Multi-Hazard Mitigation Plan

Knox County

The Polis Center
IUPUI
1200 Waterway Boulevard
Suite 100
Indianapolis, IN 46202

Southern Illinois University
Carbondale
Department of Geology
206 Parkinson Laboratory
Carbondale, IL 62901

Multi-Hazard Mitigation Plan

Knox County, Illinois

Adoption Date: -- _____ --

Primary Point of Contact

Tom Simkins
Director
Knox County Emergency Management Agency
150 South Broad Street
Galesburg, IL 61401
Phone: 309-345-3756
Fax:
firechf@ci.galesburg.il.us

Secondary Point of Contact

Brad Stevenson
Assistant EMA
Phone: 309-345-3756

Prepared by:

Department of Geology
Southern Illinois University
Carbondale, Illinois 62901

and

The Polis Center
1200 Waterway Boulevard, Suite 100
Indianapolis, IN 46202
317-274-2455

Table of Contents

Section 1 - Public Planning Process 5
1.1 Narrative Description 5
1.2 Planning Team Information 5
1.3 Public Involvement in Planning Process 7
1.4 Neighboring Community Involvement 7
1.5 Review of Technical and Fiscal Resources 7
1.6 Review of Existing Plans 8

Section 2 - Jurisdiction Participation Information 9
2.1 Adoption by Local Governing Body 9
2.2 Jurisdiction Participation 9

Section 3 - Jurisdiction Information 11
3.1 Topography 11
3.2 Climate 12
3.3 Demographics 12
3.4 Economy 13
3.5 Industry 14
3.6 Land Use and Development Trends 15
3.7 Major Lakes, Rivers, and Watersheds 16

Section 4 - Risk Assessment 18
4.1 Hazard Identification/Profile 18
4.1.1 Existing Plans 18
4.1.2 National Hazard Records 18
4.1.3 Hazard Ranking Methodology 20
4.1.4 GIS and HAZUS-MH 22
4.2 Vulnerability Assessment 23
4.2.1 Asset Inventory 23
4.2.1.2 Essential Facilities List 25
4.2.1.3 Facility Replacement Costs 25
4.3 Future Development 26
4.4 Hazard Profiles 27
4.4.1 Tornado Hazard 27
4.4.2 Flood Hazard 36
4.4.3 Earthquake Hazard 41
4.4.4 Thunderstorm Hazard 41
4.4.5 Drought and Extreme Heat Hazard ..... **Error! Bookmark not defined.**
4.4.6 Winter Storm Hazard 60
4.4.7 Hazardous Materials Storage and Transport Hazard 64

Section 5 - Mitigation Strategy 77
5.1 Community Capability Assessment 77
5.1.1 National Flood Insurance Program (NFIP) 77
5.1.2 Stormwater Management Stream Maintenance Ordinance 78
5.1.3 Zoning Management Ordinance 78

5.1.4 Erosion Management Program/ Policy 78
5.1.5 Fire Insurance Rating Programs/ Policy 79
5.1.6 Land Use Plan 79
5.1.7 Building Codes 79
5.2 Mitigation goals 79
5.3 Mitigation Actions/Projects 80
5.4 Implementation Strategy and Analysis of Mitigation Projects 82
5.5 Multi-Jurisdictional Mitigation Strategy 89

Section 6 - Plan Maintenance 90
6.1 Monitoring, Evaluating, and Updating the Plan 90
6.2 Implementation through Existing Programs 90
6.3 Continued Public Involvement 90

Appendix A: Multi-Hazard Mitigation Plan Meeting Minutes 91

Appendix B: Local Newspaper Articles and Photographs 108

Appendix C: Adopting Resolutions 110

Appendix D: NCDC Historical Hazards 126

Appendix E: Historical Hazard Maps 145

Appendix F: Critical Facilities List 146

Appendix G: Critical Facilities Map 173

Section 1 - Public Planning Process

1.1 Narrative Description

Hazard mitigation is defined as any sustained action to reduce or eliminate long-term risk to human life and property from hazards. The Federal Emergency Management Agency (FEMA) has made reducing hazards one of its primary goals; hazard mitigation planning and the subsequent implementation of resulting projects, measures, and policies is a primary mechanism in achieving FEMA's goal.

The Multi-Hazard Mitigation Plan (MHMP) is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000). The development of a local government plan is required in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs. In order for the National Flood Insurance Program (NFIP) communities to be eligible for future mitigation funds, they must adopt an MHMP.

In recognition of the importance of planning in mitigation activities, FEMA created **Ha**zards **US**A **M**ulti-**H**azard (HAZUS-MH), a geographic information system (GIS)-based disaster risk assessment tool. This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses. The Illinois Emergency Management Agency (IEMA) has determined that HAZUS-MH should play a critical role in Illinois's risk assessments. Southern Illinois University, Carbondale (SIU) and the Polis Center (Polis) at Indiana University Purdue University Indianapolis (IUPUI) are assisting Knox County planning staff with performing the hazard risk assessment.

1.2 Planning Team Information

The Knox County Multi-Hazard Mitigation Planning Team is headed by Tom Simkins, who is the primary point of contact. Members of the planning team include representatives from various county departments, cities and towns, and public and private utilities. Table 1-1 identifies the planning team individuals and the organizations they represent.

Table 1-1: Multi Hazard Mitigation Planning Team Members

Name	Title	Organization	Jurisdiction
Tom Simkins	Fire Chief	Knox County Emergency Management Agency	Knox County
Dave Clauge	Sheriff	Knox County Sheriff's Office	Knox County
Bill Lotz	GIS Coordinator	Knox County	Knox County
Bonnie Harris	Regional Superintendent of Schools	Knox County Regional of Education	Knox County
Fred Andrews	Police Chief	City of Abingdon	City of Abingdon
Debra Cassens			City of East Galesburg
Brad Stevenson	Battalion Chief	Galesburg Fire Department	City of Galesburg
James Cueno	GIS Analyst	City of Galesburg GIS	City of Galesburg
Lindsey May	Captain	Galesburg Police Department	City of Galesburg

Name	Title	Organization	Jurisdiction
Vicki Miller	Network Administrator	City of Galesburg	City of Galesburg
Terry Pool	Mayor of Knoxville	City of Knoxville	City of Knoxville
Bernadine Fleisher	Alderman	City of Knoxville	City of Knoxville
Bill Shenant	Trustee	Fire Department	City of Knoxville
Ron Poyner	Chief of Police	Police Department	City of Knoxville
Rod Larkins	Fire Chief	Knoxville Fire Protection District	City of Knoxville
Sally Reener		Village of Altona	Village of Altona
Dennis Parker	Fire Chief	Fire Department	Village of Maquon
Richard Young			Village of Maquon
Kirt Links			Village of Oneida
Ed Gullstrand	President	Village of Rio	Village of Rio
Eli W. Calkins	President	Village of Watage	Village of Wataga
Don Hickey			Village of Wataga
Michael O' Gray	President	Village of Williamsfield	Village of Williamsfield
Tom Rice			Village of WIlliamsfield
Richard Grubb			Village of Yates
Randy McMahan	Assistant Terminal Superintend	Burlington Northern Santa Fe Rail Road	Burlington Northern Santa Fe Rail Road
Rick Danielson	Terminal Superintend	Burlington Northern Santa Fe Rail Road	Burlington Northern Santa Fe Rail Road
Doug Ray	Coordinator of Environmental Services	Carl Sandburg College	Carl Sandburg College

The Disaster Mitigation Act (DMA) planning regulations stress that planning team members must be active participants. The Knox County MHMP committee members were actively involved on the following components:

- Attending the MHMP meetings
- Providing available GIS data and historical hazard information
- Reviewing and providing comments on the draft plans
- Coordinating and participating in the public input process
- Coordinating the formal adoption of the plan by the county

An MHMP kickoff meeting was held at the American Red Cross building in Galesburg, IL, on February 4, 2010. Representatives from Southern Illinois University explained the rationale behind the MHMP program and answered questions from the participants. The SIU also provided an overview of HAZUS-MH, described the timeline and the process of the mitigation planning project, and presented Knox County with a Memorandum of Understanding (MOU) for sharing data and information.

The Knox County Multi-Hazard Mitigation Planning Committee met on February 4, 2010, March 24, 2010, June 10, 2010, July 29, 2010 and September 30, 2010. Each meeting was approximately two hours in length. The meeting minutes are included in Appendix A. During these meetings, the planning team successfully identified critical facilities, reviewed hazard data and maps, identified and assessed the effectiveness of existing mitigation measures, established mitigation projects, and assisted with preparation of the public participation information.

1.3 Public Involvement in Planning Process

An effort was made to solicit public input during the planning process, and a public meeting was held on June 10, 2010 to review the county's risk assessment. Appendix A contains the minutes from the public meeting. Appendix B contains articles published by the local newspaper throughout the public input process.

1.4 Neighboring Community Involvement

The Knox County planning team invited participation from various representatives of county government, local city and town governments, community groups, local businesses, and universities. The team also invited participation from adjacent counties to obtain their involvement in the planning process. Details of neighboring stakeholders' involvement are summarized in Table 1-2.

Table 1-2: Neighboring Community Participation

Person Participating	Neighboring Jurisdiction	Organization	Participation Description
Chris Helle	Fulton County	Fulton County ESDA	Reviewed plan; offered comments
Bill Philhower	Henry County	Henry County ESDA	Reviewed plan; offered comments
Jim Metz	Mercer County	Mercer County ESDA	Reviewed plan; offered comments
Vicky Turner	Peoria County	Peoria County ESDA	Reviewed plan; offered comments
Fred J. Sams	Stark County	Stark County ESDA	Reviewed plan; offered comments
Aaron Winski	Warren County	Warren County ESDA	Reviewed plan; offered comments

1.5 Review of Technical and Fiscal Resources

The MHMP planning team has identified representatives from key agencies to assist in the planning process. Technical data, reports, and studies were obtained from these agencies. The organizations and their contributions are summarized in Table 1-3.

Table 1-3: Key Agency Resources Provided

Agency Name	Resources Provided
Illinois Environmental Protection Agency	Illinois 2008 Section 303(d) Listed Waters and watershed maps
U.S. Census	County Profile Information, e.g. Population and Physical Characteristics
Department of Commerce and Economic Opportunity	Community Profiles
Illinois Department of Employment Security	Industrial Employment by Sector
NOAA National Climatic Data Center	Climate Data
Illinois Emergency Management Agency	2007 Illinois Natural Hazard Mitigation Plan
Illinois Water Survey (State Climatologist Office)	Climate Data
United States Geological Survey	Physiographic/Hill Shade Map, Earthquake Information, Hydrology
Illinois State Geological Survey	Geologic, Karst Train, Physiographic Division and Coal Mining Maps
City of Galesburg Public Works Department	GIS Database of Critical Facilities and Infrastructure

1.6 Review of Existing Plans

Knox County and its local communities utilized a variety of planning documents to direct community development. These documents include land use plans, comprehensive plans, emergency response plans, municipal ordinances, and building codes. The planning process also incorporated the existing natural hazard mitigation elements from previous planning efforts. Table 1-4 lists the plans, studies, reports, and ordinances used in the development of the plan.

Table 1-4: Planning Documents Used for MHMP Planning Process

Author(s)	Year	Title	Description	Where Used
FEMA	1985	Knox County Flood Insurance Study	Describes the NFIP program, which communities participates; provide regulatory floodplain maps	Sections 4 and 5
Knox County Assessment Office	2009	GIS Database	Parcel and Assessor Data For Knox County.	Section 4
State of Illinois Emergency Management Plan	2007	2007 Illinois Natural Hazard Mitigation Plan	This plan provides an overview of the process for identifying and mitigating natural hazards in Illinois as require by the Disaster Mitigation Act of 2000.	Guidance on hazards and mitigation measures and background on historical disasters in Illinois.
City of Galesburg and Knox	1999	Galesburg/Knox County Comprehensive Plan	The Comprehensive Plan provides an assessment of the city as it existed in 1999 and establishes goals and objectives for the city.	Section 3; Land Use and Development Plans
Galesburg Regional Economic Development Association	2010	Galesburg Regional Economic Development Association Community Profile	Provides an overview of the demographics and economics of Knox County and surrounding region.	Section 3; Major Employers

Section 2 - Jurisdiction Participation Information

The incorporated communities included in this multi-jurisdictional plan are listed in Table 2-1.

Table 2-1: Participating Jurisdictions

Jurisdiction Name
Knox County
City of Abingdon
Village of Altona
Village of East Galesburg
City of Galesburg
City of Knoxville
Village of Maquon
City of Oneida
Village of Rio
Village of Wataga
Village of Williamsfield
Village of Yates City

2.1 Adoption by Local Governing Body

The draft plan was made available on July 29, 2010 to the planning team for review. Comments were then accepted. The Knox County hazard mitigation planning team presented and recommended the plan to the County Commissioners, who adopted it on <date adopted>. Resolution adoptions are included in Appendix C of this plan.

2.2 Jurisdiction Participation

It is required that each jurisdiction participates in the planning process. Table 2-2 lists each jurisdiction and describes its participation in the construction of this plan.

Table 2-2: Jurisdiction Participation

Jurisdiction Name	Participating Member	Participation Description
Knox County	Tom Simkins	MHMP planning team member
City of Abingdon	Fed Andrews	MHMP planning team member
Village of Altona	Sally Keener	MHMP planning team member
Village of East Galesburg	Debra Cassens	MHMP planning team member
City of Galesburg	Brad Stevenson	MHMP planning team member
City of Knoxville	Terry Pool	MHMP planning team member
Village of Maquon	Dennis Parker	MHMP planning team member
City of Oneida	Kirt Links	MHMP planning team member
Village of Rio	Ed Gullstrand	MHMP planning team member
Village of Wataga	Eli Calkins	MHMP planning team member
Village of Williamsfield	Michael O'Gray	MHMP planning team member
Village of Yates City	Richard Grubb	MHMP planning team member

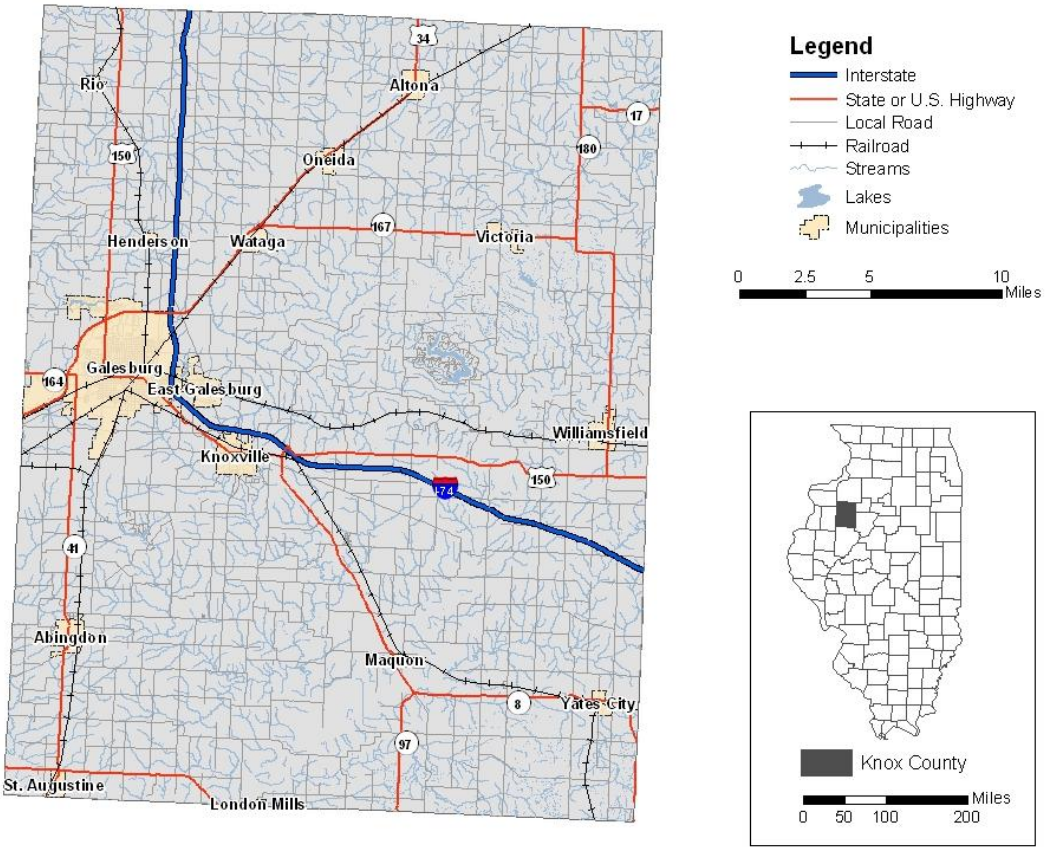
All members of the MHMP planning committee were actively involved in attending the MHMP meetings, providing available Geographic Information Systems (GIS) data and historical hazard information, reviewing and providing comments on the draft plans, coordinating and participating in the public input process, and coordinating the county's formal adoption of the plan.

Section 3 - Jurisdiction Information

Knox County was named for General Henry Knox, Chief of Artillery in the Revolutionary Army and Secretary of War in George Washington's first cabinet. Knox County was created on June 10, 1830, when five men presented a petition with proof of the 350 residents required to form a county to Judge Richard M. Young. The City of Galesburg is the county seat.

Knox County is located in the northwestern Illinois. The county has total land area of 720 square miles. It is bordered by Henry County in the north, Stark County in the east, Peoria County in the southeast, Fulton County in the south, Warren County in the west, and Mercer County in the northwest. Figure 3-1 depicts Knox County's location.

Figure 3-1: Knox County, Illinois



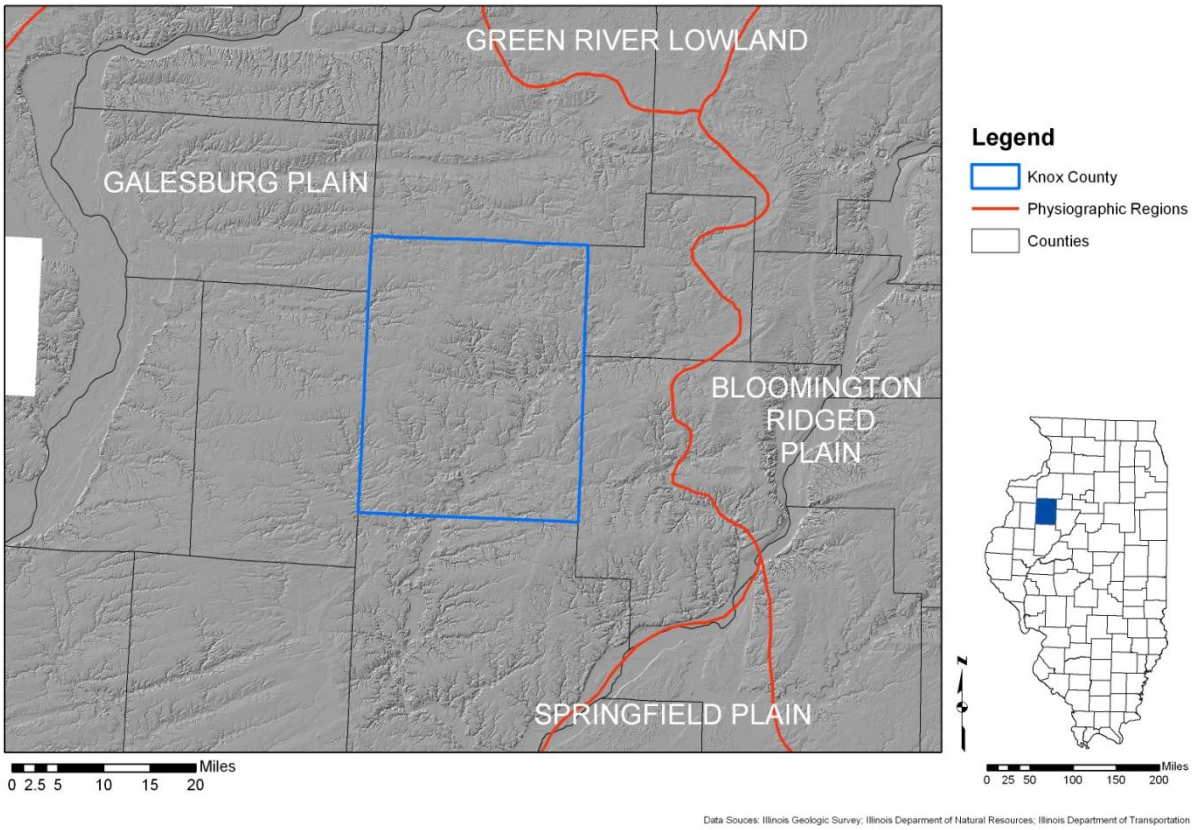
Sources:http://www.cyberdriveillinois.com/departments/archives/irad/Knox.html; http://www.fedstats.gov/qf/states/17000.html; http://factfinder.census.gov; http://www.genealogytrails.com

3.1 Topography

Knox County is situated in the Central Lowland Province of the Till Plains Section and lies completely within the Galesburg Plain physiographic division. The Galesburg Plain is mainly a Illinois till plain which ranges from flat to rolling hills and contains a few moraine ridges. Drainage from this region flows toward the Mississippi River. Larger streams in this region have

created steep walled, alleviated valleys which contain fluvial terraces. Figure 3-2 shows the major physiographic divisions in Knox County and the surrounding region.

Figure 3-2: Physiographic Division in vicinity of Kendall County



3.2 Climate

Knox County climate is typical of North-central Illinois. The variables of temperature, precipitation, and snowfall can vary greatly from one year to the next. Winter temperatures can fall below freezing starting as early as October and extending as late as May. Based on National Climatic Data Center (NCDC) normals from 1971 to 2000, the average winter low is 13.5° F and the average winter high is 35.1° F. In summer, the average low is 60.8° F and average high is 84.5° F. Average annual precipitation is 37.22 inches throughout the year.

3.3 Demographics

As of 2000, Knox County had a population of 55,836. According to American FactFinder (2008), Knox County experienced a population decline of 1.66% from 2000 to 2008. The population is spread throughout 21 townships: Cedar, Chestnut, Copley, Elba, Galesburg, Galesburg City, Haw Creek, Henderson, Indian Point, Knox, Lynn, Maquon, Ontario, Orange, Persifer, Rio, Salem, Sparta, Truro, Victoria, and Walnut Grove. The largest community in Knox County is Galesburg, which has a population of approximately 33,706. The breakdown of population by township is included in Table 3-1. Townships containing incorporated communities are marked with an asterisk (*).

Table 3-1: Population by Township

Township	2000 Population	% of County
Cedar*	3,454	6.19
Chestnut	250	0.45
Copley*	433	0.78
Elba	278	0.50
Galesburg	436	0.78
Galesburg City*	33,706	60.37
Haw Creek	498	0.89
Henderson*	1,269	2.27
Indian Point*	1,682	3.01
Knox*	5,407	9.68
Lynn	316	0.57
Maquon*	608	1.09
Ontario*	1,047	1.88
Orange	573	1.03
Persifer	960	1.72
Rio*	545	0.98
Salem*	992	1.78
Sparta*	1,183	2.12
Truro*	903	1.62
Victoria*	432	0.77
Walnut Grove*	864	1.55

Source: American FactFinder, 2000

3.4 Economy

American FactFinder reported for 2000 that 81.6% of the workforce in Knox County was employed in the private sector. The breakdown is included in Table 3-2. Health care and social assistance represents the largest sector, employing approximately 26.1% of the workforce. The 2000 annual per capita income in Knox County is $20,629.

Table 3-2: Industrial Employment by Sector

Industrial Sector	% Distribution In County (2000)
Agriculture, forestry, fishing, hunting, and mining	2.6
Construction	4.7
Manufacturing	10.7
Wholesale trade	3.3
Retail trade	16.0
Transportation, warehousing and utilities	9.2
Information	2.3
Finance, insurance, real estate, and rental/leasing	3.6
Professional, technical services	4.4
Health care, social assistance	26.1
Arts, entertainment, recreation	8.1
Public administration	5.1

Source: American FactFinder, 2000

3.5 Industry

Knox County's major employers and number of employees are listed in Table 3-3. The largest employer is Burlington Northern and Santa Fe Rail Road, which was established in the mid 19th century and has approximately 1,115 employees. The St. Mary Medical Center is the second largest employer , with 1,025 employees.

Table 3-3: Major Employers

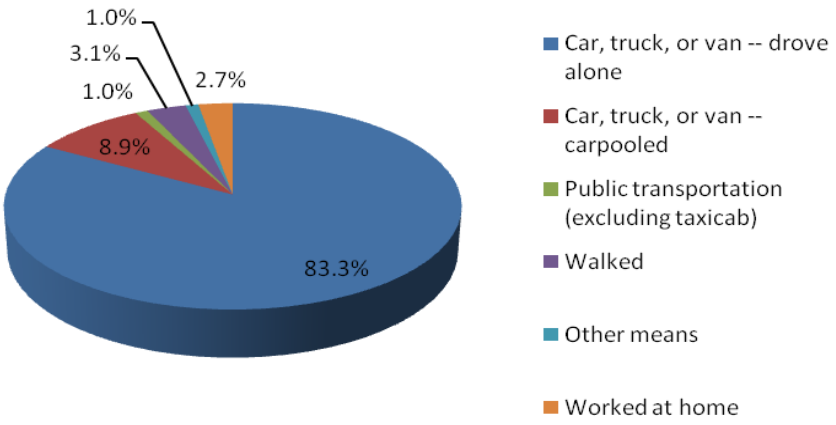
Company Name	City/Town	Year Established	# of Employees	Type of Business
Transportation				
Burlington Northern Santa Fe Rail Road	Galesburg	Circa 1850	1,115	Rail Transportation
Health Care				
OSF St. Mary Medical Center	Galesburg	1909	1,025	Hospital
Galesburg Cottage Hospital	Galesburg		550	Hospital
Bridgeway/Bridgeway Training	Galesburg		450	Rehabilitation
St. Mary Square	Galesburg	1980	241	Rehabilitation
Other				
Hy-Vee Foods	County Wide	574	550	Groceries
Dick Blick Company	Galesburg		550	Art Supplies
Galesburg Public Schools	Galesburg		542	Public Education
Carl Sandburg College	Galesburg	1960	454	Higher Education
Knox College	Galesburg	1837	390	Higher Education
Knox County	Galesburg	1825	420	Government
Wal-Mart	Galesburg		366	Retail
Henry C. Hill Correctional Facility	Galesburg		303	Prison
Monmouth College	Monmouth	1853	280	Higher Education
Knox Warren Special Education	Galesburg	1930	241	Education
City of Galesburg	Galesburg	1857	237	Government

Source: Galesburg Regional Economic Development Association Community Profile: http://www.greda.org/media/2010/03/GREDA-CommunityProfile2010.pdf

Commuter Patterns

According to American FactFinder information from 2000, approximately 24,427 of Knox County's population are in the work force. The average travel time from home to work is 20.0 minutes. Figure 3-3 depicts the commuting patterns for Knox County's labor force.

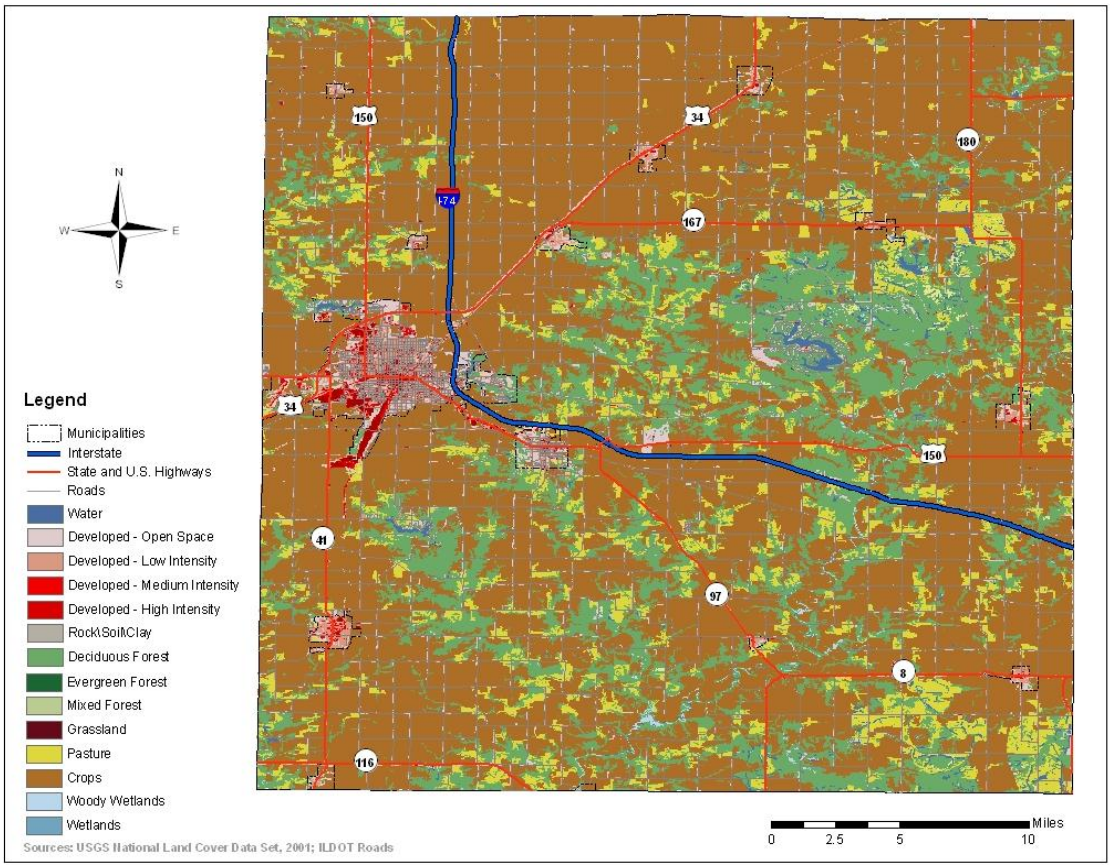
Figure 3-3: Commuter Patterns for Knox County



3.6 Land Use and Development Trends

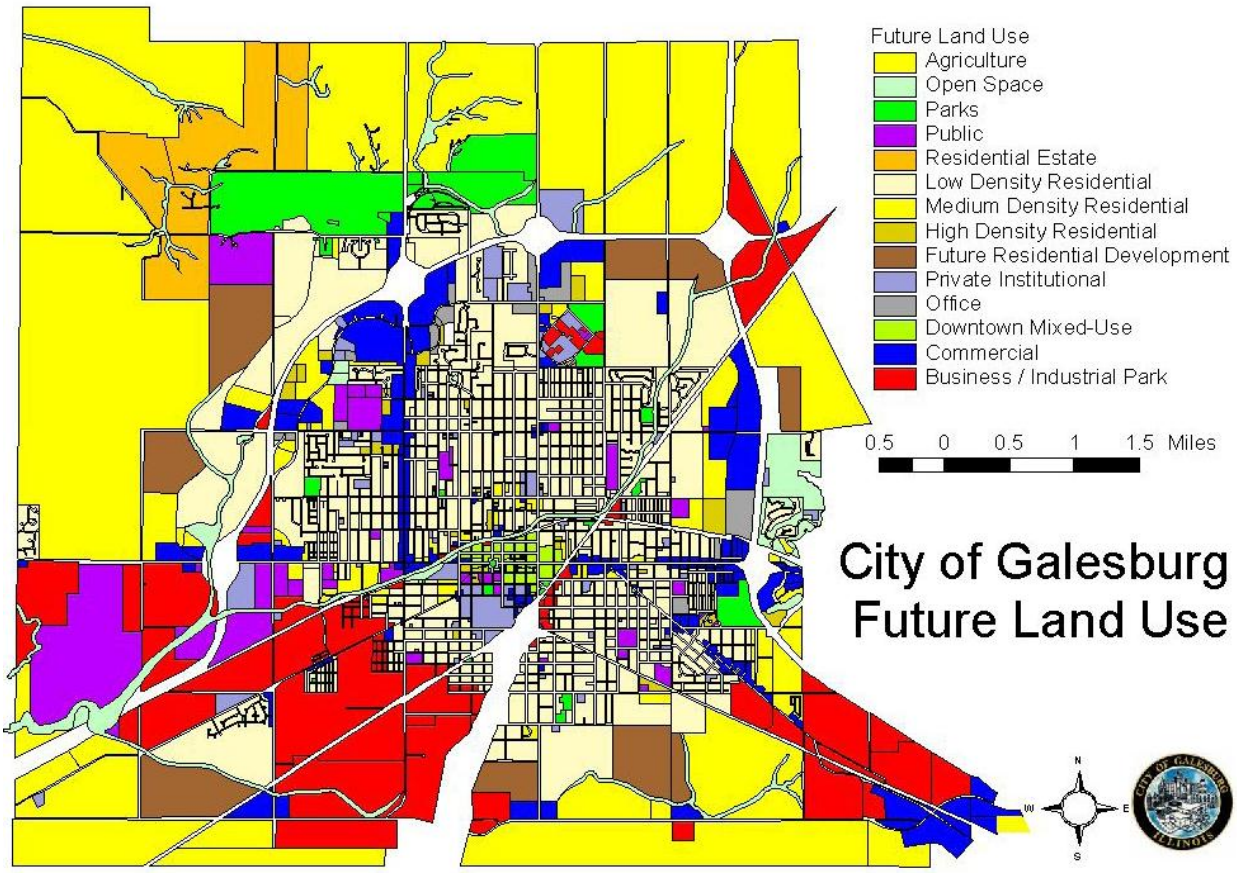
Agriculture is the predominant land use in Knox County with over 70% of the land used as pasture or for growing crops. Other significant land uses include commercial, residential, and tourism. Knox County is also home to the 2,497-acre Snakeden Hollow State Fish and Wildlife Area which can be used for fishing, boating, and hunting. Figure 3-4 shows the land use throughout Knox County.

Figure 3-4: Knox County Land Use



In 1999 the City of Galesburg completed a Comprehensive Plan which laid out the plans for future development within the city. This plan includes future land use map which indicates proposed land use throughout the community and surrounding undeveloped areas (Figure 3-5). The plan is used by the Plan Commission, City Council and City Administration as a guide for the city's future growth and development activities. The plan is a policy tool utilized by the City Council as an aid in making decisions concerning land use development/redevelopment, investment of public funds for infrastructure improvements and development or improvement of city services. There are specific sections related to the following items: transportation plan, future land use plan, housing, and community facilities. Due to specific concerns in certain areas, the plan analyzes these areas and provides more detailed recommendations in five corridor plans. The corridor plans include County Highway 10, Henderson Street/U.S. Route 150, Linwood Road/West Carl Sandburg Drive, Grand Avenue and Main Street/Downtown. The final section of Comprehensive Plan is the Implementation Plan, which includes an annexation policy, an implementation plan and a capital improvement plan.

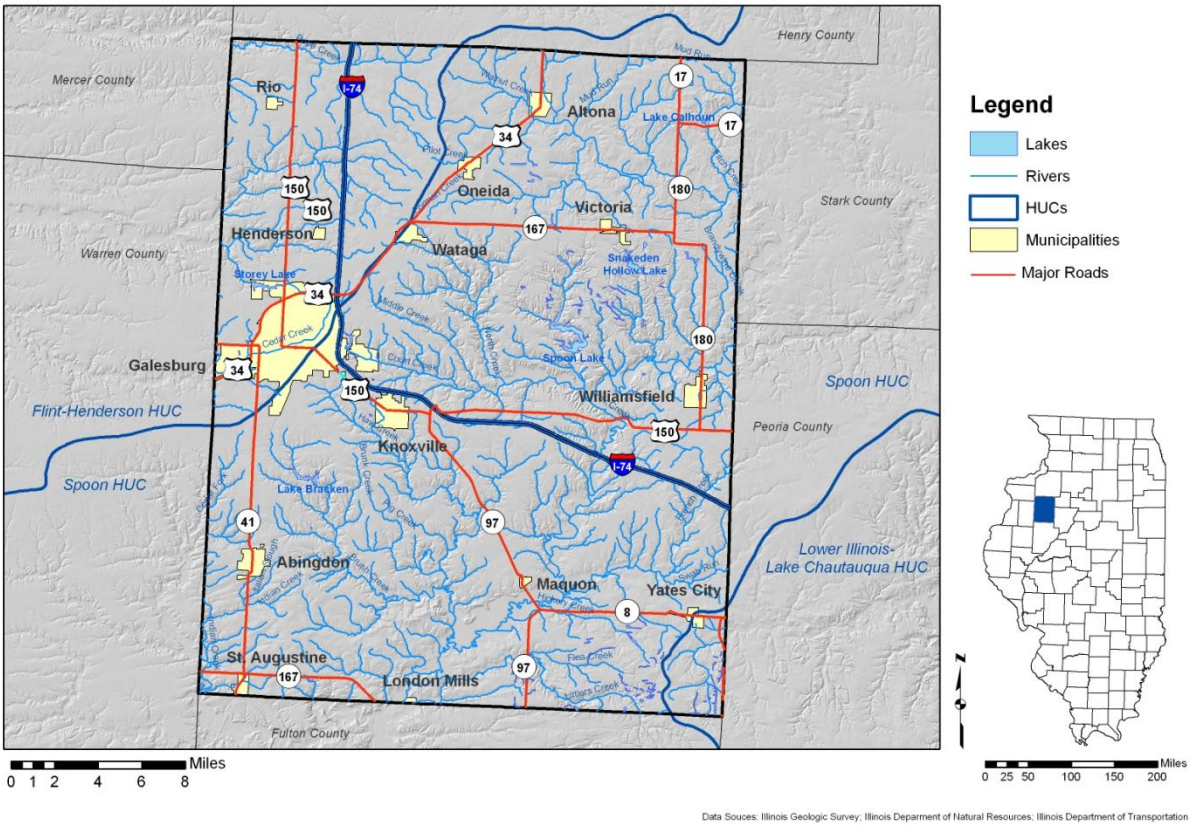
Figure 3-5 Future Land Use Map for Galesburg



3.7 Major Lakes, Rivers, and Watersheds

Knox County has a number of bodies of water including Railroad Pond, Horseshoe Lake, South Lake, Spoon Lake, Lake Storey, Lake Bracken, Lake Calhoun, Grandt Lake, and Chain of Lakes. According to the USGS, Knox County consists of three drainage basins: the Flint-Henderson (HUC 7080104), the Spoon (HUC 7130005), and the Lower Illinois-Lake Chataqua (HUC 7130003). Figure 3-6 shows the location of the major water bodies and watersheds in Knox County.

Figure 3-6 Major water bodies and watersheds in Knox County



Section 4 - Risk Assessment

The goal of mitigation is to reduce the future impacts of a hazard including loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on sound risk assessment. A risk assessment involves quantifying the potential loss resulting from a disaster by assessing the vulnerability of buildings, infrastructure, and people. This assessment identifies the characteristics and potential consequences of a disaster, how much of the community could be affected by a disaster, and the impact on community assets. A risk assessment consists of three components—hazard identification, vulnerability analysis, and risk analysis.

4.1 Hazard Identification/Profile

4.1.1 Existing Plans

The plans identified in Table 1-3 did not contain a risk analysis. These local planning documents were reviewed to identify historical hazards and help identify risk. To facilitate the planning process, State flood data was used for the flood analysis.

4.1.2 National Hazard Records

4.1.2.1 National Climatic Data Center (NCDC) Records

To assist the planning team, historical storm event data was compiled from the National Climatic Data Center (NCDC). NCDC records are estimates of damage reported to the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to given weather events.

The NCDC data included 255 reported events in Knox County between January 1, 1959 and the October 31, 2009 (the most updated information as of the date of this plan). A summary table of events related to each hazard type is included in the hazard profile sections that follow. A full table listing all events, including additional details, is included as Appendix D. In addition to NCDC data, Storm Prediction Center (SPC) data associated with tornadoes, strong winds, and hail were plotted using SPC recorded latitude and longitude. These events are plotted and included as Appendix E. The list of NCDC hazards is included in Table 4-1.

Table 4-1: Climatic Data Center Historical Hazards

Hazard
Tornadoes
Severe Thunderstorms
Drought/Extreme Heat
Winter Storms
Flood/Flash flood

4.1.2.2 FEMA Disaster Information

Since 1965 there have been 55 Federal Disaster Declarations for the state of Illinois. Emergency declarations allow states access to FEMA funds for Public Assistance (PA); disaster declarations allow for even more PA funding including Individual Assistance (IA) and the Hazard Mitigation Grant Program (HMGP). Knox County has received federal aid for both PA and IA funding for four declared disasters since 1965. Figure 4-1 depicts the disasters and emergencies that have been declared for Knox County since 1965. Table 4-2 lists more specific information for each declaration that has occurred since 1965.

Figure 4-1: FEMA-Declared Emergencies and Disasters in Knox County (1965-present)

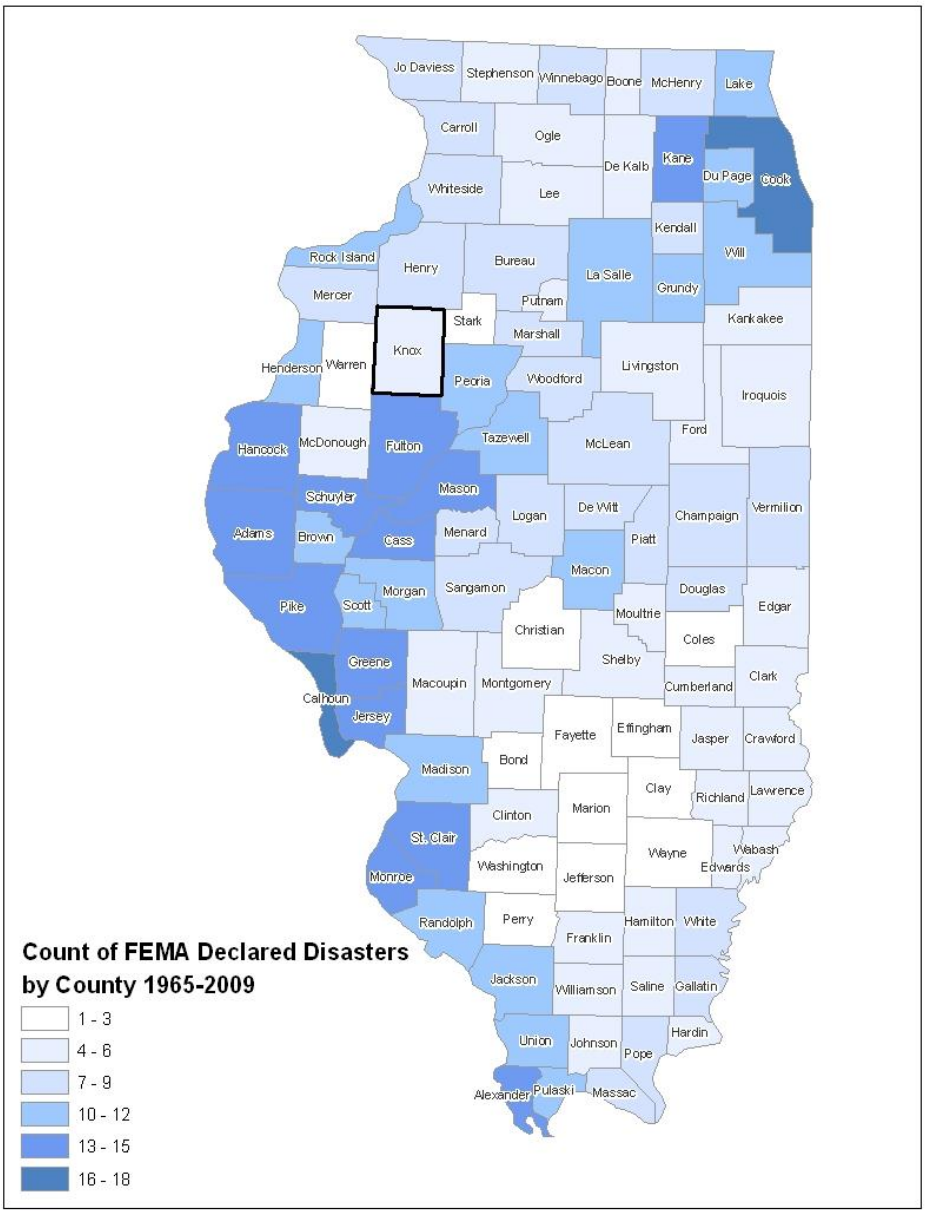


Table 4-2: FEMA-Declared Emergencies in Knox County (1965-present)

Date of Incident	Date of Declaration	Declaration Number	Disaster Description	Type of Assistance
	June 10, 1974	438	Severe Storms and Flooding	
July 1, 1993	July 26, 1993	997	Severe Storms and Flooding	
January 1, 1999	January 8, 1999	3134	Winter Snow Storm	Public
Nov. 30-Dec. 1, 2006	December 29, 2006	3269	Winter Snow Storm	Public
August 20-31, 2007	September 25, 2007	1729	Severe Storms and Flooding	Public

4.1.3 Hazard Ranking Methodology

Based on planning team input, national datasets, and existing plans, Table 4-2 lists the hazards Knox County will address in this multi-hazard mitigation plan. In addition, these hazards ranked the highest based on the Risk Priority Index discussed in section 4.1.4.

Table 4-2: Planning Team Hazard List

Hazard
Flooding
Tornado
Thunderstorms/ High Winds/Hail/ Lightning
Winter Storms
Transportation Hazardous Material Release
Fire/ Explosion
Earthquake

4.1.4 Calculating the Risk Priority Index

The first step in determining the Risk Priority Index (RPI) was to have the planning team members generate a list of hazards which have befallen or could potentially befall their community. Next, the planning team members were asked to assign a likelihood rating based on the criteria and methods described in the following table. Table 4-3 displays the probability of the future occurrence ranking. This ranking was based upon previous history and the definition of hazard. Using the definitions given, the likelihood of future events is "Quantified" which results in the classification within one of the four "Ranges" of likelihood.

Table 4-3: Future Occurrence Ranking

Probability	Characteristics
4 - *Highly Likely*	Event is probable within the calendar year. Event has up to 1 in 1 year chance of occurring. (1/1=100%) History of events is greater than 33% likely per year.
3 - *Likely*	Event is probable within the next three years. Event has up to 1 in 3 years chance of occurring. (1/3=33%) History of events is greater than 20% but less than or equal to 33% likely per year.
2 - *Possible*	Event is probable within the next five years. Event has up to 1 in 5 years chance of occurring. (1/5=20%) History of events is greater than 10% but less than or equal to 20% likely per year.
1 - *Unlikely*	Event is possible within the next ten years. Event has up to 1 in 10 years chance of occurring. (1/10=10%) History of events is less than or equal to 10% likely per year.

Next, planning team members were asked to consider the potential magnitude/severity of the hazard according to the severity associated with past events of the hazard. Table 4-4 gives four classifications of magnitude/severity.

Table 4-4: Hazard Magnitude

Magnitude/Severity	Characteristics
8 - *Catastrophic*	Multiple deaths. Complete shutdown of facilities for 30 or more days. More than 50% of property is severely damaged.
4 - *Critical*	Injuries and/or illnesses result in permanent disability. Complete shutdown of critical facilities for at least 14 days. More than 25% of property is severely damaged.
2 - *Limited*	Injuries and/or illnesses do not result in permanent disability. Complete shutdown of critical facilities for more than seven days. More than 10% of property is severely damaged.
1 - *Negligible*	Injuries and/or illnesses are treatable with first aid. Minor quality of life lost. Shutdown of critical facilities and services for 24 hours or less. Less than 10% of property is severely damaged.

Finally, the RPI was calculated by multiplying the probability by the magnitude/severity of the hazard. Using these values, the planning team member where then asked to rank the hazards. Table 4-5 identifies the RPI and ranking for each hazard facing Knox County.

Table 4-5: Knox County Hazards (RPI)

Hazard	Probability	Magnitude/Severity	Risk Priority Index	Rank
Transportation Hazardous Materials Release	2 - Possible	8 - Catastrophic	16	1
Tornado	3 - Likely	4 - Critical	12	2
Fire/Explosion	3 - Likely	4 - Critical	12	3
Winter Storm	4 - Highly Likely	2 - Limited	8	4
Thunderstorm/High Wind/Hail/Lightning	4 - Highly Likely	2 - Limited	8	5
Flooding	3 - Likely	2 - Limited	6	6
Earthquake	1 - Unlikely	2 - Limited	2	7

4.1.5 Jurisdictional Hazard Ranking

Because the jurisdictions in Knox County may differ in their susceptibilities to certain hazards, the hazards identified by the planning team were ranked by SIUC for each individual jurisdiction using the methodology outlined in Section 4.1.4. The SIUC rankings were based on input from the planning team members, available historical data, and the hazard modeling results described within this hazard mitigation plan. During the five-year review of the plan this table will be updated by the planning team to ensure these jurisdictional rankings accurately reflect each community's assessment of these hazards. Table 4-6 lists the jurisdictions and their respective hazard rankings (Ranking 1 being the highest concern).

Table 4-6: Hazard Rankings by Jurisdiction

Jurisdiction	Hazard					
	Tornado	HAZMAT	Fire/Explosion	Thunderstorms	Flooding	Winter Storms
City of Abingdon	1	2	5	4	6	3
Village of Altona	4	1	5	3	6	2
Village of East Galesburg	2	1	3	5	6	4
City of Galesburg	2	1	3	5	6	4
*Village of Henderson	2	1	3	5	6	4
City of Knoxville	2	1	5	3	6	4
*Village of Maquon	2	1	3	5	6	4
City of Oneida	1	2	5	4	6	3
Village of Rio	4	2	5	1	6	3
*Village of St. Augustine	2	1	3	5	6	4
*Village of Victoria	2	1	3	5	6	4
*Village of Wataga	2	1	3	5	6	4
Village of Williamsfield	4	3	5	1	6	2
*Village of Yates City	2	1	3	5	6	4

*Hazards for this jurisdiction were ranked by SIU

4.1.6 GIS and HAZUS-MH

The third step in this assessment is the risk analysis, which quantifies the risk to the population, infrastructure, and economy of the community. Where possible, the hazards were quantified using GIS analyses and HAZUS-MH. This process reflects a Level 2 approach to analyzing hazards as defined for HAZUS-MH. The approach includes substitution of selected default data with local data. This process improved the accuracy of the model predictions.

HAZUS-MH generates a combination of site-specific and aggregated loss estimates depending upon the analysis options that are selected and the input that is provided by the user. Aggregate inventory loss estimates, which include building stock analysis, are based upon the assumption

that building stock is evenly distributed across census blocks/tracts. Therefore, it is possible that overestimates of damage will occur in some areas while underestimates will occur in other areas. With this in mind, total losses tend to be more reliable over larger geographic areas than for individual census blocks/tracts. It is important to note that HAZUS-MH is not intended to be a substitute for detailed engineering studies. Rather, it is intended to serve as a planning aid for communities interested in assessing their risk to flood-, earthquake-, and hurricane-related hazards. This documentation does not provide full details on the processes and procedures completed in the development of this project. It is only intended to highlight the major steps that were followed during the project.

Site-specific analysis is based upon loss estimations for individual structures. For flooding, analysis of site-specific structures takes into account the depth of water in relation to the structure. HAZUS-MH also takes into account the actual dollar exposure to the structure for the costs of building reconstruction, content, and inventory. However, damages are based upon the assumption that each structure will fall into a structural class, and structures in each class will respond in a similar fashion to a specific depth of flooding or ground shaking. Site-specific analysis is also based upon a point location rather than a polygon, therefore the model does not account for the percentage of a building that is inundated. These assumptions suggest that the loss estimates for site-specific structures as well as for aggregate structural losses need to be viewed as approximations of losses that are subject to considerable variability rather than as exact engineering estimates of losses to individual structures.

The following events were analyzed. The parameters for these scenarios were created through GIS, HAZUS-MH, and historical information to predict which communities would be at risk.

Using HAZUS-MH

1. 100-year overbank flooding
2. Earthquake scenarios

Using GIS

1. Tornado
2. Hazardous material release

4.2 Vulnerability Assessment

4.2.1 Asset Inventory

4.2.1.1 Processes and Sources for Identifying Assets

The HAZUS-MH data is based on best available national data sources. The initial step involved updating the default HAZUS-MH data using State of Illinois data sources. At Meeting #1, the planning team members were provided with a plot and report of all HAZUS-MH critical facilities. The planning team took GIS data provided by SIU-Polis; verified the datasets using local knowledge, and allowed SIU-Polis to use their local GIS data for additional verification. SIU GIS analysts made these updates and corrections to the HAZUS-MH data tables prior to performing the risk assessment. These changes to the HAZUS-MH inventory reflect a Level 2 analysis. This update process improved the accuracy of the model predictions.

The default HAZUS-MH data has been updated as follows:

- The HAZUS-MH defaults, critical facilities, and essential facilities have been updated based on the most recent available data sources. Critical and essential point facilities have been reviewed, revised, and approved by local subject matter experts at each county.
- The essential facility updates (schools, medical care facilities, fire stations, police stations, and EOCs) have been applied to the HAZUS-MH model data. HAZUS-MH reports of essential facility losses reflect updated data.

Knox County provided SIU with parcel boundaries and county Assessor records. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary. Each parcel point was linked to an Assessor record based upon matching parcel numbers. The generated building inventory points represent the approximate locations (within a parcel) of building exposure. The parcel points were aggregated by census block.

- The aggregate building inventory tables used in this analysis have not been updated. Default HAZUS-MH model data was used for the earthquake.
- For the flood analysis, user-defined facilities were updated from the building inventory information provided by Knox County.

Parcel-matching results for Knox County are listed in Table 4-4.

Table 4-4: Parcel-Matching for Knox County

Data Source	Count
Assessor Records	33,827
County-Provided Parcels	33,363
Assessor Records with Improvements	24,122
Matched Parcel Points	24,121

The following assumptions were made during the analysis:

- The building exposure for flooding, tornado, and HAZMAT is determined from the Assessor records. It is assumed that the population and the buildings are located at the centroid of the parcel.
- The building exposure for earthquake used HAZUS-MH default data.
- The algorithm used to match county-provided parcel point locations with the Assessor records is not perfect. The results in this analysis reflect matched parcel records only. The parcel-matching results for Knox County are included in Table 4-4.
- Population counts are based upon 2.5 persons per household. Only residential occupancy classes are used to determine the impact on the local population. If the event were to occur at night, it would be assumed that people are at home (not school, work, or church).
- The analysis is restricted to the county boundaries. Events that occur near the county boundaries do not contain damage assessments from adjacent counties.

4.2.1.2 Essential Facilities List

Table 4-5 identifies the essential facilities that were added or updated for the analysis. Essential facilities are a subset of critical facilities. A map and list of all critical facilities is included as Appendix F.

Table 4-5: Essential Facilities List

Facility	Number of Facilities
Care Facilities	2
Emergency Operations Centers	1
Fire Stations	22
Police Stations	9
Schools	28

4.2.1.3 Facility Replacement Costs

Facility replacement costs and total building exposure are identified in Table 4-6. The replacement costs have not been updated by local data. Table 4-6 also includes the estimated number of buildings within each occupancy class.

Table 4-6: Building Exposure

General Occupancy	Estimated Total Buildings	Total Building Exposure (X 1000)
Agricultural	275	$44,366
Commercial	1107	$592,639
Education	44	$89,273
Government	53	$25,881
Industrial	239	$131,254

General Occupancy	Estimated Total Buildings	Total Building Exposure (X 1000)
Religious/Non-Profit	153	$167,835
Residential	24,848	$3,103,125
Total	**26,719**	**$4,154,343**

4.3 Future Development

As the county's population continues to grow, the residential and urban areas will extend further into the county, placing more pressure on existing transportation and utility infrastructure while increasing the rate of farmland conversion; Knox County will address specific mitigation strategies in Section 5 to alleviate such issues.

Because Knox County is vulnerable to a variety of natural and technological threats, the county government—in partnership with state government—must make a commitment to prepare for the management of these types of events. Knox County is committed to ensuring that county elected and appointed officials become informed leaders regarding community hazards so that they are better prepared to set and direct policies for emergency management and county response.

4.4 Hazard Profiles

4.4.1 Tornado Hazard

Hazard Definition for Tornado Hazard

Tornadoes pose a great risk to Illinois and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of the state's most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region's developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms to the ground. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are classified according to the Fujita tornado intensity scale. The tornado scale ranges from low intensity F0 with effective wind speeds of 40 to 70 miles per hour to F5 tornadoes with effective wind speeds of over 260 miles per hour. The Fujita intensity scale is described in Table 4-7.

Table 4-7: Fujita Tornado Rating

Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
0 *Gale*	40-72 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
1 *Moderate*	73-112 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
2 *Significant*	113-157 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
3 *Severe*	158-206 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
4 *Devastating*	207-260 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
5 *Incredible*	261-318 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: NOAA Storm Prediction Center

Previous Occurrences for Tornado Hazard

There have been several occurrences of tornadoes within Knox County during the past few decades. The NCDC database reported 21 tornadoes/funnel clouds in Knox County since 1961. The most recent recorded event occurred on June 8, 2005, when a tornado briefly touched down two miles south of Henderson.

Knox County NCDC recorded tornadoes are identified in Table 4-8. Additional details for NCDC events are included in Appendix D.

Table 4-8: Knox County Tornadoes*

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Knox County	5/14/1961	Tornado	F3	0	8	2.5M	0
Knox County	7/21/1961	Tornado	F1	0	0	250K	0
Knox County	5/7/1967	Tornado	F1	0	0	250K	0
Knox County	6/14/1974	Tornado	F3	0	1	0	0
Knox County	6/20/1974	Tornado	F0	0	0	3K	0
Knox County	6/20/1974	Tornado	F1	0	0	0	0
Knox County	6/20/1974	Tornado	F0	0	0	0	0
Knox County	6/20/1974	Tornado	F0	0	0	0	0
Knox County	3/23/1975	Tornado	F2	0	2	25K	0
Knox County	3/4/1976	Tornado	F2	0	0	25K	0
Knox County	7/6/1987	Tornado	F1	0	0	3K	0
St Augustine	5/13/1995	Tornado	F2	0	2	1.6M	0
Uniontown	4/30/1997	Tornado	F0	0	0	0	0
Yates City	5/18/1997	Tornado	F0	0	0	0	0
Victoria	8/3/1997	Tornado	F0	0	0	0	0
Williamsfield	6/29/1998	Tornado	F1	0	1	2.0M	0
Appleton	4/22/1999	Tornado	F0	0	0	0	0
St Augustine	9/11/2000	Tornado	F0	0	0	0	0
Victoria	4/30/2003	Tornado	F0	0	0	0	0
Victoria	4/20/2004	Tornado	F0	0	0	0	0
Henderson	6/8/2005	Tornado	F0	0	0	0	0

* NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.

Geographic Location for Tornado Hazard

The entire county has the same risk for occurrence of tornadoes. They can occur at any location within the county.

Hazard Extent for Tornado Hazard

The historical tornadoes generally moved from southwest to northeast across the county. The extent of the hazard varies both in terms of the extent of the path and the wind speed.

Risk Identification for Tornado Hazard

Based on historical information, the probability of future tornadoes in Knox County is likely. Tornadoes with varying magnitudes are expected to happen. According to the RPI, tornadoes ranked as the number two hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
3	x	4	=	**12**

Vulnerability Analysis for Tornado Hazard

Tornadoes can occur within any area in the county; therefore, the entire county population and all buildings are vulnerable to tornadoes. To accommodate this risk, this plan will consider all buildings located within the county as vulnerable. The existing buildings and infrastructure in Knox County are discussed in Table 4-6.

Critical Facilities

All critical facilities are vulnerable to tornadoes. A critical facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts will vary based on the magnitude of the tornado but can include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). Table 4-5 lists the types and numbers of all of the essential facilities in the area. A map and list of all critical facilities is included as Appendix F.

Building Inventory

The building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for critical facilities. These impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, and loss of building function (e.g. damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a tornado the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these items could become damaged during a tornado. The impacts to these items include broken, failed, or impassable roadways, broken or failed utility lines (e.g. loss of power or gas to community), and railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

An example scenario is described as follows to gauge the anticipated impacts of tornadoes in the county, in terms of numbers and types of buildings and infrastructure.

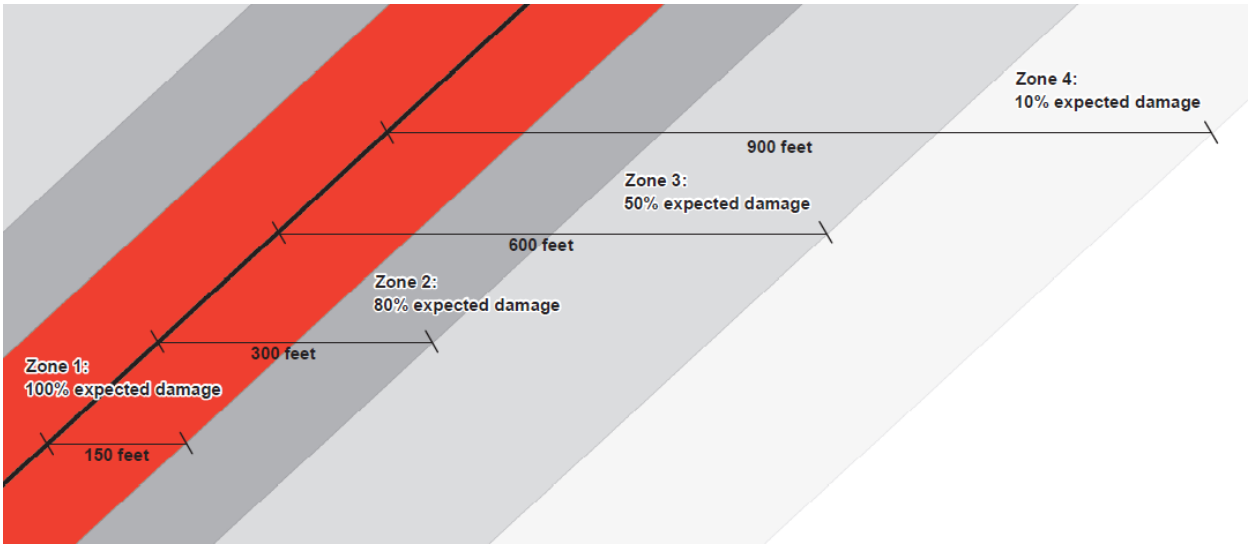
GIS overlay modeling was used to determine the potential impacts of an F4 tornado. The analysis used a hypothetical path based upon the F4 tornado event that ran 28 miles across southwest to northeast through Knox County impacting the incorporated communities of Galesburg, Wataga, Oneida, and Altona. The selected widths were modeled after a recreation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these six categories. Table 4-9 depicts tornado damage curves as well as path widths.

Table 4-9: Tornado Path Widths and Damage Curves

Fujita Scale	Path Width (feet)	Maximum Expected Damage
5	2,400	100%
4	1,800	100%
3	1,200	80%
2	600	50%
1	300	10%
0	150	0%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path with decreasing amounts of damage away from the center. After the hypothetical path is digitized on a map the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 4-2 and Table 4-10 describe the zone analysis. The selected hypothetical tornado path is depicted in Figure 4-3, and the damage curve buffers are shown in Figures 4-4 and 4-5.

Figure 4-2: F4 Tornado Analysis Using GIS Buffers



An F4 tornado has four damage zones, depicted in Table 4-10. Total devastation is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will experience 10% damage.

Table 4-10: F4 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	100%
2	150-300	80%
3	300-600	50%
4	600-900	10%

Figure 4-3: Hypothetical F4 Tornado Path in Knox County

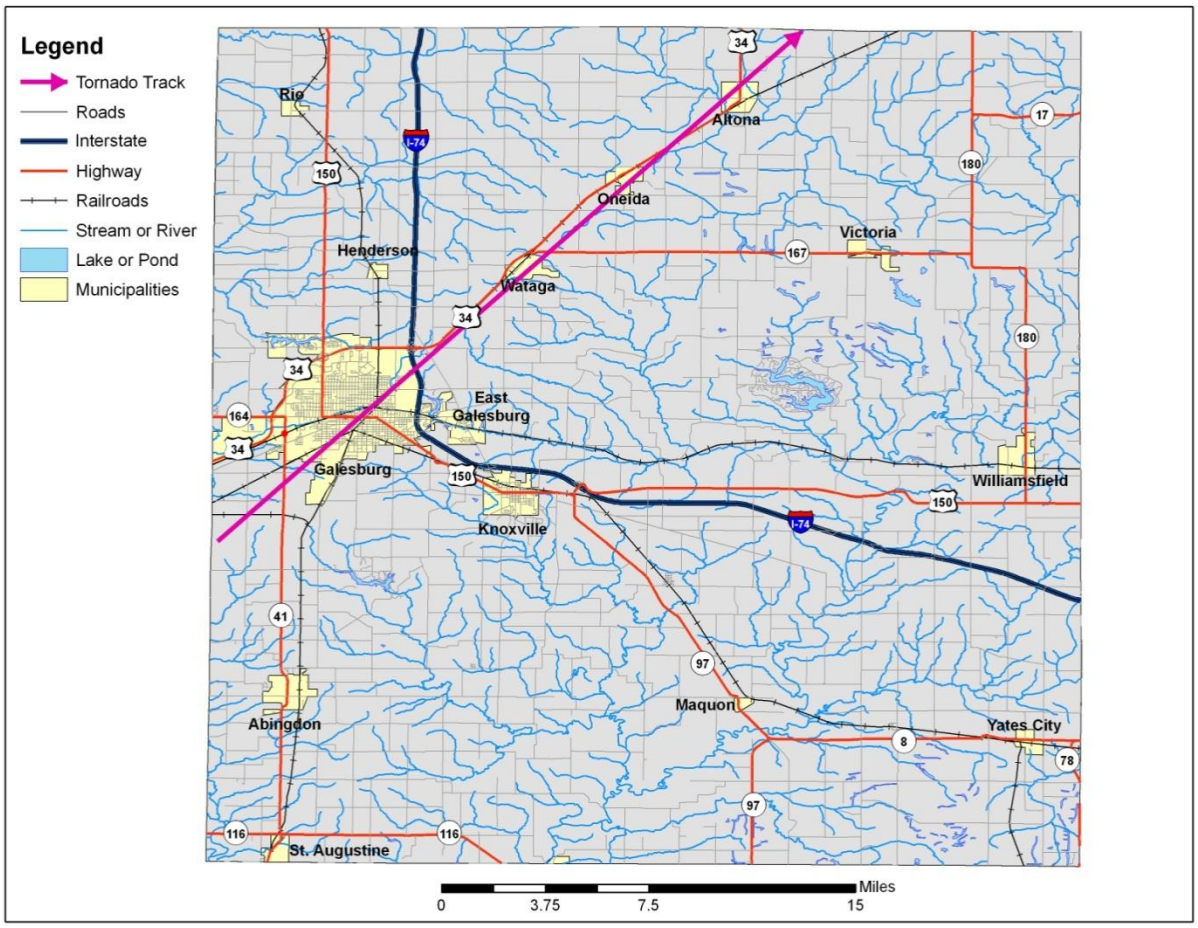


Figure 4-4: Modeled F4 Tornado Damage Buffers in Galesburg

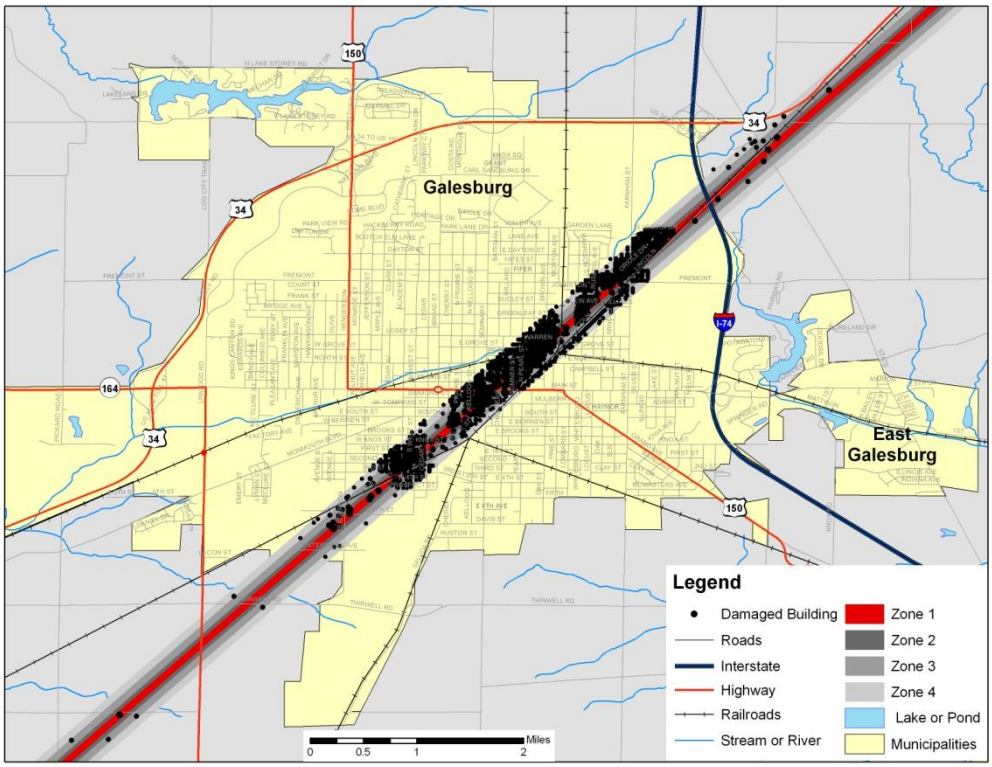
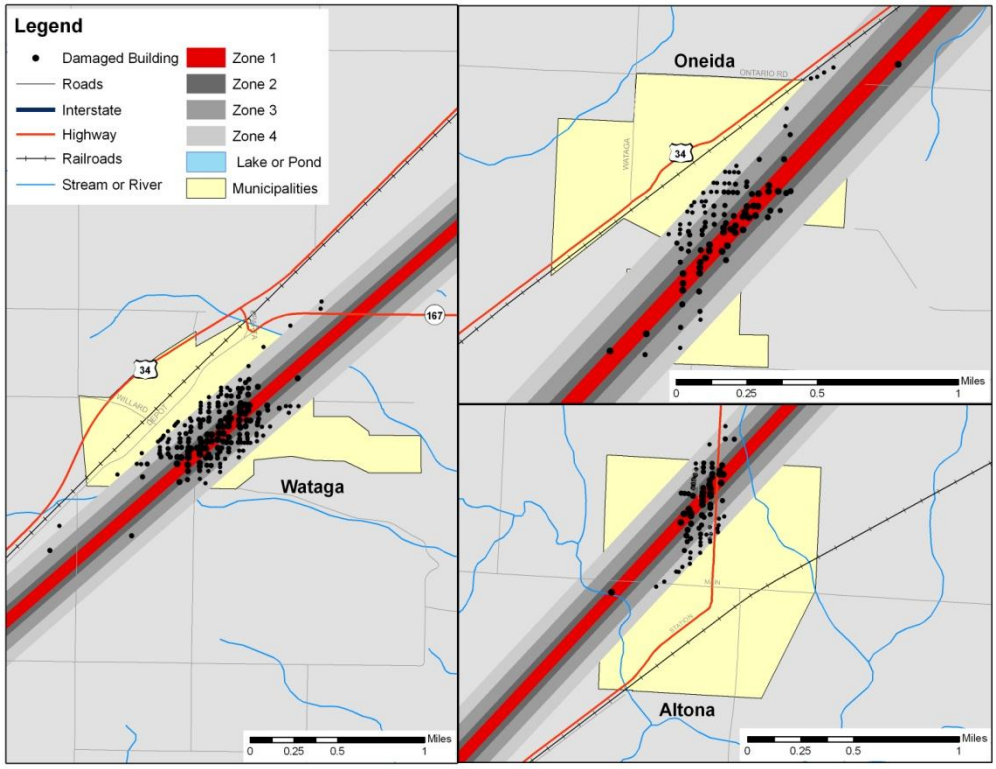


Figure 4-5: Modeled F4 Tornado Damage Buffers in Altona, Oneida, and Wataga



The results of the analysis are depicted in Tables 4-11 and 4-12. The GIS analysis estimates that 1,798 buildings will be damaged. The estimated building losses were $102.1 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Knox County that were joined with Assessor records showing property improvement.

The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable. For purposes of analysis, the total number of buildings and the building replacement costs for government, religious/non-profit, and education should be lumped together.

Table 4-11: Estimated Numbers of Buildings Damaged by Occupancy Type

Occupancy	Zone 1	Zone 2	Zone 3	Zone 4
Residential	269	223	436	428
Commercial	47	32	73	73
Industrial	0	0	5	10
Agriculture	0	1	3	0
Religious / Non-profit	32	26	61	73
Government	0	0	1	0
Education	0	0	3	2
Total	**348**	**282**	**582**	**586**

Table 4-12: Estimated Building Losses by Occupancy Type

Occupancy	Zone 1	Zone 2	Zone 3	Zone 4
Residential	$22,129,470	$15,830,352	$17,623,080	$3,315,096
Commercial	$7,723,980	$10,255,056	$12,257,130	$2,509,002
Industrial	$0	$0	$1,028,063	$2,041,995
Agriculture	$0	$1,920	$27,960	$0
Religious	$0	$0	$78,910	$39,174
Government	$0	$0	$1,500,000	$0
Education	$0	$0	$5,375,444	$374,093
Total	**$29,853,450**	**$26,087,328**	**$37,890,586**	**$8,279,360**

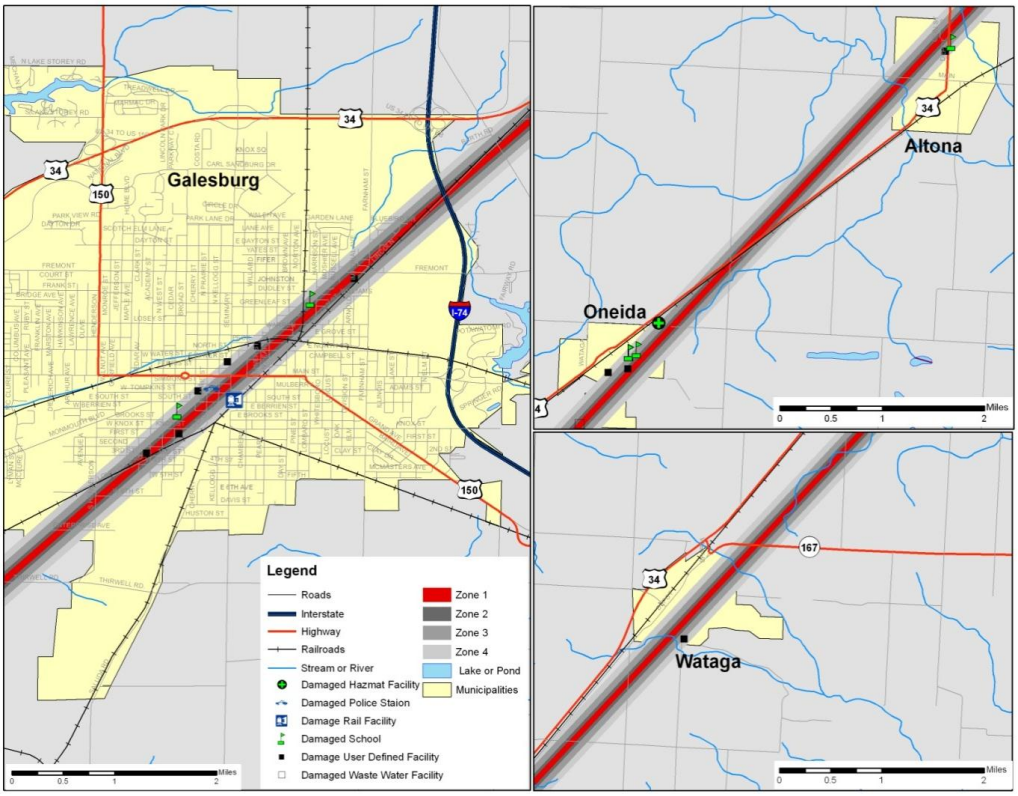
Essential Facilities Damage

There are 20 essential or user defined facilities located within 900 feet of the hypothetical tornado path. The affected facilities are identified in Table 4-13, and their geographic locations are shown in Figures 4-6.

Table 4-13: Affected Essential and User Defined Facilities

Name
Police Stations
Knox County Sheriff's Department
School Facilities
Lincoln Elementary School
ROWVA SR High School
ROWVA East Elementary School
ROWVA JR High School
ROWVA Central Elementary School
Waste Water Treatment Facility
Oneida SD Sewerage Treatment Plant
User Defined Facilities
AMTRAK Station
American Legion Post 285
Faith Lutheran Church
Immanuel Lutheran Church
Knox Bowl
Oneida First Presbyterian Church
First Patrick Catholic Church
Knights of Columbus
First Baptist Church
Galesburg First Lutheran Church
Oneida United Methodist Church
Crop Production Services

Figure 4-5: Essential Facilities within Tornado Path in Altona, Galesburg, Oneida, and Wataga



Vulnerability to Future Assets/Infrastructure for Tornado Hazard

The entire population and buildings have been identified as at risk because tornadoes can occur anywhere within the state, at any time of the day, and during any month of the year. Furthermore, any future development in terms of new construction within the county will be at risk. The building exposure for Knox County is included in Table 4-6.

All critical facilities in the county and communities within the county are at risk. A map and list of all critical facilities is included as Appendix F.

Analysis of Community Development Trends

Preparing for severe storms will be enhanced if officials sponsor a wide range of programs and initiatives to address the overall safety of county residents. New structures need to be built with more sturdy construction, and those structures already in place need to be hardened to lessen the potential impacts of severe weather. Community warning sirens to provide warnings of approaching storms are also vital to preventing the loss of property and ensuring the safety of Knox County residents.

4.4.2 Flood Hazard

Hazard Definition for Flooding

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of two types: upstream floods or downstream floods. Both types of floods are common in Illinois.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at anytime of the year in Illinois, but they are most common in the spring and summer months.

Downstream floods, sometimes called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage. Riverine flooding on the large rivers of Illinois generally occurs during either the spring or summer.

Previous Occurrences for Flooding

The NCDC database reported 20 flood events in Knox County since 1997. One of the most recent significant events occurred during in May 2009. Periods of heavy rain resulted in record levels on Spoon River in eastern Knox County. More than 2,000 acres of agricultural land was inundated and several county roads and highways were flooded for up to four days.

Knox County NCDC recorded floods are identified in Table 4-14. Additional details for NCDC events are included in Appendix D.

Table 4-14: Knox County Previous Occurrences of Flooding*

Location or County	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
Knox County	2/21/1997	Flood	0	0	0	0
Galesburg	6/12/2000	Urban/sml Stream Fld	0	0	0	0
Knox County	2/24/2001	Flash Flood	0	0	0	0
Knox County	5/11/2002	Flash Flood	0	0	0	0
Statewide	5/11/2002	Flood	0	0	0	0
Gilson	6/4/2002	Flash Flood	0	0	0	0
Galesburg	6/12/2002	Flash Flood	0	0	0	0
Knox County	6/13/2002	Flood	0	0	0	0
Galesburg	7/27/2002	Flash Flood	0	0	0	0
North Portion	4/30/2003	Flash Flood	0	0	0	0
Countywide	5/30/2004	Flash Flood	0	0	0	0
Galesburg	7/9/2004	Flash Flood	0	0	0	0
Galesburg	7/22/2004	Flash Flood	0	0	0	0
Centerville	3/9/2009	Flood	0	0	0	0
Rio	3/10/2009	Flood	0	0	0	0
Saluda	5/15/2009	Flash Flood	0	0	0	0
Rio	5/15/2009	Flash Flood	0	0	0	0
Rio	5/15/2009	Flash Flood	0	0	0	0
St Augustine	5/15/2009	Flood	0	0	0	0
St Augustine	5/16/2009	Flood	0	0	0	2.0M

* NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.

Repetitive Loss Properties

FEMA defines a repetitive loss structure as a structure covered by a contract of flood insurance issued under the NFIP, which has suffered flood loss damage on two occasions during a 10-year period that ends on the date of the second loss, in which the cost to repair the flood damage is 25% of the market value of the structure at the time of each flood loss.

The Illinois Emergency Management Agency (IEMA) was contacted to determine the location of repetitive loss structures. As of 2009 Knox County does not have any repetitive loss structures.

Geographic Location for Flooding

Most river flooding occurs in early spring and is the result of excessive rainfall and/or the combination of rainfall and snowmelt. Severe thunderstorms may cause flooding during the summer or fall, but tend to be localized. The primary source of river flooding in Knox County is the Spoon River.

Flash floods, brief heavy flows in small streams or normally dry creek beds, also occur within the county. Flash flooding is typically characterized by high-velocity water, often carrying large

amounts of debris. Urban flooding involves the overflow of storm drain systems and is typically the result of inadequate drainage following heavy rainfall or rapid snowmelt.

A digital file of the FIRM maps was used to identify specific stream reaches for analysis. The areas of riverine flooding are depicted on the map in Appendix E.

The National Oceanic and Atmospheric Administration (NOAA) Advanced Hydrologic Prediction Service provides information from gauge locations at points along various rivers across the United States. For Knox County, flood levels are available for the Spoon River at the London Mills Gauge. Historic flood levels for this gage are provided in Appendix F.

Hazard Extent for Flooding

The HAZUS-MH flood model is designed to generate a flood depth grid and flood boundary polygon by deriving hydrologic and hydraulic information based on user-provided elevation data or by incorporating selected output from other flood models. HAZUS-MH also has the ability to clip a Digital Elevation Model (DEM) with a user-provided flood boundary, thus creating a flood depth grid. For Knox County, HAZUS-MH was used to extract flood depth by clipping the DEM with the IDNR FIRMs Base Flood Elevation (BFE) boundary. The BFE is defined as the area that has a 1% chance of flooding in any given year.

Flood hazard scenarios were modeled using GIS analysis and HAZUS-MH. The flood hazard modeling was based on historical occurrences and current threats. Existing flood maps were used to identify the areas of study. These digital files, although not official FIRMs, provided the boundary which was the basis for this analysis. Planning team input and a review of historical information provided additional information on specific flood events.

Risk Identification for Flood Hazard

Based on historical information and the HAZUS-MH flooding analysis results, future occurrence of flooding in Knox County is likely. According to the Risk Priority Index (RPI), flooding is ranked as the number six hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
3	x	**2**	=	**6**

HAZUS-MH Analysis Using 100-Year Flood Boundary and County Parcels

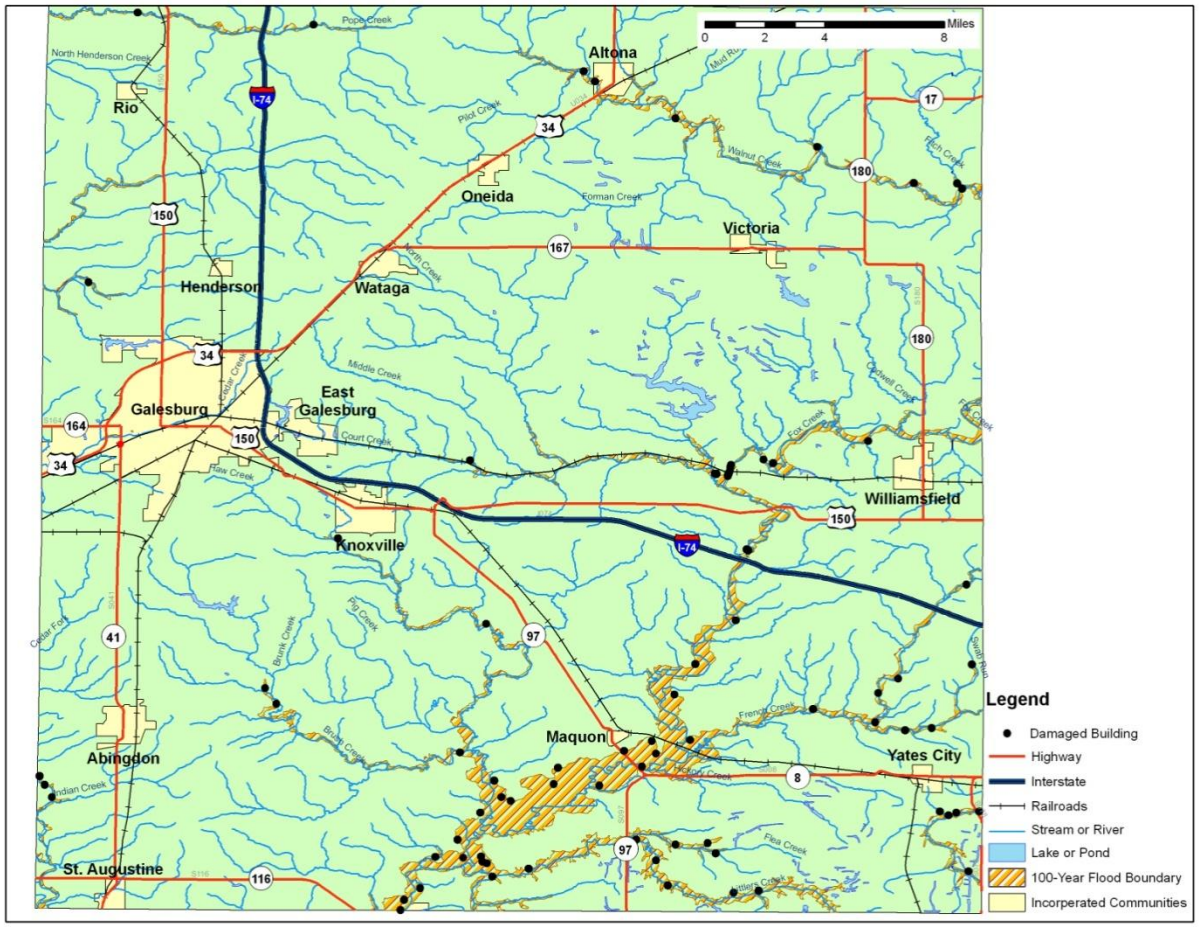
HAZUS-MH generated the flood depth grid for a 100-year return period by clipping the USGS 1/3 Arc-second (approximately 10 meters) Digital Elevation Model (DEM) to the Knox County flood boundary. Next, HAZUS-MH utilized a user-defined analysis of Knox County with site-specific parcel data provided by the county.

HAZUS-MH estimates the 100-year flood would damage 82 buildings with building related flood losses at approximately $2.6 million. The total estimated numbers of damaged buildings are given in Table 4-17. Figure 4-8 depicts the Knox County parcel points that fall within the 100-year floodplain.

Table 4-17: Knox County HAZUS-MH Building Damage

General Occupancy	Number of Buildings Damaged	Total Building Damage
Residential	52	$2,452,055
Commercial	1	$7,003
Industrial	0	$0
Agricultural	24	$162,341
Religious	4	$0
Government	0	$0
Education	0	$0
Total	**81**	**$2,621,400**

Figure 4-8: Knox County Buildings in Floodplain (100-Year Flood)



Critical Facilities

A critical facility will encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). A map and list of all critical facilities is included as Appendix F.

The analysis identified no critical facility subject to flooding.

Infrastructure

The types of infrastructure that could be impacted by a flood include roadways, utility lines/pipes, railroads, and bridges. Since an extensive inventory of the infrastructure is not available for this plan, it is important to emphasize that any number of these items could become damaged in the event of a flood. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); or railway failure from broken or impassable railways. Bridges could also fail or become impassable, causing traffic risks.

Vulnerability Analysis for Flash Flooding

Flash flooding could affect any low lying location within this jurisdiction; therefore, the a significant portion of county's population and buildings are vulnerable to a flash flood. These structures can expect the same impacts as discussed in a riverine flood.

A map and list of all critical facilities is included as Appendix F.

Vulnerability to Future Assets/Infrastructure for Flooding

Flash flooding may affect nearly every location within the county; therefore all buildings and infrastructure are vulnerable to flash flooding. Currently, Knox County and its jurisdictions that participate in the NFIP review new development for compliance with the local zoning ordinance. At this time no construction is planned within the area of the 100-year floodplain. Therefore, there is no new construction which will be vulnerable to a 100-year flood.

Analysis of Community Development Trends

Controlling floodplain development is the key to reducing flood-related damages. Areas with recent development within the county may be more vulnerable to drainage issues. Storm drains and sewer systems are usually most susceptible. Damage to these can cause the back up of water, sewage, and debris into homes and basements, causing structural and mechanical damage as well as creating public health hazards and unsanitary conditions.

4.4.3 Earthquake Hazard

Hazard Definition for Earthquake Hazard

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. For hundreds of millions of years, the forces of plate tectonics have shaped Earth as the huge plates that form the earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free causing the ground to shake.

Most earthquakes occur at the boundaries where the plates meet; however, some earthquakes occur in the middle of plates, as is the case for seismic zones in the Midwestern United States. The most seismically active area in the Midwest is the New Madrid Seismic Zone. Scientists have learned that the New Madrid fault system may not be the only fault system in the Central U.S. capable of producing damaging earthquakes. The Wabash Valley fault system in Illinois and Indiana shows evidence of large earthquakes in its geologic history, and there may be other, as yet unidentified, faults that could produce strong earthquakes.

Ground shaking from strong earthquakes can collapse buildings and bridges; disrupt gas, electric, and phone service; and sometimes trigger landslides, avalanches, flash floods, fires, and huge destructive ocean waves (tsunamis). Buildings with foundations resting on unconsolidated landfill and other unstable soil and trailers and homes not tied to their foundations are at risk because they can be shaken off their mountings during an earthquake. When an earthquake occurs in a populated area it may cause deaths, injuries, and extensive property damage.

The possibility of the occurrence of a catastrophic earthquake in the central and eastern United States is real as evidenced by history and described throughout this section. The impacts of significant earthquakes affect large areas, terminating public services and systems needed to aid the suffering and displaced. These impaired systems are interrelated in the hardest struck zones. Power lines, water and sanitary lines, and public communication may be lost; and highways, railways, rivers, and ports may not allow transportation to the affected region. Furthermore, essential facilities, such as fire and police departments and hospitals, may be disrupted if not previously improved to resist earthquakes.

As with hurricanes, mass relocation may be necessary, but the residents who are suffering from the earthquake can neither leave the heavily impacted areas nor receive aid or even communication in the aftermath of a significant event.

Magnitude, which is determined from measurements on seismographs, measures the energy released at the source of the earthquake. Intensity measures the strength of shaking produced by the earthquake at a certain location and is determined from effects on people, human structures, and the natural environment. Tables 4-18 and 4-19 list earthquake magnitudes and their corresponding intensities.

Source: http://earthquake.usgs.gov/learning/topics/mag_vs_int.php

Table 4-18: Abbreviated Modified Mercalli Intensity Scale

Mercalli Intensity	Description
I	Not felt except by a very few under especially favorable conditions.
II	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Table 4-19: Earthquake Magnitude vs. Modified Mercalli Intensity Scale

Earthquake Magnitude	Typical Maximum Modified Mercalli Intensity
1.0 - 3.0	I
3.0 - 3.9	II - III
4.0 - 4.9	IV - V
5.0 - 5.9	VI - VII
6.0 - 6.9	VII - IX
7.0 and higher	VIII or higher

Previous Occurrences for Earthquake Hazard

Numerous instrumentally measured earthquakes have occurred in Illinois. In the past few decades, with many precise seismographs positioned across Illinois, measured earthquakes have varied in magnitude from very low microseismic events of M=1–3 to larger events up to M=5.4. Microseismic events are usually only detectable by seismographs and rarely felt by anyone. The most recent earthquake in northern Illinois—as of the date of this report—occurred on February 10, 2010 at 3:59:35 local time about 3.0 km (2 miles) east-northeast of Virgil, IL and measured 3.8 in magnitude.

The consensus of opinion among seismologists working in the Midwest is that a magnitude 5.0 to 5.5 event could occur virtually anywhere at any time throughout the region. Earthquakes occur in Illinois all the time, although damaging quakes are very infrequent. Illinois earthquakes causing minor damage occur on average every 20 years, although the actual timing is extremely variable. Most recently, a magnitude 5.2 earthquake shook southeastern Illinois on April 18,

2008, causing minor damage in the Mt Carmel, IL area. Earthquakes resulting in more serious damage have occurred about every 70 to 90 years mainly in Southern Illinois.

Seismic activity on the New Madrid Seismic Zone of southeastern Missouri is very significant both historically and at present. On December 16, 1811 and January 23 and February 7 of 1812, three earthquakes struck the central U.S. with magnitudes estimated to be 7.5-8.0. These earthquakes caused violent ground cracking and volcano-like eruptions of sediment *(sand blows)* over an area of >10,500 km^2, and uplift of a 50 km by 23 km zone (the Lake County uplift). The shaking collapsed scaffolding on the Capitol in Washington, D.C., and was felt over a total area of over 10 million km^2 (the largest felt area of any historical earthquake). Of all the historical earthquakes that have struck the U.S., an 1811-style event would do the most damage if it recurred today.

The New Madrid earthquakes are especially noteworthy because the seismic zone is in the center of the North American Plate. Such intraplate earthquakes are felt, and do damage, over much broader areas than comparable earthquakes at plate boundaries. The precise driving force responsible for activity on the New Madrid seismic zone is not known, but most scientists infer that it is compression transmitted across the North American Plate. That compression is focused on New Madrid because it is the site of a Paleozoic structure—the Reelfoot Rift—which is a zone of weakness in the crust.

The United States Geological Survey (USGS) and the Center for Earthquake Research and Information (CERI) at the University of Memphis estimate the probability of a repeat of the 1811–1812 type earthquakes (magnitude 7.5–8.0) is 7%–10% over the next 50 years (*USGS Fact Sheet 2006-3125*.) Frequent large earthquakes on the New Madrid seismic zone are geologically puzzling because the region shows relatively little deformation. Three explanations have been proposed: 1) recent seismological and geodetic activity is still a short-term response to the 1811–12 earthquakes; 2) activity is irregular or cyclic; or 3) activity began only in the recent geologic past. There is some dispute over how often earthquakes like the 1811–12 sequence occur. Many researchers estimate a recurrence interval of between 550 and 1100 years; other researchers suggest that either the magnitude of the 1811–12 earthquakes have been over-stated, or else the actual frequency of these events is less. It is fair to say, however, that even if the 1811–12 shocks were just magnitude ~7 events, they nonetheless caused widespread damage and would do the same if another such earthquake or earthquake sequence were to strike today.

[Above: New Madrid earthquakes and seismic zone modified from N. Pinter, 1993, Exercises in Active Tectonic history adapted from *Earthquake Information Bulletin*, 4(3), May-June 1972. *http://earthquake.usgs.gov/regional/states/illinois/history.php*]

The earliest reported earthquake in Illinois was in **1795**. This event was felt at Kaskaskia, IL for a minute and a half and was also felt in Kentucky. At Kaskaskia, subterranean noises were heard. Due to the sparse frontier population, an accurate location is not possible, and the shock may have actually originated outside the state.

An intensity VI-VII earthquake occurred on **April 12, 1883**, awakening several people in Cairo, IL. One old frame house was significantly damaged, resulting in minor injuries to the inhabitants. This is the only record of injury in the state due to earthquakes.

On **October 31, 1895** a large M6.8 occurred at Charleston, Missouri, just south of Cairo. Strong shaking caused eruptions of sand and water at many places along a line roughly 30 km (20 mi) long. Damage occurred in six states, but most severely at Charleston, with cracked walls, windows shattered, broken plaster, and chimneys fallen. Shaking was felt in 23 states from Washington, D.C. to Kansas and from southernmost Canada to New Orleans, LA.

A Missouri earthquake on **November 4, 1905**, cracked walls in Cairo. Aftershocks were felt over an area of 100,000 square miles in nine states. In Illinois, it cracked the wall of the new education building in Cairo and a wall at Carbondale, IL.

Among the largest earthquakes occurring in Illinois was the **May 26, 1909** shock, which knocked over many chimneys at Aurora. It was felt over 500,000 square miles and strongly felt in Iowa and Wisconsin. Buildings swayed in Chicago where there was fear that the walls would collapse. Just under two months later, a second Intensity VII earthquake occurred on **July 18, 1909**, damaged chimneys in Petersburg, IL, Hannibal, MO, and Davenport, IA. Over twenty windows were broken, bricks loosened and plaster cracked in the Petersburg area. This event was felt over 40,000 square miles.

On **November 7, 1958**, a shock along the Indiana border resulted in damage at Bartelso, Dale and Maunie, IL. Plaster cracked and fell, and a basement wall and floor were cracked.

On **August 14, 1965**, a sharp but local shock occurred at Tamms, IL, a town of about 600 people. The magnitude 5 quake damaged chimneys, cracked walls, knocked groceries from the shelves, and muddied the water supply. Thunderous earth noises were heard. This earthquake was only felt within a 10 mile radius of Tamms, in communities such as Elco, Unity, Olive Branch, and Olmsted, IL. Six aftershocks were felt.

An earthquake of Intensity VII occurred on **November 9, 1968**. This magnitude 5.3 shock was felt over an area of 580,000 square miles in 23 states. Damage consisted of bricks being knocked from chimneys, broken windows, toppled television antenna, and cracked plaster. There were scattered reports of cracked foundations, fallen parapets, and overturned tombstones. Chimney damage was limited to buildings 30 to 50 years old. Many people were frightened. Church bells rang at Broughton and several other towns. Loud rumbling earthquake noise was reported in many communities.

Dozens of other shocks originating in Missouri, Arkansas, Kansas, Nebraska, Tennessee, Indiana, Ohio, Michigan, Kentucky, and Canada have been felt in Illinois without causing damage. There have been three earthquakes slightly greater than magnitude 5.0 and Intensity level VII which occurred in 1968, 1987 and 2008 and that were widely felt throughout southern Illinois and the midcontinent.

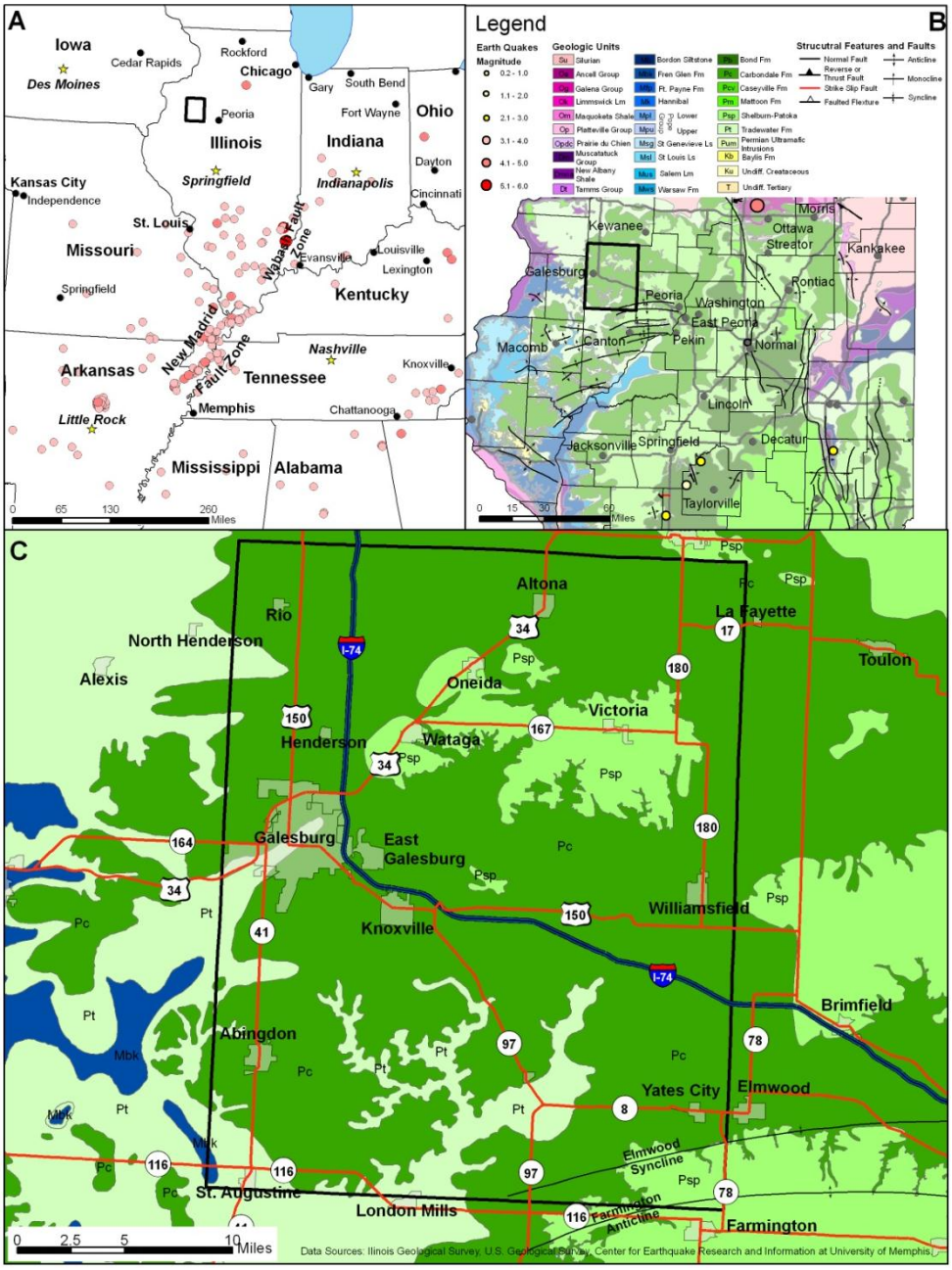
Above text adapted from *http://earthquake.usgs.gov/regional/states/illinois/history.php* and from *Seismicity of the United States, 1568-1989 (Revised), C.W. Stover and J.L. Coffman, U.S. Geological Survey Professional Paper 1527, United States Government Printing Office, Washington: 1993.*

Geographic Location for Earthquake Hazard

Within Illinois, the two most significant zones of seismic activity are the New Madrid Seismic Zone and the Wabash Valley Fault System. There have been no earthquake epicenters recorded in Knox County since 1974.

Figure 4-10 depicts the following: a) Location of notable earthquakes in the Illinois region with inset of Knox County; b) Generalized geologic bedrock map with earthquake epicenters, geologic structures, and inset of Knox County; c) Geologic and earthquake epicenter map of Knox County.

Figure 4-12 a, b, c: Knox County Earthquakes



Hazard Extent for Earthquake Hazard

The extent of the earthquake is countywide. One of the most critical sources of information that is required for accurate assessment of earthquake risk is soils data. A National Earthquake Hazards Reduction Program (NEHRP) compliant soils map was used for the analysis which was provided by FEMA. The map identifies the soils most susceptible to failure.

Risk Identification for Earthquake Hazard

Based on historical information as well as current USGS and SIU research and studies, future earthquakes in Knox County are possible but, large (>5.5 M) earthquakes that would cause severe to catastrophic damage are unlikely. Severe to catastrophic earthquake damage is unlikely because of the large distance (>300 miles) between Knox County and the major Midwestern seismic zones, the New Madrid Seismic Zone and the Wabash Valley Fault Zone. According to the RPI, earthquakes are ranked as the number seven hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
1	x	2	=	2

Vulnerability Analysis for Earthquake Hazard

This hazard could impact the entire jurisdiction equally; therefore, the entire county's population and all buildings are vulnerable to an earthquake and can expect the same impacts within the affected area. To accommodate this risk, this plan will consider all buildings located within the county as vulnerable.

Critical Facilities

All critical facilities are vulnerable to earthquakes. A critical facility would encounter many of the same impacts as any other building within the county. These impacts include structural failure and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). A map and list of all critical facilities is included as Appendix F.

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for critical facilities. These impacts include structural failure and loss of building function which could result in indirect impacts (e.g. damaged homes will no longer be habitable causing residents to seek shelter).

Infrastructure

During an earthquake, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since an extensive inventory of the infrastructure is not

available to this plan, it is important to emphasize that any number of these items could become damaged in the event of an earthquake. The impacts to these items include broken, failed, or impassable roadways, broken or failed utility lines (e.g. loss of power or gas to community), and railway failure from broken or impassable railways. Bridges could also fail or become impassable causing traffic risks. Typical scenarios are described to gauge the anticipated impacts of earthquakes in the county in terms of numbers and types of buildings and infrastructure.

The SIU-Polis team reviewed existing geological information and recommendations for earthquake scenarios. A deterministic and a probabilistic earthquake scenario were developed to provide a reasonable basis for earthquake planning in Knox County. The deterministic scenario was a moment magnitude of 5.5 with the epicenter located on the Westside of Galesburg. This represents a realistic scenario for planning purposes.

Additionally, the earthquake loss analysis included a probabilistic scenario based on ground shaking parameters derived from U.S. Geological Survey probabilistic seismic hazard curves for the earthquake with the 500-year return period. This scenario evaluates the average impacts of a multitude of possible earthquake epicenters with a magnitude that would be typical of that expected for a 500-year return period.

The following earthquake hazard modeling scenarios were performed:

- 5.5 magnitude earthquake local epicenter
- 500-year return period event

Modeling a deterministic scenario requires user input for a variety of parameters. One of the most critical sources of information that is required for accurate assessment of earthquake risk is soils data. Fortunately, a National Earthquake Hazards Reduction Program (NEHRP) soil classification map exists for Illinois. NEHRP soil classifications portray the degree of shear-wave amplification that can occur during ground shaking. FEMA provided a soils map and liquefaction potential map that was used by HAZUS-MH.

Earthquake hypocenter depths in Illinois range from less than 1.0 to ~25.0 km. The average hypocenter depth, ~10.0 km, was used for the deterministic earthquake scenario. For this scenario type HAZUS-MH also requires the user to define an attenuation function. To maintain consistency with the USGS's (2006) modeling of strong ground motion in the central United States, the Toro et al. (1997) attenuation function was used for the deterministic earthquake scenario.

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

Results for 5.5 Magnitude Earthquake in Knox County

The results of the initial analysis, the 5.5 magnitude earthquake with an epicenter located on the west side of Galesburg, are depicted in Tables 4-22 and 4-23 and Figure 4-14. HAZUS estimates that approximately 4,532 buildings will be at least moderately damaged. This is more than 17% of the total number of buildings in the region. It is estimated that 245 buildings will be damaged beyond repair.

The total building related losses totaled $426.08 million; 20% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies, which comprised more than 56% of the total loss.

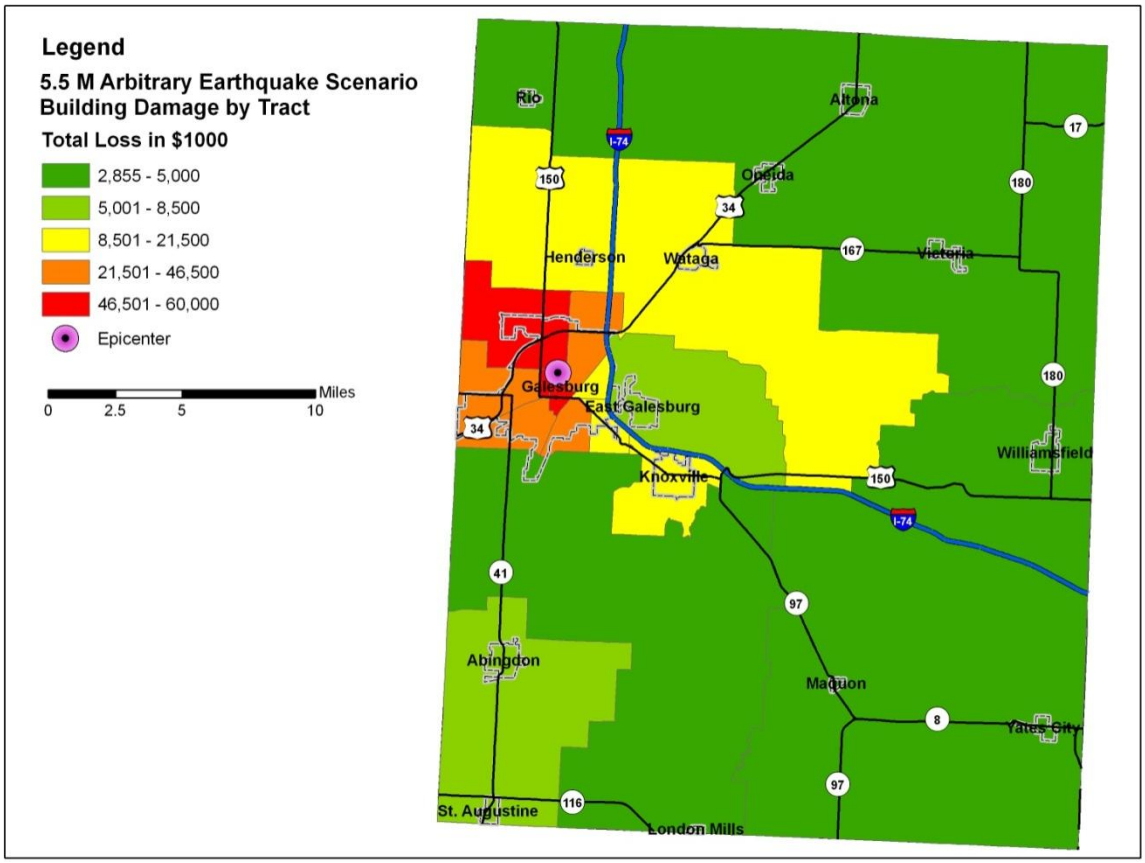
Table 4-22: Knox County 5.5M Scenario-Damage Counts by Building Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	172	1.06	45	0.76	40	1.21	15	1.54	3	1.04
Commercial	493	3.03	244	4.09	244	7.37	103	10.50	24	9.86
Education	22	0.14	9	0.15	9	0.26	3	0.34	1	0.39
Government	29	0.18	10	0.17	10	0.30	3	0.34	1	0.39
Industrial	110	0.68	50	0.83	52	1.56	23	2.32	5	1.95
Other Residential	3,683	22.69	1,333	22.38	860	25.99	264	27.02	56	22.72
Religion	73	0.45	33	0.56	30	0.91	13	1.37	4	1.46
Single Family	11,648	71.77	4,233	71.07	2,065	62.40	553	56.57	153	62.21
Total	**16,230**		**5,956**		**3,309**		**978**		**245**	

Table 4-23: Knox County 5.5M Scenario-Building Economic Losses in Millions of Dollars

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Loses							
	Wage	0.00	1.07	16.04	0.46	1.40	18.96
	Capital-Related	0.00	0.45	11.81	0.30	0.43	12.99
	Rental	3.91	4.85	6.19	0.17	0.74	15.87
	Relocation	14.36	3.40	10.65	0.86	6.40	35.67
	Subtotal	**18.27**	**9.77**	**44.69**	**1.79**	**8.97**	**83.50**
Capital Stock Loses							
	Structural	21.21	9.82	13.13	2.49	5.90	52.55
	Non_Structural	85.07	46.70	37.94	8.59	18.37	196.66
	Content	35.00	14.48	23.57	6.32	11.84	91.21
	Inventory	0.00	0.00	0.73	1.30	0.14	2.16
	Subtotal	**141.27**	**70.99**	**75.37**	**18.70**	**36.25**	**342.58**
	Total	**159.54**	**80.77**	**120.06**	**20.49**	**45.22**	**426.08**

Figure 4-14: Knox County 5.5M Scenario-Building Economic Losses in Thousands of Dollars



Knox County 5.5M Scenario—Essential Facility Losses

Before the earthquake, the region had 410 care beds available for use. On the day of the earthquake, the model estimates that only 26 care beds (4%) are available for use by patients already in medical care facilities and those injured by the earthquake. After one week, 52% of the beds will be back in service. By day 30, 78% will be operational.

Results 5.0 Magnitude 500-Year Probabilistic Scenario

The results of the 500-year probabilistic analysis are depicted in Tables 4-24 and 4-25. HAZUS-MH estimates that approximately 237 buildings will be at least moderately damaged. This is more than 1% of the total number of buildings in the region. It is estimated that two buildings will be damaged beyond repair. The total building-related losses totaled $9.07 million; 33% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies, which made up more than 55% of the total loss.

Table 4-24: 500-Year Probabilistic Scenario-Damage Counts by Building Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	257	1.00	13	1.78	5	2.46	1	2.73	0	1.58
Commercial	1,041	4.04	47	6.67	17	8.05	2	8.65	0	5.99
Education	41	0.16	2	0.27	1	0.35	0	0.37	0	0.41
Government	50	0.19	2	0.28	1	0.33	0	0.32	0	0.35
Industrial	225	0.87	10	1.44	4	1.80	1	1.93	0	1.14
Other Residential	5,939	23.04	190	27.10	60	29.05	6	21.94	0	21.20
Religion	144	0.56	6	0.88	2	1.15	0	1.30	0	1.20
Single Family	18,083	70.14	432	61.58	118	56.81	17	62.77	2	68.13
Total	**25,780**		**701**		**207**		**28**		**2**	

Table 4-25: 500-Year Probabilistic Scenario-Building Economic Losses in Millions of Dollars

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Loses							
	Wage	0.00	0.03	0.52	0.01	0.06	0.63
	Capital-Related	0.00	0.01	0.40	0.01	0.02	0.44
	Rental	0.16	0.16	0.25	0.01	0.03	0.60
	Relocation	0.59	0.12	0.36	0.03	0.23	1.34
	Subtotal	**0.75**	**0.33**	**1.53**	**0.06**	**0.34**	**3.01**
Capital Stock Loses							
	Structural	0.92	0.33	0.43	0.08	0.27	2.03
	Non_Structural	1.69	0.65	0.54	0.10	0.33	3.32
	Content	0.26	0.09	0.18	0.05	0.11	0.69
	Inventory	0.00	0.00	0.01	0.01	0.00	0.02
	Subtotal	**2.88**	**1.07**	**1.16**	**0.24**	**0.71**	**6.05**
	Total	**3.63**	**1.40**	**2.69**	**0.30**	**1.05**	**9.07**

500-Year Probabilistic Scenario—Essential Facility Losses

Before the earthquake, the region had 410 care beds available for use. On the day of the earthquake, the model estimates that only 249 care beds (61%) are available for use by patients already in medical care facilities and those injured by the earthquake. After one week, 98% of the beds will be back in service. By day 30, 100% will be operational.

Vulnerability to Future Assets/Infrastructure for Earthquake Hazard

New construction, especially critical facilities, will accommodate earthquake mitigation design standards.

Analysis of Community Development Trends

Community development will occur outside of the low-lying areas in floodplains with a water table within five feet of grade that is susceptible to liquefaction. In Meeting #4, the MHMP team

discussed specific mitigation strategies for potential earthquake hazards. The discussion included strategies to harden and protect future, as well as existing, structures against the possible termination of public services and systems including power lines, water and sanitary lines, and public communication.

4.4.4 Thunderstorm Hazard

Hazard Definition for Thunderstorm Hazard

Severe thunderstorms are defined as thunderstorms with one or more of the following characteristics: strong winds, large damaging hail, or frequent lightning. Severe thunderstorms most frequently occur in Illinois during the spring and summer months, but can occur any month of the year at any time of day. A severe thunderstorm's impacts can be localized or can be widespread in nature. A thunderstorm is classified as severe when it meets one or more of the following criteria.

- Hail of diameter 0.75 inches or higher
- Frequent and dangerous lightning
- Wind speeds equal to or greater than 58 miles per hour

Hail

Hail is a product of a strong thunderstorm. Hail usually falls near the center of a storm, however strong winds occurring at high altitudes in the thunderstorm can blow the hailstones away from the storm center, resulting in damage in other areas near the storm. Hailstones range from pea-sized to baseball-sized, but hailstones larger than softballs have been reported on rare occasions.

Lightning

Lightning is a discharge of electricity from a thunderstorm. Lightning is often perceived as a minor hazard, but in reality lightning causes damage to many structures and kills or severely injures numerous people in the United States each year.

Severe Winds (Straight-Line Winds)

Straight-line winds from thunderstorms are a fairly common occurrence across Illinois. Straight-line winds can cause damage to homes, businesses, power lines, and agricultural areas, and may require temporary sheltering of individuals who are without power for extended periods of time.

Previous Occurrences for Thunderstorm Hazard

The NCDC database reported 53 hail storms in Knox County since 1959. Hail storms occur nearly every year in the late spring and early summer months. The most recent reported occurrence was in June 2009 when a line of severe thunderstorms produced high winds, large hail, torrential rainfall, and abundant lightning. The storms caused multiple power outages, downed trees and power lines, and damage to light poles, outbuildings, and several homes.

Knox County hail storms are identified in Table 4-26. Additional details for NCDC events are included in Appendix D.

Table 4-26: Knox County Hail Storms*

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Knox County	7/20/1967	Hail	1.00 in.	0	0	0	0
Knox County	4/30/1973	Hail	2.00 in.	0	0	0	0
Knox County	5/1/1973	Hail	1.75 in.	0	0	0	0
Knox County	6/14/1974	Hail	1.75 in.	0	0	0	0
Knox County	6/14/1974	Hail	2.00 in.	0	0	0	0
Knox County	5/11/1975	Hail	1.75 in.	0	0	0	0
Knox County	6/14/1975	Hail	0.75 in.	0	0	0	0
Knox County	5/5/1977	Hail	1.00 in.	0	0	0	0
Knox County	7/29/1987	Hail	1.25 in.	0	0	0	0
Knox County	4/5/1988	Hail	1.75 in.	0	0	0	0
Knox County	3/27/1991	Hail	1.00 in.	0	0	0	0
Galesburg	5/9/1995	Hail	4.50 in.	0	0	0	0
Galesburg	6/2/1995	Hail	0.75 in.	0	0	0	0
Knoxville/Maquon	4/19/1996	Hail	1.75 in.	0	0	0	0
Oneida	5/9/1996	Hail	1.75 in.	0	0	0	0
Knoxville	5/10/1996	Hail	1.75 in.	0	0	0	0
Maquon	6/13/1996	Hail	1.75 in.	0	0	0	0
Abingdon	5/18/1997	Hail	1.00 in.	0	0	0	0
Oneida	5/18/1997	Hail	1.00 in.	0	0	0	0
Galesburg	4/15/1998	Hail	1.00 in.	0	0	0	0
Dahinda	5/19/1998	Hail	1.75 in.	0	0	0	0
Yates City	5/19/1998	Hail	1.00 in.	0	0	0	0
Galesburg	4/8/1999	Hail	1.00 in.	0	0	0	0
Maquon	6/4/1999	Hail	0.75 in.	0	0	0	0
Victoria	8/23/1999	Hail	0.75 in.	0	0	0	0
Galesburg	5/31/2000	Hail	1.75 in.	0	0	0	0
Yates City	5/31/2000	Hail	0.75 in.	0	0	0	0
Yates City	8/22/2001	Hail	1.50 in.	0	0	0	0
Galesburg	5/9/2003	Hail	0.75 in.	0	0	0	0
Dahinda	5/30/2004	Hail	1.00 in.	0	0	0	0
Rapatee	3/30/2005	Hail	0.88 in.	0	0	0	0
Williamsfield	3/30/2005	Hail	0.88 in.	0	0	0	0
Yates City	9/19/2005	Hail	1.00 in.	0	0	0	0
Galesburg	3/11/2006	Hail	0.75 in.	0	0	0	0
Wataga	3/11/2006	Hail	0.75 in.	0	0	0	0
Galesburg	3/11/2006	Hail	0.75 in.	0	0	0	0
Galesburg	3/12/2006	Hail	0.75 in.	0	0	0	0
Dahinda	3/12/2006	Hail	0.75 in.	0	0	0	0
Altona	4/13/2006	Hail	2.75 in.	0	0	0	0
Gilson	4/13/2006	Hail	1.50 in.	0	0	0	0
Galesburg	4/13/2006	Hail	0.88 in.	0	0	0	0
Dahinda	4/13/2006	Hail	1.00 in.	0	0	0	0
Altona	4/13/2006	Hail	1.75 in.	0	0	0	0
Victoria	4/16/2006	Hail	0.88 in.	0	0	0	0

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Abingdon	6/27/2006	Hail	0.75 in.	0	0	0	0
Galesburg	8/8/2007	Hail	0.75 in.	0	0	0	0
Galesburg	5/13/2008	Hail	1.00 in.	0	0	0	0
Uniontown	5/13/2008	Hail	1.00 in.	0	0	0	0
St Augustine	7/21/2008	Hail	1.00 in.	0	0	0	0
Galesburg	8/3/2008	Hail	0.88 in.	0	0	0	0
Galesburg	6/1/2009	Hail	1.00 in.	0	0	0	0
Galesburg	6/1/2009	Hail	1.00 in.	0	0	0	0
Abingdon	6/18/2009	Hail	0.75 in.	0	0	0	0

* NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.

The NCDC database reported no occurrences of significant lightning strikes in Knox County since 1959.

The NCDC database identified 110 wind storms reported since 1959, the most recent of which was reported in August 2009 when storms produced wind gusts between 60 and 70 miles per hour.

As shown in Table 4-27, wind storms have historically occurred year-round with the greatest frequency and damage between May and July. The following table includes available top wind speeds for Knox County.

Table 4-27: Knox County Wind Storms*

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Statewide	3/25/1996	High Wind	0 kts.	1	0	0	0
Statewide	10/30/1996	High Wind	56 kts.	0	0	0	0
Statewide	4/6/1997	High Wind	56 kts.	0	0	0	0
Statewide	4/30/1997	High Wind	61 kts.	0	1	38K	0
Statewide	9/29/1997	High Wind	55 kts.	0	0	0	0
Statewide	11/10/1998	High Wind	57 kts.	0	1	60K	0
Statewide	3/9/2002	High Wind	76 kts.	0	2	0	0
Statewide	11/12/2003	High Wind	42 kts.	0	0	0	0
Statewide	3/5/2004	High Wind	50 kts.	1	6	0	0
Knox County	3/24/2009	High Wind	52 kts.	0	0	0	0
Galesburg	6/21/2007	Tstm Wind	50 kts.	0	0	0	0
Maquon	6/21/2007	Tstm Wind	50 kts.	0	0	0	0
Maquon	6/21/2007	Tstm Wind	50 kts.	0	0	0	0
Yates City	6/21/2007	Tstm Wind	50 kts.	0	0	0	0
Galesburg Arpt	8/23/2007	Tstm Wind	61 kts.	1	7	800K	600K
Galesburg	8/23/2007	Tstm Wind	87 kts.	0	0	0	0
Galesburg	6/8/2008	Tstm Wind	52 kts.	0	0	25K	0
Galesburg Arpt	6/8/2008	Tstm Wind	50 kts.	0	0	0	0

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Altona	7/21/2008	Tstm Wind	52 kts.	0	0	0	0
Abingdon	7/21/2008	Tstm Wind	52 kts.	0	0	0	0
Abingdon	8/5/2008	Tstm Wind	52 kts.	0	0	10K	0
Knoxville	12/27/2008	Tstm Wind	52 kts.	0	0	20K	0
Galesburg Arpt	3/8/2009	Tstm Wind	52 kts.	0	0	8K	0
Galesburg	6/1/2009	Tstm Wind	52 kts.	0	0	7K	0
Abingdon	6/18/2009	Tstm Wind	61 kts.	0	0	75K	0
Galesburg	6/18/2009	Tstm Wind	61 kts.	0	0	75K	0
Yates City	6/18/2009	Tstm Wind	61 kts.	0	0	300K	0
Abingdon	6/19/2009	Tstm Wind	52 kts.	0	0	12K	0
Galesburg	6/19/2009	Tstm Wind	52 kts.	0	0	40K	0
Victoria	6/19/2009	Tstm Wind	52 kts.	0	0	65K	0
Galesburg	6/27/2009	Tstm Wind	52 kts.	0	0	20K	0
Henderson	7/24/2009	Tstm Wind	52 kts.	0	0	1K	0
Abingdon	8/4/2009	Tstm Wind	61 kts.	0	0	2K	0
Maquon	8/9/1993	Tstm Wind	0 kts.	0	0	0	0
Galesburg	7/19/1994	Tstm Wind	0 kts.	0	0	1K	0
Galesburg	5/27/1995	Tstm Wind	0 kts.	0	0	0	0
Knox County	4/10/1965	Tstm Wind	0 kts.	0	0	0	0
Knox County	2/19/1971	Tstm Wind	0 kts.	0	0	0	0
Knox County	4/30/1973	Tstm Wind	0 kts.	0	0	0	0
Knox County	9/24/1973	Tstm Wind	0 kts.	0	0	0	0
Knox County	6/20/1974	Tstm Wind	0 kts.	0	0	0	0
Knox County	6/20/1974	Tstm Wind	0 kts.	0	0	0	0
Knox County	4/13/1981	Tstm Wind	0 kts.	0	0	0	0
Knox County	7/3/1983	Tstm Wind	0 kts.	0	0	0	0
Knox County	9/6/1983	Tstm Wind	0 kts.	0	0	0	0
Knox County	5/14/1985	Tstm Wind	60 kts.	0	0	0	0
Knox County	5/14/1985	Tstm Wind	61 kts.	0	0	0	0
Knox County	7/31/1986	Tstm Wind	0 kts.	0	0	0	0
Knox County	7/29/1987	Tstm Wind	0 kts.	0	0	0	0
Knox County	11/15/1988	Tstm Wind	50 kts.	0	0	0	0
Knox County	5/24/1989	Tstm Wind	0 kts.	0	0	0	0
Knox County	6/19/1990	Tstm Wind	0 kts.	0	0	0	0
Knox County	7/2/1992	Tstm Wind	0 kts.	0	0	0	0
Victoria	6/13/1996	Tstm Wind	0 kts.	0	0	0	0
Dahinda	6/13/1996	Tstm Wind	0 kts.	0	0	0	0
Yates City	6/23/1996	Tstm Wind	0 kts.	0	0	0	0
Galesburg	7/29/1996	Tstm Wind	0 kts.	0	0	2K	0
Galesburg	4/5/1997	Tstm Wind	0 kts.	0	0	0	0
Oneida	4/5/1997	Tstm Wind	0 kts.	0	0	0	0
Galesburg	6/21/1997	Tstm Wind	0 kts.	0	1	0	0
Galesburg	7/19/1997	Tstm Wind	0 kts.	0	0	0	0
Galesburg	8/3/1997	Tstm Wind	0 kts.	0	0	0	0
Victoria	8/16/1997	Tstm Wind	0 kts.	0	0	0	0
Abingdon	3/27/1998	Tstm Wind	0 kts.	0	0	0	0

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Hermon	5/15/1998	Tstm Wind	0 kts.	0	0	0	0
Yates City	5/19/1998	Tstm Wind	0 kts.	0	0	1K	0
Knoxville	6/11/1998	Tstm Wind	0 kts.	0	0	100K	0
Galesburg	6/18/1998	Tstm Wind	0 kts.	0	0	0	0
Countywide	6/29/1998	Tstm Wind	52 kts.	0	2	1.0M	0
Williamsfield	4/8/1999	Tstm Wind	0 kts.	0	0	0	0
Maquon	6/1/1999	Tstm Wind	0 kts.	0	0	0	0
Knox	6/4/1999	Tstm Wind	0 kts.	0	0	0	0
Galesburg	6/10/1999	Tstm Wind	0 kts.	0	0	5K	0
Galesburg	7/27/1999	Tstm Wind	0 kts.	0	0	0	0
Abingdon	5/31/2000	Tstm Wind	0 kts.	0	0	0	0
Galesburg	6/13/2000	Tstm Wind	0 kts.	0	0	0	0
Abingdon	6/23/2000	Tstm Wind	0 kts.	0	0	0	0
Galesburg	8/6/2000	Tstm Wind	0 kts.	0	0	1K	0
Galesburg	8/9/2000	Tstm Wind	0 kts.	0	0	0	0
Henderson	9/11/2000	Tstm Wind	0 kts.	0	0	0	0
Galesburg Arpt	10/3/2000	Tstm Wind	51 kts.	0	0	0	0
Galesburg	6/14/2001	Tstm Wind	50 kts.	0	0	0	0
Galesburg	8/2/2001	Tstm Wind	50 kts.	0	0	0	0
Galesburg	8/9/2001	Tstm Wind	52 kts.	0	0	0	0
Yates City	8/22/2001	Tstm Wind	50 kts.	0	0	0	0
Galesburg	3/9/2002	Tstm Wind	50 kts.	1	0	0	0
Galesburg	2/11/2003	Tstm Wind	53 kts.	0	0	0	0
Altona	4/30/2003	Tstm Wind	50 kts.	0	0	0	0
Victoria	4/30/2003	Tstm Wind	50 kts.	0	0	0	0
Galesburg	5/10/2003	Tstm Wind	60 kts.	0	0	0	0
Abingdon	6/25/2003	Tstm Wind	52 kts.	0	0	0	0
Galesburg	7/8/2003	Tstm Wind	50 kts.	0	0	0	0
Countywide	7/21/2003	Tstm Wind	60 kts.	0	0	0	0
Galesburg	8/11/2003	Tstm Wind	55 kts.	0	0	0	0
Altona	5/7/2004	Tstm Wind	61 kts.	0	0	0	0
Abingdon	5/30/2004	Tstm Wind	55 kts.	0	0	0	0
Galesburg	7/9/2004	Tstm Wind	55 kts.	0	0	0	0
Knoxville	7/11/2004	Tstm Wind	50 kts.	0	0	0	0
Maquon	8/18/2004	Tstm Wind	52 kts.	0	0	0	0
Galesburg	10/29/2004	Tstm Wind	50 kts.	0	0	0	0
Galesburg	6/8/2005	Tstm Wind	60 kts.	0	2	0	0
Galesburg	8/11/2005	Tstm Wind	52 kts.	0	0	0	0
Galesburg	8/18/2005	Tstm Wind	55 kts.	0	0	0	0
Abingdon	9/19/2005	Tstm Wind	50 kts.	0	0	0	0
Gilson	4/13/2006	Tstm Wind	52 kts.	0	0	0	0
Galesburg	4/13/2006	Tstm Wind	61 kts.	0	0	0	0
Rapatee	4/13/2006	Tstm Wind	55 kts.	0	0	0	0
Galesburg	7/19/2006	Tstm Wind	55 kts.	0	0	0	0
Galesburg	8/3/2006	Tstm Wind	58 kts.	0	0	0	0

* NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.

Geographic Location for Thunderstorm Hazard

The entire county has the same risk for occurrence of thunderstorms. They can occur at any location within the county.

Hazard Extent for Thunderstorm Hazard

The extent of the historical thunderstorms varies in terms of the extent of the storm, the wind speed, and the size of hail stones. Thunderstorms can occur at any location within the county.

Risk Identification for Thunderstorm Hazard

Based on historical information, the occurrence of future high winds, hail, and lightning is highly likely. High winds with widely varying magnitudes are expected to happen. According to the RPI, thunderstorms and high wind damage ranked as the number five hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
4	x	2	=	8

Vulnerability Analysis for Thunderstorm Hazard

Severe thunderstorms are an equally distributed threat across the entire jurisdiction; therefore, the entire county's population and all buildings are vulnerable to a severe thunderstorm and can expect the same impacts within the affected area. This plan will therefore consider all buildings located within the county as vulnerable. The existing buildings and infrastructure in Knox County are discussed in Table 4-6.

Critical Facilities

All critical facilities are vulnerable to severe thunderstorms. A critical facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts include structural failure, damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, fires caused by lightning, and loss of building functionality (e.g. a damaged police station will no longer be able to serve the community). Table 4-5 lists the types and numbers of all of the essential facilities in the area. A map and list of all critical facilities is included as Appendix F.

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is provided in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for critical facilities. These impacts include structural failure,

damaging debris (trees or limbs), roofs blown off or windows broken by hail or high winds, fires caused by lightning, and loss of building functionality (e.g. a damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a severe thunderstorm, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable it is important to emphasize that any number of these items could become damaged during a severe thunderstorm. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); or railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

Potential Dollar Losses for Thunderstorm Hazard

A HAZUS-MH analysis was not completed for thunderstorms because the widespread extent of such a hazard makes it difficult to accurately model outcomes.

To determine dollar losses for a thunderstorm hazard, the available NCDC hazard information was condensed to include only thunderstorm hazards that occurred within the past ten years. Knox County's MHMP team then reviewed the property damages reported to NCDC and made any applicable updates.

It was determined that since 1999, Knox County has incurred $1,466,000 in damages relating to thunderstorms, including hail, lightning, and high winds. The resulting information is listed in Table 4-28.

Table 4-28: Knox County Property Damage (1999–Present)

Location or County	Date	Type	Property Damage	
Galesburg	06/10/99	Tstm Wind	$	5,000
		1999 Subtotal	*$*	*5,000*
Galesburg	08/06/00	Tstm Wind	$	1,000
		2000 Subtotal	*$*	*1,000*
		2001-2006 Subtotal	$	-
Galesburg Airport	08/23/07	Tstm Wind	$	800,000
		2007 Subtotal	*$*	*800,000*
Galesburg	06/08/08	Tstm Wind	$	25,000
Abingdon	08/05/08	Tstm Wind	$	10,000
Knoxville	12/27/08	Tstm Wind	$	20,000
		2008 Subtotal	*$*	*55,000*
Galesburg Airport	03/08/2009	Tstm Wind	$	8,000
Galesburg	06/01/2009	Tstm Wind	$	7,000
Abingdon	06/18/2009	Tstm Wind	$	75,000
Galesburg	06/18/2009	Tstm Wind	$	75,000
Yates City	06/18/2009	Tstm Wind	$	300,000
Abingdon	06/19/2009	Tstm Wind	$	12,000

Location or County	Date	Type	Property Damage	
Galesburg	06/19/2009	Tstm Wind	$	40,000
Victoria	06/19/2009	Tstm Wind	$	65,000
Galesburg	06/27/2009	Tstm Wind	$	20,000
Henderson	07/24/2009	Tstm Wind	$	1,000
Abingdon	08/04/2009	Tstm Wind	$	2,000
		2009 Subtotal	*$*	*605,000*
		Total	**$**	**1,466,000**

The historical data is erratic and not wholly documented or confirmed. As a result, potential dollar losses for a future event cannot be precisely calculated; however, based on averages in the last decade, it can be determined that Knox County incurs an annual risk of approximately $146,600 per year.

Vulnerability to Future Assets/Infrastructure for Thunderstorm Hazard

All future development within the county and all communities will remain vulnerable to these events.

Analysis of Community Development Trends

Preparing for severe storms will be enhanced if officials sponsor a wide range of programs and initiatives to address the overall safety of county residents. New structures need to be built with more sturdy construction, and those structures already in place need to be hardened to lessen the potential impacts of severe weather. Community warning sirens to provide warning of approaching storms are also vital to preventing the loss of property and ensuring the safety of Knox County residents.

4.4.5 Winter Storm Hazard

Hazard Definition for Winter Storm Hazard

Severe winter weather consists of various forms of precipitation and strong weather conditions. This may include one or more of the following: freezing rain, sleet, heavy snow, blizzards, icy roadways, extreme low temperatures, and strong winds. These conditions can cause human health risks such as frostbite, hypothermia, and death.

Ice (glazing) and Sleet Storms

Ice or sleet, even in small quantities, can result in hazardous driving conditions and can cause property damage. Sleet involves frozen raindrops that bounce when they hit the ground or other objects. Sleet does not stick to trees and wires. Ice storms, on the other hand, involve liquid rain that falls through subfreezing air and/or onto sub-freezing surfaces, freezing on contact with those surfaces. The ice coats trees, buildings, overhead wires, and roadways, sometimes causing extensive damage.

The most damaging winter storms in Illinois have been ice storms. Ice storms occur when moisture-laden gulf air converges with the northern jet stream causing strong winds and heavy precipitation. This precipitation takes the form of freezing rain coating power and communication lines and trees with heavy ice. The winds will then cause the overburdened limbs and cables to snap; leaving large sectors of the population without power, heat, or communication. In the past few decades, including the winter of 2007–09, numerous ice storm events occurred in Illinois.

Snowstorms

Significant snowstorms are characterized by the rapid accumulation of snow, often accompanied by high winds, cold temperatures, and low visibility. A blizzard is categorized as a snowstorm with winds of 35 miles per hour or greater and/or visibility of less than one-quarter mile for three or more hours. The strong winds during a blizzard blow about falling and already existing snow, creating poor visibility and impassable roadways. Blizzards have the potential to result in property damage.

Illinois has repeatedly been struck by blizzards. Blizzard conditions cannot only cause power outages and loss of communication, but also make transportation difficult. The blowing of snow can reduce visibility to less than one-quarter mile, and the resulting disorientation makes even travel by foot dangerous if not deadly.

Severe Cold

Severe cold is characterized by the ambient air temperature dropping to around 0°F or below. These extreme temperatures can increase the likelihood of frostbite and hypothermia. High winds during severe cold events can enhance the air temperature’s effects. Fast winds during cold weather events can lower the wind chill factor (how cold the air feels on your skin). As a result, the time it takes for frostbite and hypothermia to affect a person’s body will decrease.

Previous Occurrences for Winter Storm Hazard

The NCDC database identified 40 winter storm and extreme cold events for Knox County since 1995. The most recent reported event occurred in March 2009. A winter storm swept through west-central Illinois, bringing snow accumulation of approximately 4-7 inches.

The NCDC winter storms are listed in Table 4-30. Additional details for NCDC events are included in Appendix D.

Table 4-30: Winter Storm Events*

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Statewide	1/18/1995	Heavy Snow	N/A	0	0	0	0
Central Illinois	12/8/1995	Winter Storm	N/A	1	0	0	0
Central Illinois	12/18/1995	Winter Storm	N/A	1	0	0	0
Statewide	1/4/1996	Winter Storm	N/A	0	0	0	0
Statewide	1/18/1996	Winter Storm	N/A	0	2	0	0
Statewide	2/2/1996	Extreme Cold	N/A	2	0	0	0
Statewide	1/8/1997	Heavy Snow	N/A	0	6	0	0
Statewide	1/15/1997	Winter Storm	N/A	1	7	0	0
Statewide	1/24/1997	Winter Storm	N/A	0	0	0	0
Statewide	1/26/1997	Winter Storm	N/A	0	9	0	0
Statewide	4/10/1997	Heavy Snow	N/A	0	9	0	0
Statewide	12/9/1997	Heavy Snow	N/A	1	0	0	0
Statewide	12/24/1997	Heavy Snow	N/A	0	0	0	0
Statewide	12/30/1997	Heavy Snow	N/A	3	0	0	0
Statewide	1/8/1998	Heavy Snow	N/A	0	0	0	0
Statewide	1/14/1998	Winter Storm	N/A	0	0	0	0
Statewide	3/8/1998	Winter Storm	N/A	2	0	0	0
Statewide	1/1/1999	Heavy Snow	N/A	1	1	0	0
Statewide	1/5/1999	Extreme Cold	N/A	0	0	0	0
Statewide	3/8/1999	Heavy Snow	N/A	0	5	0	0
Statewide	1/19/2000	Winter Storm	N/A	0	2	0	0
Statewide	2/17/2000	Ice Storm	N/A	0	1	0	0
Statewide	12/11/2000	Winter Storm	N/A	0	0	0	0
Central Illinois	12/29/2000	Heavy Snow	N/A	0	0	0	0
Central Illinois	1/30/2002	Winter Storm	N/A	0	0	0	0
Statewide	3/1/2002	Heavy Snow	N/A	0	0	0	0
Statewide	2/14/2003	Heavy Snow	N/A	0	0	0	0
Statewide	1/4/2004	Winter Storm	N/A	0	0	0	0
Statewide	11/24/2004	Winter Storm	N/A	0	4	0	0
Statewide	1/5/2005	Ice Storm	N/A	0	0	0	0
Statewide	11/29/2006	Winter Storm	N/A	0	0	0	0
Statewide	12/1/2006	Winter Storm	N/A	0	0	0	0
Central Illinois	1/12/2007	Ice Storm	N/A	0	0	0	0
Statewide	2/13/2007	Blizzard	N/A	0	0	0	0
Statewide	2/13/2007	Winter Storm	N/A	0	0	0	0

Location or County	Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Central Illinois	2/24/2007	Ice Storm	N/A	0	0	0	0
Statewide	4/5/2007	Frost/freeze	N/A	0	0	0	0
Central Illinois	12/1/2007	Ice Storm	N/A	0	0	0	0
Central Illinois	12/18/2008	Ice Storm	N/A	0	0	150K	0
Central Illinois	3/29/2009	Winter Weather	N/A	0	0	0	0

* NCDC records are estimates of damage compiled by the National Weather Service from various local, state, and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to a given weather event.

Geographic Location for Winter Storm Hazard

Severe winter storms are regional in nature. Most of the NCDC data is calculated regionally or in some cases statewide.

Hazard Extent for Winter Storm Hazard

The extent of the historical winter storms varies in terms of storm location, temperature, and ice or snowfall. A severe winter storm can occur anywhere in the jurisdiction.

Risk Identification for Winter Storm Hazard

Based on historical information and input from the planning team, the occurrence of future winter storms is highly likely. Winter storms of varying magnitudes are expected to happen. According to the RPI, winter storms were ranked as the number four hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
4	x	**2**	=	**8**

Vulnerability Analysis for Winter Storm Hazard

Winter storm impacts are equally distributed across the entire jurisdiction; therefore, the entire county is vulnerable to a winter storm and can expect the same impacts within the affected area. The building exposure for Knox County, as determined from the building inventory, is included in Table 4-6.

Critical Facilities

All critical facilities are vulnerable to a winter storm. A critical facility will encounter many of the same impacts as other buildings within the jurisdiction. These impacts include loss of gas or electricity from broken or damaged utility lines, damaged or impassable roads and railways, broken water pipes, and roof collapse from heavy snow. Table 4-5 lists the types and numbers of

the essential facilities in the area. A map and list of all critical facilities is included as Appendix F.

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The impacts to the general buildings within the county are similar to the damages expected to the critical facilities. These include loss of gas or electricity from broken or damaged utility lines, damaged or impassable roads and railways, broken water pipes, and roof collapse from heavy snow.

Infrastructure

During a winter storm, the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable it is important to emphasize that any number of these items could become damaged during a winter storm. Potential impacts include broken gas and/or electricity lines or damaged utility lines, damaged or impassable roads and railways, and broken water pipes.

Potential Dollar Losses for Winter Storm Hazard

A HAZUS-MH analysis was not completed for winter storms because the widespread extent of such a hazard makes it difficult to accurately model outcomes.

To determine dollar losses for a winter storm hazard, the available NCDC hazard information was condensed to include only winter storm hazards that occurred within the past ten years. Knox County's MHMP team then reviewed the property damages reported to NCDC and made any applicable updates.

It was determined that since 1999, Knox County has not incurred significant property damages from winter storms, including sleet/ice and heavy snow.

Vulnerability to Future Assets/Infrastructure for Winter Storm Hazard

Any new development within the county will remain vulnerable to these events.

Analysis of Community Development Trends

Because the winter storm events are regional in nature future development will be equally impacted across the county.

4.4.7 Hazardous Materials Storage and Transport Hazard

Hazard Definition for Hazardous Materials Storage and Transport Hazard

Illinois has numerous active transportation lines that run through many of its counties. Active railways transport harmful and volatile substances between our borders every day. The transportation of chemicals and substances along interstate routes is commonplace in Illinois. The rural areas of Illinois have considerable agricultural commerce creating a demand for fertilizers, herbicides, and pesticides to be transported along rural roads. These factors increase the chance of hazardous material releases and spills throughout the state of Illinois.

The release or spill of certain substances can cause an explosion. Explosions result from the ignition of volatile products such as petroleum products, natural and other flammable gases, hazardous materials/chemicals, dust, and bombs. An explosion can potentially cause death, injury, and property damage. In addition, a fire routinely follows an explosion which may cause further damage and inhibit emergency response. Emergency response may require fire, safety/law enforcement, search and rescue, and hazardous materials units.

Previous Occurrences for Hazardous Materials Storage and Transport Hazard

Knox County has not experienced a significantly large-scale hazardous material incident at a fixed site or during transport resulting in multiple deaths or serious injuries, although there have been many minor releases that have put local firefighters, hazardous materials teams, emergency management, and local law enforcement into action to try to stabilize these incidents and prevent or lessen harm to Knox County residents.

Geographic Location for Hazardous Materials Storage and Transport Hazard

The hazardous material hazards are countywide and are primarily associated with the transport of materials via highway, railroad, and/or river barge.

Hazard Extent for Hazardous Materials Storage and Transport Hazard

The extent of the hazardous material hazard varies both in terms of the quantity of material being transported as well as the specific content of the container.

Risk Identification for Hazardous Materials Release

Based on input from the planning team, the future occurrence of a hazardous materials accident is possible. According to the RPI, Hazardous Materials Storage and Transport ranked as the number one hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
2	x	**8**	=	**16**

Vulnerability Analysis for Hazardous Materials Storage and Transport Hazard

Hazardous material impacts are an equally distributed threat across the entire jurisdiction; therefore, the entire county is vulnerable to a hazardous material release and can expect the same impacts within the affected area. The main concern during a release or spill is the population affected. The building exposure for Knox County, as determined from building inventory, is included in Table 4-6. This plan will therefore consider all buildings located within the county as vulnerable.

Critical Facilities

All critical facilities and communities within the county are at risk. A critical facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts include structural failure due to fire or explosion and loss of function of the facility (e.g. a damaged police station will no longer be able to serve the community). Table 4-5 lists the types and numbers of all essential facilities in the area. A map and list of all critical facilities is included as Appendix F.

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is listed in Table 4-6. The buildings within the county can all expect the same impacts, similar to those discussed for critical facilities. These impacts include structural failure due to fire or explosion or debris and loss of function of the building (e.g. a damaged home will no longer be habitable causing residents to seek shelter).

Infrastructure

During a hazardous material release the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since an extensive inventory of the infrastructure is not available to this plan it is important to emphasize that any number of these items could become damaged in the event of a hazardous material release. The impacts to these items include broken, failed, or impassable roadways; broken or failed utility lines (e.g. loss of power or gas to community); and railway failure from broken or impassable railways. Bridges could fail or become impassable causing risk to traffic.

In terms of numbers and types of buildings and infrastructure, typical scenarios are described to gauge the anticipated impacts of hazardous material release events in the county.

The U.S. EPA's ALOHA (Areal Locations of Hazardous Atmospheres) model was utilized to assess the area of impact for an Chlorine release at the intersection of Burlington Northern and Santa Fe Railroad and State Route 41 (Linwood Road) on the southeast side of Galesburg. The target area was selected for three primary reasons: 1) the high volume traffic, 2) the area is highly populated and 3) proximity to several critical facilities.

Chlorine is a greenish yellow gas with a pungent suffocating odor. The gas liquefies at -35°C and room pressure or will liquefy from pressure applied at room temperature. Contact with unconfined liquid chlorine can cause frostbite from evaporative cooling. Chlorine does not burn,

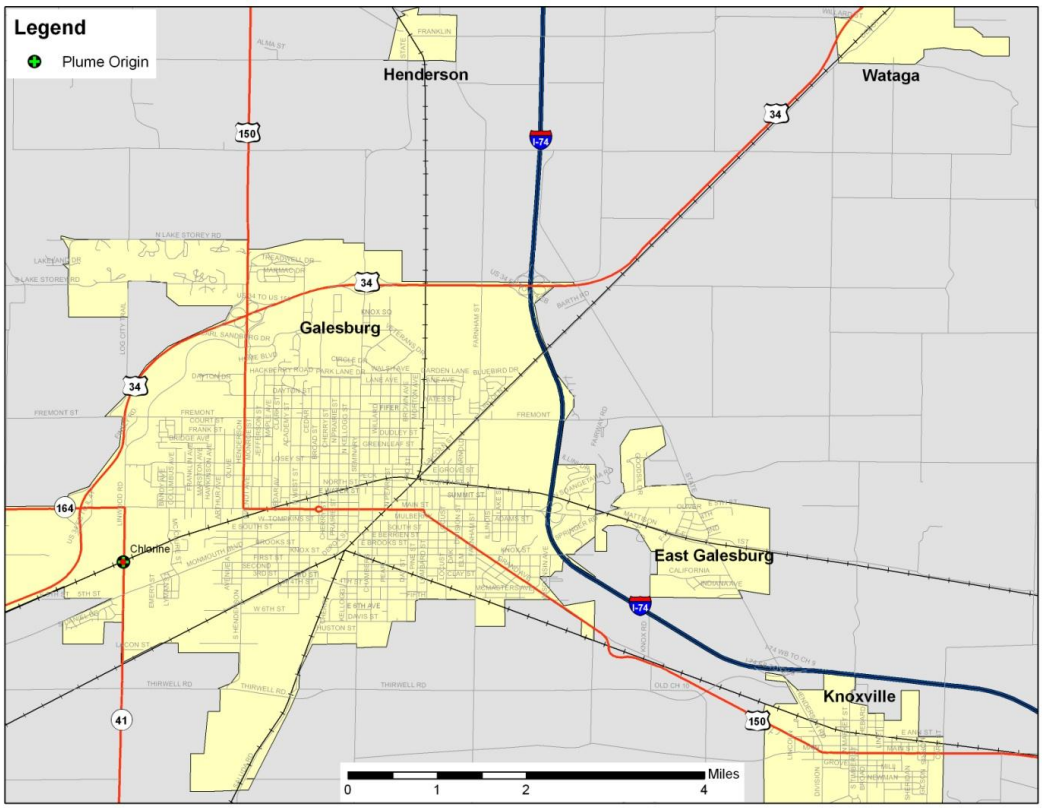
but, like oxygen, supports combustion. The toxic gas can have adverse health effects from either long-term inhalation of low concentrations of vapors or short-term inhalation of high concentrations. Chlorine vapors are much heavier than air and tend to settle in low areas. Chlorine is commonly used to purify water, bleach wood pulp, and make other chemicals (NOAA Reactivity 2007).

Source: http://cameochemicals.noaa.gov/chemical/2862

ALOHA is a computer program designed especially for use by people responding to chemical accidents, as well as for emergency planning and training. Chlorine is a common chemical used in industrial operations and can be found in either liquid or gas form. Rail and truck tankers commonly haul Chlorine to and from facilities.

For this scenario, moderate atmospheric and climatic conditions with a slight breeze from the west-southwest were assumed. The target area was chosen due to its proximity to the residential, commercial, and essential facility locations. The geographic area covered in this analysis is depicted in Figure 4-15.

Figure 4-15: Location of Chemical Release



Analysis

The ALOHA atmospheric modeling parameters, depicted in Figure 4-16, were based upon a westerly wind speed of five miles per hour. The temperature was 70°F with 50% humidity and a cloud cover of five-tenths skies.

The source of the chemical spill is a horizontal, cylindrical-shaped tank. The diameter of the tank was set to 10.4 feet and the length set to 53 feet (33,500 gallons). At the time of its release, it was estimated that the tank was 85% full. The anhydrous ammonia in this tank is in its liquid state.

This release was based on a leak from a 2.5-inch-diameter hole, 12 inches above the bottom of the tank. According to the ALOHA parameters, approximately 10,600 pounds of material would be released per minute. The image in Figure 4-17 depicts the plume footprint generated by ALOHA.

Figure 4-16: ALOHA Plume Modeling Parameters

SITE DATA:
Location: GALESBURG_REMO, ILLINOIS
Building Air Exchanges Per Hour: 0.48 (unsheltered single storied)
Time: May 23, 2010 1717 hours CDT (using computer's clock)

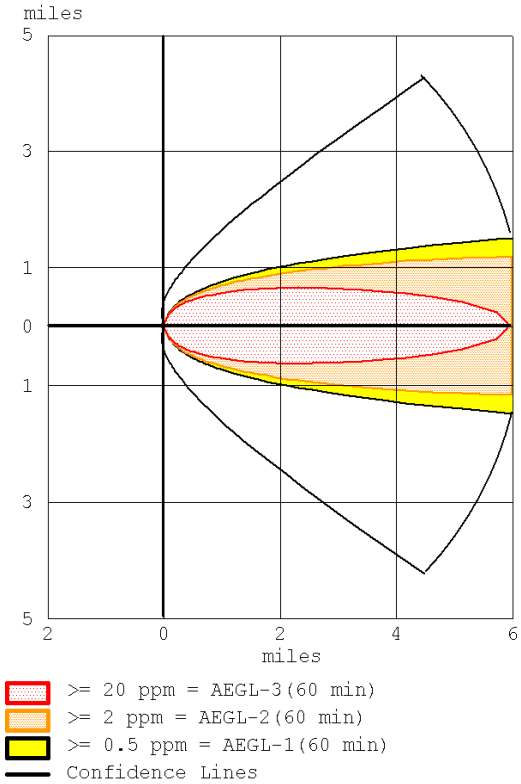
CHEMICAL DATA:
Chemical Name: CHLORINE Molecular Weight: 70.91 g/mol
AEGL-1(60 min): 0.5 ppm AEGL-2(60 min): 2 ppm AEGL-3(60 min): 20 ppm
IDLH: 10 ppm
Ambient Boiling Point: -30.3° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
Wind: 5 miles/hour from WSW at 10 feet
Ground Roughness: open country Cloud Cover: 5 tenths
Air Temperature: 70° F Stability Class: C
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:
Leak from hole in horizontal cylindrical tank
Non-flammable chemical is escaping from tank
Tank Diameter: 10.4 feet Tank Length: 53 feet
Tank Volume: 33,679 gallons
Tank contains liquid Internal Temperature: 70° F
Chemical Mass in Tank: 168 tons Tank is 85% full
Circular Opening Diameter: 2.5 inches
Opening is 12 inches from tank bottom
Release Duration: ALOHA limited the duration to 1 hour
Max Average Sustained Release Rate: 10,600 pounds/min
(averaged over a minute or more)
Total Amount Released: 322,425 pounds
Note: The chemical escaped as a mixture of gas and aerosol (two phase flow).

THREAT ZONE:
Model Run: Heavy Gas
Red : 5.9 miles --- (20 ppm = AEGL-3(60 min))
Orange: greater than 6 miles --- (2 ppm = AEGL-2(60 min))
Yellow: greater than 6 miles --- (0.5 ppm = AEGL-1(60 min))

Figure 4-17: Plume Footprint Generated by ALOHA



Acute Exposure Guideline Levels (AEGLs) are intended to describe the health effects on humans due to once-in-a-lifetime or rare exposure to airborne chemicals. The National Advisory Committee for AEGLs is developing these guidelines to help both national and local authorities, as well as private companies, deal with emergencies involving spills or other catastrophic exposures. As the substance moves away from the source, the level of substance concentration decreases. Each color-coded area depicts a level of concentration measured in parts per million (ppm). The image in Figure 4-18 depicts the plume footprint generated by ALOHA in ArcGIS.

- **AEGL 3:** Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death. The red buffer (>=20.0 ppm) extends no more than six miles from the point of release after one hour.

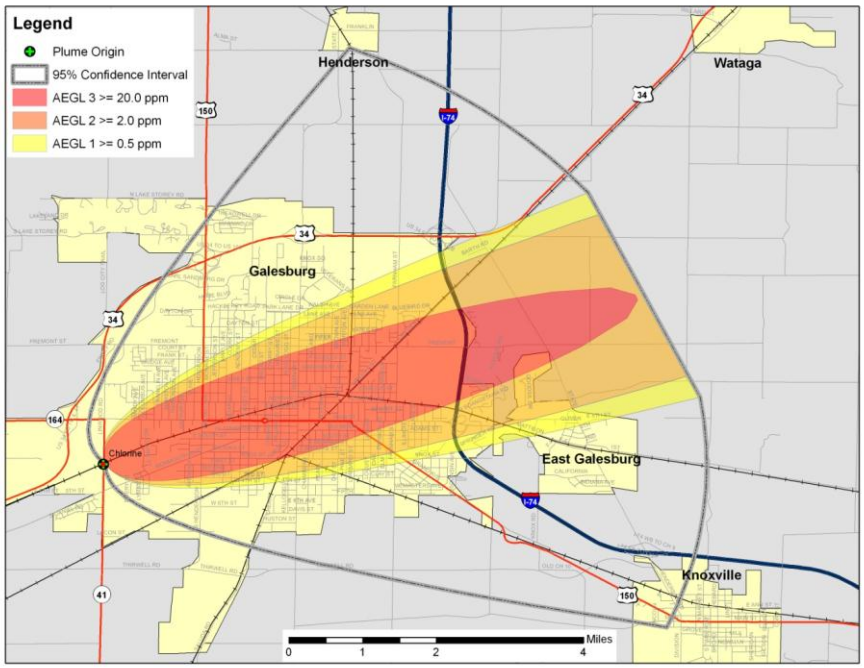
- **AEGL 2:** Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape. The orange buffer (>=2.0 ppm) extends no more than six miles from the point of release after one hour.

- **AEGL 1:** Above this airborne concentration of a substance, it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

The yellow buffer (>=0.5 ppm) extends more than six miles from the point of release after one hour.

- **Confidence Lines**: The dashed lines depict the level of confidence in which the exposure level will be contained. The ALOHA model is 95% confident that the release will stay within this boundary.

Figure 4-18: ALOHA Plume Footprint Overlaid in ArcGIS

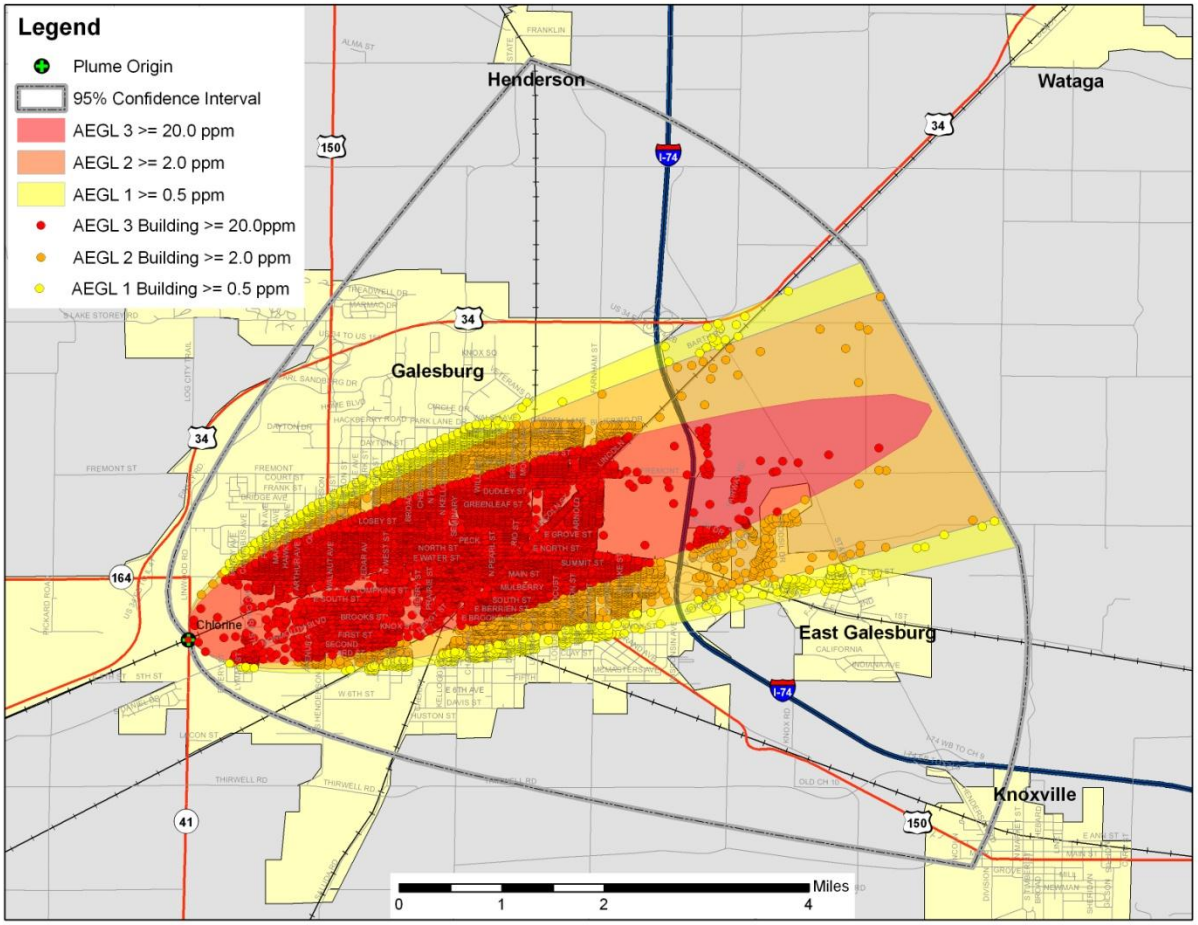


Results

By summing the building inventory within all AEGL levels (AEGL 3: >=20.0 ppm, AEGL 2: >=2.0 ppm and Level 1: >=0.5 ppm.), the GIS overlay analysis predicts that as many as 748 buildings could be exposed at a replacement cost of $872.6 million. If this event were to occur, approximately 22,000 people would be affected. The results are depicted in Figure 4-19.

The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

Figure 4-19: Knox County Building Inventory Classified By Plume Footprint



Building Inventory Damage

The results of the analysis against the building inventory points are depicted in Tables 4-31 through 4-34. Table 4-31 summarizes the results of the chemical spill by combining all AEGL level. Tables 4-32 through 4-34 summarize the results of the chemical spill for each level separately.

Table 4-31: Estimated Exposure for all Level (all ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	17,843	7,137	$579,560,895
Commercial	0	680	$216,789,780
Industrial	0	39	$28,733,100
Agriculture	0	6	$123,480
Religious	0	478	$2,822,590
Government	0	4	$6,550,000
Education	4,322	9	$37,992,000
Total	**22,165**	**8,353**	**$872,571,845**

Table 4-32: Estimated Exposure for Level 3 (>=20.0 ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	10,223	4,089	$314,569,395
Commercial	0	502	$156,889,680
Industrial	0	24	$24,857,175
Agriculture	0	1	$11,580
Religious	0	383	$2,473,660
Government	0	3	$5,600,000
Education	3,125	6	$31,260,000
Total	**13,348**	**5,008**	**$535,661,490**

Table 4-33: Estimated Exposure for Level 2 (>=2.0 ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	5,738	2,295	$200,393,460
Commercial	0	120	$45,764,100
Industrial	0	11	$1,939,275
Agriculture	0	4	$97,800
Religious	0	66	$314,590
Government	0	0	$0.0
Education	702	2	$11,22,000.00
Total	**6,440**	**2,498**	**$249,631,225**

Table 4-34: Estimated Exposure for Level 1 (>=0.5 ppm)

Occupancy	Population	Building Counts	Building Exposure
Residential	1,883	753	$64,598,040
Commercial	0	58	$14,136,000
Industrial	0	4	$1,936,650
Agriculture	0	1	$14,100
Religious	0	29	$34,340
Government	0	1	$950,000
Education	495	1	$5,610,000
Total	**2,378**	**847**	**$87,279,130**

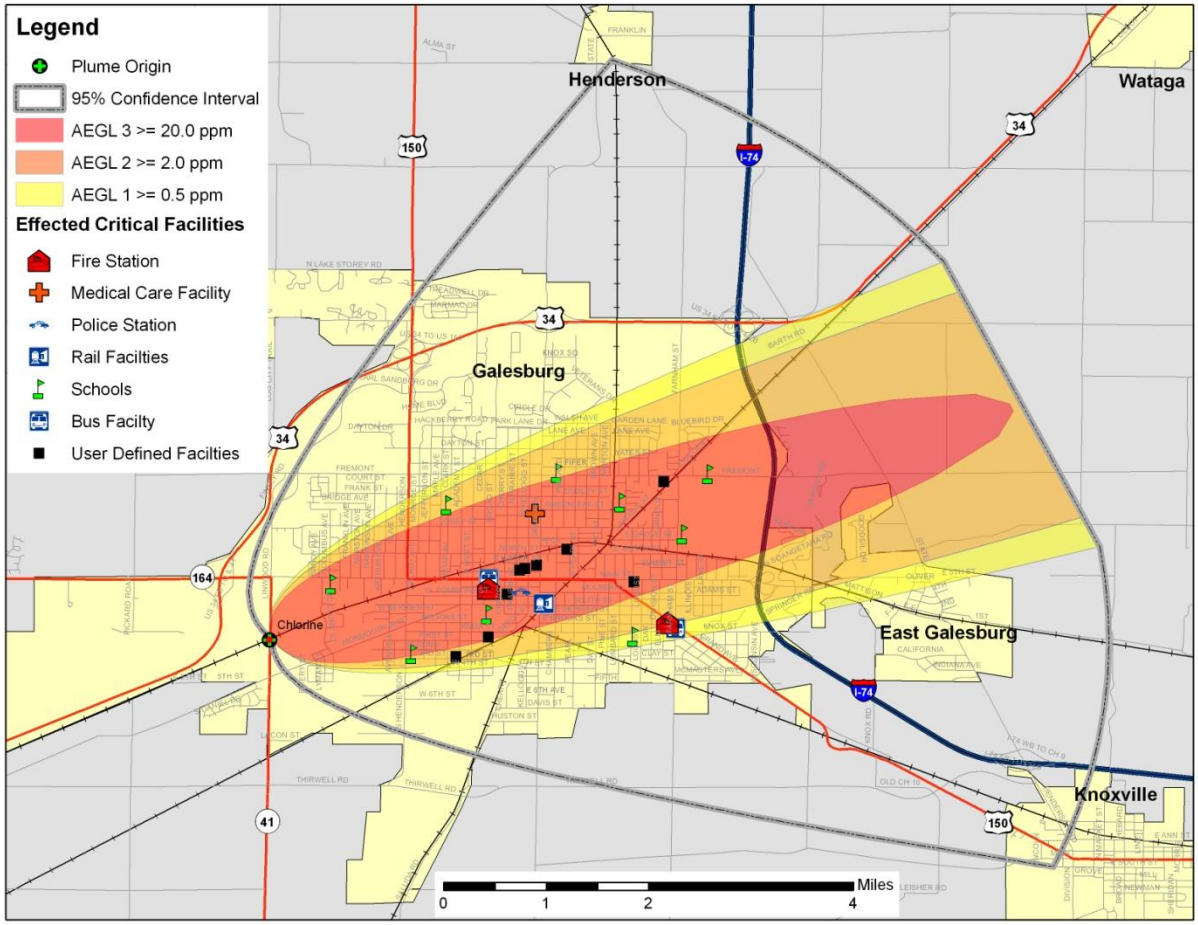
Critical Facilities Damage

There are 26 essential and user defined facilities within the limits of the chemical spill plume. The affected facilities are identified in Table 4-35. Their geographic locations are depicted in Figure 4-20.

Table 4-35: Essential and User Defined Facilities within Plume Footprint

Name
Care Facilities
Galesburg Cottage Hospital
Fire Stations
Brooks St Fire Station
Central Fire Station
Police
Knox County Sheriff's Dept
Galesburg Police Dept
Schools
Cook School
Lombard Jr. High School
Knox College
Steele School
Nielson Elementary School
Galesburg Christian School Association
Silas Willard Elementary School
Transportation
Amtrak Station
Bus Station
User Defined (Shelters)
First Patrick Catholic Church
Knox Bowl
First Baptist Church
East Main Congregational Church
First Presbyterian Church
Galesburg First United Methodist Church
Galesburg First Lutheran Church
American Legion Post 285
Knights of Columbus

Figure 4-20: Essential Facilities within Plume Footprint



Vulnerability to Future Assets/Infrastructure for Hazardous Materials Storage and Transport Hazard

Any new development within the county will be vulnerable to these events, especially development along major roadways.

Analysis of Community Development Trends

Because the hazardous material hazard events may occur anywhere within the county, future development will be impacted. The major transportation routes and the industries located in Knox County pose a threat of dangerous chemicals and hazardous materials release.

4.4.8 Fire Hazard

Hazard Definition for Fire Hazard

This plan will address three major categories of fires for Knox County: 1) tire/scrap fires; 2) structural fires; and 3) wildfires.

Tire Fires

The state of Illinois generates thousands of scrap tires annually. Many of those scrap tires end up in approved storage sites that are carefully regulated and controlled by federal and state officials. However, scrap tires are sometimes intentionally dumped in unapproved locations throughout the state. The number of unapproved locations cannot be readily determined. These illegal sites are owned by private residents who have been continually dumping waste and refuse, including scrap tires, at those locations for many years.

Tire disposal sites can be fire hazards, in large part, because of the enormous number of scrap tires typically present at one site. This large amount of fuel renders standard firefighting practices nearly useless. Flowing and burning oil released by the scrap tires can spread the fire to adjacent areas. Tire fires differ from conventional fires in the following ways:

- Relatively small tire fires can require significant fire resources to control and extinguish.
- Those resources often cost much more than Knox County government can absorb compared to standard fire responses.
- There may be significant environmental consequences of a major tire fire. Extreme heat can convert a standard vehicle tire into approximately two gallons of oily residue that may leak into the soil or migrate to streams and waterways.

Structural Fires

Lightning strikes, poor building construction, and building condition are the main causes for most structural fires in Illinois. Knox County has a few structural fires each year countywide.

Wildfires

When hot and dry conditions develop, forests may become vulnerable to devastating wildfires. In the past few decades an increased commercial and residential development near forested areas has dramatically changed the nature and scope of the wildfire hazard. In addition, the increase in structures resulting from new development strains the effectiveness of the fire service personnel in the county.

Previous Occurrences for Fire Hazard

Knox County has not experienced a significant or large-scale explosion at a fixed site or transportation route that has resulted in multiple deaths or serious injuries.

Geographic Location for Fire Hazard

Fire hazards occur countywide and therefore affect the entire county. The forested areas in the county have a higher chance of widespread fire hazard.

Hazard Extent for Fire Hazard

The extent of the fire hazard varies both in terms of the severity of the fire and the type of material being ignited. All communities in Knox County are affected by fire equally.

Risk Identification for Fire Hazard

Based on input from the planning team, the occurrence of a fire is likely. According to the RPI, fire/explosion is ranked as the number three hazard.

RPI = Probability x Magnitude/Severity.

Probability	x	Magnitude /Severity	=	RPI
3	x	4	=	12

Vulnerability Analysis for Fire Hazard

This hazard impacts the entire jurisdiction equally; therefore, the entire population and all buildings within the county are vulnerable to fires and can expect the same impacts within the affected area.

Table 4-5 lists the types and numbers of all essential facilities in the area. A map and list of all critical facilities is included as Appendix F.

The building exposure for Knox County, as determined from the building inventory, is included in Table 4-6. Because of the difficulty predicting which communities are at risk, the entire population and all buildings have been identified at risk.

Critical Facilities

All critical facilities are vulnerable to fire hazards. A critical facility will encounter many of the same impacts as any other building within the jurisdiction. These impacts include structural damage from fire and water damage from efforts extinguishing fire. Table 4-5 lists the types and numbers of essential facilities in the area. A map and list of all critical facilities is included as Appendix F.

Building Inventory

A table of the building exposure in terms of types and numbers of buildings for the entire county is provided in Table 4-6. Impacts to the general buildings within the county are similar to the

damages expected to the critical facilities. These impacts include structural damage from fire and water damage from efforts to extinguish the fire.

Infrastructure

During a fire the types of infrastructure that could be impacted include roadways, utility lines/pipes, railroads, and bridges. Since the county's entire infrastructure is equally vulnerable, it is important to emphasize that any number of these items could become damaged during a fire. Potential impacts include structural damage resulting in impassable roadways and power outages.

Vulnerability to Future Assets/Infrastructure for Fire Hazard

Any future development will be vulnerable to these events.

Analysis of Community Development Trends

Fire hazard events may occur anywhere within the county, because of this future development will be impacted.

Section 5 - Mitigation Strategy

The goal of mitigation is to reduce the future impacts of a hazard including property damage, disruption to local and regional economies, and the amount of public and private funds spent to assist with recovery. The goal of mitigation is to build disaster-resistant communities. Mitigation actions and projects should be based on a well-constructed risk assessment, provided in Section 4 of this plan. Mitigation should be an ongoing process adapting over time to accommodate a community's needs.

5.1 Community Capability Assessment

The capability assessment identifies current activities used to mitigate hazards. The capability assessment identifies the policies, regulations, procedures, programs, and projects that contribute to the lessening of disaster damages. The assessment also provides an evaluation of these capabilities to determine whether the activities can be improved in order to more effectively reduce the impact of future hazards. The following sections identify existing plans and mitigation capabilities within all of the communities listed in Section 2 of this plan.

5.1.1 National Flood Insurance Program (NFIP)

Knox County, City of Abingdon, City of Galesburg, City of Knoxville, the Village of Henderson, the Village of Victoria, and the Village of Wataga are members of the NFIP. The Villages of East Galesburg, Henderson, Maquon, Rio, St. Augustine, and Yates do not have identified flood hazard boundary, and therefore these incorporated communities choose not to participate in the program. The City of Oneida, the Village of Altona, and the Village of Williamsfield have identified floodplains but chose not to participate due to lack of interest or perceived need. Knox County will continue to educate these jurisdictions on the benefits of the program.

HAZUS-MH identified approximately 80 structures within the Knox County Special Flood Hazard Area; 43 households paid flood insurance, insuring $4,627,900 in property value. The total premiums collected amounted to $18,125, which on average was $625 annually. From 1978 through 2007, 26 claims were filed totaling $86,930. The average claim was $2,998.

The county and incorporated areas do not participate in the NFIP'S Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: 1) reduce flood losses; 2) facilitate accurate insurance rating; and 3) promote the awareness of flood insurance.

Table 5-1 identifies each community and the date each participant joined the NFIP.

Table 5-1: Additional Information on Communities Participating in the NFIP

Community	Participation Date	FIRM Date	CRS Date	CRS Rating	Floodplain Ordinance
Knox County	8/24/1984	12/19/1984	NA	NA	8/24/1984
City of Abingdon	2/6/1984	2010	NA	NA	2/6/1984
Village of Altona		2010	NA	NA	
Village of East Galesburg		NSFHA	NA	NA	
City of Galesburg	6/19/1985	6/19/1985	NA	NA	3/2/1992
Village of Henderson	3/4/1986	NSFHA	NA	NA	3/4/1986
City of Knoxville	2/27/1984	2010	NA	NA	2/27/1984
Village of Maquon		NSFHA	NA	NA	
City of Oneida		2010	NA	NA	
Village of Rio		NSFHA	NA	NA	
Village of St. Augustine		NSFHA	NA	NA	
Village of Victoria	10/31/1983	NSFHA	NA	NA	10/31/1983
Village of Wataga	9/4/1985	2010	NA	NA	9/4/1985
Village of Williamsfield		2010	NA	NA	
Village of Yates City		NSFHA	NA	NA	

5.1.2 Stormwater Management Stream Maintenance Ordinance

Communities within Knox County have individual storm water management plans which restrict unauthorized changes to the natural course of drainage and require all developments to provide for storm water management. The storm water management plans also provide standards for storm sewers and secondary drainage facilities. Additionally, Knox County has an ordinance within Article 7 of the zoning resolution which restricts the building of fences or walls which would alter or disrupt the natural flow of surface water.

5.1.3 Zoning Management Ordinance

Knox County has had zoning management ordinances effective since January 11, 1967. The zoning ordinances have been amended multiple times, with the most recent amendment effective September 19, 2010. Knox County's zoning ordinances are in accordance with those set forth in Section 1 of the Illinois County Zoning Act. The purposes of the zoning ordinances are to promote the public health, safety, morals, comfort, and general welfare, conserve property values, and lessen or avoid congestion in public streets and highways.

Knox County has ordinances in place to regulate and restrict the height, number of stories, and size of all buildings, and the size of yards, courts, and other open spaces surrounding buildings. All unzoned areas within Knox County are separated into districts, and ordinances are in place to regulate and restrict the location, erection, construction, reconstruction, alteration and use of buildings, structures, and land for industry, business, trade, residence, or other uses. Additionally, Knox County has zoning ordinances to regulate and restrict the population density.

5.1.4 Erosion Management Program/ Policy

Knox County does not have an erosion management program.

5.1.5 Fire Insurance Rating Programs/ Policy

Table 5-3 lists Knox County's fire departments and respective information.

Table 5-3: Knox County Fire Departments, Ratings, and Number of Firefighters

Fire Department	Fire Insurance Rating	Number of Firefighters
Abingdon Fire Department (includes Bracken & St. Augustine)	6 - city 9 - rural	24
Altona Fire Protection District	7 – city 9 - rural	
Dahinda Fire Department	9	
E Galesburg Fire Dept	7	11
Elba-Salem Fire Protection District (Yates City)	6	26
Galesburg Fire District	3	48
Henderson Fire Protection District	7 – city 9 - rural	21
Knoxville Community Fire Protection District (Appleton & Gilson Fire Dept)		79
Maquon Fire Department	7 – city 9 - rural	26
Oneida-Wataga FPD	7	35
Rio Fire Protection District	7 – city 9 – rural	18
Victoria-Copley FPD	8	
Williamsfield Fire Protection District (includes Oak Run Station)	7	42

5.1.6 Land Use Plan

Knox County does not have a land use plan.

5.1.7 Building Codes

Knox County does not have building codes.

5.2 Mitigation goals

In Section 4 of this plan, the risk assessment identified Knox County as prone to seven hazards. The MHMP planning team members understand that although hazards cannot be eliminated altogether, Knox County can work toward building disaster-resistant communities. Following are a list of goals, objectives, and actions. The goals represent long-term, broad visions of the overall vision the county would like to achieve for mitigation. The objectives are strategies and steps that will assist the communities in attaining the listed goals.

Goal 1: Lessen the impacts of hazards to new and existing infrastructure

(a) Objective: Retrofit critical facilities and structures with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.

(b) Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.

(c) Objective: Minimize the amount of infrastructure exposed to hazards.

(d) Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the community.

(e) Objective: Improve emergency sheltering in the community.

Goal 2: Create new or revise existing plans/maps for the community

(a) Objective: Support compliance with the NFIP.

(b) Objective: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.

(c) Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.

Goal 3: Develop long-term strategies to educate community residents on the hazards affecting their county

(a) Objective: Raise public awareness on hazard mitigation.

(b) Objective: Improve education and training of emergency personnel and public officials.

5.3 Mitigation Actions/Projects

Upon completion of the risk assessment and development of the goals and objectives, the planning committee was provided a list of the six mitigation measure categories from the *FEMA State and Local Mitigation Planning How to Guides*. The measures are listed as follows:

- **Prevention:** Government, administrative, or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.

- **Property Protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or removal from the hazard area. Examples include acquisition, elevation, structural retrofits, storm shutters, and shatter-resistant glass.

- **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

- **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

- **Emergency Services:** Actions that protect people and property during and immediately after a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.

- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, seawalls, retaining walls, and safe rooms.

After Meeting #3, held February 24, 2010, MHMP members were presented with the task of individually listing potential mitigation activities using the FEMA evaluation criteria. The MHMP members brought their mitigation ideas to Meeting #4 which was held July 29, 2010. The evaluation criteria (STAPLE+E) involved the following categories and questions.

Social:

- Will the proposed action adversely affect one segment of the population?
- Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

Technical:

- How effective is the action in avoiding or reducing future losses?
- Will it create more problems than it solves?
- Does it solve the problem or only a symptom?
- Does the mitigation strategy address continued compliance with the NFIP?

Administrative:

- Does the jurisdiction have the capability (staff, technical experts, and/or funding) to implement the action, or can it be readily obtained?
- Can the community provide the necessary maintenance?
- Can it be accomplished in a timely manner?

Political:

- Is there political support to implement and maintain this action?
- Is there a local champion willing to help see the action to completion?
- Is there enough public support to ensure the success of the action?
- How can the mitigation objectives be accomplished at the lowest cost to the public?

Legal:

- Does the community have the authority to implement the proposed action?
- Are the proper laws, ordinances, and resolution in place to implement the action?
- Are there any potential legal consequences?
- Is there any potential community liability?
- Is the action likely to be challenged by those who may be negatively affected?
- Does the mitigation strategy address continued compliance with the NFIP?

Economic:

- Are there currently sources of funds that can be used to implement the action?
- What benefits will the action provide?
- Does the cost seem reasonable for the size of the problem and likely benefits?
- What burden will be placed on the tax base or local economy to implement this action?
- Does the action contribute to other community economic goals such as capital improvements or economic development?
- What proposed actions should be considered but be "tabled" for implementation until outside sources of funding are available?

Environmental:

- How will this action affect the environment (land, water, endangered species)?
- Will this action comply with local, state, and federal environmental laws and regulations?
- Is the action consistent with community environmental goals?

5.4 Implementation Strategy and Analysis of Mitigation Projects

Implementation of the mitigation plan is critical to the overall success of the mitigation planning process. The first step is to decide, based upon many factors, which action will be undertaken first. In order to pursue the top priority first, an analysis and prioritization of the actions is important. Some actions may occur before the top priority due to financial, engineering, environmental, permitting, and site control issues. Public awareness and input of these mitigation actions can increase knowledge to capitalize on funding opportunities and monitoring the progress of an action.

In Meeting #4, the planning team prioritized mitigation actions based on a number of factors. A rating of high, medium, or low was assessed for each mitigation item and is listed next to each item in Table 5-5. The factors were the STAPLE+E (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria listed in Table 5-4.

Table 5-4: STAPLE+E planning factors

S – Social	Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the community's social and cultural values.
T – Technical	Mitigation actions are technically most effective if they provide a long-term reduction of losses and have minimal secondary adverse impacts.
A – Administrative	Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.

P – Political	Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support for the action.
L – Legal	It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.
E – Economic	Budget constraints can significantly deter the implementation of mitigation actions. Hence, it is important to evaluate whether an action is cost-effective, as determined by a cost benefit review, and possible to fund.
E – Environmental	Sustainable mitigation actions that do not have an adverse effect on the environment, comply with federal, state, and local environmental regulations, and are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound.

For each mitigation action related to infrastructure, new and existing infrastructure was considered. Additionally, the mitigation strategies address continued compliance with the NFIP. While an official cost benefit review was not conducted for any of the mitigation actions, the estimated costs were discussed. The overall benefits were considered when prioritizing mitigation items from high to low. An official cost benefit review will be conducted prior to the implementations of any mitigation actions. Table 5-5 presents mitigation projects developed by the planning committee, as well as actions that are ongoing or already completed. Since this is the first mitigation plan developed for Knox County, there are no deleted or deferred mitigation items.

Table 5-5: Mitigation Strategies

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Establish technical teams	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Hazmat, Fire, Drought	Knox County	Complete	Knox County has technical rescue teams.
Develop a stormwater ordinance	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.	Flood	Knox County	Complete	The county has an up-to-date stormwater ordinance.
Flood-proof water supply	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Flood	Galesburg	Complete	Galesburg keeps its water supply flood-proofed.
Construct a facility for community showers in case of a hazmat incident	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Hazmat	Knox County	Complete	The county has community showers.
Establish an active LEPC and Hazmat Response Team	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Hazmat, Fire, Drought	Knox County	Complete	Knox County has an active LEPC and Hazmat Response Team.
Compile a local hazardous materials database	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Hazmat	Knox County	Complete	This strategy is complete.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Establish a snowmobile search and rescue team	Goal: Decrease response time from a snow storm Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Winter Storm	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Complete	This strategy is complete.
Follow Tier II reports requirements for EPA, ILEPA, and IEMA	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Hazmat	Knox County	Ongoing	This is an ongoing activity.
Create an EAP for Lake Story Dam	Goal: Create new or revise existing plans/maps for the community Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Flood	Galesburg	Ongoing	Lake Story Dam has a current EAP. The dam owners will continue to review the plan annually and update as necessary.
Distribute weather radios to critical facilities	Goal: Improve hazard communication with the public Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Thunderstorm	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Ongoing	Most critical facilities are equipped with weather radios. The county would like to develop a program to update existing radios and distribute additional weather radios to the public and will solicit funding from IEMA and FEMA.
Establish new shelters/warming centers/cooling centers and harden critical facilities to serve as emergency shelters	Goal: Lessen the impacts of severe weather to at-risk communities Objective: Improve emergency sheltering in the community.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Hazmat, Fire	Abingdon, Altona, East Galesburg, Farmington, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Ongoing	Currently, only Galesburg has a shelter. The County EMA will work with Red Cross to determine which facilities could be designated as shelters. Funding will be sought from the PDM program and may be additionally used to conduct a shelter study for rural areas of the county. If funding is available, implementation will begin within one year.
Purchase transfer switches countywide to provide back-up power to critical facilities; procure backup generators for water treatment plants in Maquon and Williamsfield	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Improve emergency sheltering in the community.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	High	The County and other jurisdictions will oversee the implementation of this project. Local resources will be used to determine which facilities should receive generators. Funding has not been secured as of 2010, but the pre-disaster mitigation program and community development grants are possible funding sources. If funding is available, this project is forecasted to begin within one year.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Significantly harden or replace the EOC and establish an incident command center	Goal: Improve first responder communication and emergency disaster coordination/management Objective: Retrofit critical facilities with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Fire	Knox County	High	The County EMA will oversee the implementation of this project. Funding has not been secured as of 2010, but the pre-disaster mitigation program and community development grants are possible funding sources. Implementation of this project will begin within one year.
Institute a mass notification system, e.g. Reverse 911 or Blackboard Connect, to cover all communities within the county	Goal: Improve disaster communication with the public Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Drought, Hazmat, Fire	Knox County	High	The County EMA oversees the implementation of the project. Local resources will be used to maintain the system. Funding for implementation will be sought from state and federal agencies. Implementation, if funding is available, is forecasted to begin within one year.
Purchase and install new warning sirens within the county	Goal: Improve disaster warning system with the public Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Thunderstorm	Knox County, Maquon, Williamsfield	High	The County Engineer oversees the implementation of the project. Local resources will be used to install and maintain the warning systems. Additional funding will be sought from other funding sources, e.g. PDM program, to expand the warning system coverage area. Implementation, if funding is available, is forecasted to begin within one year.
Conduct stream and ditch maintenance, particularly for Cedar Creek Fork	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Flood	Knox County	High	The County EMA will oversee this project. IEMA and DNR are potential funding sources. If funding is available, implementation will begin within one year.
Obtain funding to repair Lake Story Dam	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Retrofit critical facilities with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.	Flood, Earthquake	Galesburg	High	The City of Galesburg will seek state and federal funding, in addition to funding from local resources and community grants, to complete the dam repairs. If funding is available, implementation will begin within one year.
Train and organize weather spotters through SKYWARN	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Tornado, Thunderstorm, Flood, Winter Storm, Fire	Knox County	Medium	The County EMA and other local officials will oversee this project. Local resources will be used to publicize participation in SKYWARN and coordinate the weather spotters. If funding and resources are available, the project will begin within three years.
Enforce codes requiring mobile homes to have tie-downs	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing community plans and ordinances to support hazard mitigation.	Tornado, Thunderstorm	Knox County	Medium	The County EMA will coordinate this planning effort. Local resources will be used to review existing codes and research new options. Implementation will begin within three years.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Develop ordinances to bury new power lines in subdivisions	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Minimize the amount of infrastructure exposed to hazards.	Tornado, Earthquake, Thunderstorm, Winter Storm	Knox County	Medium	Although there is not a formal ordinance in place, new subdivisions typically bury power lines. The county will propose development of ordinances to require this practice for all future infrastructure. Local resources will be used to develop the ordinances. If resources are available, implementation will begin within three years.
Repair roads that frequently flood: elevate State Route 41; fix viaduct at Route 8 and Yates City	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Flood	Knox County, Yates City	Medium	The County Engineer will oversee the implementation of this project. Funding has not been secured as of 2010, but the pre-disaster mitigation program, local resources, and ILDOT are possible funding sources. If funding is available, this project is forecasted to begin within three years.
Complete an inflow and infiltration study and slip line existing sewer pipes	Goal: Create new or revise existing plans/maps for the community Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Flood	Knox County	Medium	The Engineer will work with ILDOT and DNR to evaluate the current conditions of the community's water systems and develop a plan. Funding has not been secured as of 2010, but county, state, and federal funding will be sought. Implementation will begin within three years.
Conduct a study to potentially re-engineer intersections with frequent vehicle accidents: Eastbound Interchange of US 34 and I-74	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Minimize the amount of infrastructure exposed to hazards.	Hazmat	Knox County	Medium	The Engineer will work with the County and State Highway Departments to implement this project. Funding for engineers will be sought from state agencies and community grants. Implementation will begin within three years.
Establish a database to identify special needs population	Goal: Create new or revise existing plans/maps for the community Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Drought, Hazmat, Fire	Knox County	Low	The county has begun a database but needs to complete it and publicize it. The County EMA will work with local healthcare providers to identify the special needs population. Local resources will be used to create a database. State or federal resources may be used for public education. If resources are available, implementation will begin within five years.
Conduct a study to determine which buildings are out of date regarding building codes; demolish dilapidated structures	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing community plans and ordinances to support hazard mitigation.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm	Knox County	Low	The County Planner will work with DNR and ILDOT to evaluate the current conditions of critical facilities and shelters. Funding has not been secured as of 2010, but county, state, and federal funding will be sought. If funding is available, the project is forecasted to begin within five years.
Adopt International Building Codes for all new public buildings	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing community plans and ordinances to support hazard mitigation.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Fire	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Low	The County Planner will coordinate this planning effort. Local resources will be used to review existing codes and research new options. Funding for engineering efforts will be sought from federal resources. Implementation will begin within five years.

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority	Comments
Re-route rail line outside of town	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Hazmat, Fire	Knox County	Low	County officials and first responders will oversee this project. Local resources, e.g. rail companies, will be approached to implement this project, and funding will be sought from local, state, and federal resources and community grants. If funding and resources are available, the project will begin within five years.
Upgrade transportation equipment for Hazmat Response Team	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Hazmat	Knox County	Low	The County EMA and other local officials will oversee this project. Local resources and community grants will be used to implement and fund this project. If funding and resources are available, the project will begin within five years.
Implement natural snow fences/tree barriers	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Minimize the amount of infrastructure exposed to hazards.	Winter Storm	Knox County	Low	The County EMA will oversee implementation of this project. Local resources and ILDOT will be used for funding. If funding is available, implementation will begin within five years.

The Knox County Emergency Management will be the local champions for the mitigation actions. The County Commissioners and the city and town councils will be an integral part of the implementation process. Federal and state assistance will be necessary for a number of the identified actions.

5.5 Multi-Jurisdictional Mitigation Strategy

As a part of the multi-hazard mitigation planning requirements, at least two identifiable mitigation action items have been addressed for each hazard listed in the risk assessment and for each jurisdiction covered under this plan.

Each of the five incorporated communities within and including Knox County was invited to participate in brainstorming sessions in which goals, objectives, and strategies were discussed and prioritized. Each participant in these sessions was armed with possible mitigation goals and strategies provided by FEMA, as well as information about mitigation projects discussed in neighboring communities and counties. All potential strategies and goals that arose through this process are included in this plan. The county planning team used FEMA's evaluation criteria to gauge the priority of all items. A final draft of the disaster mitigation plan was presented to all members to allow for final edits and approval of the priorities.

Section 6 - Plan Maintenance

6.1 Monitoring, Evaluating, and Updating the Plan

Throughout the five-year planning cycle, the Knox County Emergency Management Agency will reconvene the MHMP planning committee to monitor, evaluate, and update the plan on an annual basis. Additionally, a meeting will be held during February 2016 to address the five-year update of this plan. Members of the planning committee are readily available to engage in email correspondence between annual meetings. If the need for a special meeting, due to new developments or a declared disaster occurs in the county, the team will meet to update mitigation strategies. Depending on grant opportunities and fiscal resources, mitigation projects may be implemented independently by individual communities or through local partnerships.

The committee will review the county goals and objectives to determine their relevance to changing situations in the county. In addition, state and federal policies will be reviewed to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various implementation actions will report on the status of their projects, and will include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies should be revised.

Updates or modifications to the MHMP during the five-year planning process will require a public notice and a meeting prior to submitting revisions to the individual jurisdictions for approval. The plan will be updated via written changes, submissions as the committee deems appropriate and necessary, and as approved by the county commissioners.

The GIS data used to prepare the plan was obtained from existing county GIS data as well as data collected as part of the planning process. This updated HAZUS-MH GIS data has been returned to the county for use and maintenance in the county's system. As newer data becomes available, this updated data will be used for future risk assessments and vulnerability analyses.

6.2 Implementation through Existing Programs

The results of this plan will be incorporated into ongoing planning efforts since many of the mitigation projects identified as part of this planning process are ongoing. Knox County and its incorporated jurisdictions will update the zoning plans and ordinances listed in Table 5-2 as necessary and as part of regularly scheduled updates. Each community will be responsible for updating its own plans and ordinances.

6.3 Continued Public Involvement

Continued public involvement is critical to the successful implementation of the MHMP. Comments from the public on the MHMP will be received by the EMA director and forwarded to the MHMP planning committee for discussion. Education efforts for hazard mitigation will be ongoing through the EMA. The public will be notified of periodic planning meetings through notices in the local newspaper. Once adopted, a copy of this plan will be maintained in each jurisdiction and in the County EMA Office.

Appendix A: Multi-Hazard Mitigation Plan Meeting Minutes

IEMA Pre-Disaster Mitigation Plan

Assembly of the Knox County Planning Team Meeting 1:
Chairman: Tom Simkins, Knox County EMA
Plan Directors: SIUC Geology Department and IUPUI - Polis

Meeting Date: Thursday, February 4, 2010

Meeting Time: 10:00 a.m.

Place: American Red Cross Office (143 E. Main St. Galesburg)

Planning Team/Attendance:

Jonathan Remo	SIUC Geology
Megan Carlson	SIUC Geology
John Buechler	The Polis Center- IUPUI
Tom Simkins	Knox County EMA
Brad Stevenson	GFD
Terry Pool	City of Knoxville
Dennis Parker	Maquon
Ron Poyner	City of Knoxville PD
Bill Shenarnt	Knoxville Fire Department
Eli W Calkins	Wataga Village
James Cueno	City of Galesburg
Michael O'Gray	Village of Williamsfield

Introduction to the Pre-Disaster Mitigation Planning Process

The meeting is called to order

Narrative: A power-point presentation was given by Jonathan Remo. He explained that this project is in response to the Disaster Mitigation Act of 2000. The project is funded by a grant awarded by FEMA. A twenty-five percent match will be required from the county to fund this project. The county match will be met by sweat equity and GIS data acquired from the County Assessor's Office. The sweat equity will be an accumulation of time spent at the meetings, on research assignments, surveys, along with the time spent reviewing and producing the planning document.

Jonathan Remo introduced the Pre-Disaster Mitigation Website to the planning team. A username and password was given to the planning team, which will grant them access to the web

site. The web site is used to schedule meetings, post contact information and download material pertaining to the planning process.

Jonathan Remo divided the planning project into five to six meetings. At the 1st meeting, the planning team will review critical facility maps. The planning team will be asked to research and verify the location of all critical facilities within the county. Jonathan stated that public participation is very important throughout the planning process. He explained that all of the meetings are open to the public but there will be a particular effort made to invite the public to the 3rd meeting. At that meeting, the SIUC Geology Department will present historic accounts of natural disasters that have affected this area. At the 2nd meeting the discussion will focus on natural disasters that are relevant to this area. These hazards will be given a probability rating and ranked by their occurrence and potential level of risk. Polis and SIUC Geology will research these hazards and present them to the planning team. The 3rd meeting is publicized in order to encourage public participation. Polis and SIUC Geology will produce a risk assessment in draft form; each planning team member will get a copy. Also they will present strategies and projects that FEMA and other counties have undertaken for the planning team to review. The 4th meeting consists of a brain storming session focused on disasters that were analyzed in the risk assessment report. The Planning Team will list strategies and projects that could be implemented to mitigate the potential hazards that threaten the county. FEMA requires that for every identified hazard, a strategy to mitigate the loss and damage must be in place. The strategies may range from educational awareness to hardening a building or building a levee. After the 4th meeting the plan will be in its final draft form. At the 5th meeting the planning team will need to review the plan prior to sending it to IEMA. IEMA will review the plan and will make recommendation to it as they see fit, then it is submitted to FEMA for review and approval. Once the plan has been submitted to FEMA, local governments are eligible to apply for grants to mitigate these established hazards. After FEMA approves the plan, it is sent back to the Planning Team. At the 6th meeting the Planning Team will present the Pre-Disaster Mitigation Plan to the County Board for adoption. Incorporated communities must either adopt the county plan or prepare its own plan, in order to access mitigation assistance from FEMA. The communities are encouraged to participate and contribute to development of the plan. Once the County Board has adopted the plan, each incorporated community will have the opportunity to adopt the plan as well.

Jonathan Remo then introduced Megan Carlson of SIUC. Megan Carlson presented three maps that identified critical facilities in the county. She asked the planning team to come up to review the maps to identify any corrections that need to be made to the maps. She assigned research homework arranged by categories to individual planning team members to locate missing or incorrect critical facilities.

Meeting was adjourned.

County Knox Date 2/4/2010 Location Galesburg – Red Cross

Name	Affiliation	E-mail	Phone Number
Tom Simkins	Knox County EMA	firechf@ci.galesburg.il.us	309-345-3756
Brad Stevenson	GFD		
Terry Pool	City of Knoxville	TAPKMP@COMCAST.NET	309 368 4532
Dennis Parker	MMA Quad		309-224-8500
Ron Poyner	City of Knoxville PD	KPD1@KVILLE.ORG	309-289-2200
Bill Shenant	Knoxville Fire Department		309-289-2595
Eli W. Falkins	Wataga Village Pres	ecfalkins@frontiernet.net	309-315-6934
James Cueno	City of Galesburg	jcueno@ci.galesburg.il.us	305-345-3690
Michael Gray	Village of Williamsfield	MOG33@RVN@AOL.com	309 639 2150
John Buechler	the Polis Center	Jobuech17 IUPUI.edu	317-278-2433
Megan Carlson	SIUC	meginski@siu.edu	

IEMA Pre-Disaster Mitigation Plan

Assembly of the Knox County Planning Team Meeting 2:
Chairman: Tom Simkins, Knox County EMA
Plan Directors: SIUC Geology Department and IUPUI - Polis

Meeting Date: Wednesday, March 24, 2010

Meeting Time: 10 a.m.

Place: American Red Cross Office (143 E. Main St. Galesburg)

Planning Team/Attendance:

Jonathan Remo	SIUC Geology
Megan Carlson	SIUC Geology
Tom Simkins	EMA
Rodney Larkins	Knoxville Fire District
Fred Andrews	Abingdon Police Department
Kirt Links	Abingdon & Oneida Public Works
Eli Calkins	Village of Wataga
Ed Gullstrand	Village of Rio
Terry Pool	City of Knoxville
Richard Grubb	Village of Yates City
Ed Larson	Village of Rio
Michael Gray	Village of Williamsfield
Vicki Miller	Galesburg/Knox County 911
Bernadine Fleisher	City of Knoxville
Ron Poyner	City of Knoxville
David Clague	Knox County
Doug Ray	Carl Sandburg College
Bill Lotz	Knox County GIS
Bonnie Harris	Regional Office of Education
Richard Young	Village of Maquon
Sally Reener	Village of Altona

The meeting was called to order.

Jonathan Remo began the meeting by re-introducing the objectives of the PDM Planning document. The planning document is mandated as a result of the "Disaster Mitigation Act of 2000". Jonathan stated that the objective of the meeting was to prioritize a list of disasters that are relevant to Knox County.

Jonathan Remo provided the planning team with a handout to direct the focus of the meeting discussion. As Jonathan began to conduct the prioritizing process, he described the risk assessment ranking that FEMA has established.

Narrative: The Planning Team was then asked to assess and rank the hazards that could potentially befall Knox County using the risk priority index (RPI). The identified hazards were ranked as followed for Knox County:

#1: Transportation Hazardous Material Release
#2: Tornado
#3: Fire\Explosion
#4: Winter Storms
#5: Thunderstorms/High Winds/Hail/Lightening
#6: Flooding
#7: Earthquake

Narrative: The planning team was then asked to analyze the historical weather events that have been plotted on a map of the county and communities therein. No corrections were noted by the planning team.

The planning team agreed to complete any missing information pertaining to critical facilities by the next meeting.

Meeting was adjourned.

MEETING #2

2010 IUPUI Hazard Mitigation Development for Knox County

PLEASE PRINT CLEARLY!!

Date: 03/24/2010 Meeting Location: Red Cross Office, Galesburg

Name	Affiliation	E-Mail	Phone Number
Rodney Larkins	Knoxville Fire Dist	larkfirefighter@comcast.net	309 371-9641
Tom Simkins	Galesburg Fire/Knox Co. EMA	firechf@ci.galesburg.il.us	309-345-3756
FRED ANDREWS	ABINGDON POLICE DEPT	APD CHIEF ANDREWS@YAHOO.COM	309-368-8180
Kirt Links	Abingdon & Oneida - Public Works	(e-mail on file)	309-368-5654 Abingdon - 309-368-0009 Oneida
ELLIN EMKINS	VILLAGE OF WATAGA	DNEALINE@centurytel.net	309-375-6434
Ed Gullstrand	Village of Rio	ES gullstrand@winet.net	309 9722701
TERRY POOL	CITY OF KNOXVILLE	TAPKMP@COMCAST.NET	309 368 4532
Richard Grubb	VILLAGE OF YATES CITY	left msg	309 358-1412
ED LARSON	VILLAGE OF RIO	112 Rowe St	309-922-2441
MICHAEL GRAY	VILLAGE OF WILLIAMSFIELD	MOG33@RUN@AOL.COM	309 639 2150
Vicki Miller	Galesburg Knox Co 911	vicki@ci.galesburg.il.us	309 343 9151
Bernadine Fleisher	City of Knoxville	bernadine33@comcast.net	309-289-4196
Ron Poyner	City of Knoxville	KPD1@KVILLE.ORG	309-289-2200
DAVID CLAGUE	SHER KNOX CO	SHERIFF@CI.GALESBURG.COM	309-297-9222
DOUG RAY	CARL SANDBURG College	DRAY@SANDBURG.edu	309-341-5325
Bill Lotz	Knox County GIS	blotz@co.knox.il.us	309-545-3814
Bonnie L. Harris	K.C. ROE	bharris@roe33.net	309-345-3828
Richard Young	Village of Maquon		309-895-3553
Sally Keener	Village of Altona	skeener79@hotmail.com	309 368-~~6468~~ 6468

IEMA Pre-Disaster Mitigation Plan

Assembly of the Knox County Planning Team Meeting 3:
Chairman: Tom Simkins, Knox County EMA
Plan Directors: SIUC Geology Department and IUPUI - Polis

Meeting Date: Thursday, June 10th , 2010

Meeting Time: 7 p.m.

Place: Galesburg Public Library, 40 East Simmons Street, Galesburg, IL

Planning Team/Attendance:

Jonathan Remo	SIUC Geology
Beth Ellison	SIUC Geology
Tom Simkins	Galesburg/KC EMA
Bonnie Harris	ROE
Richard Grubb	Yates City
Brad Stevenson	Galesburg Fire Department
Michael Gray	Village of Williamsfield
James Cueno	City of Galesburg
Roger Strohma	public
Sally Keener	Village of Altona
Gary Tomlin	Knox County
Ron Poyner	Knoxville
Debra Cassens	East Galesburg
Eli Calkins	Wataga
Bernadine Fleisher	Knoxville
Rodney Larkin	District Chief, Knoxville Fire

The meeting was called to order.

Jonathan Remo opened the meeting with an overview of the planning process and the roles of SIU and the Polis Center. Then he went on to explain the topics and objectives of the current meeting. Jonathan first presented the planning team with the list of hazards that the team had ranked by their level of risk from the previous meeting. He also presented a power point presentation of the history of Knox County's past disasters. This included covering each hazard that the County had focused on, the history of each and then the mitigation strategies. He defined mitigation as the act of avoidance and preparedness.

A draft of the Knox County Mitigation Plan and a copy of Mitigation Ideas, produced by FEMA Region 5 in July 2002, were given to each of the planning team members for review. It was explained by Jonathan the contents of the booklet and that each of the planning team members should return to meeting 4 with three mitigation strategies for each of the hazards identified by the planning team.

Jonathan Remo then asked the audience for questions or comment. After some discussion about the plan and how it would affect the community and its residents, he thanked those who came and a closed the presentation.

Meeting was adjourned.

MEETING #3

2010 IUPUI Hazard Mitigation Development for Knox County

PLEASE PRINT CLEARLY!!

Date: ~~03/24/2010~~ 6/10/2010 Meeting Location: Red Cross Office, Galesburg

Name	Affiliation	E-Mail	Phone Number
Tom Simking	Galesburg Fire / KC EMA	firechf@ci.galesburg.il.us	309-345-3255
Bonnie Harris	ROE	bharrie roe33.net	309-345-3832
Richard Smith	Yates City		309-358-1412
Brad Stevenson	Galesburg Fire Dept.		
Michael GRAY	President Village of Williamsfield		
Jim Cam	City of Galesburg	jcameron@cigalesburg.il.us	309/345-3695
ROGER STRUHM	SELF		309-343-0022
Sally Keener	Village of Altona	skeener77@Hotmail.com	309-368-6468
GARY TOMLIN	Knox County		

MEETING #3

NAME	TOWN	Title (If Applicable)	E-mail
Ron Poyner	Knoxville	Chief of Police	KPD1@KVILLE.ORG
Debra Cassens	East Galesburg	Mayor	eastgalesburg.village@grics.net
[illegible]	Victoria	Village President	
Bernadine Fleischer	Knoxville	City Council	bernadine33@comcast.net
Rodney Rahmin	District Chief	Knoxville fire.	

IEMA Pre-Disaster Mitigation Plan

Assembly of the Knox County Planning Team Meeting 4:
Chairman: Tom Simkins, Knox County EMA
Plan Directors: SIUC Geology Department and IUPUI – Polis

Meeting Date: Monday, Thursday June 14, 2010

Meeting Time: 10 a.m.

Place: American Red Cross Center (143 E. Main St. Galesburg)

Planning Team/Attendance:

Jonathan Remo	SIUC Geology
Beth Elision	SIUC Geology
John Buechler	IUPU – Polis
Fred Andrews	Abingdon Police Department
Kirt Links	Abingdon and Oneida City
Rodney Larkins	Knoxville Fire
Ron Poyner	Knoxville Fire
Roger Strohman	
Ed Gullstrand	Village of Rio
Michael Gray	Village of Williamsfield
Vicki Miller	Galesburg Knox County 911
Lindsay May	Galesburg Police Department
James Cueno	City of Galesburg Public Works
Dennis Parker	Village of Maquon/Maquon Fire
Sally Keener	Village of Altona
Don Hickey	Village of Wataga
Bonnie Harris	Regional Office of Education
Brad Stevenson	Galesburg Fire Department
Terry Pool	Knoxville

The meeting was called to order.

Jonathan Remo thanked everyone for attending the meeting and stated that if the planning team members needed extra mitigation strategy handbooks that they were available upon request. He introduced John Buechler from the Polis Center that was also in attendance that day.

John Buechler began by explaining that today's meeting would cover mitigation strategies that the planning team believed would prevent or eliminate the loss of life and property. She explained that the planning team should not make any reservations in the form of money or resources when developing this list. Also whenever possible, the planning team was directed to be specific about the location or focus area of a strategy, in respect to being within a municipality or county wide. Each hazard was addressed one at a time. The planning team listed new and current on-going mitigation strategies in respect to each hazard. The planning team prioritized

mitigation actions based on a number of factors. A rating of High, Medium, or Low was assessed for each mitigation item. Listed below are the New Mitigation Strategies that the Planning Team came up with:

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority
Establish technical teams	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Hazmat, Fire, Drought	Knox County	Complete
Develop a stormwater ordinance	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing, or create new, community plans and ordinances to support hazard mitigation.	Flood	Knox County	Complete
Flood-proof water supply	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Flood	Galesburg	Complete
Construct a facility for community showers in case of a hazmat incident	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Hazmat	Knox County	Complete
Establish an active LEPC and Hazmat Response Team	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Hazmat, Fire, Drought	Knox County	Complete
Compile a local hazardous materials database	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Hazmat	Knox County	Complete
Establish a snowmobile search and rescue team	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Winter Storm	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Complete
Follow Tier II reports requirements for EPA, ILEPA, and IEMA	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Hazmat	Knox County	Ongoing
Create an EAP for Lake Story Dam	Goal: Create new or revise existing plans/maps for the community Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Flood	Galesburg	Ongoing

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority
Distribute weather radios to critical facilities	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Thunderstorm	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Ongoing
Establish new shelters/warming centers/cooling centers and harden critical facilities to serve as emergency shelters	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Improve emergency sheltering in the community.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Hazmat, Fire	Abingdon, Altona, East Galesburg, Farmington, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Ongoing
Purchase transfer switches countywide to provide back-up power to critical facilities; procure backup generators for water treatment plants in Maquon and Williamsfield	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Improve emergency sheltering in the community.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	High
Significantly harden or replace the EOC and establish an incident command center	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Retrofit critical facilities with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Fire	Knox County	High
Institute a mass notification system, e.g. Reverse 911 or Blackboard Connect, to cover all communities within the county	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Drought, Hazmat, Fire	Knox County	High
Purchase and install new warning sirens within the county	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Tornado, Thunderstorm	Knox County, Maquon, Williamsfield	High
Conduct stream and ditch maintenance, particularly for Cedar Creek Fork	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Flood	Knox County	High
Obtain funding to repair Lake Story Dam	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Retrofit critical facilities with structural design practices and equipment that will withstand natural disasters and offer weather-proofing.	Flood, Earthquake	Galesburg	High
Train and organize weather spotters through SKYWARN	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Tornado, Thunderstorm, Flood, Winter Storm, Fire	Knox County	Medium

Mitigation Item	Goals and Objects Satisfied	Hazards Addressed	Jurisdictions Covered	Priority
Enforce codes requiring mobile homes to have tie-downs	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing community plans and ordinances to support hazard mitigation.	Tornado, Thunderstorm	Knox County	Medium
Develop ordinances to bury new power lines in subdivisions	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Minimize the amount of infrastructure exposed to hazards.	Tornado, Earthquake, Thunderstorm, Winter Storm	Knox County	Medium
Repair roads that frequently flood: elevate State Route 41; fix viaduct at Route 8 and Yates City	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Evaluate and strengthen the communication and transportation abilities of emergency services throughout the county.	Flood	Knox County, Yates City	Medium
Complete an inflow and infiltration study and slip line existing sewer pipes	Goal: Create new or revise existing plans/maps for the community Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Flood	Knox County	Medium
Conduct a study to potentially re-engineer intersections with frequent vehicle accidents: Eastbound Interchange of US 34 and I-74	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Minimize the amount of infrastructure exposed to hazards.	Hazmat	Knox County	Medium
Establish a database to identify special needs population	Goal: Create new or revise existing plans/maps for the community Objective: Conduct new studies/research to profile hazards and follow up with mitigation strategies.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm, Drought, Hazmat, Fire	Knox County	Low
Conduct a study to determine which buildings are out of date regarding building codes; demolish dilapidated structures	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing community plans and ordinances to support hazard mitigation.	Tornado, Flood, Earthquake, Thunderstorm, Winter Storm	Knox County	Low
Adopt International Building Codes for all new public buildings	Goal: Create new or revise existing plans/maps for the community Objective: Review and update existing community plans and ordinances to support hazard mitigation.	Tornado, Flood, Earthquake, Thunderstorm, Drought, Winter Storm, Fire	Abingdon, Altona, East Galesburg, Farmington, Galesburg, Henderson, Knoxville, Maquon, Oneida, Rio, St. Augustine, Victoria, Wataga, Williamsfield, Yates City	Low
Re-route rail line outside of town	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Equip public facilities and communities to guard against damage caused by secondary effects of hazards.	Hazmat, Fire	Knox County	Low
Upgrade transportation equipment for Hazmat Response Team	Goal: Develop long-term strategies to educate the community residents on the hazards affecting their county Objective: Improve education and training of emergency personnel and public officials.	Hazmat	Knox County	Low
Implement natural snow fences/tree barriers	Goal: Lessen the impacts of hazards to new and existing infrastructure Objective: Minimize the amount of infrastructure exposed to hazards.	Winter Storm	Knox County	Low

2010 IUPUI Hazard Mitigation Development for Knox County

PLEASE PRINT CLEARLY!!

Date: ~~04/28/2010~~ 7-29-10 Meeting Location: Red Cross Office, Galesburg 4th Haz Mat Mit Meeting

Name	Affiliation	E-Mail	Phone Number
FRED ANDREWS	ABINGDON POLICE DEPT.	apdchiefandrews@yahoo.com	309-368-8180
Kirt Links	Abingdon-City		309-462-5079
Kirt Links	Oneida-City		309-462-5079
Rodney LARKINS	KNOXVILL FIRE	LARK Firefighter COMCAST.N	309 371-9641
Ron Poyner	Knoxville P.D.	KPD1@KVILLE.ORG	309-289-2200
ROGER STROHMAN		RSTROHMAN@GRICS.NET	309-343-0022
Ed Gullstrand	Village of Rio	ESGullstrand@winco.net	309 9722701
MICHAEL GRAY	VILLAGE OF WILLIAMSFIELD	MOG33@RUN@AOL.COM	309 6392150
Vicki Miller	Galesburg/Knox Co 911	vicki@ci.galesburg.il.us	309 343 9151
LINDSEY MAY	GALESBURG POLICE DEPT	lmay@ci.galesburg.il.us	309-345-3748
James Cueno	City of Galesburg Public Works	jcueno@ci.galesburg.il.us	309-345-3650
DENNIS PARKER	VILLAGE OF MAQUON MAQUON FIRE		309-224-8500
SALLY Keener	Village of Altona	skeener77@hotmail.com	309-484-4711
DON HICKEY	Village of WATAGA	dah7@msn.com	309-375-6660
Bonnie L Harris	Regional Office of Ed.	bharris@roe33.net	309-345-3828
Brad Stevenson	Galesburg Fire Dept.		345-3756
TERRY POOL	KNOXVILLE	TAPKMP@COMCAST.NET	289-2572

IEMA Pre-Disaster Mitigation Plan

Assembly of the Knox County Planning Team Meeting 5:
Chairman: Tom Simkins, Knox County EMA
Plan Directors: SIUC Geology Department and IUPUI – Polis

Meeting Date: Thursday, September 30, 2010

Meeting Time: 10 am

Place: American Red Cross Office

Planning Team/Attendance:

Tom Simkins	Knox County EMA
Brad Stevenson	City of Galesburg
Bernadette Fleischer	City of Knoxville
Eli Calkins	Village of Wataga
Richard Qualls	Knox County Regional Office of Education
Fred Andrews	City of Abingdon
Richard Grubb	Village of Yates City
Thomas Rice	Village of Williamsfield
Jim Cueno	City of Galesburg, GIS Analyst

The meeting was called to order by Tom Simkins.

Tom Simkins explained the status of the mitigation plan. The Knox County Plan is available on the PDM website. Tom distributed handouts with the website information to view the Knox County plan. At this time Kendall County's plan is mistakenly in the Knox County link, but that will be changed later on this day. Tom asked the planning team members to view the plan over the next 2 weeks and send any requests for change, addition, or correction to Tom at his e-mail. Tom will then send the necessary changes to Jonathan Remo who will update the plan on the website. The plan will then be returned to us and sent to IEMA and FEMA. When the plan is approved by FEMA, we will begin the process of adopting the plan by resolution in each of the incorporated communities, whereupon we will be eligible to submit requests for pre-disaster mitigation grants.

.

09/29/2010 21:32 3093431340

2010 IUPUI Hazard Mitigation Development for Knox County

PLEASE PRINT CLEARLY!!

Fifth/Final Haz Mat Mit Meeting

Date: 09/30/2010 Meeting Location: Red Cross Office, Galesburg

Name	Affiliation	E-Mail	Phone Number
Rich Quells	Knox County Regional Office of Education	rquells@roe33.net	345-3828
Fred Andrews	Abingdon Police Dept.	apdchiefandrews@yahoo.com	368-8780
Bernadine Fleisher	City of Knoxville	bernadine33@comcast.net	289-4196
Thomas R. Rice	Village of Williamsfield		639-4217
Jim Cuno	City of Galesburg	jcuno@cityofgalesburg.il.us	345-3670
Ed Calkins	Village of Victoria	calkins@centurytel.net	375-6434 Cell. 368-2083
Tom Sullivan	Knox County EMA	firechf@ci.galesburg.il.us	309-299-6959
Brad Stevenson	Galesburg Fire		
Richard Grubb	Yates City, Ill		309-358-1412

Page 2 of 3

PAGE 02/03

Appendix B: Local Newspaper Articles and Photographs

EMERGENCY MANAGEMENT PLANS

Meeting June 10 on Knox County hazard mitigation plan

GALESBURG — The Knox County Emergency Management Agency will have a public information meeting at 6:30 p.m. June 10 at the Galesburg Public Library, 40 E. Simmons St.

The agency has formed an alliance with The Polis Center of Indiana University-Purdue University Indianapolis and Southern Illinois University-Carbondale to identify potential natural hazards and to produce a mitigation plan to address the issues.

The ongoing efforts of the partnership will result in a Multi-Hazard Mitigation Plan, which will seek to identify potential natural hazards for Knox County, and then establish a mitigation measure that is intended to reduce or eliminate the negative impact that a particular hazard may have on the locality.

Over the last several months the steering committee has been working with The Polis Center and staff from the SIU-Carbondale Geology Department to develop a Multi-Hazard Mitigation Plan for the county to submit to the Federal Emergency Management Agency for approval.

FEMA now requires each unit of government in the U.S. to have a FEMA-approved MHMP, so completion of the Knox County plan is critical.

The MHMP's will serve as framework for developing hazard mitigation projects that will reduce the negative impacts of future disasters on the communities and unincorporated areas of the county.

Examples of projects that have been completed by some communities include storm shelters, warning sirens, flood walls and fire protection enhancements.

The steering committee has identified the following hazards: flooding, tornado, hazardous materials release and severe winter storms.

The committee then selected hazards for The Polis Center to model with HAZUS-MH, a GIS-based risk mitigation tool developed by FEMA. HAZUS-MH is capable of predicting the probable impacts of specific disasters in terms of financial, human life and safety impacts, as well as various others.

At the June 10 meeting the steering committee will discuss the results of the computer modeling and projections for each potential disaster.

Once the plan is completed the committee will submit it to FEMA for approval. The committee also will work to develop funding for any mitigation activities that are identified.

The public is invited to attend the June 10 meeting. The steering committee is interested in receiving public input on the plan.

Questions concerning the public meeting may directed to Tom Simkins, Interim Coordinator, Knox County Emergency Management Agency, 345-3756.

Appendix C: Adopting Resolutions

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, Knox County recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, Knox County participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Knox County Commissioners hereby adopt the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
County Commissioner Chairman

_____
County Commissioner

_____
County Commissioner

_____
Attested by: County Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the City of Abingdon recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the City of Abingdon participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the City of Abingdon hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
City Mayor

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
Attested by: City Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Altona recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Altona participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Altona hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
City Mayor

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
Attested by: City Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of East Galesburg recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of East Galesburg participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of East Galesburg hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
City Mayor

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
City Council Member

_____
Attested by: City Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the City of Galesburg recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the City of Galesburg participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the City of Galesburg hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Henderson recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Henderson participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Henderson hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the City of Knoxville recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the City of Knoxville participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the City of Knoxville hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Maquon recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Maquon participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Maquon hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the City of Oneida recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the City of Oneida participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the City of Oneida hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Rio recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Rio participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Rio hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Attested by: Village Clerk

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of St. Augustine recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of St. Augustine participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of St. Augustine hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Victoria recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Victoria participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Victoria hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Wataga recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Wataga participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Wataga hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Willamsfield recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Willamsfield participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Willamsfield hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____

Resolution #_____

ADOPTING THE KNOX COUNTY MULTI-HAZARD MITIGATION PLAN

WHEREAS, the Village of Yates City recognizes the threat that natural hazards pose to people and property; and

WHEREAS, undertaking hazard mitigation actions before disasters occur will reduce the potential for harm to people and property and save taxpayer dollars; and

WHEREAS, an adopted multi-hazard mitigation plan is required as a condition of future grant funding for mitigation projects; and

WHERAS, the Village of Yates City participated jointly in the planning process with the other local units of government within the County to prepare a Multi-Hazard Mitigation Plan;

NOW, THEREFORE, BE IT RESOLVED, that the Village of Yates City hereby adopts the Knox County Multi-Hazard Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Knox County Emergency Management Agency will submit on behalf of the participating municipalities the adopted Multi-Hazard Mitigation Plan to the Illinois Department of Homeland Security and the Federal Emergency Management Agency for final review and approval.

ADOPTED THIS _____ Day of _____, 2010.

_____
Village President

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____
Village Council Member

_____

Appendix D: NCDC Historical Hazards

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
Knox County	06/16/70	2203	Tornado	F	0	0	3K	0	None reported
Knox County	04/01/74	1550	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	03/20/76	1530	Tornado	F1	0	0	25K	0	None reported
Knox County	06/20/79	1700	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	08/20/79	1710	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	04/08/80	954	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	08/31/80	1335	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	05/20/82	1724	Tstm Wind	56 kts.	0	0	0	0	None reported
Knox County	06/15/82	1600	Hail	1.00 in.	0	0	0	0	None reported
Knox County	06/15/82	1600	Hail	1.00 in.	0	0	0	0	None reported
Knox County	06/15/82	1600	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	06/15/82	1600	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	07/10/82	1700	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	07/10/82	1705	Tornado	F0	0	0	0K	0	None reported
Knox County	07/10/82	1715	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	05/01/83	1423	Hail	1.00 in.	0	0	0	0	None reported
Knox County	05/01/83	1445	Hail	1.00 in.	0	0	0	0	None reported
Knox County	05/01/83	1541	Hail	1.00 in.	0	0	0	0	None reported
Knox County	05/01/83	2205	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	05/01/83	2305	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	03/15/84	2015	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	04/27/84	2030	Hail	1.75 in.	0	0	0	0	None reported
Knox County	06/24/85	1540	Tornado	F0	0	0	3K	0	None reported
Knox County	06/13/87	1415	Tornado	F0	0	0	0K	0	None reported
Knox County	06/13/87	1435	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	07/06/87	1855	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	04/22/88	1939	Hail	1.75 in.	0	0	0	0	None reported
Knox County	04/26/89	2230	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	05/25/89	1451	Hail	1.75 in.	0	0	0	0	None reported
Knox County	05/12/90	2015	Tstm Wind	0 kts.	0	0	0	0	None reported
Knox County	06/02/90	1605	Tornado	F1	0	0	25K	0	None reported
Knox County	07/09/92	1403	Tstm Wind	0 kts.	0	0	0	0	None reported

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
Knox County	07/16/92	1520	Tstm Wind	61 kts.	0	0	0	0	None reported
Martinsville	05/14/94	1915	Tornado	F0	0	0	0	0	A tornado briefly touched down in a field six miles south of Martinsville. No damage was reported.
Marshall	06/21/95	1615	Tstm Winds	0 kts.	0	0	0	0	Numerous large tree limbs were blown down throughout the eastern half of Knox County.
Central Illinois	12/08/95	700	Winter Storm	N/A	1	0	0	0	A winter storm brought one to five inches of snow to Central Illinois during the day and evening of the 8th. A sharp cold front moved through during the evening of the 8th dropping temperatures as much as 25 degrees in three hours. Strong winds developed behind the front at 20 to 30 mph overnight and during the day on the 9th, causing considerable blowing and drifting of the snow, especially in open areas. The brisk winds and temperatures near zero created wind chills as low as 45 degrees below zero. One woman was killed in a traffic accident after sliding on an ice-covered road into on-coming traffic.
Central Illinois	12/18/95	1900	Winter Storm	N/A	1	0	0	0	A winter storm brought heavy rains the evening of the 18th, which changed to freezing rain overnight before changing to all snow by 0700 on the 19th. Snowfall ranged from one inch in Mason County to six inches in Edgar County. Numerous accidents were reported, though only one fatality occurred when a five-month-old boy was killed when his mother lost control of the vehicle and spun into the path of an on-coming tractor-semitrailer. Numerous power lines were knocked down throughout Central Illinois, due to the freezing rain and strong winds of 20 to 30 mph. The strong winds also caused considerable blowing and drifting of snow closing some roads in Central Illinois until the winds subsided in the evening on the 19th.
Statewide	01/02/96	2:00 AM	Winter Storm	N/A	0	4	0	0	The second major winter storm of the season moved through Central Illinois January 2nd and 3rd. The storm dumped up to 8 inches of snow across the area. Also, gusty northwest winds from 30 to 40 mph accompanied the storm, creating near whiteout conditions, making travel hazardous, and closing numerous roads. There were numerous minor accidents, though only two accidents resulted in 4 serious injuries.
Statewide	01/04/96	3:00 AM	Winter Storm	N/A	0	0	0	0	Following on the heels of the January 2nd/3rd storm, another winter storm moved through Central Illinois on January 4th. Snowfall ranged from 2 to 7 inches. Numerous minor accidents were reported across the area, though no major injuries were reported.
Statewide	01/18/96	10:00 AM	Winter Storm	N/A	0	2	0	0	A major winter storm moved through Central Illinois January 18th and 19th. Severe thunderstorms moved through the area during the late morning and early afternoon hours. Afterward, temperatures began to drop quickly. Most locations recorded a 60 degree drop over a 12 hour period. The rain changed to ice than snow causing numerous power outages and minor accidents. Two people were injured when the driver of the RV lost control of the vehicle when a strong gust of wind moved through the Farmer City area in DeWitt county. Gusty winds of 25 to 35 mph created winds chills near 40 below zero across most of Central Illinois.
Statewide	02/02/96	12:00 AM	Extreme Cold	N/A	2	0	0	0	Bitterly cold weather took hold of Central Illinois on the 2nd, 3rd, and 4th of this month. New record low temperatures were made with a low of minus 19 in both Peoria and Springfield on February 3rd. Also, new record low high temperatures were made when the temperatures at Peoria and Springfield never went above zero on the 2nd and 3rd. Many people experienced problems with cars and frozen pipes. However, two deaths were reported due to the extreme cold. A 78 year old man in Springfield froze to death within a few feet of his own front door. He reportedly could not find his house keys and fell. His wife could not help him and they were not found for several hours. She was treated for exposure and released. In Peoria, a 79-year-old woman froze to death on her front porch. Apparently she mistakenly thought she was locked out of her home.
Statewide	03/19/96	12:00 AM	Winter	N/A	1	0	0	0	A winter storm moved into southeastern Illinois early on March 19th. The storm dumped up to 11

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
			Storm						inches of snow across the area. There was considerable blow and drifting of snow which temporarily closed some roads in the area. One man was killed, near Casey in Knox County, when he lost control of his semi-truck and slammed into a concrete overpass and burst into flames. Several schools, a nursing home, and several businesses in the area were evacuated because the truck was carrying some type of chlorine compound, which emitted dense smoke and a bleach-like smell through the area. The buildings were evacuated as a precaution. Otherwise, there were numerous minor accidents which did not result in any serious injuries.
Statewide	03/25/96	4:00 AM	High Wind	0 kts.	1	0	0	0	Strong gradient winds caused minor damage across Central Illinois and caused a bizarre accident which killed one person. Winds gusting to between 40 and 55 mph caused a bedliner and a concrete block to be blown from the bed of the pickup truck. The concrete block was thrown through the windshield of a car travelling in the opposite direction. The block hit the driver's chest killing him. The winds blew down numerous power lines, tore off the roof of a building in Rushville, and metal sheathing and insulation from the roof of a mobile home was blown off in Bloomington.
Statewide	04/28/96	9:15 AM	High Wind	53 kts.	0	0	0	0	Strong gradient winds between 40 and 50 mph, with gusts to 61 mph, caused damage over a large area of Central Illinois. Numerous trees, tree limbs, and power lines were blown down. Also, a part of the roof and guttering on the Charleston High School, in Coles County, was blown off. Several barns and machine sheds sustained minor damage and one grain bin was blown over onto a car. No injuries were reported. A window in a business in Pana, Christian County, was blown out and the roof of the building sustained some damage. One tree fell onto a car in Forsyth, Macon County, though fortunately no one was in it at the time. Numerous houses throughout Central Illinois sustained some minor roof and siding damage as well. No damage estimate was available.
Walnut Prairie	05/08/96	1:10 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down numerous power poles and power lines in Walnut Prairie.
Martinsville	06/17/96	6:22 PM	Tstm Wind	0 kts.	0	0	0	0	A one foot in diameter tree was blown over 1 mile east of Martinsville.
Dennison	07/02/96	1:35 PM	Hail	1.75 in.	0	0	0	0	Hail up to golf ball size fell in Dennison causing some corn and soybean damage. Also, the hail damaged the siding and windows on one home and the roof of a tool shed. No injuries were reported and no damage estimate was available.
Knox County	07/29/96	1:00 AM	Hail	1.75 in.	0	0	0	0	None reported
Casey	10/17/96	6:15 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down a large tree in Casey, as well as, numerous tree limbs. No injuries or damage were reported.
Statewide	01/08/97	9:00 PM	Heavy Snow	N/A	0	6	0	0	A winter storm developed over the southern Plains and tracked to the northeast across southern Illinois. The storm dumped between 3 and 11 inches of snow over central Illinois. The heaviest snow fell in a corridor just north of I-70. Charleston in Coles County reported the most snow with 11 inches. Numerous accidents were reported throughout central Illinois. However, only 6 minor injuries were reported.
Statewide	01/15/97	3:00 AM	Winter Storm	N/A	1	7	0	0	A winter storm developed over the central Rockies and moved east into the Midwest. The storm brought between 4 and 6 inches of snow to a large part of central Illinois north of I-70. South of I-70 a mixture of freezing rain, sleet, and snow occurred with snow totals of 1 to 3 inches. After the snow stopped, the winds picked up to between 20 and 30 mph with higher gusts, causing near whiteout conditions. Also, temperatures fell below zero across the entire area, so with the strong winds and cold temperatures, wind chill readings dipped well below minus 40 degrees in many locations. Numerous accidents were reported though only 6 minor injuries and one person with serious injuries was reported. A 78 year old man died of exposure after apparently trying to walk a short distance to his brother's house and his body was not discovered for over 24 hours.

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
Statewide	01/26/97	5:00 AM	Winter Storm	N/A	0	9	0	0	A winter storm developed over the southern Plains and moved east, to the south of Illinois. One area of snow moved through central Illinois on the 26th with snow amounts ranging from 1 to 4 inches. Then the snow let up around 4 pm on the 26th. A mixed bag of precipitation began to fall over the southern areas of central Illinois around 4 am on the 27th and spread north into the rest of central Illinois. By the time the precipitation ended in the evening of the 27th, another 1 to 5 inches of snow had fallen. Numerous accidents were reported, especially in the morning hours on the 27th. Nine minor injuries were reported.
Statewide	04/06/97	9:15 AM	High Wind	56 kts.	0	0	0	0	The combination of a strong area of low pressure over Lake Superior and a strong area of high pressure over Texas created very high gradient winds over Central Illinois. Sustained winds averaged between 25 and 40 mph with higher gusts to 65 mph in some areas. These gradient winds blew down numerous trees, tree limbs, and power lines throughout Central Illinois. In Lincoln (Logan County), one tree fell onto a house damaging a porch and deck. No injuries were reported in this incident. Meanwhile, in Galesburg (Knox County) another tree fell onto a house causing extensive roof damage and broke a window in the home, though no injuries were reported. Two miles northeast of Castleton (Stark County), the winds destroyed a two story barn and in Woodford County near El Paso a semi was blown over on US 24, but no injuries were reported. No damage estimates were available for this event.
Statewide	04/30/97	2:00 PM	High Wind	61 kts.	0	1	38K	0	Strong gradient winds in excess of 50 mph with gusts to around 70 mph followed behind a line of severe thunderstorms as they marched across Central Illinois. The gradient winds lagged behind the thunderstorms by about 20 to 30 minutes and continued during the night finally letting up the next day, May 1st. Thousands of people across Central Illinois lost power for a time as hundreds of power lines were blown down. Several semis were blown over, with one trucker sustaining minor injuries when his semi was overturned near Jacksonville. Also, numerous trees and tree limbs were blown down and widespread structural damage was reported. The gradient winds blew down a 150 foot communications tower in Princeville (Peoria County). No injuries were reported. Homes in Manito (Mason County), Leroy (McLean County), Georgetown (Vermilion County), Effingham (Effingham County), and Olney (Richland County) sustained some damage due to trees falling on them. The gradient winds blew part of the roof off of a grade school gymnasium one mile west of De Land (Piatt County). Damage was estimated around $32,000 and no injuries were reported. Also, the winds blew the roof off of an apartment building in Towanda (McLean County), though no injuries were reported. Numerous sheds, grain bins, and machine sheds were either blown over, damaged, or destroyed by the gradient winds. No deaths or serious injuries were reported.
Westfield	04/30/97	3:45 PM	Tstm Wind	0 kts.	0	0	8K	0	Thunderstorm winds blew down numerous trees and power lines in Westfield. Two trees fell onto homes causing minor damage. Also, the winds damaged the roof of a mobile home. No injuries were reported but damage was estimated around $7,800. As a strong area of low pressure moved into the Midwest, severe thunderstorms developed along and ahead of a cold front which moved through Central Illinois during the afternoon and early evening hours. There were numerous reports of trees, tree limbs, and power lines knocked down. Also, 6 tornadoes were reported across the area. Only a few minor injuries were reported and no deaths occurred with these tornadoes.
Westfield	06/21/97	5:05 PM	Hail	1.75 in.	0	0	0	0	None reported
Marshall	06/21/97	5:20 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down a large tree onto a home in Marshall. No injuries were reported and no damage estimate was available.
Statewide	07/26/97	9:00 AM	Excessive Heat	N/A	2	0	0	0	A brief heat wave hit Central Illinois persisting for a little less than 48 hours from July 26the to July 27th. Temperatures ranged from 95 to 100 degrees both days with heat index values ranging from 105 to 115 degrees. One man died while working in farm fields near Danville (Vermilion County)

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
									and an elderly woman died in her home in Bloomington (McLean County). There were numerous reports of heat related injuries in most area hospitals. Also, there were numerous reports of roads buckling due to the high temperatures.
Statewide	11/13/97	3:30 PM	Winter Storm	N/A	0	1	0	0	A mixture of snow, sleet and freezing rain moved into portions of southeast Illinois late in the afternoon on November 13. Some glazing was reported in Lawrence County at the onset of the event. The activity changed over to all snow soon after the event began. A band of 3 to 5 inch snowfall occurred across this entire area. The event tapered off by early morning on November 14.
Countywide	06/12/98	5:26 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down numerous trees, tree limbs, and power lines throughout the county.
Martinsville	06/18/98	9:25 PM	Tstm Wind	0 kts.	0	0	0	0	A large tree was blown down across North Creek Road about one mile south of Martinsville.
Statewide	06/26/98	3:00 AM	Excessive Heat	N/A	1	0	0	0	A hot and humid airmass built in across Central Illinois late in June. High temperatures on June 26th and 27th climbed into the middle and upper 90s. This combined with the high humidity values produced heat indicies of 105 to 110 degrees at times. Several heat related illnesses were reported in area hospitals due to the heat. One death was reported in Peoria and was confirmed to be heat related as a woman died in her home on June 27th. Also, several highways in the area had sections of roadway buckle due to the excessive heat.
Melrose	06/28/98	9:30 PM	Tstm Wind	0 kts.	0	0	0	0	Numerous large trees were blown down, which caused damage to several homes and vehicles in Melrose. Also, several mobile homes were destroyed. No injuries were reported and no damage estimate was available.
Countywide	06/29/98	5:23 PM	Tstm Wind	0 kts.	0	0	0	0	A large bow echo system developed over eastern Iowa and moved rapidly to the southeast into Illinois. It moved into Central Illinois's County Warning Area (CWA) around 4 pm in Knox County and exited the CWA (Lawrence County) around 830 pm. Damage was reported in all 35 counties with this system. Wind speeds were measured or estimated to be between 60 to 80 mph, blowing down or uprooting thousands of trees, tree limbs, power poles, and power lines. Hundreds of trees fell onto structures causing damage ranging from just torn guttering to major roof and structural damage. Also, hundreds of vehicles sustained damage from fallen trees and numerous outbuildings, sheds, and silos were either damaged or destroyed. Considerable crop damage was sustained in most areas. Speeds were measured or estimated in these areas at 100 to 110 mph. These areas of damage were apparently "microbursts" produced by a series of mesocyclones that formed on the forward edges of the bow echo. These microbursts, or swaths of more intense wind damage were generally about 1/2 a mile in width. In these areas significant structural damage occurred, such as peeling off roofs, blowing over freight railroad cars, bending steel power poles, and other structural damage. A third phenomena that occurred with this event were spin-up tornadoes along the leading edge of the bow echo structure. These tornadoes caused significant damage in narrow swaths along the bow echo's path and were often masked by the microburst damage occurring adjacent to them. Based on valid spotter observations and mesocyclone signatures on doppler radar, the existence of these tornadoes was validated. Approximately twelve people sustained injuries and damage was estimated around $16 million.
Knoxsville	07/22/98	3:17 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down several trees and power lines 2.5 miles northeast of Knoxsville. Also, an old school house was moved three feet off its foundation. No injuries were reported.
Casey	07/22/98	4:48 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down several trees and power lines in the Casey and Martinsville areas.
West Union	08/04/98	8:00 PM	Flash Flood	N/A	0	0	0	0	A series of thunderstorms moved across western portions of Knox County dumping up to 6 inches of rain in the West Union area in less than three hours. Numerous roads were flooded. However, no structural damage or injuries were reported.

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
Statewide	11/10/98	4:30 AM	High Wind	57 kts.	0	1	60K	0	A strong storm system moved across the Midwest which ushered in a line of severe thunderstorms. About an hour after the storms passed strong gradient winds developed and continued until the late afternoon hours. Winds gusted to over 50 mph at times with sustained winds well over 35 mph. Thousands of power lines and tree limbs were blown down throughout Central Illinois and hundreds of trees were blown over. High winds ripped sheet metal from a storage tank containing ammonia near Creve Coeur (Tazewell County). Some pieces of sheet metal sheared open two relief valves, releasing gas fumes into the air. Homes in the area were evacuated. No one was injured and the leak was soon fixed. The high winds prevented the gas fumes from stagnating over the area. The winds destroyed a shed just south of Galesburg (Knox County) causing $60,000 in damage. Also, a semi was blown over. The driver received minor injuries but refused treatment. In St. David (Fulton County) the winds ripped off the roof of a home. Also, a large tree limb fell causing minor damage to a back porch and a car.
Marshall	11/10/98	7:56 AM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew some roofing off of a building in Marshall and several power lines were blown down. Also, several trees were uprooted. No damage estimate was available.
Statewide	01/01/99	12:00 PM	Heavy Snow	N/A	1	1	0	0	A major winter storm paralyzed much of the region during the first few days of 1999. Snow began falling across portions of Central Illinois before noon on New Year's Day and continued to fall, moderate to heavy at times for most of the following 24-hour period. Locations near and south of Charleston/Mattoon saw periods of mixed precipitation, including freezing rain, while farther north snow was predominate. After the snowfall and precipitation diminished, winds increased from the northwest and temperatures dropped, causing dangerous wind chills and treacherous driving conditions with extensive blowing and drifting snow through the third day of the year. Total snow accumulations topped 6 inches mainly along and north of Interstate 70. Lesser amounts fell to the south, where more freezing precipitation was reported. The heaviest snow band in Central Illinois was found west and north of a line from Quincy to Virginia (Cass County) to Peoria to Bloomington to Champaign where reports of 14 or more inches of snow were common. The weight of the heavy snow and ice caused many roofs and porches to collapse, resulting in one death and an injury. An overhang attached to a garage at a Dalton City (Moultrie County) residence collapsed, killing a 47-year old woman and injuring her husband. In Pekin (Tazewell County), a storage building roof collapsed. A garage roof collapsed onto a station wagon in Winchester (Scott County). In Sullivan (Moultrie County), another roof collapsed. In Chesterville (Moultrie County), the roof caved in on the Bourbon Township Shed. Structural damage was sustained at the Farm and Fleet just west of Bloomington on Route 9 (McLean County). Part of the roof collapsed on the TCI building in Decatur (Macon County). The roof caved in and fell onto a service truck and two cars at Walker's Tire and Muffler Shop in Farmer City (Dewitt County). A private airplane was totaled when the roof of one of the main hangers at Kermit Patchett Airport in Marshall (Knox County) collapsed. Several homes in town also reported collapsed porches.
Statewide	01/05/99	5:00 AM	Extreme Cold	N/A	0	0	0	0	A clear sky, light winds and thick snowcover set the stage for record cold morning temperatures across the region. A new state record low was set at Congerville, where the mercury plunged to 36 degrees below zero. Other bitterly cold record readings came from: Champaign and Lincoln both with 25 degrees below zero, Springfield with 21 below and Peoria with 19 degrees below zero.
Darwin	04/08/99	11:00 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds destroyed a machine shed and a barn 4 miles west of Darwin. Two cars in the machine shed were damaged. In Darwin, numerous trees were blown down. No injuries were reported.
Westfield	06/01/99	8:45 PM	Tornado	F0	0	0	350K	0	A tornado touched down 4 miles southeast of Westfield. It destroyed 3 machine sheds, a barn, and several trees. The nearby house did not sustain any damage. As it travelled to the northeast,

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
									another farm was hit. Two sheds, a brooder house, and half a barn were destroyed. The house sustained major damage with a large hole in the roof and almost every window was shattered. Debris was found up to two miles away. The house was shifted on its foundation which caused the concrete porch to split in half. A 2x4 flew through the house and was embedded into a wall. The tornado then lifted and dissipated 3 miles west of Knoxsville. No injuries were reported and damage was estimated around $350,000.
Martinsville	06/01/99	8:50 PM	Tstm Wind	0 kts.	0	0	0	0	As severe storms moved through Knox County, numerous trees were blown down. One of the trees fell onto a house in rural Martinsville causing moderate damage. In Marshall, eight homes sustained minor damage and several power lines were blown down. Also, 3 miles southeast of Marshall, a machine shed was destroyed and a residence sustained minor damage. No injuries were reported.
Countywide	06/04/99	6:05 PM	Tstm Wind	0 kts.	0	0	0	0	Several trees and power lines were blown down countywide.
Statewide	07/20/99	10:00 AM	Excessive Heat	N/A	4	0	0	0	The excessive heat wave began on the 20th of July and continued for most of the area through the 26th. Temperatures were in the lower to middle 90s with heat index values in the 105 to 110 degree range each day. Northern sections of the area did cool down some by the 25th as a front moved through the area...so the heat advisory was cancelled in those areas. During this time period four heat related deaths were reported in Central Illinois. In Atlanta (Logan County), two young boys (2 1/2 and 1 1/2 years old) wandered away on the afternoon of the 20th and were found about an hour later in their parents' car. Both were reported dead shortly thereafter. In West Peoria (Peoria County), an elderly woman was found in her apartment on the 24th. All of the windows were closed and the air conditioner was broken. In Springfield (Sangamon County), a 62 year old woman was found in her home on the 25th. Again all of the windows were closed and there were no fans or air conditioning. M3VE, M2VE, F82PH, F62PH
Statewide	07/28/99	10:00 AM	Excessive Heat	N/A	1	0	0	0	The heat returned to Central Illinois after a two day break. Temperatures rose into the lower to middle 90s again with heat index values in the 105 to 110 degree range. One heat related death occurred during this time. A 50 year old woman in Danville (Vermilion County) died on the 30th. She was found in her apartment. By the 30th a cold front began to move through the area, so the heat advisory was cancelled for northern sections of the area, but the excessive heat persisted in the rest of Central Illinois through the 31st. F50PH
Statewide	03/11/00	4:00 AM	Heavy Snow	N/A	1	9	0	0	Heavy snowfall of 6 to 10 inches, accompanied by blowing and drifting, occurred in parts of central and southeast Illinois from the morning into the early evening of March 11, 2000. Several weather related traffic accidents resulted in nine serious injuries and one fatality. A 16 year old male was killed in a one car accident near the town of Oakland in Coles County. Four people were injured in a traffic accident near Neoga in Cumberland county, three people were injured in an accident near Assumption in Christian county, and two people were injured in an accident near Windsor in Shelby county. A second, but smaller band of heavy snow, occurred from eastern Morgan county into northern Sangamon county, where 6 to 8 inches was reported. M16VE
Countywide	05/09/00	2:35 PM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down numerous power lines, especially across the southern half of Knox County.
Martinsville	05/09/00	2:45 PM	Hail	1.00 in.	0	0	0	0	None Reported
Marshall	06/20/00	11:30 PM	Tstm Wind	0 kts.	0	0	0	0	A couple of trees were blown down.
Countywide	07/11/00	1:30 AM	Flash Flood	N/A	0	0	0	0	An area of thunderstorms moved through the county during the early morning hours of the 11th. Recently saturated ground allowed for the rainfall, totaling over 2 inches in some areas, to cause

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
									flash flooding in Knox County. IL Routes 40 and 1 were reported underwater in spots, as well as other county roads, with Marshall and Martinsville being the hardest hit. A vehicle was reported stuck in high water in the area, but no specific location was provided. No injuries were reported and no damage estimates were available.
West Union	07/28/00	4:20 AM	Tstm Wind	0 kts.	0	0	0	0	Thunderstorm winds blew down several large trees in West Union.
Countywide	10/04/00	9:55 PM	Flash Flood	N/A	0	0	0	0	A stationary boundary just south of the area provided a focus for widespread thunderstorms producing heavy rainfall. Radar estimates and surface reports indicated anywhere from 2 to over 6 inches of rain falling during the evening and overnight hours across the area. Numerous roads were reported to have either ponding of water on them, or were completely covered in water for a period of time. The following reports were from Cumberland county, the hardest hit area in this event. North of Greenup, in Union township, a road around a bridge was washed out, causing over $90,000 in damage. One car had to be pulled out of high water along County Highway 6. The vehicle was three-quarters submerged, but there were no injuries. In Sumpter Township, the flood water scoured a hole along a culvert and under a roadway, which caved in when a truck passed over it. There were no injuries with this as well and no evacuations were needed.
Statewide	12/13/00	5:00 PM	Winter Storm	N/A	1	1	0	0	Between 6 and 8 inches of snow accumulated along and east of a Bloomington to Decatur to Taylorville line with a light ice coating on top of the heavy snow. The snow started between 8 and 10 am, with 6 inches accumulating by 5 pm, and ending by 10 pm. Freezing rain and sleet mixed in with the snow after 3 PM. This was the second winter storm to strike Central IL during the 2000-2001 winter season with the first one occurring just 2 days prior.
Casey	02/09/01	1:45 PM	Flash Flood	N/A	0	0	0	0	State Route 49, south of Casey, was reported to be flooded in spots
Marshall	05/17/01	7:00 AM	Hail	0.75 in.	0	0	0	0	None Reported
Martinsville	06/05/01	3:50 PM	Flash Flood	N/A	0	0	0	0	Water was reported over US Route 40, near Martinsville
Countywide	07/08/01	10:57 PM	Flash Flood	N/A	0	0	0	0	Radar estimated over 5 inches of rainfall across the county overnight, with the heaviest rain falling between Marshall and Casey. A cooperative observer in Marshall reported 4 inches of rain during the period, with the Casey observer reporting 3.2 inches. Numerous county roads were reported to be flooded as well as streets in both Casey and Marshall. A portion of Cork Road at 1950th (4 miles northeast of Marshall) was reported to have been washed out. The Little Creek in Martinsville was reported to be out of its banks and water covering many of the bridges going over the creek. No injuries were reported and no damage figures were available.
Casey	09/07/01	12:30 PM	Tstm Wind	50 kts.	0	0	0	0	Thunderstorm winds blew down several large trees in Casey. One car was trapped by the fallen trees. None of the car's occupants were injured.
Marshall	10/24/01	2:30 PM	Tstm Wind	50 kts.	0	0	0	0	Several trees and power lines were blown down.
Statewide	03/25/02	9:00 PM	Winter Storm	N/A	0	0	0	0	Freezing rain late in the evening of the 25th into the early morning hours of the 26th produced one-quarter to one-half inch of ice in the counties between I-72 and I-70. The freezing rain changed to sleet, then snow before daybreak. Snowfall amounts ranging from 4 to 7 inches, with significant blowing and drifting, occurred along a line from Pana through Monticello to Danville. The combination of ice and snow resulted in downed power lines and tree limbs, along with dozens of traffic accidents the morning of the 26th.
Countywide	05/07/02	5:00 AM	Flash Flood	N/A	0	0	0	0	Over 2.5 inches of rain fell in a short amount of time. It caused numerous roads to become flooded countywide, including Illinois Route 1 between Marshall and West Union. In Marshall, so much rain fell that a gas station canopy collapsed due to the weight of the water. No injuries were reported.

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
Statewide	05/07/02	9:00 AM	Flood	N/A	0	0	0	0	Even though the rains had ended, the flooding continued on numerous county roads into the afternoon hours.
Marshall	05/08/02	5:30 PM	Flash Flood	N/A	0	0	0	0	Over 2 inches of rain fell on already saturated ground in a short amount of time. Numerous roads in and around Marshall were flooded, including Illinois Route 1. Part of 11th Street at Vine in Marshall was washed away.
Marshall	05/08/02	5:30 PM	Hail	1.00 in.	0	0	0	0	None Reported
Marshall	05/09/02	2:40 AM	Tstm Wind	50 kts.	0	0	0	0	Several power lines were blown down in town.
Statewide	05/12/02	9:00 AM	Flood	N/A	0	1	0	0	Although the rain had ended, runoff from the storms continued to aggravate the flooding situation across Central Illinois. The runoff continued to cause flooding problems on numerous county roads and basements. In Knox County, Illinois Route 1 was flooded south of Martinsville, as well as Old Route 40 between Martinsville and Casey.
Countywide	05/12/02	10:15 AM	Flash Flood	N/A	0	0	0	0	Over 4 inches of rain fell causing flash flooding. Illinois Route 49 north of Casey was flooded.
West Union	05/27/02	6:20 PM	Flash Flood	N/A	0	0	0	0	Illinois Route 1 was flooded at several locations near West Union due to heavy rains.
Casey	06/04/02	7:30 PM	Tstm Wind	55 kts.	0	0	0	0	Several trees and tree limbs were blown down. One fallen limb in Martinsville pulled power lines down. Three miles north of Casey, part of the roof of a hog containment building was blown off.
Casey	06/04/02	7:35 PM	Hail	0.75 in.	0	0	0	0	None Reported
Marshall	07/09/02	5:03 PM	Tstm Wind	50 kts.	0	0	0	0	Two trees blown down. One west of Marshall and another northeast of Marshall.
Martinsville	07/22/02	8:30 PM	Tstm Wind	50 kts.	0	0	0	0	A tree was blown over onto an unoccupied car, damaging it.
Marshall	08/02/02	5:05 PM	Hail	0.75 in.	0	0	0	0	None Reported
Statewide	12/24/02	12:00 PM	Heavy Snow	N/A	0	0	0	0	Heavy snow accumulations between 6 and 8 inches fell across a large part of Central and Southeast IL between noon on 12/24/02 and 4 AM on 12/25/02. The Christmas Eve snow caused numerous vehicle related accidents, especially during the afternoon and early evening of 12/24/02 when 35 to 40 accidents occurred in Champaign county. There were no deaths in Central and Southeast IL, but there were two minor vehicle related injuries in Springfield where snowfall amounts averaged 5 inches. There was only minor blowing and drifting snow with this winter storm. With the exception of Lawrence County, this was the first heavy snow of the season across Central and Southeast IL.
Martinsville	05/06/03	10:00 PM	Tstm Wind	55 kts.	0	0	0	0	Several power poles were blown down.
Marshall	05/10/03	9:30 AM	Flash Flood	N/A	0	0	0	0	Very heavy rain fell on already saturated ground...especially south of Marshall. Illinois Route 1 was briefly flooded south of Marshall as well as some secondary roads in the area.
Marshall	05/10/03	10:07 AM	Tstm Wind	60 kts.	0	0	0	0	Numerous trees were blown down
Casey	05/14/03	9:30 PM	Hail	1.00 in.	0	0	0	0	None Reported
Martinsville	08/02/03	7:00 PM	Tstm Wind	60 kts.	0	0	0	0	Thunderstorm winds blew down several trees and power lines. A couple of the trees fell onto homes causing damage. Also, one home had several windows blown out. No injuries were reported.
West Union	08/31/03	4:22 PM	Tstm Wind	52 kts.	0	0	0	0	Several trees were blown down.
Statewide	01/25/04	12:00 PM	Ice Storm	N/A	0	0	0	0	A strong winter storm moved out of Southern Plains and into the Ohio River Valley. This system brought significant icing to the southeastern portions of Central Illinois on January 25th. Also,

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
									significant sleet accumulation was reported in numerous locations along and south of Interstate 70. There were numerous reports of power outages, downed tree limbs and traffic accidents in all of these counties. There were no reports of serious injuries or fatalities.
Knoxsville	05/30/04	5:13 PM	Tstm Wind	55 kts.	0	0	0	0	Numerous trees and tree branches were blown down at the Mill Creek Park campground. One unoccupied truck was destroyed when a tree fell on it. Several campers had windows broken on them. No injuries were reported.
Knoxsville	05/30/04	5:40 PM	Hail	1.75 in.	0	0	0	0	None Reported
Countywide	05/30/04	6:15 PM	Flash Flood	N/A	0	0	0	0	Several roads were flooded after very heavy rains fell, including IL Route 1 south of Marshall.
Marshall	07/03/04	1:00 PM	Tstm Wind	55 kts.	0	0	0	0	Ten trees were blown down in Marshall.
Casey	07/22/04	2:10 PM	Tstm Wind	55 kts.	0	0	0	0	Numerous tree limbs were blown down. Also, in Casey the roof was blown off of a restaurant.
Marshall	08/18/04	5:35 PM	Hail	0.75 in.	0	0	0	0	None Reported
Statewide	12/22/04	7:00 AM	Winter Storm	N/A	0	0	0	0	A major winter storm developed over the southern plains early on December 22nd and lifted into the eastern Great Lakes region by the morning of December 23rd. This storm brought heavy snow to much of southeast Illinois, with 8 to 12 inch snowfall totals common across Knox, Jasper, Crawford, Clay, Richland and Lawrence counties. The heaviest snowfall came in two bursts, the first during the early morning hours of the 22nd and the second during late evening hours on the 22nd and early morning hours of the 23rd. In addition to the heavy snowfall, winds gusting to 25 mph late on the 22nd and early on the 23rd caused considerable blowing and drifting snow. Snow drifts in excess of 3 feet were reported in spots. No fatalities or major injuries were reported, though there were numerous automobile accidents due to snow covered and slippery roads.
Statewide	01/15/05	2:00 PM	Flood	N/A	0	0	0	0	The Wabash River climbed to record or near record levels in many locations along the Illinois/Indiana border. On the afternoon of the 15th, a levee breach was observed just north of Darwin, in eastern Knox County. Water from the Wabash River surrounded the towns of York and Darwin, and the only way to get to these towns was by boat. A major levee failure on the Indiana side of the Wabash River caused the flooding on the Illinois side of the river to be less severe than it may have been. Damage estimates across the region totaled $335,000.
Marshall	05/13/05	6:30 PM	Tstm Wind	50 kts.	0	0	0	0	A few trees blown down.
Marshall	07/21/05	9:00 PM	Tstm Wind	50 kts.	0	0	0	0	Numerous large tree limbs blown down.
Statewide	07/22/05	12:00 PM	Excessive Heat	N/A	1	0	0	0	A period of excessive heat and humidity developed across all of central and southeast Illinois from July 22nd through the 25th. Daytime high temperatures ranged from the middle 90s to around 100 degrees daily, with overnight low temperatures only falling into the middle and upper 70s. The high humidity values pushed afternoon and early evening heat indices into the 105 to 115 degree range. The heat wave resulted in one direct fatality. An elderly woman was found dead in Springfield in her mobile home with malfunctioning air conditioning. F77MH
Marshall	07/26/05	8:30 PM	Tstm Wind	50 kts.	0	0	0	0	Several large tree limbs blown down.
Martinsville	11/15/05	3:50 PM	Tstm Wind	50 kts.	0	0	0	0	A swath of wind damage extended along the Interstate 70 corridor from Martinsville to Marshall to the Indiana state line. Numerous trees, tree limbs and power lines were blown down. Siding was torn off a house in Marshall.
Statewide	03/21/06	5:50 AM	Winter Storm	N/A	0	0	0	0	A major winter storm impacted central Illinois on the 21st. A swath of heavy snow fell across much of the region with 6 to 10 inch snowfall totals common. No major injuries or fatalities were reported

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
Casey	04/02/06	6:08 PM	Tstm Wind	73 kts.	0	0	0	0	Many out buildings were damage and a machine shed was destroyed. Widespread tree, power pole and power line damage was reported. No injuries were reported.
Martinsville	05/17/06	7:55 PM	Hail	1.00 in.	0	0	0	0	None Reported
Statewide	07/30/06	11:00 AM	Heat	N/A	1	0	0	0	An extended period of heat and humidity occurred across central and southeast Illinois from July 30th to August 2nd. Afternoon high temperatures ranged from 94 to 100 degrees most afternoons, with afternoon heat indices ranging from 105 to 110. Overnight lows only fell into the mid 70s.
Statewide	08/01/06	12:00 AM	Heat	N/A	0	0	0	0	An extended period of heat and humidity occurred across central and southeast Illinois from July 30th to August 2nd. Afternoon high temperatures ranged from 94 to 100 degrees most afternoons, with afternoon heat indices ranging from 105 to 110. Overnight lows only fell into the mid 70s.
Statewide	04/05/07	12:00 AM	Frost/freeze	N/A	0	0	0K	0K	An extended period of cold weather occurred across central and southeast Illinois during the first two weeks of April. Several hard freezes occurred at night during this time. The cold snap occurred after a period of unseasonably mild weather in late March which resulted in plants and flowers leafing out and blooming earlier than normal. The hard freeze caused considerable damage to the plants that started their growth early due to the warm conditions in late March. The most significant agricultural damage occurred to winter wheat, mainly in locations along and south of I-72. Damage estimates will be unknown until late summer.
Moriah	04/11/07	14:30 PM	Hail	0.75 in.	0	0	0K	0K	Thunderstorms developed ahead of a strong area of low pressure that moved through central Illinois on April 11th. These storms produced a few reports of severe hail.
Casey	05/25/07	13:53 PM	Tornado	F0	0	0	0K	0K	Thunderstorms fired along a nearly stationary frontal boundary during peak afternoon heating. One of these storms produced a tornado.
Martinsville	10/18/07	3:55 AM	Tstm Wind	52 kts.	0	0	5K	0K	A thunderstorm complex moved across portions of central Illinois, during the overnight hours, to the north of a warm front. These storms produced numerous reports of tree and power line damage.
Statewide	02/04/08	2:00 AM	Dense Fog	N/A	0	0	0K	0K	A period of rain and mild temperatures over melting snow cause an extended period of dense fog across much of central and southeast Illinois. Numerous school closures and vehicular accidents occurred as a result of the dense fog. One accident resulted in a fatality in Vermilion county.
Martinsville	02/05/08	19:00 PM	Tstm Wind	61 kts.	0	0	20K	0K	Thunderstorms developed in the vicinity of a warm front over east central and southeast Illinois during the afternoon hours of February 5th. Many of the thunderstorms on either side of the front produced heavy rains and flooding. The storms to the south of the warm front also produced damaging winds and hail, especially along and south of the I-70 corridor. The flooding produced numerous road closures across the region, while the winds produced primarily tree, power line and power pole damage. However, several structures received minor, mainly roofing damage and one mobile home was destroyed.
Casey	06/04/08	13:45 PM	Tstm Wind	61 kts.	0	0	20K	0K	Scattered thunderstorms developed during the afternoon hours of the 4th. A few of these storms produced damaging winds and large hail.
Westfield	06/06/08	16:01 PM	Tstm Wind	56 kts.	0	0	15K	0K	An area of strong to severe thunderstorms with very heavy rain moved across east central Illinois during the afternoon and evening hours of the 6th. Widespread flooding occurred in the wake of the storms.
Casey Muni Arpt	06/06/08	19:00 PM	Flash Flood	N/A	0	0	0K	0K	An area of strong to severe thunderstorms with very heavy rain moved across east central Illinois during the afternoon and evening hours of the 6th. Widespread flooding occurred in the wake of the storms.
Westfield	06/06/08	22:45 PM	Flood	N/A	0	0	500K	0K	Several episodes of heavy rain from June 2nd through the 4th, and again on the 6th, produced

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
									copious amounts of rain and extensive flooding in eastern Illinois which persisted for two weeks. Rainfall totals ranged from 5 to 11 inches between June 2nd and June 6th, with the majority of the rain falling on June 6th. Hundreds of homes and businesses were flooded, and six counties were declared disaster areas with total damages estimated around $3 Million.
Darwin	06/09/08	12:47 PM	Hail	1.75 in.	0	0	0K	0K	Two rounds of scattered thunderstorms moved through southeast Illinois on the 9th. The first round occurred during the early afternoon hours, while the second round occurred during the evening hours. Several of the thunderstorms produced severe hail, ranging up to golf ball size.
Casey	06/27/08	16:17 PM	Hail	0.88 in.	0	0	0K	0K	A line of strong to severe thunderstorms moved across east central and southeast Illinois during the afternoon and early evening hours of the 27th. The storms blew down numerous trees and power lines. Several structures, mainly outbuildings, also sustained wind damage.
West Union	06/27/08	17:15 PM	Tstm Wind	56 kts.	0	0	1K	0K	A line of strong to severe thunderstorms moved across east central and southeast Illinois during the afternoon and early evening hours of the 27th. The storms blew down numerous trees and power lines. Several structures, mainly outbuildings, also sustained wind damage.
Marshall	07/08/08	17:50 PM	Tstm Wind	52 kts.	0	0	2K	0K	A strong cold front pushed into central Illinois on 7/8/08, triggering strong to severe thunderstorms. The storms produced wind gusts as high as 70 mph and widespread wind damage, particularly across east-central Illinois along and east of I-57.
Statewide	01/26/09	20:00 PM	Heavy Snow	N/A	0	0	0K	0K	A powerful winter storm brought periods of snow to portions of central and southeast Illinois from late on January 26th through the morning of January 28th. The first wave of precipitation deposited between 2 and 4 inches of snow along and south of the I-70 corridor by the morning of January 27th. The second wave brought additional heavy accumulations of snow, mainly along and south of I-72 during the evening of January 27th into the morning of the 28th.
Oilfield	02/11/09	12:00 PM	Flood	N/A	0	0	0K	0K	An area of low pressure tracked through the region on February 11th, bringing widespread rain and thunderstorms. As a result of the rainfall, localized flooding of low-lying rural roads and poor drainage areas occurred. The Little Wabash River rose out of its banks, flooding a few nearby roads. In addition, a few strong thunderstorms developed and produced gusty winds and small hail.
Marshall	02/11/09	14:10 PM	Tstm Wind	52 kts.	0	0	0K	0K	An area of low pressure tracked through the region on February 11th, bringing widespread rain and thunderstorms. As a result of the rainfall, localized flooding of low-lying rural roads and poor drainage areas occurred. The Little Wabash River rose out of its banks, flooding a few nearby roads. In addition, a few strong thunderstorms developed and produced gusty winds and small hail.
Ernst	02/11/09	14:15 PM	Tstm Wind	52 kts.	0	0	0K	0K	An area of low pressure tracked through the region on February 11th, bringing widespread rain and thunderstorms. As a result of the rainfall, localized flooding of low-lying rural roads and poor drainage areas occurred. The Little Wabash River rose out of its banks, flooding a few nearby roads. In addition, a few strong thunderstorms developed and produced gusty winds and small hail.
Casey	05/13/09	16:00 PM	Tstm Wind	52 kts.	0	0	12K	0K	An impressive upper-level wave tracking across the Northern Plains helped push a strong cold front toward the Mississippi River by the evening of May 13th. An increasingly unstable and sheared airmass across central Illinois allowed severe thunderstorms to develop in advance of the front. Widespread wind damage occurred with the storms, with 4 tornadoes touching down around the area as well. The thunderstorms also produced torrential rainfall, with widespread 2 to 4 inch amounts reported. This produced flash flooding in much of central and southeast Illinois from the evening of the 13th until the morning of the 14th.
Westfield	05/14/09	1:30 AM	Flash Flood	N/A	0	0	0K	0K	An impressive upper-level wave tracking across the Northern Plains helped push a strong cold front toward the Mississippi River by the evening of May 13th. An increasingly unstable and sheared airmass across central Illinois allowed severe thunderstorms to develop in advance of the front.

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD	Description
									Widespread wind damage occurred with the storms, with 4 tornadoes touching down around the area as well. The thunderstorms also produced torrential rainfall, with widespread 2 to 4 inch amounts reported. This produced flash flooding in much of central and southeast Illinois from the evening of the 13th until the morning of the 14th.
Dennison	05/25/09	12:00 PM	Flash Flood	N/A	0	0	0K	0K	Low pressure moving along a stationary frontal boundary draped along the Ohio River brought locally heavy rainfall to southeast Illinois on May 25th. Rain amounts of 3.00 to 5.00 inches fell in many locations south of I-70, with flash flooding reported mainly east of a line from Marshall, IL to Olney, IL.
Martinsville	08/04/09	9:15 AM	Tstm Wind	52 kts.	0	0	0K	0K	A large bow echo developed in advance of a front across southern Iowa and northern Missouri during the early morning hours of August 4th. The storms then raced eastward across central and southeast Illinois, producing wind gusts of between 60 and 70 mph. Numerous trees and power lines were blown down in a wide swath from the Mississippi River eastward to the Indiana border.
Martinsville	08/04/09	9:16 AM	Tstm Wind	52 kts.	0	0	5K	0K	A large bow echo developed in advance of a front across southern Iowa and northern Missouri during the early morning hours of August 4th. The storms then raced eastward across central and southeast Illinois, producing wind gusts of between 60 and 70 mph. Numerous trees and power lines were blown down in a wide swath from the Mississippi River eastward to the Indiana border.
Marshall	08/04/09	9:20 AM	Tstm Wind	52 kts.	0	0	15K	0K	A large bow echo developed in advance of a front across southern Iowa and northern Missouri during the early morning hours of August 4th. The storms then raced eastward across central and southeast Illinois, producing wind gusts of between 60 and 70 mph. Numerous trees and power lines were blown down in a wide swath from the Mississippi River eastward to the Indiana border.
Oilfield	08/19/09	19:00 PM	Flash Flood	N/A	0	0	0K	0K	A vigorous upper-level disturbance in conjunction with a warm front lifting northward through central Illinois triggered strong to severe thunderstorms during the afternoon and evening of August 19th. Embedded supercells within a long line of storms produced enhanced wind damage and tornadoes. Total damages to crops and property from the 7 tornadoes were estimated to be more than $25M.

Knox County Picture Index

FLOOD

From the collection of Galesburg Public Library

File Name:
Event: Flood
Date: 1926
Description: : Image shows the Galesburg Horse & Mule Market on North Cherry Street in Galesburg, Illinois. The street is flooded from the Cedar Fork Creek overflowing it's banks. There are three automobiles visible also in the flood water. Railroad crossing gates are visible to the right and a white horse is struggling to pull a large wagon. The sign above the horse and mule market says: "Galesburg Horse & Mule Market, Commission Sales Stables, Auction Every Thursday". It was also known as the Marsh Sales Barn. There is a carved stone in the upper portion of the brick portion of the horse market building that has carved into it "Leroy Marsh, 1877-1912". The photographer was standing next to a tree and you can see the trunk and branches in the foreground.
Source:
http://www.umvphotoarchive.org/cdm4/item_viewer.php?CISOROOT=/gales&CISOPTR=9&CISOBOX=1&REC=9

File Name: Flood_1924
Event: Flood
Date: 1924
Description: Flood June 24 1924 on North Seminary
Source: Knox College Seymour Library

File Name: Flood_1924
Event: Flood
Date: 1924
Description: Santa Fe Depot during 1924 Flood
Source: Knox College Seymour Library

File Name: Flood_2009_Galesburg_1
Event: Flood
Date: May 15, 2009
Description: **Vehicles risking passing under the BNSF overpass on Illinois 41 south of Galesburg Friday morning create a large wake in the waters of flash flooding brought on by heavy rains in the area. The road remained open as of late Friday morning.**
Source: The Register-Mail

File Name: Flood_2009_Galesburg_2
Event: Flood
Date: May 15, 2009
Description: A motorist uses his cell phone after stalling his car after passing through the deep water beneath the railroad overpass on Illinois 41 just south of Galesburg Friday morning.
Source: The Register-Mail

File Name: Flood_2009_Galesburg_3
Event: Flood
Date: May 15, 2009
Description: The photos were taken Friday at Cedar Fork west of Galesburg.
Source: The Register-Mail

TORNADO

File Name: Tornado_1858
Event: Tornado
Date: 1858
Description: Beecher Chapel after the tornado of 1859
Source: Knox College Seymour Library

FIRE

File Name: Fire_1958
Event: Fire
Date: May 9, 1958
Description: May 9, 1958, *fire* destroyed the historic Galesburg *Public Library*
Source: Knox College Seymour Library

File Name: Fire_1965
Event: Fire
Date:
Description: High School Fire
Source: Knox College Seymour Library

SNOW STORM

File Name: Snow_Wataga
Event: Snow
Date: Feb 24-26, 1953
Description: Wataga snowstorm 1953
Source: Knox College Seymour Library

Appendix E: Historical Hazard Maps

-See Attached Map

Appendix F: Critical Facilities List

Communication Facilities Report

ID	Name	Address	City	Class	Owner	Function	ReplaCost
1	WPCI997	117 E MEEK ST	ABINGT	CDFLT	ABINGDON FIRE		0
2	WPCI997		ABINGT	CDFLT	ABINGDON FIRE		0
3	WPWF260	306 N. JEFFERSON	ABINGD	CDFLT	ABINGDON FIRE		0
4	WPWF260		ABINGD	CDFLT	ABINGDON FIRE		0
5	WPWF260	117 E MEEK ST.	ABINGD	CDFLT	ABINGDON FIRE		0
6	WPWF260	204 LATIMER ST	ABINGD	CDFLT	ABINGDON FIRE		0
7	KNCE324	200 N MAIN ST	ABINGD	CDFLT	ABINGDON,		0
8	KNCE324	300 N JEFFERSON ST	ABINGD	CDFLT	ABINGDON,		0
9	WPZH556	201 EAST MAE LAWRENCE AVE.	ALTONA	CDFLT	ALTONA FIRE		0
10	WQAI688		ALTONA	CDFLT	ALTONA,		0
11	WQJL967	1/4 MI S	YATES	CDFLT	Ameren Services		0
12	WNPW436	1/2 MI E OF INT OF I74 AND US 34	GALESB	CDFLT	Ameren Services		0
13	WPCR513	1/4 MI S OF US 8 ON SR 2300 E	YATES	CDFLT	Ameren Services		0
14	WPLY438	SR 2300 E 1/4 MI S US 8	YATES	CDFLT	Ameren Services		0
15	WQIU452	1458 US HWY 150 East Cameron/East	Gilson	CDFLT	Ameren Services		0
16	WQHF847	.5 MI E OF I74 & US34	GALESB	CDFLT	AMEREN		0
17	KSI244	1640 N HENDERSON ST	GALESB	CDFLT	AMERICAN		0
18	KNKG720	100 NORTH CHERRY STREET	GALESB	CDFLT	AMS Spectrum		0
19	KNKH915	SH 67, 0.4 MILES NORTHEAST OF	GALESB	CDFLT	AMS Spectrum		0
20	KNKH915	100 N Cherry St	GALESB	CDFLT	AMS Spectrum		0
21	WNUQ291	1021 S HENDERSON ST	GALESB	CDFLT	ARCHER		0

ID	Name	Address	City	Class	Owner	Function	ReplaCost
22	WNUQ291		GALESB	CDFLT	ARCHER		0
23	WNUQ291		GALESB	CDFLT	ARCHER		0
24	KCI696	3.1 MILE EAST	ALTONA	CDFLT	BJORLING		0
25	KNIJ859	1.75 MI SE OF MAIN ST & S	GALESB	CDFLT	BNSF Railway Co		0
26	KNIJ859	S. Henderson & Lemon Rd	GALESB	CDFLT	BNSF Railway Co		0
27	KNIJ859		GALESB	CDFLT	BNSF Railway Co		0
28	KNIW782	CNR HENDERSON ST & LEMON RD	GALESB	CDFLT	BNSF Railway Co		0
29	KNIW782	2215 S HENDERSON ST DRF	GALESB	CDFLT	BNSF Railway Co		0
30	KNIW782		GALESB	CDFLT	BNSF Railway Co		0
31	KNIW782		GALESB	CDFLT	BNSF Railway Co		0
32	KNIW782	1115 Access Rd	Galesbur	CDFLT	BNSF Railway Co		0
33	KNIW782		Galesbur	CDFLT	BNSF Railway Co		0
34	WNYE818	RAILROAD MILEPOST 168.05	SALUDA	CDFLT	BNSF Railway Co		0
35	WNYE818	RAILROAD MILEPOST 159.9 PEARL ST	GALESB	CDFLT	BNSF Railway Co		0
36	WNYE818	RAILROAD MILEPOST .8 FARHAM ST	GALESB	CDFLT	BNSF Railway Co		0
37	WNYE818	RAILROAD MILEPOST 5 1.2 MI S	HENDER	CDFLT	BNSF Railway Co		0
38	WPGP342	HUMP TWR IN YARD	GALESB	CDFLT	BNSF Railway Co		0
39	WPGP342	IN SIGNAL BLDG AT YARD	GALESB	CDFLT	BNSF Railway Co		0
40	WPGP342	TRIMMER BLDG AT YARD	GALESB	CDFLT	BNSF Railway Co		0
41	WPGP342		GALESB	CDFLT	BNSF Railway Co		0
42	WPGP342		GALESB	CDFLT	BNSF Railway Co		0
43	WPIR871			CDFLT	BNSF Railway Co		0
44	WPXR961	Tompkins & Garfield @ BNSF Row	Galesbur	CDFLT	BNSF Railway Co		0

ID	Name	Address	City	Class	Owner	Function	ReplaCost
45	WPZK635	S side E-W Twp Rd; 3 mi SE of	Galva	CDFLT	BNSF Railway Co		0
46	WQDJ337	BNSF yd nr Tompkins St & Garfield	Galesbur	CDFLT	BNSF Railway Co		0
47	WQDJ337		Galesbur	CDFLT	BNSF Railway Co		0
48	KRH43	BNSF ROW nr Tompkins St & Garfiled	GALESB	CDFLT	BNSF Railway		0
49	WPON430	S side of E-W Twp Rd, 3mi SE of	Galva	CDFLT	BNSF Railway		0
50	WPOQ403	BNSF Yd	GALESB	CDFLT	BNSF Railway		0
51	KB61852			CDFLT	BNSF Railway		0
52	KB61853			CDFLT	BNSF Railway		0
53	KB79228			CDFLT	BNSF Railway		0
54	KJB835	1 BLK S OF MAIN & MARIETTA STS	YATES	CDFLT	BNSF Railway		0
55	KJD869	S SIDE E/W TWP RD 3 MI SE	GALVA	CDFLT	BNSF Railway		0
56	KJD869		GALVA	CDFLT	BNSF Railway		0
57	KNIJ858	1670 S HENDERSON	GALESB	CDFLT	BNSF Railway		0
58	KNIJ858		GALESB	CDFLT	BNSF Railway		0
59	WNCX257	BNSF MP 168.1 2.2 MI WSW	APPLET	CDFLT	BNSF Railway		0
60	WNPY226	ALONG THE SANTA FE RIGHT OF	WILLIAM	CDFLT	BNSF Railway		0
61	WNWW505	BNSF MILEPOST 5 1.2 MI S	HENDER	CDFLT	BNSF Railway		0
62	WPGI729	S HENDERSON & LEMON RD	GALESB	CDFLT	BNSF Railway		0
63	WPGI729	S HENDERSON & CR 10	GALESB	CDFLT	BNSF Railway		0
64	WPGI729	TRIMMER BLDG AT BNSF YARD	GALESB	CDFLT	BNSF Railway		0
65	WPGI729		GALESB	CDFLT	BNSF Railway		0
66	WPKD403	RAILROAD MILEPOST 172.94	ABINGD	CDFLT	BNSF Railway		0
67	WPKD403	RAILROAD MILEPOST 175.36	ABINGD	CDFLT	BNSF Railway		0

ID	Name	Address	City	Class	Owner	Function	ReplaCost
68	WPTV348	Galesburg Yard Hump N Unit	Galesbur	CDFLT	BNSF Railway		0
69	WPTV348	Galesburg Yard Hump S Unit	Galesbur	CDFLT	BNSF Railway		0
70	WPVZ218		Galesbur	CDFLT	BNSF Railway		0
71	WQL982	3 KM SW	KNOXVIL	CDFLT	BNSF Railway		0
72	WQL982		KNOXVIL	CDFLT	BNSF Railway		0
73	WQL982		KNOXVIL	CDFLT	BNSF Railway		0
74	WQL982		KNOXVIL	CDFLT	BNSF Railway		0
75	WNKZ382	CO 26 2.5 MI E IL RT 41 .3 MI S	GALESB	CDFLT	BRACKEN		0
76	WNKZ382		GALESB	CDFLT	BRACKEN		0
77	KD28607			CDFLT	BRINK'S		0
78	WNUR477	408 W MAIN ST	YATES	CDFLT	BURGESS BROS		0
79	WNUR477		YATES	CDFLT	BURGESS BROS		0
80	WNAW627	1020 S HENDERSON	GALESB	CDFLT	BUTLER		0
81	WNAW627		GALESB	CDFLT	BUTLER		0
82	WPTA469	1020 S HENDERSON	GALESB	CDFLT	BUTLER MFG CO		0
83	WPTA469		GALESB	CDFLT	BUTLER MFG CO		0
84	KB88268	2400 TOM WILSON BLVD.	GALESB	CDFLT	CARL		0
85	KB88268		GALESB	CDFLT	CARL		0
86	WQKL417	2400 TOM L WILSON BLVD	GALESB	CDFLT	CARL		0
87	WQKL417	209 EAST MAIN	GALESB	CDFLT	CARL		0
88	KNCS777	403 S KENT	YATES	CDFLT	CARL SNYDER		0
89	WQAR240		Galesbur	CDFLT	CARSON PIRIE		0
900	KNKN768	VICTORIA CELL SITE: 1613 ILLINOIS	VICTORIA		CDFLT		Cellco Partnership

ID	Name	Address	City	Class	Owner	Function	ReplaCost
91	KNKN768	ONTARIO CELL SITE RR1 BOX 54A	ONTARI	CDFLT	Cellco Partnership		0
92	KNKN768	PIGEON HOLLOW CELL SITE: 1917	YATES	CDFLT	Cellco Partnership		0
93	WLV363	904 E. Rt 150. (.2 miles East of Knoxvil	KNOXVIL	CDFLT	Cellco Partnership		0
940	WMT229	1613 IL RT 167	VICTORIA		CDFLT		Cellco Partnership
95	WPJB316	RR 1- 702 Fearing Avenue	ABINGD	CDFLT	Cellco Partnership		0
96	WPJE634	2655 KNOX RD (800E)	ONEIDA	CDFLT	Cellco Partnership		0
97	WPVD243	1917 N. Knox Road (1100 N)	Williamsf	CDFLT	Cellco Partnership		0
98	WPYU894	251 Knox Highway 10	Galesbur	CDFLT	Cellco Partnership		0
99	WPYU897	1801 Log City Trail	Galesbur	CDFLT	Cellco Partnership		0
100	WPYU901	1821 Knox Road 500 E	Galesbur	CDFLT	Cellco Partnership		0
101	WQJH328	1491Knox Hwy 20	Maquon	CDFLT	Cellco Partnership		0
102	KU0293	1081 LINCOLN	GALESB	CDFLT	CITY CAB CO		0
103	KU0293		GALESB	CDFLT	CITY CAB CO		0
104	WQBU376	Galesburg Municipal Airport 58 Illinois	Galesbur	CDFLT	City of Galesburg		0
105	WQDD632		galesburg	CDFLT	City of Galesburg		0
106	KNEV518	950 LYMAN ST	GALESB	CDFLT	COMMUNITY		0
107	KNEV518		GALESB	CDFLT	COMMUNITY		0
108	WPRJ625	1135 W FREMONT ST	GALESB	CDFLT	COMMUNITY		0
109	WPRJ625		GALESB	CDFLT	COMMUNITY		0
110	WPRJ625	311 EAST MAIN STREET	GALESB	CDFLT	COMMUNITY		0
111	WPRJ625		GALESB	CDFLT	COMMUNITY		0
112	WPQX718		GALESB	CDFLT	CONSUMERS IL		0
113	WPLQ484			CDFLT	CONSUMERS IL		0

ID	Name	Address	City	Class	Owner	Function	ReplaCost
114	KNGF270	2 MI S ON 41 & 1/8 MI E	GALESB	CDFLT	CROP		0
115	KNGF270		GALESB	CDFLT	CROP		0
116	WNST993	611 ONTARIO	ONEIDA	CDFLT	CROP		0
117	WNST993		ONEIDA	CDFLT	CROP		0
118	WPBE230	3 MI W ON CR 1/2 MI N OF RT 8	YATES	CDFLT	CROP		0
119	WPBE230		YATES	CDFLT	CROP		0
120	KDS568	.4 MI S .8 MI E	HERMO	CDFLT	DAYBREAK		0
121	WPXF300		EAST	CDFLT	EAST		0
122	WPCE932	411 STATE ST	EAST	CDFLT	EAST		0
123	WPCE932		EAST	CDFLT	EAST		0
124	KBB989	110 W MAIN ST	YATES	CDFLT	ELBA SALEM		0
125	KBB989		YATES	CDFLT	ELBA SALEM		0
126	WNHR842	1.5 MI W	MAQUO	CDFLT	ENGLAND		0
127	WNHR842		MAQUO	CDFLT	ENGLAND		0
128	WNGH279	1.6 MI E	ALTONA	CDFLT	ERICKSON,		0
129	WNGH279		ALTONA	CDFLT	ERICKSON,		0
130	WPAP917	CR 23 1/3 MI E OF CASHMAN COR	ABINGD	CDFLT	G&M		0
131	WPAP917	200 N LINWOOD RD	GALESB	CDFLT	G&M		0
132	WPAP917		ABINGD	CDFLT	G&M		0
133	WPAP917		GALESB	CDFLT	G&M		0
134	WFD453	154 E. SIMMONS ST.	GALESB	CDFLT	GALESBURG		0
135	WPPX588			CDFLT	GALESBURG		
136	WPQN854	154 E. SIMMONS ST	GALESB	CDFLT	GALESBURG		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
137	WPQN855	154 E. SIMMONS ST	GALESB	CDFLT	GALESBURG		
138	KSQ586	1050 MONMOUTH BLVD	GALESB	CDFLT	GALESBURG		
139	KSQ586			CDFLT	GALESBURG		
140	WQHF857		Galesbur	CDFLT	Galesburg		
141	WBM969	.4 MI NE OF SWANSON RD ON IL RT	GALESB	CDFLT	GALESBURG		
142	WBM969	561 N HENDERSON ST	GALESB	CDFLT	GALESBURG		
143	WNQL608	.4 MI NE OF SWANSON RD ON IL RT	GALESB	CDFLT	GALESBURG		
144	WNQL608		GALESB	CDFLT	GALESBURG		
145	WPCH794	.4 MI NE OF SWANSON RD ON IL RT	GALESB	CDFLT	GALESBURG		
146	WPCH794		GALESB	CDFLT	GALESBURG		
147	WPKD991	1.25 MI NE OF RT 34 & I74 INT	GALESB	CDFLT	GALESBURG		
148	WPKD991		GALESB	CDFLT	GALESBURG		
149	WPMV394	561 N HENDERSON ST	GALESB	CDFLT	GALESBURG		
150	WPMV394		GALESB	CDFLT	GALESBURG		
151	WPXJ741	200 N LINWOOD ROAD	GALESB	CDFLT	GALESBURG		
152	WPXJ745	1/2 MI S & 2.5 MI E ON CTY RD 23	ABINGD	CDFLT	GALESBURG		
153	WPXJ745		ABINGD	CDFLT	GALESBURG		
154	WPXJ745	200 N LINWOOD ROAD	GALESB	CDFLT	GALESBURG		
155	WPYQ594	1.25 MI NE OF RT 34 & 174 INT	GALESB	CDFLT	GALESBURG		
156	WPYQ594		GALESB	CDFLT	GALESBURG		
157	KRJ659	695 N KELLOGG ST	GALESB	CDFLT	GALESBURG		
158	KRJ659		GALESB	CDFLT	GALESBURG		
159	KWY201	695 KELLOGG ST	GALESB	CDFLT	GALESBURG		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
160	WPPT913	695 N. KELLOGG ST.	GALESB	CDFLT	GALESBURG		
161	WPPT913		GALESB	CDFLT	GALESBURG		
162	WPNQ326	255 W Tompkins St	GALESB	CDFLT	Galesburg		
163	WPNQ326	2175 WINDISH DR	GALESB	CDFLT	Galesburg		
164	WPNQ326		GALESB	CDFLT	Galesburg		
165	WPNQ326		GALESB	CDFLT	Galesburg		
166	WQBR240	255 W. TOMPKINS ST.	GALESB	CDFLT	GALESBURG		
167	WQBR240	2175 WINDISH DR	GALESB	CDFLT	GALESBURG		
168	WQBR240	150 SOUTH BROAD ST	GALESB	CDFLT	GALESBURG		
169	WPAC589			CDFLT	GALESBURG		
170	WRD548	1050 MNOMOUTH BLVD	GALESB	CDFLT	GALESBURG		
171	WRD548		GALESB	CDFLT	GALESBURG		
172	KCJ548	2700 W. Main St.	GALESB	CDFLT	GALESBURG		
173	KCJ548		GALESB	CDFLT	GALESBURG		
174	WNAT581	1242 S WEST STREET	GALESB	CDFLT	GALESBURG		
175	WNAT581		GALESB	CDFLT	GALESBURG		
176	KCP286	255 W TOMKINS ST	GALESB	CDFLT	GALESBURG,		
177	KCP286		GALESB	CDFLT	GALESBURG,		
178	KNBB238	161 S CHERRY	GALESB	CDFLT	GALESBURG,		
179	KSH388	920 W MAIN ST	GALESB	CDFLT	GALESBURG,		
180	WPCK995	121 W SIMMONS ST	GALESB	CDFLT	GALESBURG,		
181	WPCK995	255 W TOMPKINS	GALESB	CDFLT	GALESBURG,		
182	WPCK995	150 S BROAD	GALESB	CDFLT	GALESBURG,		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
183	WPCK995	2233 VETERANS DR	GALESB	CDFLT	GALESBURG,		
184	WPCK995		GALESB	CDFLT	GALESBURG,		
185	WPPX738	920 MAIN ST	GALESB	CDFLT	GALESBURG,		
186	WPPX738	855 W FOURTH ST	GALESB	CDFLT	GALESBURG,		
187	WPPX738	557 S SEMINARY ST	GALESB	CDFLT	GALESBURG,		
188	WPPX738	2133 VETERANS DR	GALESB	CDFLT	GALESBURG,		
189	WPTY879	WATER TREATMENT PLANT, 920	GALESB	CDFLT	GALESBURG,		
190	WQBZ466	121 W Simmons St	Galesbur	CDFLT	Galesburg, City		
191	WQX209	567 S FARNHAM ST	GALESB	CDFLT	GALESBURG,		
192	WNSI769	2296 N HENDERSON ST	GALESB	CDFLT	GALLATIN RIVER		
193	WNSI769		GALESB	CDFLT	GALLATIN RIVER		
194	WPKK875	630 US HWY 150 E	GALESB	CDFLT	GATES		
195	WPKK875		GALESB	CDFLT	GATES		
196	WPSE599	630 US HWY 150 E	GALESB	CDFLT	GATES RUBBER		
197	WNIH780	CENTER OF TOWN	RIO	CDFLT	GEM		
198	WNIH780		RIO	CDFLT	GEM		
199	WPCE471			CDFLT	GENERAL MILLS		
200	WNNY887	1 MI W 1 MI S & 2 MI W & 1/2 MI S	MAQUO	CDFLT	GOEDEKE,		
201	WNNY887	2 MI N 1/2 MI W 2 MI N & 1 MI NW	YATES	CDFLT	GOEDEKE,		
202	WNNY887		MAQUO	CDFLT	GOEDEKE,		
203	WPVR633	117 E Martin	Abingdon	CDFLT	GREG, SCHISLER		
204	WPVR633		Abingdon	CDFLT	GREG, SCHISLER		
205	KSC660	1 MI SE OF 600 E MAIN ST	GALESB	CDFLT	GUNTHER		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
206	KNCN448	US 150 THEN .5 MI E SOPERVILLE RD	GALESB	CDFLT	HAWKINSON		
207	KZQ865	10 E KNOX ST	GALESB	CDFLT	HERR OIL		
208	KZQ865		GALESB	CDFLT	HERR OIL		
209	WNJF394	5 MI E 1/2 MI N	RIO	CDFLT	HOLT INC		
210	WNJF394		RIO	CDFLT	HOLT INC		
211	WPUV213	58 IL ROUTE 164	GALESB	CDFLT	HONEYWELL		
212	WPUQ870	611 KNOX HIWAY 23	ABINGD	CDFLT	HOPKINS,		
213	WPUQ870		ABINGD	CDFLT	HOPKINS,		
214	WQHH229	1684 Knox Rd 1200N	Gilson	CDFLT	IL Conference of		
215	WQHH229		Gilson	CDFLT	IL Conference of		
216	KTM630	RT 34 NE EDGE CITY LIMITS	ONEIDA	CDFLT	ILLINI FEEDS INC		
217	WNXS419	RR 2	KNOXVIL	CDFLT	Illinois Public		
218	KBI891	GALESBURG MENTAL HEALTH	GLAESB	CDFLT	ILLINOIS, STATE		
219	KBI891	GALESURG MENTAL HEALTH	GALESB	CDFLT	ILLINOIS, STATE		
220	WNEB976	GALESBURG CORRECTIONAL	GALESB	CDFLT	ILLINOIS, STATE		
221	WNIF560	SEMINARY ST AT WELCH RD	GALESB	CDFLT	ILLINOIS, STATE		
222	WNJD387	3.2 KM W INT 167 & 180 .3 KM S 167	VICTORIA		CDFLT	ILLINOIS, STATE	
223	WNPD469	COR OF SEMINARY ST AND WELCH	GALESB	CDFLT	ILLINOIS, STATE		
224	WQDK722	1458 US HIGHWAY 150 EAST	GILSON	CDFLT	ILLINOIS, STATE		
225	WQDK722		GILSON	CDFLT	ILLINOIS, STATE		
226	WQFL741	1458 US HIGHWAY 150 EAST	GILSON	CDFLT	ILLINOIS, STATE		
227	WQFL741		GILSON	CDFLT	ILLINOIS, STATE		
228	WPMB896	442 KNOX RD 1220 N	GALESB	CDFLT	INNESS, JAMES		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
229	WPMB896		GALESB	CDFLT	INNESS, JAMES		
230	WQCF990	1191 S West St	Galesbur	CDFLT	J P Benbow		
231	WQCF990		Galesbur	CDFLT	J P Benbow		
232	WPLU252	775 S LINWOOD RD	GALESB	CDFLT	JEFFERSON		
233	WPLU252		GALESB	CDFLT	JEFFERSON		
234	WPWX632		GALESB	CDFLT	Kirkenmeier of		
235	WPWH723	678 N. HENDERSON ST.	GALESB	CDFLT	KLAVOHN DQ,		
236	KBX903	2 W SOUTH ST	GALESB	CDFLT	KNOX COLLEGE		
237	KBX903		GALESB	CDFLT	KNOX COLLEGE		
238	WPBY437	2 W SOUTH ST	GALESB	CDFLT	KNOX COLLEGE		
239	WPBY437		GALESB	CDFLT	KNOX COLLEGE		
240	WPYL679		Galesbur	CDFLT	Knox College		
241	WPLW646	150 S BROAD ST	GALESB	CDFLT	KNOX COUNTY		
242	WPLW646	304 E CENTER AVE	RIO	CDFLT	KNOX COUNTY		
243	WPLW646	110 W MAIN	YATES	CDFLT	KNOX COUNTY		
244	WPLW646	405 MAIN ST	MAQUO	CDFLT	KNOX COUNTY		
245	WQAB208	120 WEST PROSPECT	ONEIDA	CDFLT	KNOX COUNTY		
246	WQAB208	102 NORTH LOCUST	VICTORIA		CDFLT	KNOX COUNTY	
247	WQAB208	304 EAST CENTER AVE	RIO	CDFLT	KNOX COUNTY		
248	WQAB208	201 EAST MAE LAWRENCE	ALTONA	CDFLT	KNOX COUNTY		
249	WQAB208	215 SOUTH MAIN ST	HENDER	CDFLT	KNOX COUNTY		
250	WQAB208	1497 KNOX 1725 N	DAHIND	CDFLT	KNOX COUNTY		
251	WQDI399	255 W TOMPKINS ST	GALESB	CDFLT	KNOX COUNTY		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
252	WQDI399		GALESB	CDFLT	KNOX COUNTY		
253	KNCB995	688 HAWTHORNE CT	GALESB	CDFLT	KNOX COUNTY		
254	KNCB995		GALESB	CDFLT	KNOX COUNTY		
255	WPOX945	55 W TOMKINS	GALESB	CDFLT	KNOX COUNTY		
256	WPOX945		GALESB	CDFLT	KNOX COUNTY		
257	KNDZ876	150 S BROAD ST	GALESB	CDFLT	KNOX, COUNTY		
258	KNDZ876	1801 N SEMINARY	GALESB	CDFLT	KNOX, COUNTY		
259	KSC430	.3KM E OF KNOXVILLE	KNOXVIL	CDFLT	KNOX, COUNTY		
260	KSC430	RR 1 RT 150 5KM E	KNOXVIL	CDFLT	KNOX, COUNTY		
261	KSC430	255W TOMPKINS	GALESB	CDFLT	KNOX, COUNTY		
262	KSC430		KNOXVIL	CDFLT	KNOX, COUNTY		
263	KSC430		KNOXVIL	CDFLT	KNOX, COUNTY		
264	KSC430		GALESB	CDFLT	KNOX, COUNTY		
265	KSC430	152 S. KELLOGG	GALESB	CDFLT	KNOX, COUNTY		
266	KSC430		GALESB	CDFLT	KNOX, COUNTY		
267	KSE372	RT 150 3 MI E	KNOXVIL	CDFLT	KNOX, COUNTY		
268	KNDD750	KNOX COUNTY HWY DEPT GARAGE	KNOXVIL	CDFLT	KNOX,		
269	KSF683	NORTH SIDE PUBLIC SQ	KNOXVIL	CDFLT	KNOXVILLE		
270	KSF683		KNOXVIL	CDFLT	KNOXVILLE		
271	KNBQ243	215 N HEBARD ST	KNOXVIL	CDFLT	KNOXVILLE,		
272	WPPZ758	215 N HEBARD ST	KNOXVIL	CDFLT	KNOXVILLE,		
273	WPPZ758		KNOXVIL	CDFLT	KNOXVILLE,		
274	WPZV556	1/2 mile E of Rte 41 & 2 mile S	Galesbur	CDFLT	Koppers		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
275	WPZV556		Galesbur	CDFLT	Koppers		
276	WNNI653	405 MAIN ST	MAQUO	CDFLT	MAQUON,		
277	WNNI653		MAQUO	CDFLT	MAQUON,		
278	WPYN795	IL Rte 41 & Linwood Rd	Galesbur	CDFLT	Maytag Galesburg		
279	WPYN795	IL Rte 41 & Linwood Rd	Galesbur	CDFLT	Maytag Galesburg		
280	WPYN795		Galesbur	CDFLT	Maytag Galesburg		
281	WNFV774	CR 23 1/3 MI E CASHMAN SCHOOL	ABINGD	CDFLT	MC CLURE,		
282	WNFV774		ABINGD	CDFLT	MC CLURE,		
283	KD31349			CDFLT	MC CORMICK,		
284	WPOD643			CDFLT	MCDONALDS		
285	KQZ727	100 NORTH CHERRY STREET	GALESB	CDFLT	METAMORA		
286	KAD515	CATV TOWER 4 MILES SOUTH OF	GALEBU	CDFLT	METAMORA		
287	KWU353	INTERSECTION OF ROUTE 34 & I-74	GALESB	CDFLT	METAMORA		
288	WPTC960	750 W THIRD STREET	GALESB	CDFLT	MIDSTATE		
289	WPTC960		GALESB	CDFLT	MIDSTATE		
290	KB88447			CDFLT	MUELLER		
291	WPLT348	560 MCCLURE STREET	GALESB	CDFLT	NATIONAL		
292	WPLT348		GALESB	CDFLT	NATIONAL		
293	WPLT348	560 MCCLURE STREET	GALESB	CDFLT	NATIONAL		
294	KNJU898	.75 MI E OF RT 41 & 1.25 MI N OF CR	GALESB	CDFLT	NEXTEL WIP		
295	WPUR290	1458 US Highway 150 East	Gilson	CDFLT	NEXTEL WIP		
296	WPUR290		Gilson	CDFLT	NEXTEL WIP		
297	WPUR291	2445 Knox Road 500 East	Rio	CDFLT	NEXTEL WIP		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
298	WPUR291		Rio	CDFLT	NEXTEL WIP		
299	WQBM806	1070 Lakeview Rd South	Dahinda	CDFLT	Oak Run Property		
300	WQBM806		DAHIND	CDFLT	Oak Run Property		
301	WQX257	120 W PROSPECT	ONEIDA	CDFLT	ONEIDA		
302	WQX257	139 MAIN ST.	WATAGA	CDFLT	ONEIDA		
303	WQX257		ONEIDA	CDFLT	ONEIDA		
304	WPOM530	BNSF Railgard, Galesburg, IL	Galesbur	CDFLT	Pathnet, Inc. -		
305	WPOM531	3 mi SE of Galva, IL	Galva	CDFLT	Pathnet, Inc. -		
306	WQQ359	CENTER ST E END TOWN	RIO	CDFLT	RIO FIRE		
307	WQQ359		RIO	CDFLT	RIO FIRE		
308	WQQ359	CENTER ST E END TOWN	RIO	CDFLT	RIO FIRE		
309	WQQ359		RIO	CDFLT	RIO FIRE		
310	WNBG890	RR 1	RIO	CDFLT	RIO, TOWNSHIP		
311	WNBG890		RIO	CDFLT	RIO, TOWNSHIP		
312	KTQ845	1/2 MI S & 2.5 MI E ON CO 23	ABINGD	CDFLT	RIVER LAND FS,		
313	KTQ845		ABINGD	CDFLT	RIVER LAND FS,		
314	KDQ911	.4 MI S .8 MI E	HERMO	CDFLT	ROBINSON		
315	KNIP945	2 MI W IL RT 41 ON BRACKEN RD .5	GALESB	CDFLT	ROBINSON,		
316	KNIP945		GALESB	CDFLT	ROBINSON,		
317	WQEW661		SAINT	CDFLT	SAINT		
318	WQBG268	1150 W CARL SANDBURG DR	GALESB	CDFLT	Sandburg Mall		
319	WQBG268		GALESB	CDFLT	Sandburg Mall		
320	KNCP360	1/3 MI E OF CASHMAN SCHOOL	ABINGD	CDFLT	SCHARFENBER		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
321	WNRJ945	3 MI S ON R 41 THEN 1 MI W ON RR	GALESB	CDFLT	SCHRODT FARMS		
322	WNRJ945		GALESB	CDFLT	SCHRODT FARMS		
323	WQCG501		St	CDFLT	SERVEN, DAVID		
324	WNHT548	CENTER OF TOWN	RIO	CDFLT	SETTERDAHL,		
325	WNHT548		RIO	CDFLT	SETTERDAHL,		
326	KNAL677	3 MI N	WATAGA	CDFLT	SHAW FARMS		
327	KNAL677	2 MI N 1 MI E	WATAGA	CDFLT	SHAW FARMS		
328	KNAL677		WATAGA	CDFLT	SHAW FARMS		
329	KNAL677		WATAGA	CDFLT	SHAW FARMS		
330	KTZ472	3333 N SEMINARY	GALESB	CDFLT	ST MARY		
331	KTZ472		GALESB	CDFLT	ST MARY		
332	KSQ877	HENDERSON RD S OF 174	KNOXVIL	CDFLT	State of Illinois,		
333	WNUA950	2472 KNOX RD 500 E	RIO	CDFLT	SUPREME		
334	WNUA950		RIO	CDFLT	SUPREME		
335	WPJR612	2472 KNOX RD 500 E	RIO	CDFLT	SUPREME		
336	WPJR612		RIO	CDFLT	SUPREME		
337	WPPC752	2472 KNOX RD 500 E	RIO	CDFLT	SUPREME		
338	WPPC752		RIO	CDFLT	SUPREME		
339	WPPC753	2472 KNOX RD 500 E	RIO	CDFLT	SUPREME		
340	WPPC753		RIO	CDFLT	SUPREME		
341	WPIY296	COR OF LYMAN ST & POPLAR A	GALESB	CDFLT	SUPREME		
342	WPIY296		GALESB	CDFLT	SUPREME		
343	WPPB810	CORNER LYMAN & ADMIRAL DR	GALESB	CDFLT	SUPREME		

ID	Name	Address	City	Class	Owner	Function	ReplaCost
344	WPPB810		GALESB	CDFLT	SUPREME		
345	WPIS440	COR LYMAN & POPLAR AVE	GALESB	CDFLT	Supreme Radio		
346	WPZR850	2472 KNOX RD 500 E	RIO	CDFLT	Supreme Radio		
347	WPZR850		RIO	CDFLT	Supreme Radio		
348	KAW444	2472 KNOX ROAD 500 E	RIO	CDFLT	SUPREME		
349	KAW444		RIO	CDFLT	SUPREME		
350	WQIC379	1557 S Henderson	Galesbur	CDFLT	United Facilities		
351	WQIC379		Galesbur	CDFLT	United Facilities		
352	WQIC379		Galesbur	CDFLT	United Facilities		
353	KNKN552	GALESBURG CELL SITE 1.25 MILES	GALESB	CDFLT	USCOC OF		
354	KNKN552	I-74 CELL SITE INERSECTION OF	WILLIAM	CDFLT	USCOC OF		
355	KNKN552	350 E 490TH STREET	WOODH	CDFLT	USCOC OF		
356	WHA717	1.25 MI NE OF RT 34 & I74 INT	GALESB	CDFLT	USCOC OF		
357	WPNC479	INT OF CR 1100 N & 1900 E	WILLIAM	CDFLT	USCOC OF		
358	WPNC480	2 MILES NW	LONDON	CDFLT	USCOC OF		
359	WPOR265	ILLINOIS ROUTE 41	ST	CDFLT	USCOC OF		
360	WPOR693	350 E 490TH STREET	WOODH	CDFLT	USCOC OF		
361	WPUV350	SE CORNER OF BROAD & NORTH	GALESB	CDFLT	USCOC OF		
362	WQJK916	1737 KNOX HWY 12	DAHIND	CDFLT	USCOC OF		
363	WQKC660	1502 KNOX HWY 20	MAQUO	CDFLT	USCOC OF		
364	WQKJ224	443 E. NORTH PARK RD	WILLIAM	CDFLT	USCOC OF		
365	WQJK916	1737 KNOX HWY 12	DAHIND	CDFLT	USCOC OF		
366		229 N. UNION ST.	VICTORIA		CDFLT	USCOC OF	

ID	Name	Address	City	Class	Owner	Function	ReplaCost
367	WNAR991	FIRE HOUSE	VICTORIA		CDFLT	VICTORIA	
368	WNAR991		VICTORIA		CDFLT	VICTORIA	
369	KNEJ277	3/4 MI S HWY 116 & 2 1/2 MI W	LONDON	CDFLT	W D BOYCE		
370	WPQI308			CDFLT	WILLIAMSFIELD		
371	KFY425	E GAIL & CHICAGO AVE	WILLIAM	CDFLT	WILLIAMSFIELD		
372	KFY425		WILLIAM	CDFLT	WILLIAMSFIELD		
373	KFY425	1752 Kenney St	Dahinda	CDFLT	WILLIAMSFIELD		
374	KFY425		Dahinda	CDFLT	WILLIAMSFIELD		
375	KFY425	1497 KNOX RD 1725 N	DAHIND	CDFLT	WILLIAMSFIELD		
376	KFY425		DAHIND	CDFLT	WILLIAMSFIELD		
377	KFY425	E GAIL & CHICAGO AVE	WILLIAM	CDFLT	WILLIAMSFIELD		
378	KFY425		WILLIAM	CDFLT	WILLIAMSFIELD		
379	KFY425	1752 KENNEY ST	DAHIND	CDFLT	WILLIAMSFIELD		
380	KFY425		DAHIND	CDFLT	WILLIAMSFIELD		
381	KFY425	1497 KNOX RD 1725 N	DAHIND	CDFLT	WILLIAMSFIELD		
382	KFY425		DAHIND	CDFLT	WILLIAMSFIELD		
383	WQJG512	Tower 1-1.6 Miles East of City Limits on	Galesbur	CDFLT	WPW		
384	WQKN979	TOWER 1-1.6 MILES EAST OF CITY	GALESB	CDFLT	WPW		
385	E8475		GALESB	CDFLT	ASSOCIATED		
386	WG91		GALESB	CDFLT	Comcast of		

Bus Facilities Report

ID	Name	Address	City	Class	Function	Owner	DailyTraffic	YearBuilt	ReplaCost
1	City Bus Inc	567 S Farnham St	Galesburg	BDFLT					1209.9
2	Burlington Trailway	14 W Main St	Galesburg	BDFLT					1209.9

Dams Report

ID	Name	River	City	Owner	Purpose	Height (ft)	ReplaCost
1	OLD FIVE LAKE DAM	TRIB LITTLERS CREEK	LONDON	Midland Coal	R	35	
2	MIDLAND/ /EMPLOYEE LAKE	TRIB LITTLERS CREEK	LONDON	Midland Coal	R	18	
3	SHEBB OAKS LAKE DAM	TRIB COURT CREEK	ELMORE	Wayne Skaloud	R	27	
4	LAKE BRACKEN DAM	BRUSH CREEK	DELONG-	City of Galesburg	S	47	
5	BRUINGTON LAKE DAM	TRIB SUGAR CREEK	DAHINDA	Ted Bruington	R	40	
6	SPOON LAKE DAM	TRIB SPOON RIVER	WILLIAMSFIE	Oak Run Property	R	74	
7	LAKE RICE DAM	TRIB COURT CREEK	EAST	Soangetaha	RS	35	
8	LAKE STOREY DAM	TRIB SOUTH HENDERSON	SOPERVILLE	City of Galesburg	R	53	
9	ROUNDHOUSE LAKE DAM	TRIB SUGAR CREEK	ELMORE	New Windsor	R	35	
10	LAKE WINDSOR DAM	TRIB SUGAR CREEK	ELMORE	New Windsor	R	45	
11	CALHOUN LAKE DAM	TRIB FITCH LAKE	WEST	Galva Lake	R	24	
12	HAPPY HOLLOW LAKE DAM	TRIB SPOON RIVER	DAHINDA	Happy Hollow Lake	R	52	
13	DAUM LAKE DAM	TRIB SPOON RIVER	MAQUON	Elmer Daum	R	30	
14	HAPPY HOLLOW LAKE 2 DAM	TRIB SPOON RIVER	DAHINDA	Happy Hollow Lake	R	34	
15	DENNIS RUSSELL DAM	TRIB HAW CREEK	KNOXVILLE	Mr. Dennis O.	R	10	
16	KNOX COUNTY	TRIB CEDAR CREEK	ELLISVILLE	Knox County	R	33	
17	SNAKEDEN HOLLOW DAM	SNAKEDEN CREEK	DAHINDA	Illinois Department	R	89	

18	SHERMAN LAKE DAM	TRIB FRENCH CREEK	YATES CITY	Ms. Alice E.	R	27
19	SALEM TOWNSHIP ROAD 343	TRIB WEST FORK		Thomas Foster (cc	R	48
20	MANSON HEIGHTS DAMS	TRIB SUGAR CREEK	MAQUON	Manson Heights,	R	25
30	TAYLOR LAKE DAM	TRIB-SPOON RIVER	LONDON	CHARLES TAYLOR	O	21
31	PURINGTON LAKE		EAST	STEVE WATTS	R	
32	UNDOCUMENTED DAM		KNOXVILLE		R	
33	HAGEN SLURRY DAM				R	
34	DEUSHANE SLURRY DAM				R	

FireStation Facilities Report

ID	Name	Address	City	Class	Stories	YearBuilt	ReplaCost
1	Altona Fire Protection District	204 E. Mae Lawrence Ave	Altona	EFFS			
2	Rio Fire Protection District	304 E Center Ave	Rio	EFFS			
3	Victoria-Copley FPD	102 N Locust	Victoria	EFFS			
4	Henderson TWP Fire	218 Knox Hwy 37	Wataga	EFFS			
5	Central Fire Station	150 S Broad St	Galesburg	EFFS			
6	E Galesburg Fire Dept	405 S State St	East Galesburg	EFFS			
7	Knoxville Community Fire	137 N Public Sq	Knoxville	EFFS			
8	Abingdon Fire Department	117 E Meek St	Abingdon	EFFS			
9	Maquon Fire Department	405 Main St	Maquon	EFFS			
10	Williamsfield Fire Protection	200 E Gale St	Williamsfield	EFFS			
11	Elba-Salem Fire Protection	110 W Main St	Yates City	EFFS			
12	Appleton Fire Station	1511 Old Wagon Rd	Dahinda	EFFS			
13	Brooks St Fire Station	1575 E Brooks St	Galesburg	EFFS			
14	St Augustine Fire Station	77 Main St	St Augustine	EFFS			
15	Lake Bracken Fire Station	444 W Point Dr	Galesburg	EFFS			

16	W Fremont St Fire Station	1455 W Fremont St	Galesburg	EFFS
17	Henderson Fire Protection	103 E South St	Henderson	EFFS
18	Gilson Fire Department	1015 Moss St	Gilson	EFFS
19	Oneida South Fire Station	120 W Prospect St	Oneida	EFFS
20	Oneida North Fire Station	310 W Holmes St	Oneida	EFFS
21	Persifier Fire Station	1756 Kenney St	Dahinda	EFFS
22	Oak Run Station		Dahinda	EFFS

Thursday, September 30, 2010

Hazardous Materials

ID	Name	Address	City	Class	EPAID	ChemicalName
1	MAYTAG GALESBURG	1801 MONMOUTH BLVD.	GALESBURG	HDFLT	ILD067417337	DIISOCYANATES
2	MAYTAG GALESBURG	1801 MONMOUTH BLVD.	GALESBURG	HDFLT	ILD067417337	"1,1-DICHLORO-1-
3	KOPPERS INDS. INC.	1291 STATE RT 41	GALESBURG	HDFLT	ILD990817991	CREOSOTE
4	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	BARIUM
5	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	N-BUTYL
6	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	ETHYLBENZENE
7	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	CERTAIN GLYCOL
8	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	LEAD
9	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	METHYL ETHYL
10	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	METHYL
11	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	TOLUENE
12	NATIONAL COATINGS INC.	604 U.S. HWY. 150 E.	GALESBURG	HDFLT	ILD021164983	XYLENE (MIXED
13	ADM	1021 S. HENDERSON ST.	GALESBURG	HDFLT	ILD005104187	N-HEXANE
14	BUTLER MFG. CO.	1020 S. HENDERSON ST.	GALESBURG	HDFLT	ILD005135892	CERTAIN GLYCOL
15	BUTLER MFG. CO.	1020 S. HENDERSON ST.	GALESBURG	HDFLT	ILD005135892	MANGANESE

ID	Name	Address	City	Class	EPAID	ChemicalName
16	BUTLER MFG. CO.	1020 S. HENDERSON ST.	GALESBURG	HDFLT	ILD005135892	NICKEL
17	BUTLER MFG. CO.	1020 S. HENDERSON ST.	GALESBURG	HDFLT	ILD005135892	TRIETHYLAMINE
18	BUTLER MFG. CO.	1020 S. HENDERSON ST.	GALESBURG	HDFLT	ILD005135892	SEC-BUTYL
19	GATES RUBBER CO.	630 US HWY. 150 E.	GALESBURG	HDFLT	ILD005230370	CERTAIN GLYCOL
20	GATES RUBBER CO.	630 US HWY. 150 E.	GALESBURG	HDFLT	ILD005230370	ANTIMONY
21	GATES RUBBER CO.	630 US HWY. 150 E.	GALESBURG	HDFLT	ILD005230370	ZINC COMPOUNDS
22	AQUA ILLINOIS	222 BRIARWOOD	DAHINDA	HDFLT		CHLORINE
23	CENTURYTEL	100 N CHERRY ST	GALESBURG	HDFLT		BATTERY ACID
24	MAIN	506 HWY 10	GALESBURG	HDFLT		FURADAN 4F
25	BNSF RAILWAY	2215 HENDERSON ST	GALESBURG	HDFLT		SULFURIC ACID
27	CROP PRODUCTION SERVICES	611 EAST ONTARIO	ONEIDA	HDFLT		FURADAN 4F
28	CROP PRODUCTION SERVICES	1871 S DEPOT ST	YATES CITY	HDFLT		ANHYDROUS
29	CROP PRODUCTION SERVICES	303 WALNUT ST	ALTONA	HDFLT		ANHYDROUS
31	RIVERLAND FS	1528 KNOX ROAD 600N	MAQUON	HDFLT		DICHLORIDE
32	FIRST STUDENT, INC	950 LYMAN ST	GALESBURG	HDFLT		SULFURIC ACID

Medical Care Facilities Report

ID	Name	Address	City	Class	Function	Beds	Stories	ReplaCost
1	GALESBURG COTTAGE	695 NORTH KELLOGG STREET	GALESBURG	EFHM	Hospital	150		7770
2	OSF ST MARY	3333 NORTH SEMINARY STREET	GALESBURG	EFHM	Hospital	141		7770

Police Station Facilities Report

ID	Name	Address	City	Class	Stories	ShelterCap	YearBuilt	ReplaCost
1	East Galesburg Police Station	100 W 1st St	East	EFPS	1		1996	1554
2	Abingdon Police Dept	105 N Main St	Abingdon	EFPS	1		1925	1554
3	Maquon Police Dept	111 W 4th St	Maquon	EFPS	1		1995	1554
4	Yates City Police Dept	113 W Main	Yates City	EFPS	1		1979	1554
5	Williamsfield Police Dept	117 W Gale St	Williamsfield	EFPS	2		1925	1554
6	Police Dept	150 S Broad St	Galesburg	EFPS	6		1976	1554
7	Knoxville Police Dept	215 N Hebard St	Knoxville	EFPS	1		1925	1554
8	Altona Police Dept	201 S Depot St	Altona	EFPS				1554
9	Knox County Sheriff's Dept	152 S Kellogg St	Galesburg	EFPS				1554

Airport Facilities Report

ID	Name	Address	City	Class	Function	Capacity	YearBuilt	ReplaCost
1	GALESBURG MUNI		GALESBUR	ADFLT	PUBLIC			10651
2	TRI-COUNTY		YATES CITY	ADFLT	PUBLIC			10651

Rail Facilities Report

ID	Name	Address	City	Class	Function	DailyTraffic	YearBuilt	ReplaCost
1	Galesburg, Illinois	225 South Seminary Street	Galesburg	RDFLT	Passengers			2663

User Defined Facilities Report

ID	Name	Address	City	Class	Function	Stories	YearBuilt	ReplaCost
29	Knox County Nursing Home		Knoxville	REL1	shelter			
30	Knoxville First United Methodist		Knoxville	REL1	shelter			
31	Grace Lutheran Church		Knoxville	REL1	shelter			
32	Abingdon American Legion		Abingdon	REL1	shelter			
33	Abingdon United Methodist		Abingdon	REL1	shelter			
34	Knights of Columbus		Galesburg	REL1	shelter			
35	Veterans of Foreign Wars Post		Galesburg	REL1	shelter			
36	First Baptist Church		Galesburg	REL1	shelter			
37	Galesburg First United Methodist		Galesburg	REL1	shelter			
38	Galesburg First Lutheran Church		Galesburg	REL1	shelter			
39	American Legion Post 285		Galesburg	REL1	shelter			
40	Abingdon Christian Church		Abingdon	REL1	shelter			
41	Galesburg Covenant Church		Galesburg	REL1	shelter			
42	Mt Calvalry Lutheran Church		Galesburg	REL1	shelter			
43	First Church of the Nazarene		Galesburg	REL1	shelter			
44	First Patrick Catholic Church		Galesburg	REL1	shelter			
45	First Presbyterian Church		Galesburg	REL1	shelter			
46	East Main Congregational Church		Galesburg	REL1	shelter			
47	Faith Lutheran Church		Wataga	REL1	shelter			
48	St Aloysius Church		Wataga	REL1	shelter			
26	Immanuel Lutheran Church		Altona	REL1	shelter			
27	Oneida United Methodist Church		Oneida	REL1	shelter			

ID	Name	Address	City	Class	Function	Stories	YearBuilt	ReplaCost
28	Oneida First Presbyterian Church		Oneida	REL1	shelter			
49	Knox Bowl		Galesburg	REL1	shelter			

WasteWater Facilities Report

ID	Name	Address	City	Function	Class	Stories	YearBuilt	ReplaCost
1	ABINGDON STP	SOUTHEAST OF CITY	ABINGDON		WDF			73926
2	ALTONA STP	P.O. BOX 212	ALTONA		WDF			73926
3	GALESBURG SEWAGE	SOUTH PICKARD ROAD	GALESBURG		WDF			73926
4	KNOXVILLE STP	507 SOUTH DIVISION STREET	KNOXVILLE		WDF			73926
5	MAQUON STP	P.O. BOX 181	MAQUON		WDF			73926
6	ONEIDA SD NORTH	1/4 MILE NORTH OF THE CITY	ONEIDA		WDF			73926
7	ONEIDA SD STP	SOUTHWEST CORNER OF THE	ONEIDA		WDF			73926
8	SPOON VALLEY LAKE	BROOKWOOD LANE	DAHINDA		WDF			73926
9	VICTORIA STP	P.O. BOX 85	VICTORIA		WDF			73926
10	WATAGA NORTH STP	P.O. BOX 371	WATAGA		WDF			73926
11	WATAGA SOUTH STP	SOUTH TAYLOR STREET	WATAGA		WDF			73926
12	WILLIAMSFIELD SD	2262 KNOX ROAD 1400 NORTH	WILLIAMSFIELD		WDF			73926
13	YATES CITY	1/2 MI NORTHWEST OF VILLAGE	YATES CITY		WDF			73926

School Facilities Report

ID	Name	Address	City	Class	Students	Stories	YearBuilt	ReplaCost
1	R O W V A JR HIGH	PO BOX 69	ONEIDA	EFS1	102			1504.2355
2	R O W V A SR HIGH	PO BOX 69	ONEIDA	EFS1	248			4266.9165
3	R O W V A CENTRAL ELEM	PO BOX 69	ONEIDA	EFS1	182			2236.6901
4	R O W V A EAST ELEM	PO BOX 238	ALTONA	EFS1	132			1946.6578
5	R O W V A WEST ELEM	PO BOX 467	WATAGA	EFS1	109			1339.5562
7	ABINGDON HIGH SCHOOL	600 W MARTIN ST	ABINGDON	EFS1	232			3991.6316
9	GALESBURG AREA VOC CTR	1135 W FREMONT ST	GALESBURG	EFS1	123			2116.2529
12	LINCOLN ELEMENTARY	832 HARRISON ST	GALESBURG	EFS1	311			4537.5314
32	CARL SANDBURG	2400 TOM WILSON BLVD	GALESBURG	EDU2				
33	KNOX COLLEGE	2 E SOUTH ST	GALESBURG	EDU2				
13	SILAS WILLARD ELEM	495 E FREMONT ST	GALESBURG	EFS1	365			5745.3441
14	GALESBURG HIGH	1135 W FREMONT ST	GALESBURG	EFS1	1464			36868.5183
15	GALE SCHOOL	1131 W DAYTON ST	GALESBURG	EFS1	381			6103.2145
16	STEELE SCHOOL	1480 W MAIN ST	GALESBURG	EFS1	328			4917.7688
18	CHURCHILL JR HIGH	905 MAPLE AVE	GALESBURG	EFS1	592			11090.0503
19	NIELSON ELEMENTARY	547 N FARNHAM ST	GALESBURG	EFS1	318			4694.0997
20	COOKE SCHOOL	849 S HENDERSON ST	GALESBURG	EFS1	110			1351.8457
21	LOMBARD JR HIGH	1220 E KNOX ST	GALESBURG	EFS1	495			8467.4697
22	KING SCHOOL	1018 S FARNHAM ST	GALESBURG	EFS1	356			5544.042
23	KNOXVILLE JR HIGH	701 MILL ST	KNOXVILLE	EFS1	316			4660.1807
24	KNOXVILLE SR HIGH	600 E MAIN ST	KNOXVILLE	EFS1	365			6279.9376

ID	Name	Address	City	Class	Students	Stories	YearBuilt	ReplaCost
25	MABLE WOOLSEY ELEM	106 PLEASANT AVE	KNOXVILLE	EFS1	412			6796.5885
26	HEDDING GRADE SCHOOL	401 W LATIMER ST	ABINGDON	EFS1	366			5767.711
27	WILLIAMSFIELD MIDDLE	PO BOX 179	WILLIAMSFIEL	EFS1	51			752.1178
28	WILLIAMSFIELD HIGH	PO BOX 179	WILLIAMSFIEL	EFS1	81			1393.63
29	WILLIAMSFIELD ELEM	PO BOX 179	WILLIAMSFIEL	EFS1	140			1720.5309
30	COSTA CATHOLIC SCHOOL	2726 COSTA DRIVE	GALESBURG	EFS1	269			3967.0526
31	GALESBURG CHRISTIAN	1881 E FREMONT ST	GALESBURG	EFS1	55			946.292

Appendix G: Critical Facilities Maps

-See Attached Map