		_		$\perp$	$\dashv$	ightharpoonup	_			
TORNADO	182																							$\perp$		丄			┸	╙	┙		$\perp$							
WINTER STORM (SEVERE)	179																																							
TERRORISM - CHEMICAL	178																																							
ICE STORM	173																													$\Box$					П					
TRANS ACCIDENT	172																									Т							П		T		$\Box$			
EARTHQUAKE	169																													Т					П		П			
TERRORISM - RADIOLOGICAL	168																									Т					T				$\neg$	$\Box$				
DAM FAILURE	158											$\Box$												T		Т			T		T	T	$\neg$		$\neg$	$\neg$				
EXPLOSION	158																													T			$\neg$				П			
EPIDEMIC	153							$\neg$							П											十			T	T	T			$\Box$	$\top$	$\neg$	$\exists$			
LANDSUBSIDENCE	138	$\neg$		$\neg$				$\neg$			$\neg$	$\neg$			П					$\neg$		$\neg$		Т		十	Т			$\top$	十	T	$\neg$			ヿ	コ			
CIVIL UNREST	132	一						一				$\neg$								一				十	$\top$	十		Т	1	十	$\top$	T	╛			ヿ	ヿ			
RADIOLOGICAL (FIXED SITE)	132						寸	寸							П					T				十	十	十			十	十	$\top$	7		ヿ	$\dashv$	ヿ	ヿ			
WATER SUPPLY CONTAMINATION	132			$\neg$				一					$\neg$		П					一		$\neg$		十	$\top$	十			$\top$	$\top$	十			ヿ			ヿ			
HAZMAT (FIXED SITE)	97							T																$\neg$	十	1			$\top$	十	十	1		$\dashv$	$\dashv$	ヿ	$\neg$			

# **HAZNY**

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TERRORISM - CHEMICAL	178
ICE STORM	173
TRANS ACCIDENT	172
EARTHQUAKE	169
TERRORISM - RADIOLOGICAL	168
DAM FAILURE	158
EXPLOSION	158
EPIDEMIC	153
LANDSUBSIDENCE	138
CIVIL UNREST	132
RADIOLOGICAL (FIXED SITE)	132
WATER SUPPLY CONTAMINATION	132
HAZMAT (FIXED SITE)	97

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**HAZMAT (IN TRANSIT):** 241, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# LANDSLIDE: 240, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# FLOOD: 216, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** Three Days to One Week

# Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# RADIOLOGICAL (IN TRANSIT): 205, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of East Otto Page 3 of 11

# **ICE JAM:** 194, Moderately Low Hazard

Single Location **Potential Impact:** Cascade Effects: Some Potential Frequency: A Regular Event Onset: One Day Warning Hazard Duration: Two to Three Days

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **SEVERE STORMS:** 188, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects: Some Potential Frequency: A Regular Event Onset: Several Days Warning

**Hazard Duration:** One Day

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# TERRORISM - BIOLOGICAL: 188, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential Frequency: An Infrequent Event

No Warning Onset:

Hazard Duration: Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of East Otto Page 4 of 11

# WILDFIRE / DROUGHT: 188, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 182, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Three Days to One Week

**Impact:** 

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# WINTER STORM (SEVERE): 179, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular Event

Onset: Several Days Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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# TERRORISM - CHEMICAL: 178, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 173, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:Several Days Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

TRANS ACCIDENT: 172, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential Frequency: An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 169, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential

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Frequency: A Rare Event No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 168, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: DAM FAILURE, EXPLOSION, EPIDEMIC, LANDSUBSIDENCE, CIVIL UNREST, RADIOLOGICAL (FIXED SITE), WATER SUPPLY CONTAMINATION, HAZMAT (FIXED SITE)

**DAM FAILURE:** 158, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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**EXPLOSION:** 158, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 153, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**LANDSUBSIDENCE:** 138, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

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#### **CIVIL UNREST:** 132, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 132, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# WATER SUPPLY CONTAMINATION: 132, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# HAZMAT (FIXED SITE): 97, Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infragrant Free

**Frequency:** An Infrequent Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

Serious Injury or Death Unlikely

Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

# HAZARDS THAT OCCUR WITH NO WARNING\*

HAZMAT (IN TRANSIT)

**LANDSLIDE** 

RADIOLOGICAL (IN TRANSIT) TERRORISM - BIOLOGICAL WILDFIRE / DROUGHT

**TORNADO** 

TERRORISM - CHEMICAL

TRANS ACCIDENT

**EARTHQUAKE** 

TERRORISM - RADIOLOGICAL

DAM FAILURE EXPLOSION

**LANDSUBSIDENCE** 

**CIVIL UNREST** 

RADIOLOGICAL (FIXED SITE)

**WATER SUPPLY CONTAMINATION** 

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<sup>\*</sup> No warning was selected from the Onset Tab.

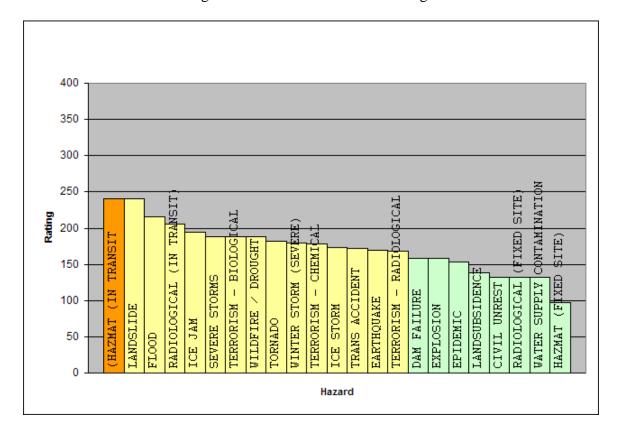


Figure 1. Chart of Hazards vs. Ratings

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# **Hazard Analysis Matrix - Town of East Otto**

		SCOPE							FREQUENCY								<u>IMP</u>	ACT	•					ON	SET	<u> </u>					DU	RA	ATION							
			otent Of Im			<u>Cascade</u> <u>Effect</u>			<u> </u>	requ	iency	<u>,</u>		Pe	ople		_	rivat ropei			ublic cilitie		Warning					<u>Hazard</u>						<u>Recovery</u>						
	Rating	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin(	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks			
Hazard		ίδ	Š	ß	La	Ĭ	Š	Ï	∢	₹	∢	∢	Ē	Ē	Ē	Ē	Ĕ	Ĭ	Se	_==	ž	Š	ž	<u> </u>	<u>5</u> :	<del>5 </del> :	Ĭ	<u>ا ۲</u>	֡֡֡֞֓֓֡֡֞֜֞֓֓֓֡֡֞֜֞֜֡֓֡֡֡֞֜֜֡֡֡֡֡֡	<u>}</u>	ピ	ž	의	<u>ŏ</u>	튀	힉	ž			
HAZMAT (IN TRANSIT)	241	$\dashv$		-		$\dashv$		_	_	$\dashv$		$\dashv$			$\vdash$							_		+	+	+			+	+	4	4		$\dashv$	$\dashv$	$\dashv$	$\dashv$			
	240	$\dashv$		_		$\dashv$		_		$\dashv$		$\dashv$			Ш					$\dashv$		_		4	-	+	+	+	+	+	+	-		-	_	$\dashv$	4			
	216	_		_		_		_				_								_				4		+	-	-		+	+	-	_	4	4	$\dashv$	_			
RADIOLOGICAL (IN TRANSIT)	205	_		_				_				_								_				4	_	4			_	$\bot$	4	4		4	_	$\dashv$	_			
ICE JAM	194					_		_		_		_			Ш					_			4	4		4	4	_	_	4	4	_	_	4	4	_	_			
SEVERE STORMS	188									_													_	_			_			丄	4	_	_	4		$\dashv$				
TERRORISM - BIOLOGICAL	188																							4		┵			┸	$\bot$	4	4		$\dashv$	$\dashv$	$\dashv$	_			
WILDFIRE / DROUGHT	188														Ш										$\perp$	丄			┸	丄	$\perp$	_		$\perp$	$\dashv$	ightharpoonup	_			
TORNADO	182																							$\perp$		丄			┸	╙	┙		$\perp$							
WINTER STORM (SEVERE)	179																																							
TERRORISM - CHEMICAL	178																																							
ICE STORM	173																													$\Box$					П					
TRANS ACCIDENT	172																									Т							П		T		$\Box$			
EARTHQUAKE	169																													Т					П		П			
TERRORISM - RADIOLOGICAL	168																									Т					T				$\neg$	$\Box$				
DAM FAILURE	158											$\Box$												T		Т			T		T	T	$\neg$		$\neg$	$\neg$				
EXPLOSION	158																													T			$\neg$				П			
EPIDEMIC	153							一							П											十			T	T	T			$\Box$	$\top$	$\exists$	$\exists$			
LANDSUBSIDENCE	138	$\neg$		$\neg$				$\neg$			$\neg$	$\neg$			П					$\neg$		$\neg$		Т		十	Т			$\top$	十	T	$\neg$			ヿ	コ			
CIVIL UNREST	132	一						一				$\neg$								一				十	$\top$	十		Т	1	十	十	T	╛			ヿ	ヿ			
RADIOLOGICAL (FIXED SITE)	132						寸	寸							П					T				十	十	十			十	十	$\top$	7		ヿ	$\dashv$	ヿ	ヿ			
WATER SUPPLY CONTAMINATION	132			$\neg$				一					$\neg$		П					一		$\neg$		十	$\top$	十			$\top$	$\top$	十			ヿ		ヿ	ヿ			
HAZMAT (FIXED SITE)	97							T																$\neg$	十	1			$\top$	十	十	1		$\dashv$	$\dashv$	ヿ	$\neg$			

# **HAZNY**

## Background

On **4/14/11**, the Town of Ellicottville conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Town of Ellicottville

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Ellicottville completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Ellicottville. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Ellicottville Page 1 of 11

# The Group rated the 23 hazards as follows:

Hazard	Rating
WILDFIRE / DROUGHT	269
TRANS ACCIDENT	264
WINTER STORM (SEVERE)	234
WATER SUPPLY CONTAMINATION	227
FLOOD	218
ICE JAM	204
TORNADO	204
RADIOLOGICAL (IN TRANSIT)	203
TERRORISM - RADIOLOGICAL	203
HAZMAT (IN TRANSIT)	197
TERRORISM - CHEMICAL	196
ICE STORM	180
EPIDEMIC	168
RADIOLOGICAL (FIXED SITE)	161
SEVERE STORMS	161
TERRORISM - BIOLOGICAL	144
EXPLOSION	139
HAZMAT (FIXED SITE)	136
CIVIL UNREST	130
DAM FAILURE	122
EARTHQUAKE	117
LANDSLIDE	114
LANDSUBSIDENCE	93

# Hazard(s) rated as moderately high: WILDFIRE / DROUGHT, TRANS ACCIDENT

WILDFIRE / DROUGHT: 269, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Frequent EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

# **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Ellicottville Page 2 of 11

TRANS ACCIDENT: 264, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: WINTER STORM (SEVERE), WATER SUPPLY CONTAMINATION, FLOOD, ICE JAM, TORNADO, RADIOLOGICAL (IN TRANSIT), TERROORISM - RADIOLOGICAL, HAZMAT (IN TRANSIT), TERRORISM - CHEMICAL, ICE STORM, EPIDEMIC

WINTER STORM (SEVERE): 234, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# WATER SUPPLY CONTAMINATION: 227, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

Hazard Duration:More Than One WeekRecovery Time:One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Ellicottville Page 3 of 11

#### **FLOOD:** 218, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Likely
Frequency: An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day
Recovery Time: More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# ICE JAM: 204, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**<u>Hazard Duration:</u>** Two to Three Days

**Recovery Time:** Three Days to One Week

# Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **TORNADO:** 204, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential Frequency: An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# RADIOLOGICAL (IN TRANSIT): 203, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 203, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **HAZMAT (IN TRANSIT):** 197, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Ellicottville Page 5 of 11

# TERRORISM - CHEMICAL: 196, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 180, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning Hazard Duration: No Day

**Recovery Time:** One to Two Days

#### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 168, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
Frequency: An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ellicottville Page **6** of **11** 

# Hazard(s) rated as low: RADIOLOGICAL (FIXED SITE), SEVERE STORMS, TERRORISM - BIOLOGICAL, EXPLOSION, HAZMAT (FIXED SITE), CIVIL UNREST, DAM FAILURE, EARTHQUAKE, LANDSLIDE, LANDSUBSIDENCE

#### RADIOLOGICAL (FIXED SITE): 161, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

SEVERE STORMS: 161, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM - BIOLOGICAL: 144, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ellicottville Page 7 of 11

**EXPLOSION:** 139, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# HAZMAT (FIXED SITE): 136, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day **Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 130, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### **DAM FAILURE:** 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **EARTHQUAKE:** 117, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **LANDSLIDE:** 114, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### LANDSUBSIDENCE: 93, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

# HAZARDS THAT OCCUR WITH NO WARNING\*

WILDFIRE / DROUGHT TRANS ACCIDENT

**WATER SUPPLY CONTAMINATION** 

FLOOD ICE JAM TORNADO

RADIOLOGICAL (IN TRANSIT) TERRORISM - RADIOLOGICAL

HAZMAT (IN TRANSIT) TERRORISM - CHEMICAL

ICE STORM EPIDEMIC

RADIOLOGICAL (FIXED SITE)

SEVERE STORMS

**TERRORISM - BIOLOGICAL** 

**EXPLOSION** 

HAZMAT (FIXED SITE)

CIVIL UNREST DAM FAILURE EARTHQUAKE

**LANDSLIDE** 

HAZARDS THAT OCCUR MOST OFTEN\*
WILDFIRE / DROUGHT
TRANS ACCIDENT

Town of Ellicottville Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

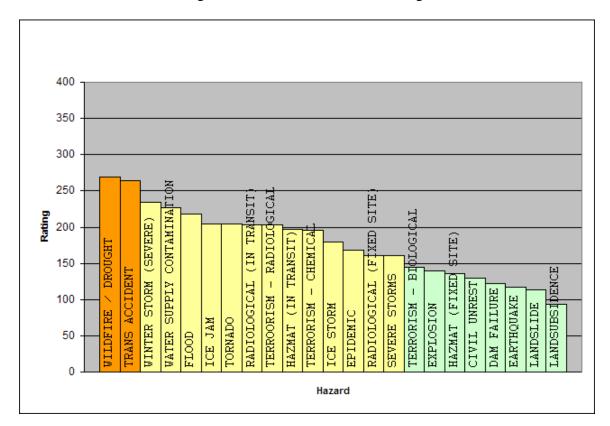


Figure 1. Chart of Hazards vs. Ratings

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# **Hazard Analysis Matrix - Town of Ellicottville**

		SCOPE							FREQUENCY								<u>IMP</u>	ACT	•				<u>ON</u>	ISE	T					DL	JRA	<u>ATION</u>							
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Hazard	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	injury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks		
WILDFIRE / DROUGHT	269	0)	0)	0)	┵	╧	0)	╧	٩	٩	4	◂	-=	=	<u> </u>	=			0)			0)		0)	7	ᅱ	4	-	$\overline{}$	╫	-		┪	$\dashv$	뉘	$\dashv$	4		
TRANS ACCIDENT	264					$\dashv$		_			$\dashv$		$\dashv$							$\dashv$				$\dashv$	+	$\dashv$			$\neg$	_	_	$\neg$			十	$\dashv$	$\dashv$		
WINTER STORM (SEVERE)	234		$\neg$			$\dashv$							一		Н					一			П		+	$\dashv$	7		_		$\dashv$	一			十	$\dashv$	$\dashv$		
WATER SUPPLY CONTAMINATION	227							$\neg$							П									$\neg$	+	$\dashv$	1	1			$\neg$			$\neg$	$\dashv$		$\dashv$		
FLOOD	218						$\neg$																	_	1	十			T		_				╛	$\neg$			
ICE JAM	204	$\neg$				$\neg$					$\neg$	$\neg$								ヿ				寸	寸	寸	T	$\neg$	╗			一		$\neg$		ヿ	$\neg$		
TORNADO	204					一							$\neg$							ヿ				寸	1	寸	1	1		$\neg$					$\neg$	ヿ	ヿ		
RADIOLOGICAL (IN TRANSIT)	203																									T		Т	$\Box$					П		$\neg$			
TERROORISM - RADIOLOGICAL	203							T																		T					一			$\Box$	コ	$\neg$			
HAZMAT (IN TRANSIT)	197							T																		T									$\Box$	П	П		
TERRORISM - CHEMICAL	196																														$\Box$					$\neg$			
ICE STORM	180																																		$\Box$				
EPIDEMIC	168																																						
RADIOLOGICAL (FIXED SITE)	161																																						
SEVERE STORMS	161																																						
TERRORISM - BIOLOGICAL	144																																						
EXPLOSION	139																																						
HAZMAT (FIXED SITE)	136																																						
CIVIL UNREST	130																																						
DAM FAILURE	122																																						
EARTHQUAKE	117																																						
LANDSLIDE	114																																						
LANDSUBSIDENCE	93																																						

# **HAZNY**

## **Background**

On **4/14/11**, the Town of Farmersville conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Farmersville

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Farmersville completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Farmersville. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

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# The Group rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	304
SEVERE STORMS	276
FLOOD	239
ICE STORM	234
ICE JAM	230
DAM FAILURE	224
EARTHQUAKE	189
WILDFIRE/DROUGHT	189
HAZMAT (FIXED SITE)	183
LANDSLIDE	168
TORNADO	168
RADIOLOGICAL (IN TRANSIT)	161
WATER SUPPLY CONTAMINATION	161
TRANS ACCIDENT	152
LANDSUBSIDENCE	150
TERRORISM RADIOLOGICAL	140
<b>EPIDEMIC</b>	135
TERRORISM BIOLOGICAL	134
TERRORISM CHEMICAL	134
EXPLOSION	122
RADIOLOGICAL (FIXED SITE)	122
HAZMAT (IN TRANSIT)	113
CIVIL UNREST	86

# Hazard(s) rated as moderately high: WINTER STORM (SEVERE), SEVERE STORMS

# WINTER STORM (SEVERE): 304, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

Hazard Duration:
Recovery Time:
Two to Three Days
Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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**SEVERE STORMS:** 276, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: FLOOD, ICE STORM, ICE JAM, DAM FAILURE, EARTHQUAKE, WILDFIRE/DROUGHT, HAZMAT (FIXED SITE), LANDSLIDE, TORNADO

FLOOD: 239, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**ICE STORM:** 234, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# ICE JAM: 230, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **DAM FAILURE:** 224, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# EARTHQUAKE: 189, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three Days

**Hazard Duration:** Two to Three Days **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# WILDFIRE/DROUGHT: 189, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Some Potential

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **HAZMAT (FIXED SITE):** 183, Moderately Low Hazard

Potential Impact:
Cascade Effects:
Some Potential
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# LANDSLIDE: 168, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day Recovery Time: One to Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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TORNADO: 168, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Some Potential

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: One to Two Days

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: RADIOLOGICAL (IN TRANSIT), WATER SUPPLY CONTAMINATION, TRANS ACCIDENT, LANDSUBSIDENCE, TERRORISM RADIOLOGICAL, EPIDEMIC, TERRORISM BIOLOGICAL, TERRORISM CHEMICAL, EXPLOSION, RADIOLOGICAL (FIXED SITE), HAZMAT (IN TRANSIT), CIVIL UNREST

RADIOLOGICAL (IN TRANSIT): 161, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 161, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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# TRANS ACCIDENT: 152, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### LANDSUBSIDENCE: 150, Low Hazard

Potential Impact:
Cascade Effects:
Some Potential
An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# TERRORISM RADIOLOGICAL: 140, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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**EPIDEMIC:** 135, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

**Impact:** 

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM BIOLOGICAL:** 134, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TERRORISM CHEMICAL: 134, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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**EXPLOSION:** 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 113, Low Hazard

Potential Impact: Single Location
Cascade Effects: Some Potential
A Rare Event

**Onset:** Several Hours Warning

Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## CIVIL UNREST: 86, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

WINTER STORM (SEVERE)

SEVERE STORMS

FLOOD

**ICE JAM** 

DAM FAILURE

**EARTHQUAKE** 

HAZMAT (FIXED SITE)

LANDSLIDE

RADIOLOGICAL (IN TRANSIT)

WATER SUPPLY CONTAMINATION

TRANS ACCIDENT

**LANDSUBSIDENCE** 

TERRORISM RADIOLOGICAL

TERRORISM BIOLOGICAL

TERRORISM CHEMICAL

**EXPLOSION** 

RADIOLOGICAL (FIXED SITE)

HAZARDS THAT OCCUR MOST OFTEN\*

**WINTER STORM (SEVERE)** 

SEVERE STORMS

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

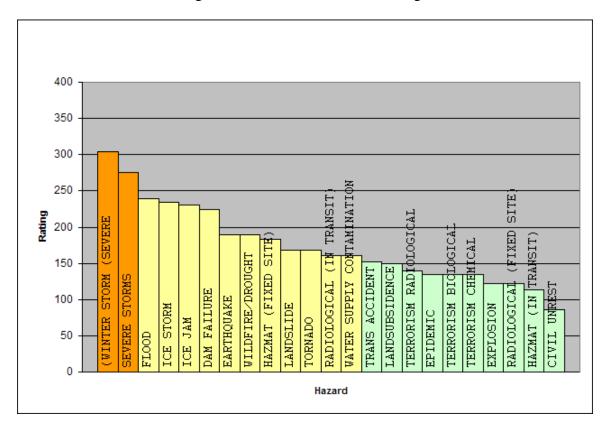


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Farmersville**

	[	SCOPE FREQUENCY								<u>IMP</u>	ACT				ON	SE	<u> </u>					DU	RA	ATION														
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		Of Impact			<u>Effect</u>			<u>Frequency</u>					<u> </u>	ople		<u> </u>	rope	rt <u>y</u>	<u>Facilities</u>			Warning				<u> </u>	<u>Hazard</u>						Recovery					
	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	Injury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	Less Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks	
Hazard		Sin	Se	Sm	Lar	Hig	Sor	Hig	Α	An	Α	ΑF	Inju	lnju	lnj	Inju	∄	ΨŎ	Se	∄	δ	Se	ž	Se	<u>ප</u> :	<u> </u>	Θ̈́	S C	Š	ř	Po.	ğ	Les	ő	Η̈́	ő	Mo	
WINTER STORM (SEVERE)	304																		Ш							$\perp$		┸			┙			_				
	276																		Ш							$\perp$			$\perp$		$\perp$		$\perp$					
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LANDSLIDE	168																		П							Т							П				П	
TORNADO	168																																П					
RADIOLOGICAL (IN TRANSIT)	161																									Т							П		$\neg$			
WATER SUPPLY CONTAMINATION	161																		П							Т							П			$\neg$		
TRANS ACCIDENT	152																									Т									П	П	П	
LANDSUBSIDENCE	150																		П							Т										П		
TERRORISM RADIOLOGICAL	140																		П							T					T		$\neg$		П	$\neg$		
EPIDEMIC	135																		П				$\Box$			T					T		T	$\neg$		П	П	
TERRORISM BIOLOGICAL	134																		П					T		T	T				T	T	T	╗		T	╗	
TERRORISM CHEMICAL	134		一					一											П						$\neg$	$\top$					$\top$	T	寸	一		$\neg$	ヿ	
EXPLOSION	122																		П							$\top$								T	$\neg$	コ	$\neg$	
RADIOLOGICAL (FIXED SITE)	122		一					一											П					一	$\top$	十			十		$\top$			寸	寸	ヿ	$\neg$	
HAZMAT (IN TRANSIT)	113		一					一											П						$\neg$	$\top$					$\top$	T	$\neg$		$\dashv$	$\dashv$	ヿ	
CIVIL UNREST	86																																					

# **HAZNY**

## Background

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#### **HAZNY** and the Town of Hinsdale

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Hinsdale completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Hinsdale. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

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## The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	283
TRANS ACCIDENT	240
WINTER STORM (SEVERE)	235
ICE JAM	231
SEVERE STORMS	146
TORNADO	140
HAZMAT (IN TRANSIT)	136
EARTHQUAKE	124
EXPLOSION	124
WILDFIRE / DROUGHT	124
ICE STORM	123
LANDSLIDE	122
EPIDEMIC	116
CIVIL UNREST	107
DAM FAILURE	107
RADIOLOGICAL (IN TRANSIT)	107
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107
WATER SUPPLY CONTAMINATION	107
HAZMAT (FIXED SITE)	44
LANDSUBSIDENCE	44
RADIOLOGICAL (FIXED SITE)	44

## Hazard(s) rated as moderately high: FLOOD

FLOOD: 283, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Regular EventOnset:No Warning

Hazard Duration: Four days to One Week
Recovery Time: One to Two Weeks

## **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

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# Hazard(s) rated as moderately low: TRANS ACCIDENT, WINTER STORM (SEVERE), ICE JAM

TRANS ACCIDENT: 240, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WINTER STORM (SEVERE): 235, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: One to Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### ICE JAM: 231, Moderately Low Hazard

Potential Impact:<br/>Cascade Effects:Several Locations<br/>Some Potential<br/>A Regular Event<br/>No Warning

Hazard Duration: Two to Three Days

**Recovery Time:** Three Days to One Week

### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

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Hazard(s) rated as low: SEVERE STORMS, TORNADO, HAZMAT (IN TRANSIT), EARTHQUAKE, EXPLOSION, WILDFIRE / DROUGHT, ICE STORM, LANDSLIDE, EPIDEMIC, CIVIL UNREST, DAM FAILURE, RADIOLOGICAL (IN TRANSIT), TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, WATER SUPPLY CONTAMINATION, HAZMAT (FIXED SITE), LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE)

**SEVERE STORMS:** 146, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Less Than One DayRecovery Time:One to Two Days

#### Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 140, Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: One to Two Days

## **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**HAZMAT (IN TRANSIT):** 136, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day One to Two Days

Impact:

Serious Injury or Death is Likely, but not in Large Numbers

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- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 124, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 124, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WILDFIRE / DROUGHT: 124, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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ICE STORM: 123, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare Event

**Onset:** Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

**Impact:** 

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**LANDSLIDE:** 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EPIDEMIC:** 116, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### **CIVIL UNREST: 107, Low Hazard**

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **DAM FAILURE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## TERRORISM - BIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM - CHEMICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## WATER SUPPLY CONTAMINATION: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT** (**FIXED SITE**): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## LANDSUBSIDENCE: 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
Frequency: A Rare Event

Onset: More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

**FLOOD** 

TRANS ACCIDENT

ICE JAM

HAZMAT (IN TRANSIT)

EARTHQUAKE EXPLOSION

WILDFIRE / DROUGHT

LANDSLIDE EPIDEMIC CIVIL UNREST

DAM FAILURE
RADIOLOGICAL (IN TRANSIT)

TERRORISM - BIOLOGICAL

**TERRORISM - CHEMICAL** 

TERRORISM - RADIOLOGICAL

**WATER SUPPLY CONTAMINATION** 

HAZARDS THAT OCCUR MOST OFTEN\*
TRANS ACCIDENT

Town of Hinsdale Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

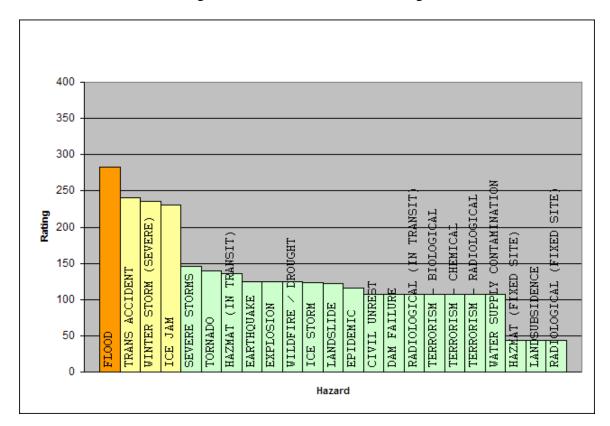


Figure 1. Chart of Hazards vs. Ratings

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## **Hazard Analysis Matrix - Town of Hinsdale**

	ſ	SCOPE FREQUENCY IMPA							IMPACT_							ISE	T	Τ				Dl	JRA	ATION														
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		Of Impact			<u>Effect</u>			<u>Frequency</u>				_	<u> </u>	ople		<u>Property</u>			<u>Facilities</u>			Warning					<u>Hazard</u>						Recovery					
	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks	
Hazard FLOOD	<u>∝</u> 283	Ö	Ŏ	Ō	٣	ᄑ	Ŏ	エ	∢	₹	⋖	⋖	드	<u>=</u>	드	<u></u>		Σ	Š		Σ	Ŏ	Ž	Ŏ	<u> </u>	키	Σ	<del>-</del>	0	F	Щ	Σ	٣	-	튀	러	Σ	
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# **HAZNY**

## Background

On 4/14/11, the Town of Humphrey conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

## HAZNY and the Town of Humphrey

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Humphrey completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Humphrey. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

## The Group rated the 23 hazards as follows:

Hazard	Rating
SEVERE STORMS	294
TERRORISM - BIOLOGICAL	285
WINTER STORM (SEVERE)	274
ICE JAM	269
ICE STORM	260
TORNADO	256
FLOOD	252
TERRORISM - CHEMICAL	242
TERRORISM - RADIOLOGICAL	242
EARTHQUAKE	230
LANDSLIDE	227
HAZMAT (IN TRANSIT)	223
EXPLOSION	193
DAM FAILURE	192
WATER SUPPLY CONTAMINATION	186
RADIOLOGICAL (IN TRANSIT)	184
RADIOLOGICAL (FIXED SITE)	176
EPIDEMIC	174
LANDSUBSIDENCE	161
WILDFIRE / DROUGHT	154
TRANS ACCIDENT	144
CIVIL UNREST	117
HAZMAT (FIXED SITE)	82

Hazard(s) rated as moderately high: SEVERE STORMS, TERRORISM - BIOLOGICAL, WINTER STORM (SEVERE), ICE JAM, ICE STORM, TORNADO, FLOOD, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL

SEVERE STORMS: 294, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:One Day WarningHazard Duration:Four days to One WeekRecovery Time:More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

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## TERRORISM - BIOLOGICAL: 285, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

## WINTER STORM (SEVERE): 274, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:Several Days WarningHazard Duration:Four days to One WeekRecovery Time:More Than Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## ICE JAM: 269, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:Several Days WarningHazard Duration:More Than One WeekRecovery Time:More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

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## ICE STORM: 260, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:One Day WarningHazard Duration:Four days to One WeekRecovery Time:More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

TORNADO: 256, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

## FLOOD: 252, Moderately High Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Highly Likely

Frequency: An Infrequent Event

Onset: Several Hours Warning

Hazard Duration: Four days to One Week

Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

## TERRORISM - CHEMICAL: 242, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 242, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as moderately low: EARTHQUAKE, LANDSLIDE, HAZMAT (IN TRANSIT), EXPLOSION, DAM FAILURE, WATER SUPPLY CONTAMINATION, RADIOLOGICAL (IN TRANSIT), RADIOLOGICAL (FIXED SITE), EPIDEMIC

**EARTHQUAKE:** 230, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Humphrey Page **5** of **11** 

## LANDSLIDE: 227, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning
Hazard Duration: Two to Three Days
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## HAZMAT (IN TRANSIT): 223, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **EXPLOSION:** 193, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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## **DAM FAILURE:** 192, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

## WATER SUPPLY CONTAMINATION: 186, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 184, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## RADIOLOGICAL (FIXED SITE): 176, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 174, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Rare Event

Onset: Several Days Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

#### **Impact:**

- Serious Injury or Death to Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as low: LANDSUBSIDENCE, WILDFIRE / DROUGHT, TRANS ACCIDENT, CIVIL UNREST, HAZMAT (FIXED SITE)

LANDSUBSIDENCE: 161, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### WILDFIRE / DROUGHT: 154, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare Event

Onset:Several Days WarningHazard Duration:More Than One WeekRecovery Time:More Than Two Weeks

#### Impact:

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TRANS ACCIDENT: 144, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **CIVIL UNREST:** 117, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## HAZMAT (FIXED SITE): 82, Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

• Serious Injury or Death is Likely, but not in Large Numbers

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL TERRORISM - RADIOLOGICAL

EARTHQUAKE LANDSLIDE

HAZMAT (IN TRANSIT)

EXPLOSION DAM FAILURE

WATER SUPPLY CONTAMINATION RADIOLOGICAL (IN TRANSIT) RADIOLOGICAL (FIXED SITE)

LANDSUBSIDENCE TRANS ACCIDENT CIVIL UNREST

HAZARDS THAT OCCUR MOST OFTEN\*
WINTER STORM (SEVERE)

#### HAZARDS THAT PRESENT THE GREATEST THREAT TO LIFE\*

TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL TERRORISM - RADIOLOGICAL EPIDEMIC

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

<sup>\*</sup>Serious injury and death in extremely large numbers was selected from the Impact Tab.

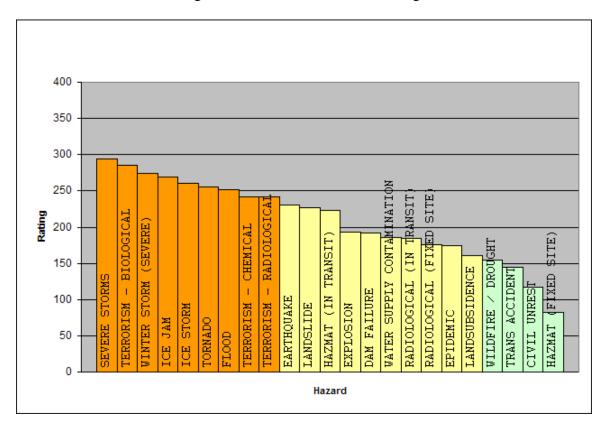


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Humphrey**

		SCOPE							FREQUENCY								<u>IMP</u>	ACT	•					<u>ON</u>	SET	<u> </u>					DU	RA <sup>-</sup>	ATION						
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		_	Potential Area Of Impact				<u>Cascade</u> <u>Effect</u>			requ	iency	<u>,</u>		<u>Ре</u>	ople		_	Privat rope	_		ublic cilitie		Warning					<u>Hazard</u>						<u>Recovery</u>					
Hazard	Rating	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Iwo to I hree Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks		
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TERRORISM - BIOLOGICAL	285																				_			_	_	+	+	十	+	_	_		7	十	十	$\dashv$			
WINTER STORM (SEVERE)	274					$\neg$	$\neg$				$\neg$				П					$\neg$			$\neg$	$\top$			$\top$	十	十		П		寸	十	十	╛			
ICE JAM	269																							$\top$			1	$\top$	$\top$		Т			十	寸	╛			
ICE STORM	260						┪													T			1			_	T	十	十		т	$\neg$	T	十	T	$\neg$			
TORNADO	256									$\neg$			$\neg$		П					$\neg$					$\top$	十				Т	$\top$	一	T	丁	╅	$\neg$			
FLOOD	252						$\neg$																			T		Т	T					丁	$\exists$	╛			
TERRORISM - CHEMICAL	242																							T		T	T							$\Box$	T	$\neg$			
TERRORISM - RADIOLOGICAL	242						T																	T	T	T			T				T		T	$\neg$			
EARTHQUAKE	230						П																			T									П	╗			
LANDSLIDE	227																																		$\Box$				
HAZMAT (IN TRANSIT)	223																											Т	Т					$\Box$	П	$\Box$			
EXPLOSION	193																											$\top$							П	$\neg$			
DAM FAILURE	192																																						
WATER SUPPLY CONTAMINATION	186																											Т	Т					$\Box$	П	$\Box$			
RADIOLOGICAL (IN TRANSIT)	184																									Т		$\top$							П	$\neg$			
RADIOLOGICAL (FIXED SITE)	176																																		П	$\Box$			
EPIDEMIC	174																											$\top$							$\neg$	$\neg$			
LANDSUBSIDENCE	161																									Т		Т	T						П	$\Box$			
WILDFIRE / DROUGHT	154																																	$\Box$		$\Box$			
TRANS ACCIDENT	144																									T									ヿ	╗	$\Box$		
CIVIL UNREST	117																									$oxed{\mathbb{I}}$					Ι								
HAZMAT (FIXED SITE)	82																																						

# **HAZNY**

## **Background**

On **4/14/11**, the Town of Ischua conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Town of Ischua

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Ischua completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Ischua. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Ischua Page 1 of 11

## The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	293
SEVERE STORMS	238
WINTER STORM (SEVERE)	238
ICE STORM	211
TRANS ACCIDENT	198
LANDSUBSIDENCE	135
LANDSLIDE	126
EARTHQUAKE	124
<b>EPIDEMIC</b>	116
EXPLOSION	116
ICE JAM	114
CIVIL UNREST	107
DAM FAILURE	107
HAZMAT (FIXED SITE)	107
HAZMAT (IN TRANSIT)	107
RADIOLOGICAL (IN TRANSIT)	107
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107
TORNADO	107
WATER SUPPLY CONTAMINATION	72
WILDFIRE / DROUGHT	58
RADIOLOGICAL (FIXED SITE)	44

## Hazard(s) rated as moderately high: FLOOD

**FLOOD:** 293, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

Hazard Duration: Four days to One Week
Recovery Time: One to Two Weeks

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Ischua Page 2 of 11

# Hazard(s) rated as moderately low: SEVERE STORMS, WINTER STORM (SEVERE), ICE STORM, TRANS ACCIDENT

**SEVERE STORMS:** 238, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

Hazard Duration: Two to Three Days
Recovery Time: Two to Three Days
Three Days to One Week

## Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WINTER STORM (SEVERE): 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: Three Days to One Week

#### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **ICE STORM:** 211, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day WarningHazard Duration:Two to Three Days

**Recovery Time:** Three Days to One Week

### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Ischua Page 3 of 11

TRANS ACCIDENT: 198, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: LANDSUBSIDENCE, LANDSLIDE, EARTHQUAKE, EPIDEMIC, EXPLOSION, ICE JAM, CIVIL UNREST, DAM FAILURE, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), RADIOLOGICAL (IN TRANSIT), TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, TORNADO, WATER SUPPLY CONTAMINATION, WILDFIRE / DROUGHT, RADIOLOGICAL (FIXED SITE)

LANDSUBSIDENCE: 135, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Days

## **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**LANDSLIDE:** 126, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

## Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ischua Page 4 of 11

**EARTHQUAKE:** 124, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 116, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 116, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ischua Page 5 of 11

#### ICE JAM: 114, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **DAM FAILURE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ischua Page 6 of 11

## HAZMAT (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ischua Page 7 of 11

# TERRORISM - BIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **TERRORISM - CHEMICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ischua Page 8 of 11

**TORNADO:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### WATER SUPPLY CONTAMINATION: 72, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# WILDFIRE / DROUGHT: 58, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: Several Days Warning
Hazard Duration: Less Than One Day
Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Ischua Page 9 of 11

# RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **Biggest Hazards**

# HAZARDS THAT OCCUR WITH NO WARNING\*

**FLOOD** 

SEVERE STORMS TRANS ACCIDENT LANDSUBSIDENCE

LANDSLIDE EARTHQUAKE EPIDEMIC EXPLOSION ICE JAM CIVIL UNREST DAM FAILURE

HAZMAT (FIXED SITE)
HAZMAT (IN TRANSIT)

RADIOLOGICAL (IN TRANSIT)
TERRORISM - BIOLOGICAL
TERRORISM - CHEMICAL
TERRORISM - RADIOLOGICAL

**TORNADO** 

Town of Ischua Page 10 of 11

<sup>\*</sup> No warning was selected from the Onset Tab.

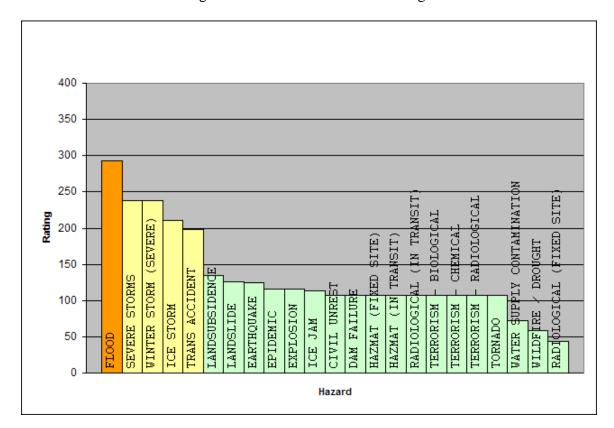


Figure 1. Chart of Hazards vs. Ratings

Town of Ischua Page 11 of 11

# Hazard Analysis Matrix - Town of Ischua

		SCOPE						FR	EQL	JEN	CY					IMPACT						ONSET					DURA						TION				
		Potential Area				<u>Cascade</u>						ъ.			Private Proporty			Public Facilities			Warning					Hozord					Pocovony						
		Of Impact				<u>Effect</u>			<u>Frequency</u>			<u>People</u>				<u>Property</u>			<u>Facilities</u>			Warning					<u>Hazard</u>					Recovery				_	
Hazard	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks
FLOOD	293	S	S	S	ت	ᄑ	S	ᄑ	⋖	⋖	⋖	⋖	느	느	느	ᅩ		2	S		≥	S	Z	S	<u> </u>	弈	≥	+	4	Ė	<u> </u>	≥	귀	9	누	러	
SEVERE STORMS	238					$\dashv$		_		$\dashv$											_			$\dashv$	+	+	+	+	+		_	+	$\dashv$	_	一	$\dashv$	$\dashv$
WINTER STORM (SEVERE)	238					$\dashv$		_		$\dashv$		$\dashv$							Н				_		+	十	+	+	-		$\dashv$	$\dashv$	$\dashv$	┪		十	$\dashv$
ICE STORM	211					$\dashv$		_		$\dashv$		$\dashv$							Н	$\dashv$			П	_		十	+	+	-1		$\dashv$	_	$\dashv$	$\dashv$		$\dashv$	$\dashv$
TRANS ACCIDENT	198																		Н					_	_	十			7	_	1			┪	$\neg$	$\dashv$	$\dashv$
LANDSUBSIDENCE	135									$\neg$									П					$\dashv$	$\top$	十	т	_	1		$\dashv$	T	$\neg$		寸	ヿ	ヿ
LANDSLIDE	126							T																	1	T			T	$\neg$			╛		寸	ヿ	ヿ
EARTHQUAKE	124						$\neg$	一																T		十			$\neg$	$\top$	T	_		$\neg$	$\Box$	$\neg$	
EPIDEMIC	116							T																		T			T						ヿ	コ	コ
EXPLOSION	116																									T											
ICE JAM	114																																				
CIVIL UNREST	107																																				
DAM FAILURE	107																																				
HAZMAT (FIXED SITE)	107																																				
HAZMAT (IN TRANSIT)	107																																				
RADIOLOGICAL (IN TRANSIT)	107																																				
TERRORISM - BIOLOGICAL	107																																				
TERRORISM - CHEMICAL	107																																				
TERRORISM - RADIOLOGICAL	107																																				
TORNADO	107																																				
WATER SUPPLY CONTAMINATION	72																									$\perp$			$\perp$								
WILDFIRE / DROUGHT	58																														$\Box$						
RADIOLOGICAL (FIXED SITE)	44																																				

# **HAZNY**

# **Background**

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The results of this hazard analysis are presented in this report.

### HAZNY and the Town of Leon

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The Highway Superintendant analyzed hazards potentially affecting the Town of Leon. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Leon Page 1 of 11

# The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	289
WILDFIRE / DROUGHT	267
SEVERE STORMS	262
<b>EPIDEMIC</b>	258
ICE STORM	257
WINTER STORM (SEVERE)	248
TORNADO	227
TRANS ACCIDENT	224
CIVIL UNREST	211
HAZMAT (IN TRANSIT)	168
EARTHQUAKE	159
LANDSLIDE	134
EXPLOSION	130
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107
WATER SUPPLY CONTAMINATION	107
DAM FAILURE	44
HAZMAT (FIXED SITE)	44
ICE JAM	44
LANDSUBSIDENCE	44
RADIOLOGICAL (FIXED SITE)	44
RADIOLOGICAL (IN TRANSIT)	44

# Hazard(s) rated as moderately high: FLOOD, WILDFIRE / DROUGHT, SEVERE STORMS, EPIDEMIC, ICE STORM, WINTER STORM (SEVERE)

FLOOD: 289, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Frequent EventOnset:One Day WarningHazard Duration:Four days to One WeekRecovery Time:One to Two Days

# **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Leon Page 2 of 11

# WILDFIRE / DROUGHT: 267, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **SEVERE STORMS:** 262, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Frequent EventOnset:Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** More Than Two Weeks

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **EPIDEMIC:** 258, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Leon Page 3 of 11

# ICE STORM: 257, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Frequent Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** More Than Two Weeks

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# WINTER STORM (SEVERE): 248, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Frequent Event

**Onset:** Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: TORNADO, TRANS ACCIDENT, CIVIL UNREST, HAZMAT (IN TRANSIT)

**TORNADO:** 227, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential

**Frequency:** An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Leon Page 4 of 11

# TRANS ACCIDENT: 224, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **CIVIL UNREST: 211, Moderately Low Hazard**

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

# **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **HAZMAT (IN TRANSIT):** 168, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

**Onset:** No Warning

Hazard Duration: Less Than One Day
Recovery Time: Less Than One Day

### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: EARTHQUAKE, LANDSLIDE, EXPLOSION, TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, WATER SUPPLY CONTAMINATION, DAM FAILURE,

Town of Leon Page 5 of 11

# HAZMAT (FIXED SITE), ICE JAM, LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

**EARTHQUAKE:** 159, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

LANDSLIDE: 134, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 130, Low Hazard

Potential Impact:<br/>Cascade Effects:Single Location<br/>Some Potential<br/>A Rare Event<br/>No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Leon Page 6 of 11

# TERRORISM - BIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **TERRORISM - CHEMICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Leon Page 7 of 11

# WATER SUPPLY CONTAMINATION: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **DAM FAILURE:** 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **HAZMAT (FIXED SITE):** 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
Frequency: A Rare Event

**Onset:** More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Leon Page 8 of 11

### ICE JAM: 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **LANDSUBSIDENCE:** 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
Frequency: A Rare Event

Onset: More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Leon Page 9 of 11

# RADIOLOGICAL (IN TRANSIT): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **Biggest Hazards**

# HAZARDS THAT OCCUR WITH NO WARNING\*

WILDFIRE / DROUGHT

EPIDEMIC TORNADO

TRANS ACCIDENT CIVIL UNREST

HAZMAT (IN TRANSIT)

EARTHQUAKE LANDSLIDE EXPLOSION

TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL TERRORISM - RADIOLOGICAL WATER SUPPLY CONTAMINATION

# HAZARDS THAT OCCUR MOST OFTEN\*

FLOOD WILDFIRE / DROUGHT SEVERE STORMS ICE STORM WINTER STORM (SEVERE) TRANS ACCIDENT

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

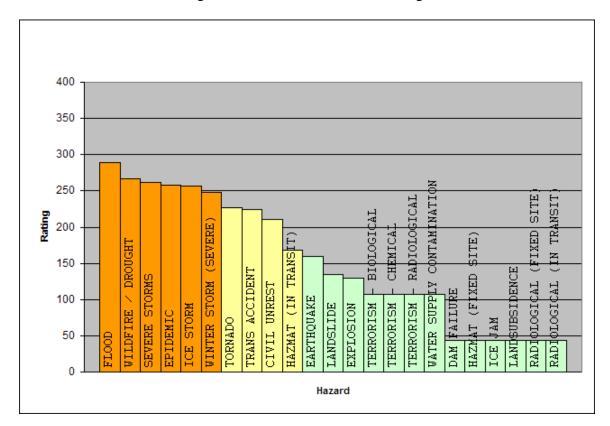


Figure 1. Chart of Hazards vs. Ratings

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# **Hazard Analysis Matrix - Town of Leon**

		SCOPE							FREQUENCY								IMPACT							ONSET						<u>D</u>	UR/	ATIC	TION				
																																			П		
		Potential Area Of Impact						<u>Cascade</u>									<u>Private</u>			<u>Public</u>																	
					<u>Effect</u>			<u>Frequency</u>			<u>People</u>				<u>Property</u>			<u>Facilities</u>			Warning					<u>Hazard</u>					Recovery						
Hazard	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to Otte week warning More Than a Week Warnin	ess Than One Day	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks	
FLOOD	289	S	Ø	Ø	ت	エ	Ø	I	∢	₹	⋖	∢	드	드	드	u		Σ	Š	Ë	Σ	Ø	Ž	Ø	<u> </u>	<u> </u>	-		ΨÉ	<u> </u>	Σ	تـــا	러	튀	쒸	Σ	
WILDFIRE / DROUGHT	267	$\vdash$		$\dashv$	$\dashv$	$\dashv$	-		$\dashv$		$\dashv$													+		+		$\vdash$	+		$\vdash$			$\dashv$	$\dashv$		
SEVERE STORMS	262	$\dashv$		$\dashv$				$\dashv$		$\dashv$	$\dashv$								Н	$\dashv$			-		+	+		-	+	+-	_		$\vdash$	$\dashv$	$\dashv$		
EPIDEMIC	258	$\vdash$		$\dashv$	$\dashv$	_		$\dashv$		$\dashv$									Н					-	+	+	+		+	+			$\vdash$	$\dashv$	$\dashv$		
ICE STORM	257				_	$\dashv$				$\dashv$															+	+	+		+	$\vdash$			$\vdash$	$\dashv$	$\dashv$		
WINTER STORM (SEVERE)	248		-			$\dashv$	-				$\dashv$												-		+	+	+		$\vdash$	+			$\Box$	$\dashv$	$\blacksquare$	-	
TORNADO	227		_			$\dashv$					$\dashv$								Н					_	+	+				${f  au}$			$\Box$	寸	7		
TRANS ACCIDENT	224							_	_		$\neg$													十	$\top$	十		П	$\top$	T			$\sqcap$	$\dashv$	寸	$\neg$	
CIVIL UNREST	211					$\neg$																		十	$\top$	$\top$			$\top$	$\top$			$\sqcap$	寸	ヿ	┪	
HAZMAT (IN TRANSIT)	168						T																	寸		$\top$			$\top$					$\dashv$	寸	$\neg$	
EARTHQUAKE	159					$\neg$																		十		$\top$			$\top$	T			П	T	ヿ	ヿ	
LANDSLIDE	134							$\neg$																T									$\Box$	T	$\neg$		
EXPLOSION	130					$\neg$		П																T		Τ							П	$\Box$	$\neg$		
TERRORISM - BIOLOGICAL	107																																				
TERRORISM - CHEMICAL	107																																				
TERRORISM - RADIOLOGICAL	107																												$\Box$								
WATER SUPPLY CONTAMINATION	107																																				
DAM FAILURE	44																																				
HAZMAT (FIXED SITE)	44																																				
ICE JAM	44																							$\Box$						oxdot			$\Box$		$\Box$		
LANDSUBSIDENCE	44																																				
RADIOLOGICAL (FIXED SITE)	44																																				
RADIOLOGICAL (IN TRANSIT)	44																																Ш				

# **HAZNY**

# Background

On **4/14/11**, the Town of Little Valley conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

# **HAZNY** and the Town of Little Valley

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Little Valley completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Little Valley. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

# The Group rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	287
SEVERE STORMS	246
FLOOD	240
ICE STORM	214
TORNADO	210
ICE JAM	204
LANDSLIDE	204
LANDSUBSIDENCE	174
EARTHQUAKE	160
EXPLOSION	142
WILDFIRE / DROUGHT	124
CIVIL UNREST	107
EPIDEMIC	107
HAZMAT (FIXED SITE)	107
HAZMAT (IN TRANSIT)	107
RADIOLOGICAL (FIXED SITE)	107
RADIOLOGICAL (IN TRANSIT)	107
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107
TRANS ACCIDENT	107
WATER SUPPLY CONTAMINATION	107
DAM FAILURE	44

# $\label{eq:high:winter} \textbf{Hazard}(s) \ \textbf{rated} \ \textbf{as} \ \textbf{moderately high: WINTER STORM} \ (\textbf{SEVERE}), \textbf{SEVERE} \\ \textbf{STORMS}$

# WINTER STORM (SEVERE): 287, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

<u>Hazard Duration:</u> Two to Three Days

<u>Recovery Time:</u> Two to Three Days

Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Little Valley

**SEVERE STORMS:** 246, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: FLOOD, ICE STORM, TORNADO, ICE JAM, LANDSLIDE, LANDSUBSIDENCE

**FLOOD:** 240, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 214, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# TORNADO: 210, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential Frequency: An Infrequent Event

Onset: No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** Two to Three Days

Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

### ICE JAM: 204, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

**Onset:** No Warning

**<u>Hazard Duration:</u>** Two to Three Days

**Recovery Time:** Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# LANDSLIDE: 204, Moderately Low Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Highly Likely

**Frequency:** An Infrequent Event

Onset: No Warning

Hazard Duration: Two to Three Days One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

### **LANDSUBSIDENCE:** 174, Moderately Low Hazard

**Potential Impact:** Several Locations **Cascade Effects:** Highly Unlikely

Town of Little Valley

**Frequency:** An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

**Impact:** 

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: EARTHQUAKE, EXPLOSION, WILDFIRE / DROUGHT, CIVIL UNREST, EPIDEMIC, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT), TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, TRANS ACCIDENT, WATER SUPPLY CONTAMINATION, DAM FAILURE

**EARTHQUAKE:** 160, Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 142, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

### WILDFIRE / DROUGHT: 124, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# HAZMAT (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# RADIOLOGICAL (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **TERRORISM - BIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# TERRORISM - CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### TRANS ACCIDENT: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# WATER SUPPLY CONTAMINATION: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# DAM FAILURE: 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **Biggest Hazards**

# HAZARDS THAT OCCUR WITH NO WARNING\*

**WINTER STORM (SEVERE)** 

SEVERE STORMS

FLOOD ICE STORM TORNADO ICE JAM LANDSLIDE

LANDSUBSIDENCE EARTHQUAKE EXPLOSION

WILDFIRE / DROUGHT

CIVIL UNREST

**EPIDEMIC** 

HAZMAT (FIXED SITE) HAZMAT (IN TRANSIT)

RADIOLOGICAL (FIXED SITE) RADIOLOGICAL (IN TRANSIT) TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL

TERRORISM - RADIOLOGICAL

TRANS ACCIDENT

**WATER SUPPLY CONTAMINATION** 

HAZARDS THAT OCCUR MOST OFTEN\*
WINTER STORM (SEVERE)

Town of Little Valley

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

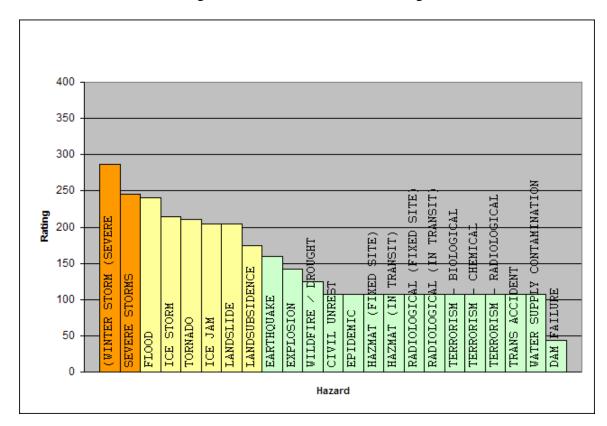


Figure 1. Chart of Hazards vs. Ratings

# **HAZNY**

# Background

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The results of this hazard analysis are presented in this report.

# HAZNY and the Town of Lyndon

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Lyndon completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Lyndon. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Lyndon Page 1 of 11

# The Highway Superintendant rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	320
FLOOD	270
ICE STORM	254
ICE JAM	240
SEVERE STORMS	240
DAM FAILURE	214
TORNADO	201
WATER SUPPLY CONTAMINATION	197
WILDFIRE/DROUGHT	189
EARTHQUAKE	166
HAZMAT (IN TRANSIT)	164
LANDSLIDE	156
TRANS ACCIDENT	152
CIVIL UNREST	143
EPIDEMIC	143
EXPLOSION	143
HAZMAT (FIXED SITE)	143
LANDSUBSIDENCE	143
RADIOLOGICAL (FIXED SITE)	143
RADIOLOGICAL (IN TRANSIT)	143
TERRORISM CHEMICAL	143
TERRORISM RADIOLOGICAL	143
TERRORISM BIOLOGICAL	107

# $\label{eq:high:winter} \textbf{Hazard}(s) \ \textbf{rated} \ \textbf{as moderately high: WINTER STORM (SEVERE), FLOOD, ICE STORM \\$

WINTER STORM (SEVERE): 320, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

Hazard Duration:
Recovery Time:
Two to Three Days
Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

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# FLOOD: 270, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** More Than Two Weeks

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

ICE STORM: 254, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** Two to Three Days

Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: ICE JAM, SEVERE STORMS, DAM FAILURE, TORNADO, WATER SUPPLY CONTAMINATION, WILDFIRE/DROUGHT, EARTHQUAKE, HAZMAT (IN TRANSIT)

**ICE JAM:** 240, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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SEVERE STORMS: 240, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **DAM FAILURE:** 214, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **TORNADO:** 201, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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# WATER SUPPLY CONTAMINATION: 197, Moderately Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
An Infrequent Event

Onset: No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# WILDFIRE/DROUGHT: 189, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

# **EARTHQUAKE:** 166, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Lyndon Page 5 of 11

# HAZMAT (IN TRANSIT): 164, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: LANDSLIDE, TRANS ACCIDENT, CIVIL UNREST, EPIDEMIC, EXPLOSION, HAZMAT (FIXED SITE), LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT), TERRORISM CHEMICAL, TERRORISM RADIOLOGICAL, TERRORISM BIOLOGICAL

LANDSLIDE: 156, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### TRANS ACCIDENT: 152, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

# Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Lyndon Page 6 of 11

**CIVIL UNREST:** 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Lyndon Page 7 of 11

# HAZMAT (FIXED SITE): 143, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **LANDSUBSIDENCE:** 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# RADIOLOGICAL (FIXED SITE): 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Lyndon Page 8 of 11

#### RADIOLOGICAL (IN TRANSIT): 143, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM CHEMICAL:** 143, Low Hazard

Potential Impact:
Cascade Effects:
Frequency:

Single Location
Highly Unlikely
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM RADIOLOGICAL: 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Lyndon Page 9 of 11

#### TERRORISM BIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

**WINTER STORM (SEVERE)** 

FLOOD ICE STORM ICE JAM

SEVERE STORMS DAM FAILURE

**TORNADO** 

WATER SUPPLY CONTAMINATION

**EARTHQUAKE** 

HAZMAT (IN TRANSIT)

LANDSLIDE

TRANS ACCIDENT

**CIVIL UNREST** 

**EPIDEMIC** 

**EXPLOSION** 

HAZMAT (FIXED SITE)

**LANDSUBSIDENCE** 

RADIOLOGICAL (FIXED SITE)

RADIOLOGICAL (IN TRANSIT)

TERRORISM CHEMICAL

TERRORISM RADIOLOGICAL

TERRORISM BIOLOGICAL

HAZARDS THAT OCCUR MOST OFTEN\*
WINTER STORM (SEVERE)

Town of Lyndon Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

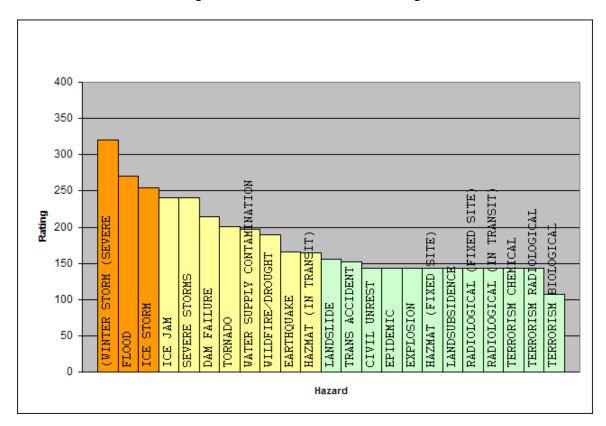


Figure 1. Chart of Hazards vs. Ratings

Town of Lyndon Page 11 of 11

## **Hazard Analysis Matrix - Town of Lyndon**

		SCOPE							FR	EQL	JEN(	CY					IMPACT							ONSET						<u>D</u>	UR/	ATION								
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	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to One week warning More Than a Week Warning	VIOLE THAIL A WEEK WALLING	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks				
Hazard		ίğ	Se	ű	La	Ξ̈́	တိ	Ξ̈́	∢	Ą	₹	₹	П	Īnj	Ē	Ī	∄	Mc	Se	플	ĭ	Se	ž	8 N	<u> </u>	3 ≥	<u> </u>	<u> </u>	<u>;</u>	요	ĭ	Le Le	ō	부	<u> </u>	ğ				
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	197																																							
	189																																							
EARTHQUAKE	166																																							
HAZMAT (IN TRANSIT)	164																																							
LANDSLIDE	156					П																							Т						$\Box$					
TRANS ACCIDENT	152																																							
CIVIL UNREST	143																																		$\Box$					
EPIDEMIC	143																												Т											
EXPLOSION	143								ヿ															T		T			$\top$						П					
HAZMAT (FIXED SITE)	143																												1											
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RADIOLOGICAL (FIXED SITE)	143		$\neg$	一	$\neg$		ヿ	一	ヿ		$\neg$	$\Box$												す	╅	十			$\top$				$\Box$		ヿ					
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TERRORISM BIOLOGICAL	107							一																T	1	$\top$			T						ヿ	ヿ				

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# **HAZNY**

#### Background

On **4/14/11**, the Town of Machias conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Machias

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Machias completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Machias. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Machias Page 1 of 11

#### The Group rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	320
FLOOD	256
ICE STORM	254
ICE JAM	246
SEVERE STORMS	240
DAM FAILURE	214
TORNADO	189
WILDFIRE / DROUGHT	189
WATER SUPPLY CONTAMINATION	174
HAZMAT (FIXED SITE)	164
EARTHQUAKE	158
EXPLOSION	152
TRANS ACCIDENT	152
CIVIL UNREST	143
HAZMAT (IN TRANSIT)	143
LANDSLIDE	119
EPIDEMIC	107
LANDSUBSIDENCE	107
RADIOLOGICAL (FIXED SITE)	107
RADIOLOGICAL (IN TRANSIT)	107
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107

# Hazard(s) rated as moderately high: WINTER STORM (SEVERE), FLOOD, ICE STORM, ICE JAM

WINTER STORM (SEVERE): 320, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

Hazard Duration:
Recovery Time:
Two to Three Days
Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

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#### FLOOD: 256, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

#### ICE STORM: 254, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** Two to Three Days

Three Days to One Week

Impact:

• Serious Injury or Death is Likely, but not in Large Numbers

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **ICE JAM:** 246, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

Hazard Duration: Two to Three Days One to Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: SEVERE STORMS, DAM FAILURE, TORNADO, WILDFIRE / DROUGHT, WATER SUPPLY CONTAMINATION, HAZMAT (FIXED SITE)

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**SEVERE STORMS:** 240, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**DAM FAILURE:** 214, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**TORNADO:** 189, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential Frequency: An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Machias Page 4 of 11

#### WILDFIRE / DROUGHT: 189, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Two to Three Days

**Recovery Time:** Three Days to One Week

#### Impact:

Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 174, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (FIXED SITE):** 164, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: EARTHQUAKE, EXPLOSION, TRANS ACCIDENT, CIVIL UNREST, HAZMAT (IN TRANSIT), LANDSLIDE, EPIDEMIC, LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN

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### TRANSIT), TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL

**EARTHQUAKE:** 158, Low Hazard

**Potential Impact:** Single Location Cascade Effects: Highly Unlikely Frequency: An Infrequent Event

No Warning Onset:

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EXPLOSION:** 152, Low Hazard

Potential Impact: Single Location Cascade Effects: Highly Unlikely Frequency: An Infrequent Event Onset: One Day Warning Two to Three Days **Hazard Duration:** 

**Recovery Time:** Three Days to One Week

#### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

TRANS ACCIDENT: 152, Low Hazard

Potential Impact: Single Location **Cascade Effects:** Highly Unlikely Frequency: An Infrequent Event

Onset: No Warning

Hazard Duration: Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Machias Page **6** of **11** 

#### **CIVIL UNREST: 143, Low Hazard**

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 143, Low Hazard

Potential Impact:
Cascade Effects:
Frequency:

Single Location
Highly Unlikely
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **LANDSLIDE:** 119, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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**EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **LANDSUBSIDENCE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM - BIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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#### TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

**WINTER STORM (SEVERE)** 

FLOOD ICE STORM ICE JAM

SEVERE STORMS DAM FAILURE

**TORNADO** 

WATER SUPPLY CONTAMINATION

HAZMAT (FIXED SITE)

EARTHQUAKE TRANS ACCIDENT CIVIL UNREST

HAZMAT (IN TRANSIT)

LANDSLIDE EPIDEMIC

**LANDSUBSIDENCE** 

RADIOLOGICAL (FIXED SITE) RADIOLOGICAL (IN TRANSIT) TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL

TERRORISM - RADIOLOGICAL

HAZARDS THAT OCCUR MOST OFTEN\*
WINTER STORM (SEVERE)

Town of Machias Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

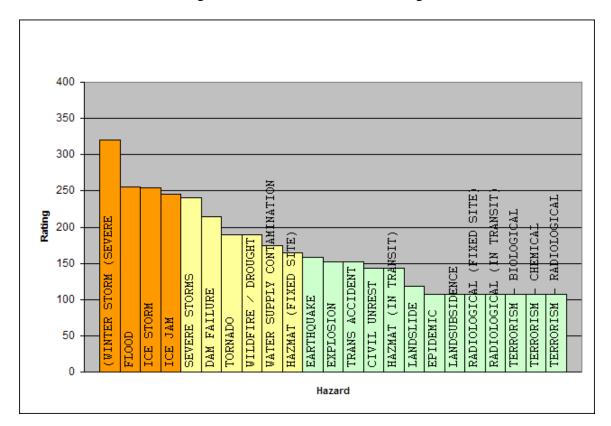


Figure 1. Chart of Hazards vs. Ratings

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## **Hazard Analysis Matrix - Town of Machias**

		SCOPE							FR	EQL	IEN	CY					<u>IMPACT</u>							ON	SE	Γ					DL	JRA	<u>ATION</u>						
			Potential Area Cascade Of Impact Effect			_	·				р.			_	rivat	_		ublic			١٨/-		_		Hazard						Recovery								
							Ellect			Frequency				<u> </u>	ople		<u>Property</u>			<u>Facilities</u>			Warning					<del>                                     </del>											
	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks		
Hazard	320	ι <u>ν</u>	Š	ν̈	La	ᄑ	ŏ	王	⋖	₹	⋖	∢	<u>=</u>	Ē	<u>=</u>	Ē	Ξ	Ž	Š	ニ	ž	Š	ž	<u> </u>	<u> 5</u> :	<u>5</u>  :	Ž	ᅫ	Ō		프	ž	<u> </u>	ō	阜	흿	Š		
WINTER STORM (SEVERE)						$\dashv$		_	_	$\dashv$	_		$\dashv$		Н				Н	_	$\dashv$			+	+	+	+	+	-		$\dashv$	_	$\dashv$	$\dashv$		$\dashv$	$\dashv$		
FLOOD	256 254					$\dashv$		$\dashv$	$\dashv$	$\dashv$		$\dashv$	$\dashv$		Н				Н	-				+	+	+	+	+			$\dashv$	$\dashv$	$\dashv$	-		$\dashv$	$\dashv$		
ICE STORM	246					_				_									Н	-				+	+	+	+	+	-		$\dashv$			-	4	$\dashv$	_		
ICE JAM						$\dashv$						_			Н				Н	_				+	_	+	+	+	-		-			-	4	4	-		
SEVERE STORMS	240				$\dashv$	$\dashv$		_	-			$\dashv$			Н				Н	-		$\dashv$		+	+	+	-		+	-		_	$\dashv$	-	4	$\dashv$			
DAM FAILURE	214								_		_	$\dashv$							Ш	-				+	+	+	4	-	+	-		_	-		$\dashv$	4			
TORNADO	189					_		_	_		_	_							$\vdash \vdash$	-				_	+	+	-		4	_	4	_	-		$\dashv$	$\dashv$	_		
WILDFIRE / DROUGHT	189								_		-				Ш				Ш	_		_	4		+	+	+	+	4		4		$\dashv$	-	_	$\dashv$			
WATER SUPPLY CONTAMINATION	174						-				_	_			Ш				Ш			_		_	_	+	_	4	_	_	4		-		$\dashv$	4			
HAZMAT (FIXED SITE)	164								_										Ш					_	_	+	4	_		_	4		_		$\dashv$	$\dashv$	_		
EARTHQUAKE	158								_			_			Ш				Ш	_				4	_	4	4		4	_	4		_		_	$\dashv$	_		
EXPLOSION	152										_				Ш				Ш	_			_	4		4	_	_	_		_	_	_	_		$\dashv$	_		
TRANS ACCIDENT	152																		Ш					_		4	_		_		_	_		_	_	$\dashv$	_		
CIVIL UNREST	143								_		_								Ш					4	_	4			4	_	_	_		_	$\dashv$	$\dashv$			
HAZMAT (IN TRANSIT)	143								_										Ш						_	_			$\perp$	_	_	_			$\dashv$	ightharpoonup			
LANDSLIDE	119																		Ш								$\perp$								$\sqcup$	ightharpoonup			
EPIDEMIC	107							_											Ш					$\perp$		ᆚ						_				$\Box$			
LANDSUBSIDENCE	107																							$\perp$		丄			$\perp$		$\perp$								
RADIOLOGICAL (FIXED SITE)	107																																						
RADIOLOGICAL (IN TRANSIT)	107							I				]																	$\Box$			]					$\Box$		
TERRORISM - BIOLOGICAL	107																																			$\Box$			
TERRORISM - CHEMICAL	107																									floor													
TERRORISM - RADIOLOGICAL	107																																						

# **HAZNY**

#### Background

On **4/14/11**, the Town of Mansfield conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

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#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Mansfield. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Mansfield Page 1 of 11

#### The Group rated the 23 hazards as follows:

Hazard	Rating
ICE STORM	221
LANDSLIDE	216
WILDFIRE / DROUGHT	200
FLOOD	194
SEVERE STORMS	192
WINTER STORM (SEVERE)	188
TORNADO	172
CIVIL UNREST	107
EARTHQUAKE	107
<b>EPIDEMIC</b>	107
EXPLOSION	107
HAZMAT (FIXED SITE)	107
HAZMAT (IN TRANSIT)	107
TERRORISM-BIOLOGICAL	107
TERRORISM-CHEMICAL	107
TERRORISM-RADIOLOGICAL	107
TRANS ACCIDENT	107
WATER SUPPLY CONTAMINATION	107
ICE JAM	72
LANDSUBSIDENCE	58
DAM FAILURE	44
RADIOLOGICAL (FIXED SITE)	44
RADIOLOGICAL (IN TRANSIT)	44

Hazard(s) rated as moderately low: ICE STORM, LANDSLIDE, WILDFIRE / DROUGHT, FLOOD, SEVERE STORMS, WINTER STORM (SEVERE), TORNADO

ICE STORM: 221, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects: Some Potential
Frequency: An Infrequent Event

**Onset:** No Warning

Hazard Duration: Two to Three Days One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Mansfield Page 2 of 11

#### LANDSLIDE: 216, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infrequent Event

Onset: No Warning

**Hazard Duration:** Four days to One Week One to Two Weeks

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WILDFIRE / DROUGHT: 200, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **FLOOD:** 194, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infrequent Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**SEVERE STORMS:** 192, Moderately Low Hazard

**Potential Impact:** Single Location **Cascade Effects:** Highly Unlikely

Town of Mansfield Page 3 of 11

Frequency: A Frequent Event One Day Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 188, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 172, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

<u>Hazard Duration:</u> Less Than One Day <u>Recovery Time:</u> Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: CIVIL UNREST, EARTHQUAKE, EPIDEMIC, EXPLOSION, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), TERRORISM-BIOLOGICAL, TERRORISM-CHEMICAL, TERRORISM-RADIOLOGICAL, TRANS ACCIDENT, WATER SUPPLY CONTAMINATION, ICE JAM, LANDSUBSIDENCE, DAM FAILURE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

Town of Mansfield Page 4 of 11

CIVIL UNREST: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Mansfield Page 5 of 11

**EXPLOSION:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (FIXED SITE):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM-BIOLOGICAL:** 107, Low Hazard

**Potential Impact:** Single Location **Cascade Effects:** Highly Unlikely

Town of Mansfield Page 6 of 11

Frequency: A Rare Event No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM-CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM-RADIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TRANS ACCIDENT: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Town of Mansfield Page 7 of 11

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### ICE JAM: 72, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### LANDSUBSIDENCE: 58, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: Several Days Warning
Hazard Duration: Less Than One Day
Recovery Time: Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Mansfield Page 8 of 11

#### **DAM FAILURE:** 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

**Onset:** More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

**Onset:** More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Mansfield Page 9 of 11

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

ICE STORM LANDSLIDE

WILDFIRE / DROUGHT

**TORNADO** 

**CIVIL UNREST** 

**EARTHQUAKE** 

**EPIDEMIC** 

**EXPLOSION** 

HAZMAT (FIXED SITE)

**HAZMAT (IN TRANSIT)** 

TERRORISM-BIOLOGICAL

TERRORISM-CHEMICAL

TERRORISM-RADIOLOGICAL

TRANS ACCIDENT

WATER SUPPLY CONTAMINATION

HAZARDS THAT OCCUR MOST OFTEN\*
SEVERE STORMS

Town of Mansfield Page 10 of 11

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

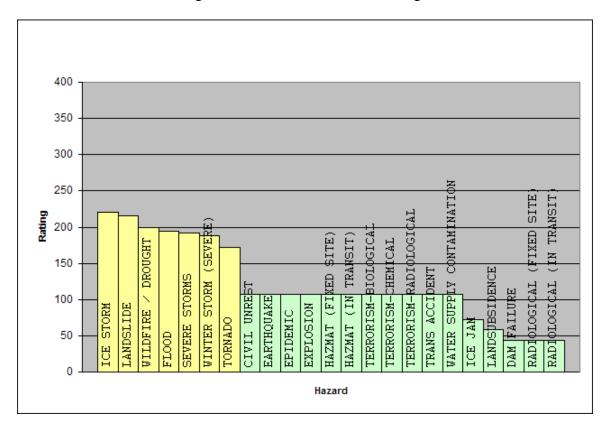


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Mansfield**

		SCOPE							FR	EQL	JEN	<u>CY</u>					<u>IMPACT</u>							ONSET							DL	JRA	ATION_						
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			Of Impact				<del></del>			I I I				1.0	I		<u> </u>			I I I			$\overline{}$	I	Ŧ	<del>-</del>	=	Т	<u> </u>	azai	<u>u</u> T	_		=					
	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	One Day	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks		
Hazard		ίΞ	Se	S	Ľa	Ξ	й	Ϊ	∢	₹	∢	∢	Ē	П	Ē	Inj	≛	ž	Š	===	ž	Š	ž	ő	ᆿ	픠	ž	믹	ō	2	<u>к</u>	ž	Le	ج	Ė	Ā	Š		
ICE STORM	221								_		_				$\vdash$				Н					-	-	+	-	+	-					$\rightarrow$	$\dashv$		-		
LANDSLIDE	216							$\dashv$			$\dashv$	_							Н					$\dashv$	-	+	$\dashv$	+	$\dashv$	$\dashv$				$\rightarrow$	$\dashv$				
WILDFIRE / DROUGHT	200							-			_	_							Ш				щ		$\dashv$	+	-	4	-	-	_			$\rightarrow$	$\dashv$	_			
FLOOD	194							_	_		-								Ш				Н	-	_	4	4	4	_	-				_	4		_		
SEVERE STORMS	192							_							$\vdash$				Ш				Н	_		4	_	4	4		_	_			$\dashv$	$\dashv$	_		
WINTER STORM (SEVERE)	188																		Ш						_	4	4	_	4					_	_	$\dashv$	_		
TORNADO	172																		Ш					_	_	4	_		_		_					_	_		
CIVIL UNREST	107							_										_	Ш					_	_	4	4		_		_	_		$\dashv$	$\dashv$	$\dashv$	_		
EARTHQUAKE	107							_																_	_	_	4		_			_			$\dashv$	$\dashv$	_		
EPIDEMIC	107																										_								$\Box$	${ m oldsymbol olds$			
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HAZMAT (FIXED SITE)	107																									$\perp$	_												
HAZMAT (IN TRANSIT)	107																																						
TERRORISM-BIOLOGICAL	107																																						
TERRORISM-CHEMICAL	107																																						
TERRORISM-RADIOLOGICAL	107																																						
TRANS ACCIDENT	107																										П									П			
WATER SUPPLY CONTAMINATION	107																									П	П									П	$\Box$		
ICE JAM	72																							П		П										П			
LANDSUBSIDENCE	58																							$\neg$										П	$\Box$	コ	$\neg$		
DAM FAILURE	44							$\Box$															T	╅	T	П			一		一			$\Box$	$\Box$	$\exists$	$\neg$		
RADIOLOGICAL (FIXED SITE)	44							$\neg$																$\neg$	丁				$\exists$		一			$\Box$	$\Box$	$\neg$	コ		
RADIOLOGICAL (IN TRANSIT)	44																																			$\Box$			

# **HAZNY**

#### Background

On **4/14/11**, the Town of Olean conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Olean

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Olean completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Olean. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
EARTHQUAKE	238
EXPLOSION	235
FLOOD	217
ICE JAM	217
ICE STORM	205
SEVERE STORMS	203
WINTER STORM (SEVERE)	202
TORNADO	191
HAZMAT (IN TRANSIT)	189
TERRORISM - RADIOLOGICAL	186
TERRORISM - CHEMICAL	180
RADIOLOGICAL (IN TRANSIT)	174
WILDFIRE / DROUGHT	172
RADIOLOGICAL (FIXED SITE)	170
WATER SUPPLY CONTAMINATION	169
TRANS ACCIDENT	166
TERRORISM-BIOLOGICAL	163
HAZMAT (FIXED SITE)	159
LANDSUBSIDENCE	158
LANDSLIDE	152
EPIDEMIC	132
CIVIL UNREST	107
DAM FAILURE	107

Hazard(s) rated as moderately low: EARTHQUAKE, EXPLOSION, FLOOD, ICE JAM, ICE STORM, SEVERE STORMS, WINTER STORM (SEVERE), TORNADO, HAZMAT (IN TRANSIT), TERRORISM - RADIOLOGICAL, TERRORISM - CHEMICAL, RADIOLOGICAL (IN TRANSIT), WILDFIRE / DROUGHT, RADIOLOGICAL (FIXED SITE), WATER SUPPLY CONTAMINATION, TRANS ACCIDENT, TERRORISM-BIOLOGICAL

**EARTHQUAKE:** 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No Warning

<u>Hazard Duration:</u> Less Than One Day <u>Recovery Time:</u> Three Days to One Week

**Impact:** 

- Serious Injury or Death to Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

**EXPLOSION:** 235, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

**FLOOD:** 217, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE JAM: 217, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning Hazard Duration: Two to Three Days

**Recovery Time:** Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**ICE STORM:** 205, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Likely

HAZNY – Town of Olean

Frequency: An Infrequent Event
Onset: One Day Warning
Hazard Duration: More Than One Week
Recovery Time: One to Two Weeks

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**SEVERE STORMS:** 203, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 202, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:Several Days WarningHazard Duration:Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 191, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:
Frequency:
Onset:
Hazard Duration:

Some Potential
An Infrequent Event
Several Hours Warning
Less Than One Day
Three Days to One Week

**Recovery Time:** Three Days to One Week

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 189, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM - RADIOLOGICAL: 186, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 180, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three D

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

HAZNY – Town of Olean

#### RADIOLOGICAL (IN TRANSIT): 174, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WILDFIRE / DROUGHT: 172, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects: Some Potential A Rare Event No Warning

**<u>Hazard Duration:</u>** Four days to One Week Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 170, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** One to Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 169, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** One to Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

TRANS ACCIDENT: 166, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

TERRORISM-BIOLOGICAL: 163, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

<u>Hazard Duration:</u> Four days to One Week <u>Recovery Time:</u> One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: HAZMAT (FIXED SITE), LANDSUBSIDENCE, LANDSLIDE, CIVIL UNREST, DAM FAILURE

**HAZMAT (FIXED SITE):** 159, Low Hazard

**Potential Impact:** Throughout a Small Region

HAZNY – Town of Olean

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSUBSIDENCE: 158, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

Hazard Duration: Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**LANDSLIDE:** 152, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three Days

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day

HAZNY – Town of Olean

**Recovery Time:** Less Than One Day

## **Impact:**

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**DAM FAILURE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

EARTHQUAKE EXPLOSION

HAZMAT (IN TRANSIT)

TERRORISM - RADIOLOGICAL TERRORISM - CHEMICAL

RADIOLOGICAL (IN TRANSIT)

WILDFIRE / DROUGHT

RADIOLOGICAL (FIXED SITE)

WATER SUPPLY CONTAMINATION

TRANS ACCIDENT

TERRORISM-BIOLOGICAL

HAZMAT (FIXED SITE)

**LANDSUBSIDENCE** 

**LANDSLIDE** 

CIVIL UNREST

DAM FAILURE

HAZARDS THAT PRESENT THE GREATEST THREAT TO LIFE\*
EARTHQUAKE

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>Serious injury and death in extremely large numbers was selected from the Impact Tab.

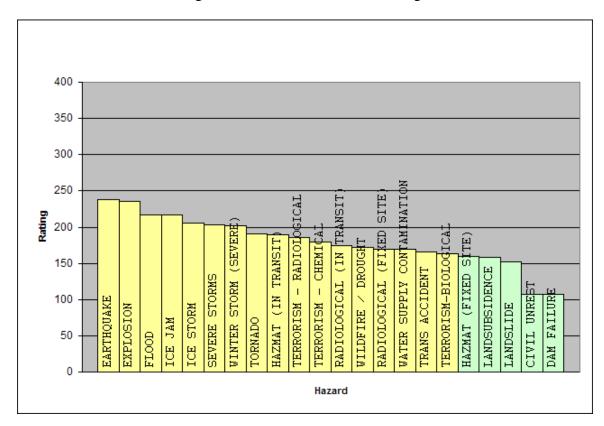


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Olean**

		SCOPE							FR	EQl	JEN	CY			<u>IMPACT</u>									ON	ISE	<u>T</u>					DU	RA	ATION							
		D	stont	ial Ar		(	asca	do										Privat	5	_	Public	,																		
				iai Ai ipact		_	Effect		<u> </u>	requ	iency	Ĺ		Pe	eople		_	rope		_	cilitie	_		Wa	rnin	g			Ha	zard				Rec	cove	ery				
	ۇر ئام	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	ittle or No Damage	Moderate Damage	Severe Damage	-ittle or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Jp to One Day Warning	Jp to One Week Warning	More Than a Week Warnin	ess Than One Day	Jay	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks			
Hazard	Rating	Singl	seve	smal	-arge	ligh	Some	High	۱ Ra	h In	۲ Re	۲ Fre	njury	njury	njury	njury	ittle	Jode	seve	ittle	Jode	seve	V 0\	seve	Jp to	요 1	Jore	ess	One Day	WO	onr	Jore	ess	One 1	hree	Jue 1	Jore			
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FLOOD	217													Г									$\neg$			十		T			十		ヿ	$\neg$	┪		ヿ			
ICE JAM	217																									十										$\neg$	コ			
ICE STORM	205			$\neg$																			T	П		十			Т	$\neg$			一	$\top$	$\neg$		コ			
SEVERE STORMS	203																									T					T			$\neg$		$\neg$				
WINTER STORM (SEVERE)	202																																$\neg$			$\neg$				
TORNADO	191																									Т										$\neg$	$\neg$			
HAZMAT (IN TRANSIT)	189																									Т										П	П			
TERRORISM - RADIOLOGICAL	186																																							
TERRORISM - CHEMICAL	180																									Т									$\Box$					
RADIOLOGICAL (IN TRANSIT)	174																									П														
WILDFIRE / DROUGHT	172																																							
RADIOLOGICAL (FIXED SITE)	170																																							
WATER SUPPLY CONTAMINATION	169																																							
TRANS ACCIDENT	166																																							
TERRORISM-BIOLOGICAL	163																																							
HAZMAT (FIXED SITE)	159																									$\Box$				$\Box$	$\Box$									
LANDSUBSIDENCE	158																									$\perp$														
LANDSLIDE	152																									$\perp$									$\Box$					
CIVIL UNREST	107																																							
DAM FAILURE	107																																							

## **HAZNY**

## Background

On **4/14/11**, the Town of Otto conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Town of Otto

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Otto completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Otto. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Otto Page 1 of 11

## The Group rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	282
LANDSLIDE	273
ICE STORM	246
TORNADO	204
TRANS ACCIDENT	202
WILDFIRE / DROUGHT	201
SEVERE STORMS	186
FLOOD	182
TERRORISM - BIOLOGICAL	161
TERRORISM - CHEMICAL	152
TERRORISM - RADIOLOGICAL	152
WATER SUPPLY CONTAMINATION	143
CIVIL UNREST	107
EARTHQUAKE	107
EPIDEMIC	107
EXPLOSION	107
HAZMAT (FIXED SITE)	107
HAZMAT (IN TRANSIT)	107
LANDSUBSIDENCE	107
RADIOLOGICAL (FIXED SITE)	107
RADIOLOGICAL (IN TRANSIT)	107
ICE JAM	99
DAM FAILURE	44

# Hazard(s) rated as moderately high: WINTER STORM (SEVERE), LANDSLIDE, ICE STORM

## WINTER STORM (SEVERE): 282, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Four days to One WeekRecovery Time:One to Two Weeks

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Otto Page 2 of 11

## LANDSLIDE: 273, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

ICE STORM: 246, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: TORNADO, TRANS ACCIDENT, WILDFIRE / DROUGHT, SEVERE STORMS, FLOOD

**TORNADO:** 204, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential

**Frequency:** An Infrequent Event

**Onset:** No Warning **Hazard Duration:** One Day

**Recovery Time:** One to Two Days

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Otto Page **3** of **11** 

## TRANS ACCIDENT: 202, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WILDFIRE / DROUGHT: 201, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Four days to One WeekRecovery Time:One to Two Weeks

#### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **SEVERE STORMS:** 186, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Otto Page 4 of 11

## FLOOD: 182, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, WATER SUPPLY CONTAMINATION, CIVIL UNREST, EARTHQUAKE, EPIDEMIC, EXPLOSION, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT), ICE JAM, DAM FAILURE

## TERRORISM - BIOLOGICAL: 161, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** Two to Three Days

Three Days to One Week

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM - CHEMICAL:** 152, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Otto Page 5 of 11

## TERRORISM - RADIOLOGICAL: 152, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

### WATER SUPPLY CONTAMINATION: 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Otto Page 6 of 11

**EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## **HAZMAT (FIXED SITE):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **LANDSUBSIDENCE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## RADIOLOGICAL (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## ICE JAM: 99, Low Hazard

Potential Impact: Single Location
Cascade Effects: Some Potential
Frequency: A Rare Event

**Onset:** Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## DAM FAILURE: 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

LANDSLIDE TORNADO

TRANS ACCIDENT SEVERE STORMS

**FLOOD** 

TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL TERRORISM - RADIOLOGICAL WATER SUPPLY CONTAMINATION

CIVIL UNREST EARTHQUAKE EPIDEMIC EXPLOSION

HAZMAT (FIXED SITE)
HAZMAT (IN TRANSIT)
LANDSUBSIDENCE
RADIOLOGICAL (FIXED SITE)
RADIOLOGICAL (IN TRANSIT)

HAZARDS THAT OCCUR MOST OFTEN\* WINTER STORM (SEVERE) ICE STORM

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

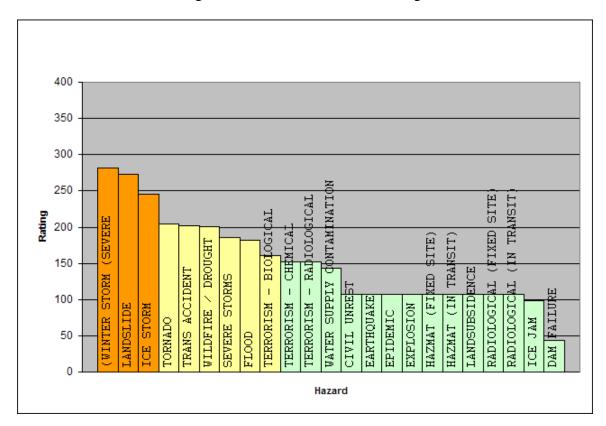


Figure 1. Chart of Hazards vs. Ratings

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## **Hazard Analysis Matrix - Town of Otto**

		SCOPE						FREQUENCY								<u>IMP</u>	ACT	-					ON	SET	•	Τ			D	UR/	ATION						
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	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to Otte week wattiling More Than a Week Warning	ess Than One Day	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks	
Hazard		Ş	Se	S	Ľ	Ξ̈́	တိ	Ξ̈́	₹	Ą	₹	Ā	Ē	Ē	Г	<u>i</u>	Ξ	M	Se	==	ĭ	Se	ž	<sub>S</sub>	<u> </u>	3   ≥	4	مًا إِنَّ	ŕ	<u>8</u>	ĭ	Le	٥	튀	힉	ĭ	
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LANDSLIDE	273	$\dashv$			_	-		_	_	_							Ш				_			_	+	+	+	_	⊢	<u> </u>			$\sqcup$	$\dashv$	$\dashv$	_	
ICE STORM	246		_			_																			_	+	-		$\vdash$				$\blacksquare$	_	$\dashv$	_	
TORNADO	204	$\Box$	_			4		_	_			_	_							_				+	_	+			L				$\blacksquare$	$\dashv$	$\dashv$	_	
TRANS ACCIDENT	202		_			4		_		_		_					Ш							_	_	_		Ļ	<u> </u>				$\sqcup$	_	_	_	
WILDFIRE / DROUGHT	201		_			4			_											_			_		_	┸	┖	┷					Ш				
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FLOOD	182					_																		$\perp$		┸							Ш	$\Box$	$\Box$		
TERRORISM - BIOLOGICAL	161																																Ш				
TERRORISM - CHEMICAL	152																																				
TERRORISM - RADIOLOGICAL	152																																				
WATER SUPPLY CONTAMINATION	143																									Т											
CIVIL UNREST	107																									Т							П				
EARTHQUAKE	107																							П		Т							П				
EPIDEMIC	107																									Т							П	П			
EXPLOSION	107																							$\Box$		Т							П	П			
HAZMAT (FIXED SITE)	107																							T		Т							П				
HAZMAT (IN TRANSIT)	107				$\neg$			一																十									$\Box$	$\Box$	寸	$\neg$	
LANDSUBSIDENCE	107		寸	寸	╗		$\dashv$	$\neg$		$\neg$	$\neg$	$\Box$									$\neg$			十	十	Τ							$\Box$	$\Box$	寸	コ	
RADIOLOGICAL (FIXED SITE)	107		T		$\neg$		一	一		$\neg$	$\neg$													十		$\top$							П	$\Box$	寸	$\neg$	
RADIOLOGICAL (IN TRANSIT)	107				$\neg$		$\neg$	一			$\neg$													十		Τ							$\Box$	$\Box$	寸	$\neg$	
ICE JAM	99		一	一	ヿ゙	$\neg$		$\neg$		$\neg$	$\neg$	$\Box$									$\neg$		$\neg$		十	Τ	Т						$\Box$	$\Box$	寸	コ	
DAM FAILURE	44							一															T	$\neg$				Г					П	$\neg$	寸	$\exists$	

## **HAZNY**

## Background

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Town of Otto Page 1 of 11

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SEVERE STORMS	186
FLOOD	182
TERRORISM - BIOLOGICAL	161
TERRORISM - CHEMICAL	152
TERRORISM - RADIOLOGICAL	152
WATER SUPPLY CONTAMINATION	143
CIVIL UNREST	107
EARTHQUAKE	107
EPIDEMIC	107
EXPLOSION	107
HAZMAT (FIXED SITE)	107
HAZMAT (IN TRANSIT)	107
LANDSUBSIDENCE	107
RADIOLOGICAL (FIXED SITE)	107
RADIOLOGICAL (IN TRANSIT)	107
ICE JAM	99
DAM FAILURE	44

# Hazard(s) rated as moderately high: WINTER STORM (SEVERE), LANDSLIDE, ICE STORM

## WINTER STORM (SEVERE): 282, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Four days to One WeekRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

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## LANDSLIDE: 273, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** More Than One Week Less Than One Day

## Impact:

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

ICE STORM: 246, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours Warning

Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: TORNADO, TRANS ACCIDENT, WILDFIRE / DROUGHT, SEVERE STORMS, FLOOD

**TORNADO:** 204, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential

**Frequency:** An Infrequent Event

**Onset:** No Warning **Hazard Duration:** One Day

**Recovery Time:** One to Two Days

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Otto Page **3** of **11** 

## TRANS ACCIDENT: 202, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WILDFIRE / DROUGHT: 201, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Four days to One WeekRecovery Time:One to Two Weeks

#### **Impact:**

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **SEVERE STORMS:** 186, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## **FLOOD:** 182, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, WATER SUPPLY CONTAMINATION, CIVIL UNREST, EARTHQUAKE, EPIDEMIC, EXPLOSION, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT), ICE JAM, DAM FAILURE

## TERRORISM - BIOLOGICAL: 161, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** Two to Three Days

Three Days to One Week

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM - CHEMICAL: 152, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Otto Page 5 of 11

## TERRORISM - RADIOLOGICAL: 152, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

### WATER SUPPLY CONTAMINATION: 143, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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**EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## **HAZMAT (FIXED SITE):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

## **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **LANDSUBSIDENCE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Otto Page 8 of 11

## RADIOLOGICAL (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### ICE JAM: 99, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Otto Page 9 of 11

## DAM FAILURE: 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

LANDSLIDE TORNADO

TRANS ACCIDENT SEVERE STORMS

**FLOOD** 

TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL TERRORISM - RADIOLOGICAL WATER SUPPLY CONTAMINATION

CIVIL UNREST EARTHQUAKE EPIDEMIC EXPLOSION

HAZMAT (FIXED SITE)
HAZMAT (IN TRANSIT)
LANDSUBSIDENCE
RADIOLOGICAL (FIXED SITE)
RADIOLOGICAL (IN TRANSIT)

HAZARDS THAT OCCUR MOST OFTEN\* WINTER STORM (SEVERE) ICE STORM

Town of Otto Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

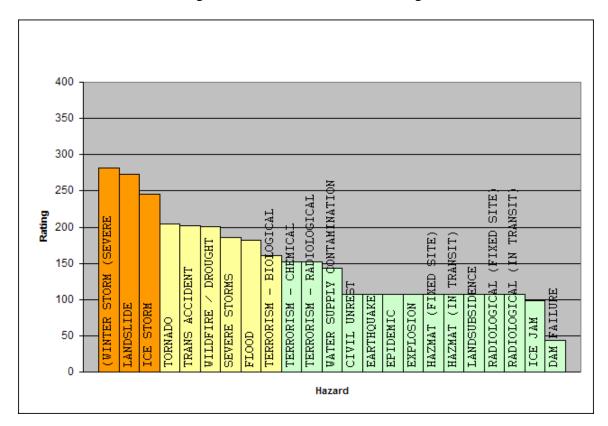


Figure 1. Chart of Hazards vs. Ratings

Town of Otto Page 11 of 11

## **Hazard Analysis Matrix - Town of Otto**

		SCOPE						FREQUENCY								<u>IMP</u>	ACT	-					ON	SET	•	Τ			D	UR/	ATION						
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		Po	tenti	al Ar	ea	C	asca	de									<u> </u>	rivat	<u>e</u>	<u>P</u>	ublic	<u>.</u>															
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	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to Otte week wattiling More Than a Week Warning	ess Than One Day	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks	
Hazard		Ş	Se	S	Ľ	Ξ̈́	တိ	Ξ̈́	₹	Ą	₹	Ā	Ē	Ē	Г	<u>i</u>	Ξ	M	Se	==	ĭ	Se	ž	<sub>S</sub>	<u> </u>	3   ≥	4	مًا إِنَّ	ŕ	<u>8</u>	ĭ	Le	٥	튀	힉	ĭ	
WINTER STORM (SEVERE)	282	$\dashv$			_	-		_	_	$\dashv$	_									_					+	+	+	+	-				$\vdash \vdash$	_		$\dashv$	
LANDSLIDE	273	$\dashv$			_	-		_	_	_							Ш				_			_	+	+	+		⊢	<u> </u>			$\sqcup$	$\dashv$	$\dashv$	_	
ICE STORM	246		_			_																			_	+	-		$\vdash$				$\blacksquare$	_	$\dashv$	_	
TORNADO	204	$\Box$	_			4		_	_			_	_							_				+	_	+			L				$\blacksquare$	$\dashv$	$\dashv$	_	
TRANS ACCIDENT	202		_			4		_		_		_					Ш							_	_	+		Ļ	<u> </u>				$\sqcup$	_	_	_	
WILDFIRE / DROUGHT	201		_			4			_											_			_		_	┸	┖	┶					Ш				
SEVERE STORMS	186					4				_														$\perp$		┸		ш	╙				Ш	$\dashv$	$\dashv$		
FLOOD	182					_																		$\perp$		┸							Ш	$\Box$	$\Box$		
TERRORISM - BIOLOGICAL	161																																Ш				
TERRORISM - CHEMICAL	152																																				
TERRORISM - RADIOLOGICAL	152																																				
WATER SUPPLY CONTAMINATION	143																									Т											
CIVIL UNREST	107																									Т							П				
EARTHQUAKE	107																							П		Т							П				
EPIDEMIC	107																									Т							П	П			
EXPLOSION	107																							$\Box$		Т							П	П			
HAZMAT (FIXED SITE)	107																							T		Т							П				
HAZMAT (IN TRANSIT)	107				$\neg$			一																十									$\Box$	$\Box$	寸	$\neg$	
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RADIOLOGICAL (FIXED SITE)	107		T		$\neg$		一	一		$\neg$	$\neg$													十		$\top$							П	$\Box$	寸	$\neg$	
RADIOLOGICAL (IN TRANSIT)	107				$\neg$		$\neg$	一			$\neg$													十		Τ							$\Box$	$\Box$	寸	$\neg$	
ICE JAM	99		一	一	ヿ゙	$\neg$		$\neg$		$\neg$	$\neg$	$\Box$									$\neg$		$\neg$		十	Τ	Т						$\Box$	$\Box$	寸	コ	
DAM FAILURE	44							一															T	$\neg$				Г					П	$\neg$	寸	$\exists$	

## **HAZNY**

## Background

On **4/14/11**, the Town of Perrysburg conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

## HAZNY and the Town of Perrysburg

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Perrysurg completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Perrysburg. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

## The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	293
SEVERE STORMS	267
WINTER STORM (SEVERE)	257
ICE STORM	236
TRANS ACCIDENT	224
WILDFIRE/DROUGHT	221
HAZMAT (IN TRANSIT)	202
TORNADO	198
EARTHQUAKE	160
LANDSLIDE	151
ICE JAM	150
DAM FAILURE	149
WATER SUPPLY CONTAMINATION	140
EXPLOSION	135
<b>EPIDEMIC</b>	114
CIVIL UNREST	107
TERRORISM-BIOLOGICAL	107
TERRORISM-CHEMICAL	107
TERRORISM-RADIOLOGICAL	107
LANDSUBSIDENCE	58
HAZMAT (FIXED SITE)	44
RADIOLOGICAL (FIXED SITE)	44
RADIOLOGICAL (IN TRANSIT)	44

# Hazard(s) rated as moderately high: FLOOD, SEVERE STORMS, WINTER STORM (SEVERE)

FLOOD: 293, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:More Than Two Weeks

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

**SEVERE STORMS:** 267, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## WINTER STORM (SEVERE): 257, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: ICE STORM, TRANS ACCIDENT, WILDFIRE/DROUGHT, HAZMAT (IN TRANSIT), TORNADO

**ICE STORM:** 236, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects: Highly Likely
Frequency: A Frequent Event

**Onset:** Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** One to Two Days

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TRANS ACCIDENT: 224, Moderately Low Hazard

Potential Impact: Single Location **Cascade Effects:** Highly Unlikely Frequency: A Frequent Event Onset: No Warning

Hazard Duration: Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WILDFIRE/DROUGHT: 221, Moderately Low Hazard

**Potential Impact:** Single Location Cascade Effects: Highly Unlikely Frequency: A Frequent Event Onset: No Warning

Hazard Duration: One Day

**Recovery Time:** Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 202, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Unlikely Frequency: An Infrequent Event

No Warning Onset: Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 198, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Some Potential

Town of Perrysburg

Frequency: An Infrequent Event

Onset: Several Hours Warning

Hazard Duration: Less Than One Day

Recovery Time: More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: EARTHQUAKE, LANDSLIDE, ICE JAM, DAM FAILURE, WATER SUPPLY CONTAMINATION, EXPLOSION, EPIDEMIC, CIVIL UNREST, TERRORISM-BIOLOGICAL, TERRORISM-CHEMICAL, TERRORISM-RADIOLOGICAL, LANDSUBSIDENCE, HAZMAT (FIXED SITE), RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

**EARTHQUAKE:** 160, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**LANDSLIDE:** 151, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** More Than Two Weeks

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE JAM: 150, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**DAM FAILURE:** 149, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## WATER SUPPLY CONTAMINATION: 140, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 135, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 114, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **TERRORISM-BIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM-CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM-RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### LANDSUBSIDENCE: 58, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset:Several Days WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT** (**FIXED SITE**): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

TRANS ACCIDENT
WILDFIRE/DROUGHT
HAZMAT (IN TRANSIT)
EARTHQUAKE
LANDSLIDE

DAM FAILURE

WATER SUPPLY CONTAMINATION

EXPLOSION CIVIL UNREST

TERRORISM-BIOLOGICAL TERRORISM-CHEMICAL TERRORISM-RADIOLOGICAL

## HAZARDS THAT OCCUR MOST OFTEN\*

FLOOD SEVERE STORMS WINTER STORM (SEVERE) ICE STORM TRANS ACCIDENT WILDFIRE/DROUGHT

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

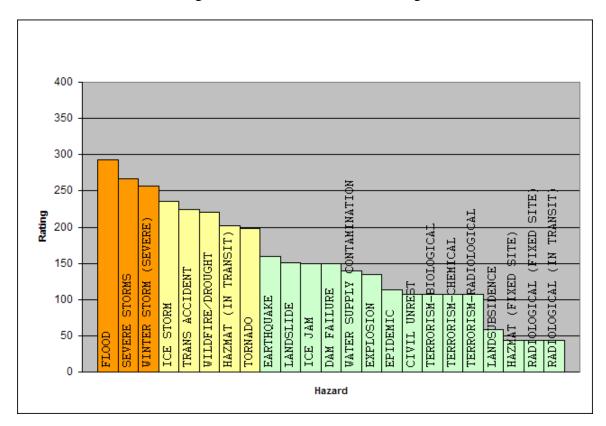


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of Perrysburg**

		SCOPE						FR	EQL	JEN(	CY					IMPACT							ONSET							DUF	RAT	ATION							
		Po	otenti	al Ar	ea	C	asca	de_									<u>Р</u>	rivat	<u>:e</u>		ublic																		
		(	Of Impact				ffect		<u> </u>	requ	ency	<u>/</u>		<u>Pe</u>	ople		<u>Pr</u>	oper	rt <u>y</u>	Fa	cilitie	<u>es</u>		Wa	rning	<u>g</u>		<u>Hazard</u>						Recovery					
	Rating	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Jp to One Day Warning	Up to One Week Warning	More Than a week warning	ess Than One Day	One Day	I wo to Trilee Days	di days to Oile week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks		
Hazard		ι <u>γ</u>	Š	S	La	Ĭ	တိ	Ĭ	∢	Ą	₹	₹	ī.	Ī	П	Inj	ٿ	ĭ	တ္တိ	゠゠゙	ž	Se	ž	Š	<u> </u>	<u> </u>	<u>ĕ</u>  .	<u> </u>	5 1	<u>-</u> ⊔	<u>:   :</u>	ĭ		힉	튀	<u>ŏ</u>	<u>ĕ</u>		
FLOOD	293	$\vdash \vdash$			_	4	_		_	_	_						Щ		$\mid \mid \mid$	_			4		+	+	+	$\perp$	-		+	+	+	+	+	$\dashv$			
SEVERE STORMS	267	-	_		_	4			_	_	_						Ш		$\sqcup$				_		_	+	+			$\perp$	$\bot$	4	$\dashv$	+	4	4			
WINTER STORM (SEVERE)	257		_			_	4		_		_								Ш				_		4	4	4	_			4	4	4	_	4	4	4		
ICE STORM	236		_			_	4				_								Ш				_			$\perp$	_			$\perp$	$\perp$	4	4	_	$\dashv$	4	_		
TRANS ACCIDENT	224				_														Ш							$\perp$			$\perp$	$\perp$	丄			$\perp$	$\bot$	$\bot$	_		
WILDFIRE/DROUGHT	221																		Ш							$\perp$					$\perp$			丄	$\perp$	$\perp$			
HAZMAT (IN TRANSIT)	202																									$\perp$									$\perp$	$\perp$			
TORNADO	198																																						
EARTHQUAKE	160																																	$\perp$					
LANDSLIDE	151																																						
ICE JAM	150																																						
DAM FAILURE	149					П																				T								Т	П	П			
WATER SUPPLY CONTAMINATION	140																		П							Т										Т			
EXPLOSION	135																									Т										П	٦		
EPIDEMIC	114																		П												Т		T	Т					
CIVIL UNREST	107							ヿ				$\Box$							П					T		T			Т		T			Т	Т	$\Box$			
TERRORISM-BIOLOGICAL	107																		П																T				
TERRORISM-CHEMICAL	107																									$\top$								$\top$	丁	T	٦		
TERRORISM-RADIOLOGICAL	107		一	一	╛		寸	╛		$\neg$	$\neg$	$\neg$							$\Box$		一			寸	十	十			$\top$	$\top$	十			十	T	十	٦		
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RADIOLOGICAL (IN TRANSIT)	44			T	╗			ヿ				一							П				一	1										T	T	十			

## **HAZNY**

## Background

On **4/14/11**, the Town of Persia conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Town of Persia

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Persia completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Persia. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

Town of Persia Page 1 of 11

## The Group rated the 23 hazards as follows:

Hazard	Rating
TERRORISM - BIOLOGICAL	285
TERRORISM - RADIOLOGICAL	285
FLOOD	278
SEVERE STORMS	274
TERRORISM - CHEMICAL	269
ICE STORM	249
LANDSLIDE	240
TORNADO	240
WINTER STORM (SEVERE)	238
WILDFIRE / DROUGHT	230
RADIOLOGICAL (IN TRANSIT)	214
LANDSUBSIDENCE	212
ICE JAM	210
DAM FAILURE	208
HAZMAT (IN TRANSIT)	196
RADIOLOGICAL (FIXED SITE)	194
EARTHQUAKE	183
HAZMAT (FIXED SITE)	168
WATER SUPPLY CONTAMINATION	158
TRANS ACCIDENT	155
EXPLOSION	146
<b>EPIDEMIC</b>	136
CIVIL UNREST	79

Hazard(s) rated as moderately high: TERRORISM - BIOLOGICAL, TERRORISM - RADIOLOGICAL, FLOOD, SEVERE STORMS, TERRORISM - CHEMICAL, ICE STORM

## TERRORISM - BIOLOGICAL: 285, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects: Some Potential A Rare Event No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Persia Page 2 of 11

## TERRORISM - RADIOLOGICAL: 285, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death to Extremely Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### **FLOOD:** 278, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

## **SEVERE STORMS:** 274, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Regular Event

Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## TERRORISM - CHEMICAL: 269, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Some Potential

Town of Persia Page 3 of 11

Frequency: A Rare Event
Onset: No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

Serious Injury or Death to Extremely Large Numbers

Severe Damage to Private Property

• Moderate Structural Damage to Public Facilities

ICE STORM: 249, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as moderately low: LANDSLIDE, TORNADO, WINTER STORM (SEVERE), WILDFIRE / DROUGHT, RADIOLOGICAL (IN TRANSIT), LADSUBSIDENCE, ICE JAM, DAM FAILURE, HAZMAT (IN TRANSIT), RADIOLOGICAL (FIXED SITE), EARTHOUAKE, HAZMAT (FIXED SITE)

LANDSLIDE: 240, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

Town of Persia Page 4 of 11

## TORNADO: 240, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 238, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:More Than One WeekRecovery Time:More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## WILDFIRE / DROUGHT: 230, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> An Infrequent Event

**Onset:** No Warning

Hazard Duration: Four days to One Week More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 214, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential

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Frequency: A Rare Event No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSUBSIDENCE: 212, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**ICE JAM:** 210, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Four days to One WeekRecovery Time:One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**DAM FAILURE:** 208, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHarrord DurationsTwo to Three Day

Hazard Duration: Two to Three Days
Recovery Time: More Than Two Weeks

Town of Persia Page 6 of 11

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 196, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## RADIOLOGICAL (FIXED SITE): 194, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **EARTHQUAKE:** 183, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:Two to Three Date

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Days

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Persia Page 7 of 11

### **HAZMAT** (**FIXED SITE**): 168, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

# Hazard(s) rated as low: WATER SUPPLY CONTAMINATION, TRANS ACCIDENT, EXPLOSION, EPIDEMIC, CIVIL UNREST

## WATER SUPPLY CONTAMINATION: 158, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:One Day WarningHazard Duration:More Than One WeekRecovery Time:More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TRANS ACCIDENT: 155, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
An Infrequent Event

Onset: No Warning Hazard Duration: No Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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**EXPLOSION:** 146, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 136, Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**CIVIL UNREST:** 79, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
Frequency: A Rare Event

Onset: Several Days Warning
Hazard Duration: Four days to One Week
Recovery Time: Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

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## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

TERRORISM - BIOLOGICAL TERRORISM - RADIOLOGICAL TERRORISM - CHEMICAL

LANDSLIDE

**TORNADO** 

WILDFIRE / DROUGHT

RADIOLOGICAL (IN TRANSIT)

**LANDSUBSIDENCE** 

DAM FAILURE

HAZMAT (IN TRANSIT)

RADIOLOGICAL (FIXED SITE)

**EARTHQUAKE** 

HAZMAT (FIXED SITE)

TRANS ACCIDENT

**EXPLOSION** 

## HAZARDS THAT PRESENT THE GREATEST THREAT TO LIFE\*

TERRORISM - BIOLOGICAL TERRORISM - RADIOLOGICAL TERRORISM - CHEMICAL

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<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>Serious injury and death in extremely large numbers was selected from the Impact Tab.

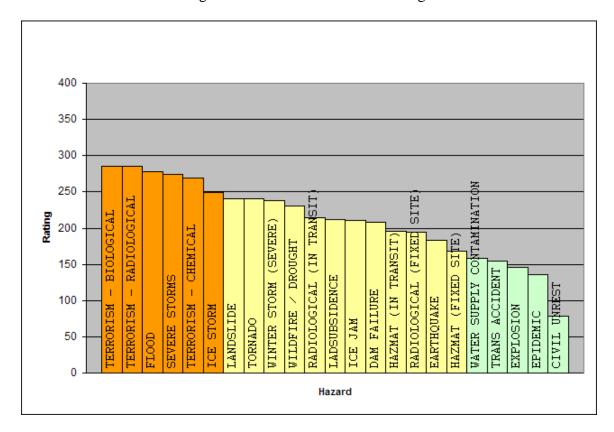


Figure 1. Chart of Hazards vs. Ratings

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## **Hazard Analysis Matrix - Town of Persia**

		SCOPE							FR	EQL	JEN(	CY					IMPACT							ONSET							UR/	ATION							
																																				П			
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		<u> </u>	Of Impact				ffect		<u> </u>	requ	ency	<u>'</u>		<u>Ре</u>	<u>ople</u>		<u>Pr</u>	oper	rt <u>y</u>	<u>Fa</u>	cilitie	<u>es</u>	<u> </u>	Wa	rning	_	<u> </u>		Haza	<u>ırd</u>			Re	cove	<u>ry</u>	_			
	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	-ittle or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	VIOLE I II all a Week Walling	One Day	Two to Three Davs	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks			
Hazard		Şi	Se	ß	La	Ξ̈́	တိ	Ξ̈́	₹	۲	₹	∢	Ξ	ī	ī	Ē	ΕΞ	ĭ	Se	Ë	ĭ	Se	ž	- S	을 :	<u> </u>	<u> </u>	<u> </u>	j	<u> </u>	ĭ	Le Le	امًا	부	<u> </u>	Ĭ			
TERRORISM - BIOLOGICAL	285	_		_		_		_			_													_	_	+	$\bot$	+	╄	₩			$\sqcup$	$\dashv$	4				
TERRORISM - RADIOLOGICAL	285	$\rightarrow$	_	_		4		_			_	_			$\Box$		Ш							_	4	4	_	4	╄	₩			$\sqcup$	_	-4				
FLOOD	278					_	_										Ш			$\Box$	$\Box$		Ш			_	$\perp$			╄			$\sqcup$	_	-4				
SEVERE STORMS	274			_		4		_		_													Ш		_	┸	┸	┸		<u> </u>			Ш	$\dashv$	_				
TERRORISM - CHEMICAL	269					_		_									Ш			$\Box$				$\perp$		ᆚ	┸	┸	┸	丄			$\Box$		_				
ICE STORM	249																						Ш			┸													
LANDSLIDE	240																																						
TORNADO	240																																						
WINTER STORM (SEVERE)	238																																						
WILDFIRE / DROUGHT	230																																						
RADIOLOGICAL (IN TRANSIT)	214																																						
LADSUBSIDENCE	212																																						
ICE JAM	210					П																	П										П	П		$\Box$			
DAM FAILURE	208					П																																	
HAZMAT (IN TRANSIT)	196					П		П																									П			П			
RADIOLOGICAL (FIXED SITE)	194					П																																	
EARTHQUAKE	183																																			7			
HAZMAT (FIXED SITE)	168					$\neg$		$\neg$																T	T	T	T	T					$\Box$			7			
WATER SUPPLY CONTAMINATION	158					$\neg$		$\neg$															П			$\top$							$\Box$	$\Box$	$\neg$				
TRANS ACCIDENT	155																																	$\exists$	丁				
EXPLOSION	146			一	$\neg$		一	$\neg$			$\neg$	$\neg$												$\neg$		$\top$								$\exists$	$\dashv$	٦			
EPIDEMIC	136			$\neg$			一	$\neg$			$\neg$	$\Box$												$\neg$	$\top$			$\top$						$\exists$					
CIVIL UNREST	79							_1			1	1																	İ					T	ᅼ				

## **HAZNY**

## Background

On **4/14/11**, the Town of South Valley conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

## **HAZNY** and the Town of South Valley

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of South Valley completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of South Valley. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

## The Group rated the 24 hazards as follows:

Hazard	Rating
FLOOD	265
SEVERE STORMS	233
WINTER STORM (SEVERE)	225
ICE STORM	212
ICE JAM	198
HAZMAT (IN TRANSIT)	182
TERRORISM CHEMICAL	182
DAM FAILURE	177
WILDFIRE/DROUGHT	176
EXPLOSION	174
LANDSLIDE	172
TORNADO	162
TRANS ACCIDENT	154
WATER SUPPLY CONTAMINATION	152
TERRORISM BIOLOGICAL	151
EPIDEMIC	139
LANDSUBSIDENCE	130
PIPELINE	130
CIVIL UNREST	124
EARTHQUAKE	107
HAZMAT (FIXED SITE)	107
TERRORISM-RADIOLOGICAL	107
RADIOLOGICAL (FIXED SITE)	44
RADIOLOGICAL (IN TRANSIT)	44

## Hazard(s) rated as moderately high: FLOOD

**FLOOD:** 265, Moderately High Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Days

## **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

Hazard(s) rated as moderately low: SEVERE STORMS, WINTER STORM (SEVERE), ICE STORM, ICE JAM, HAZMAT (IN TRANSIT), TERRORISM CHEMICAL, DAM FAILURE, WILDFIRE/DROUGHT, EXPLOSION, LANDSLIDE, TORNADO

Town of South Valley

**SEVERE STORMS:** 233, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## WINTER STORM (SEVERE): 225, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 212, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular Event

**Onset:** Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## ICE JAM: 198, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:One Day Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 182, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
Frequency: An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TERRORISM CHEMICAL: 182, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Unlikely
An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **DAM FAILURE:** 177, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Highly LikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

## WILDFIRE/DROUGHT: 176, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **EXPLOSION:** 174, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

LANDSLIDE: 172, Moderately Low Hazard

Potential Impact: Single Location
Cascade Effects: Some Potential
Frequency: An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**TORNADO:** 162, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: TRANS ACCIDENT, WATER SUPPLY CONTAMINATION, TERRORISM BIOLOGICAL, EPIDEMIC, LANDSUBSIDENCE, PIPELINE, CIVIL UNREST, EARTHQUAKE, HAZMAT (FIXED SITE), TERRORISM-RADIOLOGICAL, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

TRANS ACCIDENT: 154, Low Hazard

**Potential Impact:** Single Location Some Potential

Frequency: An Infrequent Event
Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of South Valley

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#### WATER SUPPLY CONTAMINATION: 152, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day WarningHazard Duration:Two to Three DaysRecovery Time:One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

### TERRORISM BIOLOGICAL: 151, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EPIDEMIC:** 139, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day **Recovery Time:** Less Than One Day

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSUBSIDENCE: 130, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**PIPELINE:** 130, Low Hazard

Potential Impact: Single Location Some Potential Frequency: A Rare Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**CIVIL UNREST:** 124, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (FIXED SITE):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM-RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 44, Low Hazard

Potential Impact:
Cascade Effects:
Frequency:

Single Location
Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

**FLOOD** 

SEVERE STORMS HAZMAT (IN TRANSIT) TERRORISM CHEMICAL

EXPLOSION LANDSLIDE

TERRORISM BIOLOGICAL

**EPIDEMIC** 

LANDSUBSIDENCE CIVIL UNREST EARTHQUAKE

HAZMAT (FIXED SITE)

TERRORISM-RADIOLOGICAL

<sup>\*</sup> No warning was selected from the Onset Tab.

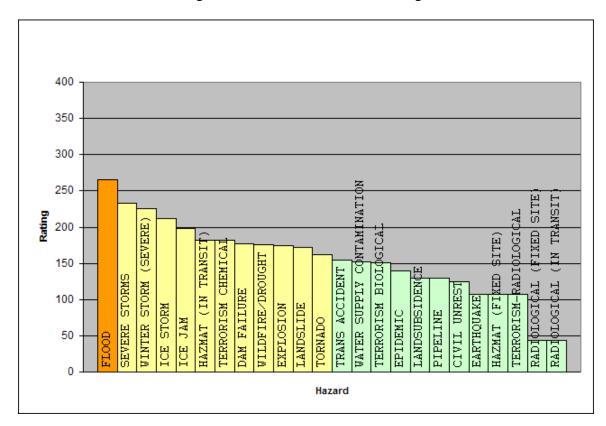


Figure 1. Chart of Hazards vs. Ratings

## **Hazard Analysis Matrix - Town of South Valley**

		SCOPE							FREQUENCY								IMPACT						ONSET							DI	URA	ATION									
		Po	tent	ial Ar	rea_	<u>C</u>	asca	ide_									<u> </u>	rivat	<u>:е</u>	<u> </u>	Public	<u>.</u>																			
		(	Of Impact E			ffec	<u>t</u>	<u> </u>	requ	iency	<u>/</u>		<u>Pe</u>	ople		<u>Pı</u>	ropei	rt <u>y</u>	Fa	cilitie	<u>es</u>		Wa	rning	1			Haza	<u>rd</u>			Re	cove	<u>ry</u>							
Hazard	Rating	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	-ittle or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Jp to One Day Warning	Up to One Week Warning	ess Than One Dav	One Day	Two to Three Days	our days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks					
FLOOD	265	S	Ň	σ	ت	エ	Ŏ	エ	∢	₹	∢	∢	드	므	드	드		Σ	Ŏ	<u> </u>	Σ	Ø	Ž	Ň	<u> </u>	<u> </u>	<u> </u>	10	F	Ľ	Σ	٦	0	튀	쒸	Σ					
SEVERE STORMS	233			-				$\dashv$				$\dashv$	$\dashv$							$\dashv$				+	+	+	+					$\vdash$		$\dashv$	$\dashv$	$\dashv$					
WINTER STORM (SEVERE)	225	$\dashv$							$\dashv$			$\dashv$	$\dashv$		Н				$\vdash$	$\dashv$		$\dashv$			+	+	+			$\vdash$		Н		$\dashv$	$\dashv$	$\dashv$					
ICE STORM	212																		H	$\dashv$			-		$^{+}$	+	+		Н					十	十	$\dashv$					
ICE JAM	198																			$\neg$			7	_		+	+							$\dashv$	$\dashv$	$\dashv$					
HAZMAT (IN TRANSIT)	182	$\neg$											$\neg$						Н					T	_	+		г				Н		╅	ヿ	$\dashv$					
TERRORISM CHEMICAL	182																		П					1		$\top$	Т							$\dashv$	$\dashv$	ヿ					
DAM FAILURE	177																						$\neg$			1		Т						$\neg$		コ					
WILDFIRE/DROUGHT	176	$\neg$																							$\top$	$\top$	T		Г					ヿ	$\neg$	コ					
EXPLOSION	174																							$\neg$		$\top$							$\neg$		$\Box$	コ					
LANDSLIDE	172																									T								П							
TORNADO	162																									Т								$\Box$		$\neg$					
TRANS ACCIDENT	154																																								
WATER SUPPLY CONTAMINATION	152																																								
TERRORISM BIOLOGICAL	151																																								
EPIDEMIC	139																																								
LANDSUBSIDENCE	130																																								
PIPELINE	130																																								
CIVIL UNREST	124																																								
EARTHQUAKE	107																																			_]					
HAZMAT (FIXED SITE)	107																																		$\Box$						
TERRORISM-RADIOLOGICAL	107																																								
RADIOLOGICAL (FIXED SITE)	44																																			_]					
RADIOLOGICAL (IN TRANSIT)	44																																		$\Box$						

## **HAZNY**

## Background

On **4/14/11**, the Town of Yorkshire conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### **HAZNY** and the Town of Yorkshire

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Town of Yorkshire completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Town of Yorkshire. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

## The Group rated the 23 hazards as follows:

Hazard	Rating
FLOOD	275
WINTER STORM (SEVERE)	253
LANDSLIDE	239
ICE STORM	234
SEVERE STORMS	224
WATER SUPPLY CONTAMINATION	203
TORNADO	197
TRANS ACCIDENT	192
LANDSUBSIDENCE	151
ICE JAM	126
TERRORISM - RADIOLOGICAL	124
WILDFIRE / DROUGHT	124
TERRORISM - BIOLOGICAL	116
TERRORISM - CHEMICAL	116
CIVIL UNREST	107
DAM FAILURE	107
EARTHQUAKE	107
EPIDEMIC	107
EXPLOSION	107
HAZMAT (FIXED SITE)	107
HAZMAT (IN TRANSIT)	107
RADIOLOGICAL (FIXED SITE)	107
RADIOLOGICAL (IN TRANSIT)	107

## Hazard(s) rated as moderately high: FLOOD, WINTER STORM (SEVERE)

## FLOOD: 275, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

<u>Hazard Duration:</u> More Than One Week <u>Recovery Time:</u> More Than Two Weeks

## **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Yorkshire Page 2 of 11

## WINTER STORM (SEVERE): 253, Moderately High Hazard

Throughout a Small Region **Potential Impact:** 

Cascade Effects: Some Potential Frequency: A Frequent Event Onset: Several Hours Warning Hazard Duration: Two to Three Days **Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## Hazard(s) rated as moderately low: LANDSLIDE, ICE STORM, SEVERE STORMS, WATER SUPPLY CONTAMINATION, TORNADO, TRANS ACCIDENT

**LANDSLIDE:** 239, Moderately Low Hazard

Potential Impact: **Several Locations Cascade Effects:** Some Potential Frequency: An Infrequent Event

Onset: No Warning

Hazard Duration: More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**ICE STORM:** 234, Moderately Low Hazard

**Several Locations** Potential Impact: **Cascade Effects:** Some Potential Frequency: A Frequent Event **Onset:** Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Yorkshire Page **3** of **11**  **SEVERE STORMS:** 224, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning

**<u>Hazard Duration:</u>** One Day

**Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

## WATER SUPPLY CONTAMINATION: 203, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**TORNADO:** 197, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Some Potential
An Infrequent Event

**Onset:** No Warning

Hazard Duration:
Recovery Time:

Less Than One Day
Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Town of Yorkshire Page 4 of 11

TRANS ACCIDENT: 192, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: LANDSUBSIDENCE, ICE JAM, TERRORISM - RADIOLOGICAL, WILDFIRE / DROUGHT, TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, CIVIL UNREST, DAM FAILURE, EARTHQUAKE, EPIDEMIC, EXPLOSION, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

**LANDSUBSIDENCE:** 151, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE JAM: 126, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Yorkshire Page 5 of 11

## TERRORISM - RADIOLOGICAL: 124, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

### **WILDFIRE / DROUGHT:** 124, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **TERRORISM - BIOLOGICAL:** 116, Low Hazard

Potential Impact:
Cascade Effects:
Frequency:
Onset:
Single Location
Highly Unlikely
A Rare Event
No Warning

**<u>Hazard Duration:</u>** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Yorkshire Page 6 of 11

## TERRORISM - CHEMICAL: 116, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **DAM FAILURE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Yorkshire Page 7 of 11

**EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Yorkshire Page 8 of 11

## HAZMAT (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (FIXED SITE): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Town of Yorkshire Page 9 of 11

#### RADIOLOGICAL (IN TRANSIT): 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

Serious Injury or Death Unlikely

• Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

**FLOOD** 

LANDSLIDE

**WATER SUPPLY CONTAMINATION** 

**TORNADO** 

TRANS ACCIDENT LANDSUBSIDENCE

ICE JAM

TERRORISM - RADIOLOGICAL

WILDFIRE / DROUGHT

TERRORISM - BIOLOGICAL

TERRORISM - CHEMICAL

CIVIL UNREST

DAM FAILURE

**EARTHQUAKE** 

**EPIDEMIC** 

**EXPLOSION** 

HAZMAT (FIXED SITE)

HAZMAT (IN TRANSIT)

RADIOLOGICAL (FIXED SITE)

RADIOLOGICAL (IN TRANSIT)

HAZARDS THAT OCCUR MOST OFTEN\*

WINTER STORM (SEVERE)

**ICE STORM** 

Town of Yorkshire Page **10** of **11** 

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

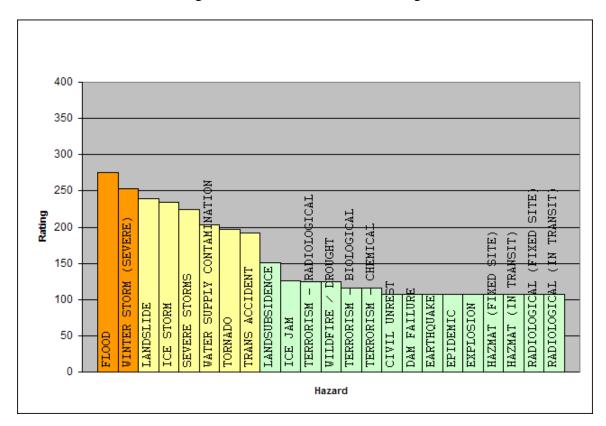


Figure 1. Chart of Hazards vs. Ratings

### Hazard Analysis Matrix - Town of Yorkshire

		SCOPE							FR	EQl	JEN	CY					IMP.	ACT	-				ONSET							D	UR/	ATION							
				•																																			
		_	Potential Area Of Impact													<u> </u>	rivat	<u>:e</u>		ublic						l													
		<u> </u>				<u> </u>	ffect		<u> </u>	requ	iency	<u>/</u>		<u>Pe</u>	ople		<u>P</u> 1	ropei	rt <u>y</u>	Fa	cilitie	<u>s</u>		Wa	rning	_		<u>!</u>	Haza	<u>rd</u>			Re	cove	<u>ry</u>				
Hazard	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to One week warning More Than a Week Warnin	ess Than One Day	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks			
FLOOD	275	S	Ø	Ō	ت	ᄑ	Ŏ	エ	⋖	₹	⋖	∢	드	드	드	드		Σ	Ø	ニ	Σ	Ň	Ž	Ň	<u> </u>	<u>⊃ ≥</u>	-	10	ΙÉ	Ľ	Σ	تا	H	튀	쒸	Σ			
WINTER STORM (SEVERE)	253	Н			$\dashv$	$\dashv$		$\dashv$	$\dashv$																+	+	+	+					$\vdash$		⇥				
LANDSLIDE	239	Н			$\dashv$	$\dashv$		$\dashv$	$\dashv$		$\dashv$				Н									-	+	+	+	+		Н		$\vdash$	Н	-	$\dashv$				
ICE STORM	234	Н				$\dashv$		_	_																+	+	+						$\vdash$	$\dashv$	一				
SEVERE STORMS	224	Н			-	$\dashv$		$\dashv$	$\dashv$														_		+	+	+		Н				$\vdash$		十	$\dashv$			
WATER SUPPLY CONTAMINATION	203					$\dashv$		$\dashv$																	+	+	+						П	$\neg$	$\dashv$				
TORNADO	197	Н				┪		┪																$\dashv$	$\top$	+		Н	1				$\Box$		コ	$\neg$			
TRANS ACCIDENT	192	П				┪																		T		T		П					П	$\neg$	ヿ				
LANDSUBSIDENCE	151					ヿ																		$\dashv$		十	Т							$\neg$	ヿ	$\neg$			
ICE JAM	126																																						
TERRORISM - RADIOLOGICAL	124																																П		T				
WILDFIRE / DROUGHT	124																																П						
TERRORISM - BIOLOGICAL	116																																						
TERRORISM - CHEMICAL	116																																						
CIVIL UNREST	107																																						
DAM FAILURE	107																																						
EARTHQUAKE	107																									┸							Ш		$\Box$				
EPIDEMIC	107																																						
EXPLOSION	107																																						
HAZMAT (FIXED SITE)	107																																						
HAZMAT (IN TRANSIT)	107																									$\perp$													
RADIOLOGICAL (FIXED SITE)	107																																						
RADIOLOGICAL (IN TRANSIT)	107																																						

## **HAZNY**

#### Background

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The Highway Superintendant analyzed hazards potentially affecting the Village of Cattaraugus. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
LANDSLIDE	316
WINTER STORM (SEVERE)	282
SEVERE STORMS	278
TERRORISM-CHEMICAL	211
FLOOD	201
TERRORISM-RADIOLOGICAL	194
TERRORISM-BIOLOGICAL	186
LANDSUBSIDENCE	160
ICE STORM	158
TORNADO	147
WATER SUPPLY CONTAMINATION	130
WILDFIRE / DROUGHT	130
CIVIL UNREST	117
ICE JAM	117
EARTHQUAKE	107
<b>EPIDEMIC</b>	107
EXPLOSION	107
HAZMAT (IN TRANSIT)	107
TRANS ACCIDENT	107
HAZMAT (FIXED SITE)	54
DAM FAILURE	44
RADIOLOGICAL (FIXED SITE)	44
RADIOLOGICAL (IN TRANSIT)	44

# Hazard(s) rated as moderately high: LANDSLIDE, WINTER STORM (SEVERE), SEVERE STORMS

LANDSLIDE: 316, Moderately High Hazard

Potential Impact:Several LocationsCascade Effects:Highly LikelyFrequency:A Frequent EventOnset:No Warning

Hazard Duration: More Than One Week Less Than One Day

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### WINTER STORM (SEVERE): 282, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** Two to Three Days

Three Days to One Week

Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**SEVERE STORMS:** 278, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly LikelyFrequency:A Frequent EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: TERRORISM-CHEMICAL, FLOOD, TERRORISM-RADIOLOGICAL, TERRORISM-BIOLOGICAL

**TERRORISM-CHEMICAL:** 211, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Severe Structural Damage to Public Facilities

#### FLOOD: 201, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM-RADIOLOGICAL: 194, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### TERRORISM-BIOLOGICAL: 186, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Hazard(s) rated as low: LANDSUBSIDENCE, ICE STORM, TORNADO, WATER SUPPLY CONTAMINATION, WILDFIRE / DROUGHT, CIVIL UNREST, ICE JAM, EARTHQUAKE, EPIDEMIC, EXPLOSION, HAZMAT (IN TRANSIT),

Village of Cattaraugus

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# TRANS ACCIDENT, HAZMAT (FIXED SITE), DAM FAILURE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

**LANDSUBSIDENCE:** 160, Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Unlikely <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

• Serious Injury or Death Unlikely

• Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

ICE STORM: 158, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

• Little or No Damage to Private Property

• Little or No Structural Damage to Public Facilities

**TORNADO:** 147, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 130, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WILDFIRE / DROUGHT: 130, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 117, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

ICE JAM: 117, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TRANS ACCIDENT: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### HAZMAT (FIXED SITE): 54, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **DAM FAILURE:** 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

### RADIOLOGICAL (IN TRANSIT): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

**LANDSLIDE** 

WINTER STORM (SEVERE)

SEVERE STORMS

TERRORISM-CHEMICAL

**FLOOD** 

TERRORISM-RADIOLOGICAL TERRORISM-BIOLOGICAL

**LANDSUBSIDENCE** 

ICE STORM TORNADO

WATER SUPPLY CONTAMINATION

WILDFIRE / DROUGHT

**CIVIL UNREST** 

ICE JAM

**EARTHQUAKE** 

**EPIDEMIC** 

**EXPLOSION** 

HAZMAT (IN TRANSIT)

TRANS ACCIDENT

#### HAZARDS THAT OCCUR MOST OFTEN\*

LANDSLIDE

**WINTER STORM (SEVERE)** 

SEVERE STORMS

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

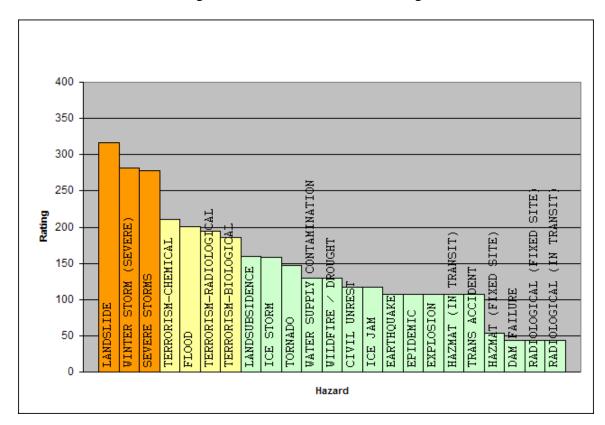


Figure 1. Chart of Hazards vs. Ratings

### Hazard Analysis Matrix - Village of Cattaraugus

		SCOPE							FREQUENCY								IMP	ACT	-					ON	SET	•	Τ			D	UR/	ATION						
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Hazard	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Op to Offe Week Walfilling More Than a Week Warnin	ess Than One Day	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks		
LANDSLIDE	316	S	S	S	_		<u> </u>		_	_	◂	⋖	느	느	=	_=		2	S	_	2	S	_	<u> </u>	<del>-   -</del>	7 2	+-	1 0	+	Н.	2	_	0	-	러	2		
WINTER STORM (SEVERE)	282	H			_	$\dashv$					一									一				$\dashv$	$\top$	+	T	T		H					$\dashv$	$\dashv$		
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FLOOD	201		$\neg$			╛		T	$\neg$															十		T									ヿ	П.		
TERRORISM-RADIOLOGICAL	194					╗					一									╗				十		Τ		Т					П		$\neg$			
TERRORISM-BIOLOGICAL	186																		П																			
LANDSUBSIDENCE	160																		П							Т												
ICE STORM	158																																					
TORNADO	147																																					
WATER SUPPLY CONTAMINATION	130																																					
WILDFIRE / DROUGHT	130																																					
CIVIL UNREST	117																																					
ICE JAM	117																																					
EARTHQUAKE	107																																					
EPIDEMIC	107																																					
EXPLOSION	107																																					
HAZMAT (IN TRANSIT)	107																																					
TRANS ACCIDENT	107																																					
HAZMAT (FIXED SITE)	54																																					
DAM FAILURE	44																							$\Box$														
RADIOLOGICAL (FIXED SITE)	44																																					
RADIOLOGICAL (IN TRANSIT)	44																		Ш																			

## **HAZNY**

#### Background

On **4/14/11**, the Village of Delevan conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

#### HAZNY and the Village of Delevan

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Village of Delevan completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Village of Delevan. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 23 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	300
LANDSUBSIDENCE	284
ICE STORM	276
FLOOD	258
SEVERE STORMS	242
DAM FAILURE	231
TRANS ACCIDENT	225
TORNADO	220
HAZMAT (IN TRANSIT)	210
WILDFIE / DROUGHT	165
ICE JAM	164
EPIDEMIC	152
EXPLOSION	140
LANDSLIDE	139
WATER SUPPLY CONTAMINATION	139
HAZMAT (FIXED SITE)	132
EARTHQUAKE	130
RADIOLOGICAL (IN TRANSIT)	124
TERRORISM-CHEMICAL	117
TERRORISM-BIOLOGICAL	107
TERRORISM-RADIOLOGICAL	107
CIVIL UNREST	72
RADIOLOGICAL (FIXED SITE)	44

# Hazard(s) rated as moderately high: WINTER STORM (SEVERE), LANDSUBSIDENCE, ICE STORM, FLOOD, SEVERE STORMS

#### WINTER STORM (SEVERE): 300, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### LANDSUBSIDENCE: 284, Moderately High Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Frequent EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death UnlikelySevere Damage to Private Property
- Severe Structural Damage to Public Facilities

ICE STORM: 276, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Three Days to One Week

#### **Impact:**

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **FLOOD:** 258, Moderately High Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Highly LikelyFrequency:A Regular Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
One to Two Days

- Serious Injury or Death Unlikely
   Serious Private Priv
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

SEVERE STORMS: 242, Moderately High Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: Three Days to One Week

Impact:

Serious Injury or Death UnlikelySevere Damage to Private Property

• Moderate Structural Damage to Public Facilities

# Hazard(s) rated as moderately low: DAM FAILURE, TRANS ACCIDENT, TORNADO, HAZMAT (IN TRANSIT), WILDFIE / DROUGHT, ICE JAM

**DAM FAILURE:** 231, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Likely

**Frequency:** An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day One to Two Days

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### TRANS ACCIDENT: 225, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TORNADO: 220, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **HAZMAT (IN TRANSIT):** 210, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### WILDFIE / DROUGHT: 165, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours Warning

Hazard Duration: One Day

**Recovery Time:** Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

ICE JAM: 164, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:One Day Warning

**Hazard Duration:** One Day

**Recovery Time:** Less Than One Day

Impact:

• Serious Injury or Death Unlikely

- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

Hazard(s) rated as low: EPIDEMIC, EXPLOSION, LANDSLIDE, WATER SUPPLY CONTAMINATION, HAZMAT (FIXED SITE), EARTHQUAKE, RADIOLOGICAL (IN TRANSIT), TERRORISM-CHEMICAL, TERRORISM-BIOLOGICAL, TERRORISM-RADIOLOGICAL, CIVIL UNREST, RADIOLOGICAL (FIXED SITE)

**EPIDEMIC:** 152, Low Hazard

**Potential Impact:** Throughout a Large Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EXPLOSION:** 140, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Village of Delevan

**LANDSLIDE:** 139, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

Serious Injury or Death UnlikelySevere Damage to Private Property

• Little or No Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 139. Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **HAZMAT (FIXED SITE):** 132, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EARTHQUAKE:** 130, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 124, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### TERRORISM-CHEMICAL: 117, Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

Hazard Duration: Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

Village of Delevan Page 8 of 11

#### **TERRORISM-BIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM-RADIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **CIVIL UNREST:** 72, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:One Day WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 44, Low Hazard

**Potential Impact:** Single Location **Cascade Effects:** Highly Unlikely

Village of Delevan Page 9 of 11

**Frequency:** A Rare Event

**Onset:** More Than One Week Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

**Impact:** 

• Serious Injury or Death Unlikely

- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

**LANDSUBSIDENCE** 

**ICE STORM** 

DAM FAILURE

TRANS ACCIDENT

**TORNADO** 

**HAZMAT (IN TRANSIT)** 

EPIDEMIC EXPLOSION LANDSLIDE

HAZMAT (FIXED SITE)

**EARTHQUAKE** 

RADIOLOGICAL (IN TRANSIT)

TERRORISM-CHEMICAL TERRORISM-BIOLOGICAL

TERRORISM-RADIOLOGICAL

#### HAZARDS THAT OCCUR MOST OFTEN\*

WINTER STORM (SEVERE) LANDSUBSIDENCE

Village of Delevan Page 10 of 11

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

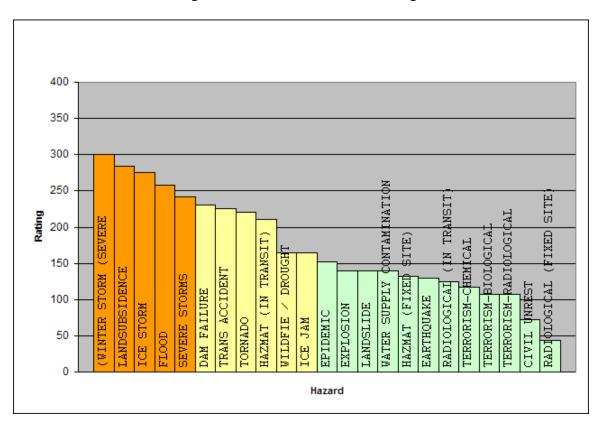


Figure 1. Chart of Hazards vs. Ratings

### Hazard Analysis Matrix - Village of Cattaraugus

		SCOPE							FREQUENCY								<u>IMP</u>	ACT			<u>ON</u>	ISE	T					DL	JRA	ATION							
				tial A npact		<u>Cascade</u> <u>Effect</u>		<u> </u>	requ	iency	<u>/</u>		<u>Ре</u>	eople		_	Privat rope	_		ublic cilitie			Wa	arnin	g			<u>H</u> ;	azaro	b			Re	cove	<u>ery</u>		
	g	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	injury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Up to One Day Warning	Up to One Week Warning	More Than a Week Warnin	ess Than One Day	Jay	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks
Hazard	Rating	single	sever	small	arge.	lighl	Some	lighl	Rar	'n	∖ Reç	۱ Fre	njury	njury	njury	njury	ittle	Jode	sever	ittle	Jode	ever	W ov	sever	Jp to	Jp to	Jore	ess	One Day	wot	onu	<b>Jore</b>	ess	One t	hree	One t	<b>Jore</b>
LANDSLIDE	316	0)	U)	0)			- 07		_	_		1	_		_	_			0)			0)		"	7	┪		十			٦				亍		
WINTER STORM (SEVERE)	282																									T					╛	$\neg$		П		$\Box$	ヿ
SEVERE STORMS	278						$\neg$													一						丁			T	$\exists$				П	$\neg$	$\Box$	
TERRORISM-CHEMICAL	211																		П							T		$\neg$									
FLOOD	201																		П					T	T	T					T						П
TERRORISM-RADIOLOGICAL	194																		П							丁	T	T	$\neg$	ヿ				П	$\neg$	$\neg$	
TERRORISM-BIOLOGICAL	186																		П							T										П	
LANDSUBSIDENCE	160																								T	T			T		T	$\neg$			$\Box$		П
ICE STORM	158																		П					T	T	T	T	Т	╗		ヿ	ヿ゙					П
TORNADO	147																		П					T		T			ヿ゙			一		П	$\neg$		
WATER SUPPLY CONTAMINATION	130																		П																		
WILDFIRE / DROUGHT	130																		П							T									$\Box$		$\Box$
CIVIL UNREST	117																		П							T			T		T	一			$\Box$		П
ICE JAM	117																		П													一					П
EARTHQUAKE	107																		П																$\Box$		
EPIDEMIC	107																		П					T		T			╗		一	一		П	$\Box$	П	$\Box$
EXPLOSION	107																		П							T						一					П
HAZMAT (IN TRANSIT)	107							$\Box$											П					T	T	T			ヿ		ヿ	ヿ		П	T		П
TRANS ACCIDENT	107							$\Box$											П					T		T			╗		ヿ	╗		П	$\Box$	П	П
HAZMAT (FIXED SITE)	54																							$\neg$	T					$\exists$		一		П	コ		╗
DAM FAILURE	44																								丁					$\exists$		T		П	寸	一	コ
RADIOLOGICAL (FIXED SITE)	44							$\neg$											П					$\neg$	$\neg$					$\exists$	一	一		П	$\neg$	$\Box$	$\neg$
RADIOLOGICAL (IN TRANSIT)	44																													$\Box$							

## **HAZNY**

#### Background

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#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Village of Little Valley. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

#### The Group rated the 22 hazards as follows:

Hazard	Rating
WINTER STORM (SEVERE)	234
<b>EPIDEMIC</b>	226
ICE STORM	221
HAZMAT (FIXED SITE)	220
HAZMAT (IN TRANSIT)	218
DAM FAILURE	205
TERRORISM CHEMICAL	203
FLOOD	198
SEVERE STORMS	195
RADIOLOGICAL (IN TRANSIT)	193
EARTHQUAKE	188
TERRORISM BIOLOGICAL	188
ICE JAM	182
WATER SUPPLY CONTAMINATION	176
EXPLOSION	172
RADIOLOGICAL (FIXED SITE)	172
WILDFIRE / DROUGHT	172
LANDSLIDE	168
LAND SUBSIDENCE	158
TORNADO	149
TRANS ACCIDENT	139
CIVIL UNREST	119

Hazard(s) rated as moderately low: WINTER STORM (SEVERE), EPIDEMIC, ICE STORM, HAZMAT (FIXED SITE), HAZMAT (IN TRANSIT), DAM FAILURE, TERRORISM CHEMICAL, FLOOD, SEVERE STORMS, RADIOLOGICAL (IN TRANSIT), EARTHQUAKE, TERRORISM BIOLOGICAL, ICE JAM, WATER SUPPLY CONTAMINATION, EXPLOSION, RADIOLOGICAL (FIXED SITE), WILDFIRE / DROUGHT, LANDSLIDE

WINTER STORM (SEVERE): 234, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Highly Likely <u>Frequency:</u> A Regular Event

Onset: Several Hours Warning
Hazard Duration: Two to Three Days
Recovery Time: One to Two Days

#### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EPIDEMIC:** 226, Moderately Low Hazard

Village of Little Valley

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**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

ICE STORM: 221, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Highly Likely

Frequency: An Infrequent Event

Onset: Several Hours Warning

Hazard Duration: Two to Three Days

Recovery Time: Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

**HAZMAT** (**FIXED SITE**): 220, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** One to Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**HAZMAT (IN TRANSIT):** 218, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential Frequency: An Infrequent Event

Village of Little Valley

Onset: No Warning

**<u>Hazard Duration:</u>** Two to Three Days Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**DAM FAILURE:** 205, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**<u>Hazard Duration:</u>** Four days to One Week **Recovery Time:** Three Days to One Week

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

#### **TERRORISM CHEMICAL:** 203, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** More Than One Week **Recovery Time:** More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**FLOOD:** 198, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **SEVERE STORMS:** 195, Moderately Low Hazard

Potential Impact: Several Locations
Cascade Effects: Highly Likely
An Infraquent Evo

**Frequency:** An Infrequent Event

Onset: No Warning Hazard Duration: One Day

**Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### RADIOLOGICAL (IN TRANSIT): 193, Moderately Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

<u>Hazard Duration:</u> More Than One Week <u>Recovery Time:</u> More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **EARTHQUAKE:** 188, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

Hazard Duration: Four days to One Week One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Village of Little Valley

#### **TERRORISM BIOLOGICAL:** 188, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### ICE JAM: 182, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Two to Three DaysRecovery Time:Three Days to One Week

**Impact:** 

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WATER SUPPLY CONTAMINATION: 176, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

Hazard Duration: Four days to One Week One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**EXPLOSION:** 172, Moderately Low Hazard

**Potential Impact:** Single Location

Village of Little Valley

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Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days **Recovery Time:** One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### RADIOLOGICAL (FIXED SITE): 172, Moderately Low Hazard

Potential Impact: Single Location Some Potential A Rare Event

Onset: Several Hours Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### WILDFIRE / DROUGHT: 172, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Four days to One Week
Recovery Time: One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

#### **LANDSLIDE:** 168, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Two to Three Days

Village of Little Valley

**Recovery Time:** Three Days to One Week

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: LAND SUBSIDENCE, TORNADO, TRANS ACCIDENT, CIVIL UNREST

LAND SUBSIDENCE: 158, Low Hazard

Potential Impact: Single Location Some Potential A Rare Event No Warning

Herend Prostices: True to Three Potential Single Location Some Potential A Rare Event No Warning

**<u>Hazard Duration:</u>** Two to Three Days

**Recovery Time:** Three Days to One Week

Impact:

• Serious Injury or Death Unlikely

• Moderate Damage to Private Property

• Moderate Structural Damage to Public Facilities

TORNADO: 149, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Recovery Time: One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Severe Structural Damage to Public Facilities

TRANS ACCIDENT: 139, Low Hazard

Potential Impact:Single LocationCascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Village of Little Valley

### Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

**CIVIL UNREST:** 119, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **Biggest Hazards**

#### HAZARDS THAT OCCUR WITH NO WARNING\*

**EPIDEMIC** 

HAZMAT (FIXED SITE) HAZMAT (IN TRANSIT)

DAM FAILURE

TERRORISM CHEMICAL

SEVERE STORMS

RADIOLOGICAL (IN TRANSIT)

**EARTHQUAKE** 

TERRORISM BIOLOGICAL

**WATER SUPPLY CONTAMINATION** 

EXPLOSION LANDSLIDE

LAND SUBSIDENCE

TRANS ACCIDENT

**CIVIL UNREST** 

<sup>\*</sup> No warning was selected from the Onset Tab.

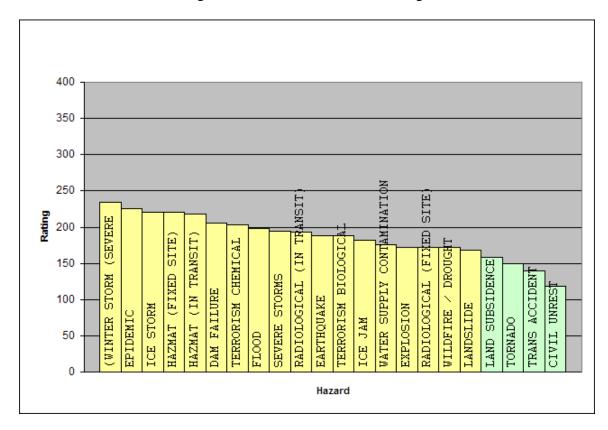


Figure 1. Chart of Hazards vs. Ratings

# **Hazard Analysis Matrix - Village of Little Valley**

										FREQUENCY IMPACT														ON	ISE1	<u> </u>				<u>.</u>	DUF	RAT	<u>ATION</u>						
								<u>Cascade</u> Effect			F						Private Property			Public Facilities			Warning											Danner					
		Of Impact					<u>Ellect</u>		<u>Frequency</u>			People People				<u>Hazard</u>												Recovery											
Hazard	Rating	Single Location	Several Individual Location	Small Region	arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	njury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	-ittle or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Jp to One Day Warning	Up to One Week Warning	Viore I nan a Week Warnin	ess man one day	One Day	I wo to Three Days	Four days to One week	More Than One Week	ess Than One Day	One to Two Days	Inree Days to One week	One to I wo Weeks More Than Two Weeks			
WINTER STORM (SEVERE)	234	S	S	S	۲	ᄑ	S	I	⋖	_ ∢	_ ∢	_ <	느	느	=			_≥	S		≥	S	z	S	<del>기</del> :	<del>기                                    </del>	<u>≥                                    </u>	<del>'   '</del>		+	+	≥   -	<del>-    </del>	9+	+	<u>&gt;  ≥</u>			
EPIDEMIC	226		$\dashv$			$\dashv$																		_	+	+	+	+	-	1			+	_	十				
ICE STORM	221		┪			$\dashv$																	_		$^{+}$	+	+	+		+	т	_	+		+	+			
HAZMAT (FIXED SITE)	220																							_		$\top$	$\top$	+	т	т			+	$\pm$	1				
HAZMAT (IN TRANSIT)	218	$\Box$				$\dashv$																╗		$\top$	$\top$	$\top$	$\top$	十		T	т		十		Г	$\neg \neg$			
DAM FAILURE	205																							$\top$		1	T	$\top$	Т				$\top$			$\top$			
TERRORISM CHEMICAL	203							$\neg$														$\neg$		T	T	1	T	十		Т	1		T	$\top$	T				
FLOOD	198					$\neg$		$\neg$															$\neg$			T	T	十		T			十	$\top$	$\top$				
SEVERE STORMS	195																							$\Box$						T					T	$\top$			
RADIOLOGICAL (IN TRANSIT)	193																											Т					Т						
EARTHQUAKE	188																																						
TERRORISM BIOLOGICAL	188																																						
ICE JAM	182																																						
WATER SUPPLY CONTAMINATION	176																																						
EXPLOSION	172																																						
RADIOLOGICAL (FIXED SITE)	172																																						
WILDFIRE / DROUGHT	172																																						
LANDSLIDE	168																																						
LAND SUBSIDENCE	158																																						
TORNADO	149																														I								
TRANS ACCIDENT	139																														I								
CIVIL UNREST	119																													丄					$\perp$				

# **HAZNY**

## **Background**

On **4/14/11**, the Village of South Dayton conducted a hazard analysis using the automated program, *HAZNY* (Hazards New York). *HAZNY* was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

## **HAZNY** and the Village of South Dayton

HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. The Village of South Dayton completed an individual HAZNY working with other Highway Superintendents in a group setting to consider and discuss the questions and issues raised by the HAZNY program. Representatives from Cattaraugus County Emergency Services and Cattaraugus County DPW facilitated the meeting and recorded the results.

#### The Results

The Highway Superintendant analyzed hazards potentially affecting the Village of South Dayton. *HAZNY* rated each hazard based on the Highway Superintendant's assessment and assigned a numerical value.

These values are categorized as follows:

321 to 400 HIGH HAZARD 241 to 320 MODERATELY HIGH HAZARD 161 to 240 MODERATELY LOW HAZARD 44 to 160 LOW HAZARD

## The Group rated the 23 hazards as follows:

Hazard	Rating
SEVERE STORMS	238
WINTER STORM (SEVERE)	236
TORNADO	220
TRANS ACCIDENT	212
ICE STORM	202
WILDFIRE / DROUGHT	191
EARTHQUAKE	186
WATER SUPPLY CONTAMINATION	178
HAZMAT (IN TRANSIT)	162
EXPLOSION	158
HAZMAT (FIXED SITE)	158
EPIDEMIC	137
FLOOD	122
LANDSLIDE	119
TERRORISM - BIOLOGICAL	107
TERRORISM - CHEMICAL	107
TERRORISM - RADIOLOGICAL	107
ICE JAM	93
CIVIL UNREST	58
DAM FAILURE	44
LANDSUBSIDENCE	44
RADIOLOGICAL (FIXED SITE)	44
RADIOLOGICAL (IN TRANSIT)	44

Hazard(s) rated as moderately low: SEVERE STORMS, WINTER STORM (SEVERE), TORNADO, TRANS ACCIDENT, ICE STORM, WILDFIRE / DROUGHT, EARTHQUAKE, WATER SUPPLY CONTAMINATION, HAZMAT (IN TRANSIT)

**SEVERE STORMS:** 238, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Frequent EventOnset:Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WINTER STORM (SEVERE): 236, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

<u>Cascade Effects:</u> Highly Unlikely
<u>Frequency:</u> A Frequent Event
Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**TORNADO:** 220, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

<u>Cascade Effects:</u> Some Potential <u>Frequency:</u> An Infrequent Event

Onset: No Warning

**Hazard Duration:** Less Than One Day Three Days to One Week

## Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

## TRANS ACCIDENT: 212, Moderately Low Hazard

Potential Impact:Several LocationsCascade Effects:Highly UnlikelyFrequency:A Regular EventOnset:No Warning

**Hazard Duration:** Less Than One Day One to Two Days

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **ICE STORM:** 202, Moderately Low Hazard

Throughout a Small Region **Potential Impact:** 

Cascade Effects: Some Potential Frequency: A Regular Event

Onset: Several Hours Warning

**Hazard Duration:** One Day

**Recovery Time:** One to Two Days

#### Impact:

- Serious Injury or Death Unlikely
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WILDFIRE / DROUGHT: 191, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

**Cascade Effects:** Some Potential Frequency: A Rare Event **Onset:** No Warning

**Hazard Duration:** Two to Three Days

**Recovery Time:** Three Days to One Week

## **Impact:**

- Serious Injury or Death Unlikely
- Severe Damage to Private Property
- Moderate Structural Damage to Public Facilities

## **EARTHQUAKE:** 186, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential Frequency: An Infrequent Event

No Warning Onset:

Hazard Duration: Less Than One Day **Recovery Time:** One to Two Days

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## WATER SUPPLY CONTAMINATION: 178, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Four days to One Week One to Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **HAZMAT (IN TRANSIT):** 162, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Some PotentialFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** One to Two Days

**Impact:** 

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Moderate Structural Damage to Public Facilities

Hazard(s) rated as low: EXPLOSION, HAZMAT (FIXED SITE), EPIDEMIC, FLOOD, LANDSLIDE, TERRORISM - BIOLOGICAL, TERRORISM - CHEMICAL, TERRORISM - RADIOLOGICAL, ICE JAM, CIVIL UNREST, DAM FAILURE, LANDSUBSIDENCE, RADIOLOGICAL (FIXED SITE), RADIOLOGICAL (IN TRANSIT)

**EXPLOSION:** 158, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

Village of South Dayton

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## HAZMAT (FIXED SITE): 158, Low Hazard

Potential Impact:Several LocationsCascade Effects:Some PotentialFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** Three Days to One Week

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**EPIDEMIC:** 137, Low Hazard

**Potential Impact:** Throughout a Small Region

Cascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: Several Days Warning
Hazard Duration: More Than One Week
Recovery Time: More Than Two Weeks

Impact:

- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**FLOOD:** 122, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:An Infrequent EventOnset:Several Hours WarningHazard Duration:Less Than One DayRecovery Time:Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

LANDSLIDE: 119, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No WarningHazard Duration:One Day

**Recovery Time:** One to Two Days

## **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **TERRORISM - BIOLOGICAL:** 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TERRORISM - CHEMICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## TERRORISM - RADIOLOGICAL: 107, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare EventOnset:No Warning

**Hazard Duration:** Less Than One Day **Recovery Time:** Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **ICE JAM:** 93, Low Hazard

Potential Impact: Single Location Some Potential Frequency: A Rare Event

Onset: Several Hours Warning
Hazard Duration: Less Than One Day
Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **CIVIL UNREST:** 58, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: Several Days Warning
Hazard Duration: Less Than One Day
Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## DAM FAILURE: 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

#### **LANDSUBSIDENCE:** 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

#### **Impact:**

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (FIXED SITE): 44, Low Hazard

Potential Impact: Single Location
Cascade Effects: Highly Unlikely
A Rare Event

Onset: More Than One Week Warning

Hazard Duration: Less Than One Day Less Than One Day

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## RADIOLOGICAL (IN TRANSIT): 44, Low Hazard

Potential Impact:Single LocationCascade Effects:Highly UnlikelyFrequency:A Rare Event

Onset: More Than One Week Warning

**Hazard Duration:** Less Than One Day Less Than One Day

Impact:

- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

## **Biggest Hazards**

## HAZARDS THAT OCCUR WITH NO WARNING\*

**TORNADO** 

TRANS ACCIDENT
WILDFIRE / DROUGHT

**EARTHQUAKE** 

WATER SUPPLY CONTAMINATION

HAZMAT (IN TRANSIT)

**EXPLOSION** 

HAZMAT (FIXED SITE)

**LANDSLIDE** 

TERRORISM - BIOLOGICAL TERRORISM - CHEMICAL TERRORISM - RADIOLOGICAL

HAZARDS THAT OCCUR MOST OFTEN\*

SEVERE STORMS
WINTER STORM (SEVERE)

<sup>\*</sup> No warning was selected from the Onset Tab.

<sup>\*</sup>A frequent event was selected on frequency Tab.

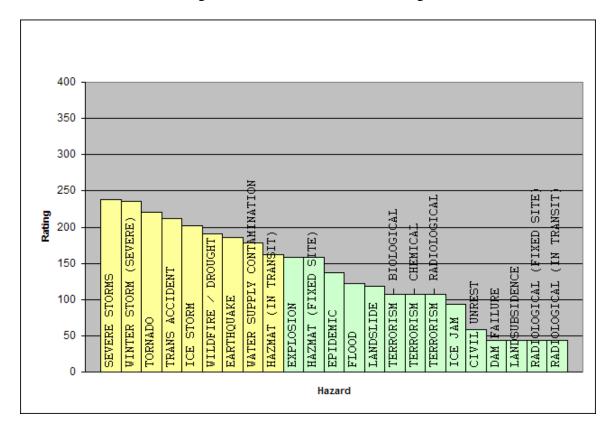


Figure 1. Chart of Hazards vs. Ratings

# **Hazard Analysis Matrix - Village of South Dayton**

				S	COP	E			FREQUENCY IMPACT										ONSET						Τ			DI	UR/	ATION						
		_	tenti		ea_	_	asca										<u>Private</u>			<u>Public</u>																
		<u> </u>	<u>Effect</u>		<u>Frequency</u>			<u>People</u>				<u>Property</u>			<u>Facilities</u>			Warning					<u>Hazard</u>					Recovery								
l lacord	Rating	Single Location	Several Individual Location	Small Region	-arge Region	Highly Unlikely	Some Potential	Highly Likely	A Rare Event	An Infrequent Event	A Regular Event	A Frequent Event	njury or Death Unlikely	Injury/Death Small #'s	njury/Death Large #'s	njury/Death Extreme #'s	Little or No Damage	Moderate Damage	Severe Damage	Little or No Damage	Moderate Damage	Severe Damage	No Warning	Several Hours Warning	Jp to One Day Warning	Op to Otte week warning More Than a Week Warnin	ess Than One Day	One Dav	Two to Three Days	Four days to One Week	More Than One Week	ess Than One Day	One to Two Days	Three Days to One Week	One to Two Weeks	More Than Two Weeks
Hazard SEVERE STORMS	238	S	Ø	Ø	ت	픠	Ŏ	エ	∢	₹	⋖	∢	드	드	드	드		Σ	Ŏ		Σ	Ň	Ž	Ŏ	<del>기 :</del>	<u> </u>	-	9	F	ŭ	Σ	ڀّـ	9	튀	쒸	Σ
WINTER STORM (SEVERE)	236	$\dashv$	$\dashv$			-		$\dashv$	-	$\dashv$	$\dashv$										$\dashv$	-	$\dashv$		+	+	+							$\dashv$	+	$\dashv$
TORNADO	220	$\dashv$	-					$\dashv$			$\dashv$				-							-			+	+			$\vdash$	$\vdash$					+	$\dashv$
TRANS ACCIDENT	212					-		-	_															+	+	+		Н	1					-	+	$\dashv$
ICE STORM	202	$\dashv$	-		$\dashv$	-		$\dashv$	_	$\dashv$		$\dashv$					Н				$\dashv$				+	+		1	Н					+	十	$\dashv$
WILDFIRE / DROUGHT	191	$\dashv$	$\dashv$			╛		$\dashv$		$\dashv$		$\dashv$					Н							_	+	+	+			$\vdash$					十	$\dashv$
EARTHQUAKE	186		_			$\dashv$		-				$\dashv$												+	+	+								-	十	$\dashv$
WATER SUPPLY CONTAMINATION	178		_			┪					$\dashv$	$\dashv$									_			+	+	+		т	t					$\dashv$		$\dashv$
HAZMAT (IN TRANSIT)	162	$\neg$	$\neg$			╛		$\dashv$		$\dashv$	$\dashv$		$\neg$											+	$\top$	+								寸	$\neg$	$\dashv$
EXPLOSION	158					_		$\neg$																$\dashv$	$\top$	+									+	$\dashv$
HAZMAT (FIXED SITE)	158	$\neg$		_		┪		┪																十	$\top$	十			П				┪		十	$\exists$
EPIDEMIC	137		$\neg$				$\neg$																$\neg$	十				Т	Т					$\neg$		
FLOOD	122		_					_																	Т	1								寸	ヿ	П.
LANDSLIDE	119																							$\neg$		1	Т							寸	寸	╗
TERRORISM - BIOLOGICAL	107				ヿ		一	╗				$\neg$												十		$\top$		Г					$\neg$	╛	$\neg$	$\neg$
TERRORISM - CHEMICAL	107																							$\top$		$\top$								$\exists$	$\top$	╗
TERRORISM - RADIOLOGICAL	107																																			П
ICE JAM	93					$\neg$																	П											T	$\neg$	7
CIVIL UNREST	58											$\neg$											T											$\top$	寸	$\Box$
DAM FAILURE	44																							T										$\Box$	$\top$	П
LANDSUBSIDENCE	44																																	$\neg$	$\Box$	
RADIOLOGICAL (FIXED SITE)	44																																	丁	丁	
RADIOLOGICAL (IN TRANSIT)	44																																			