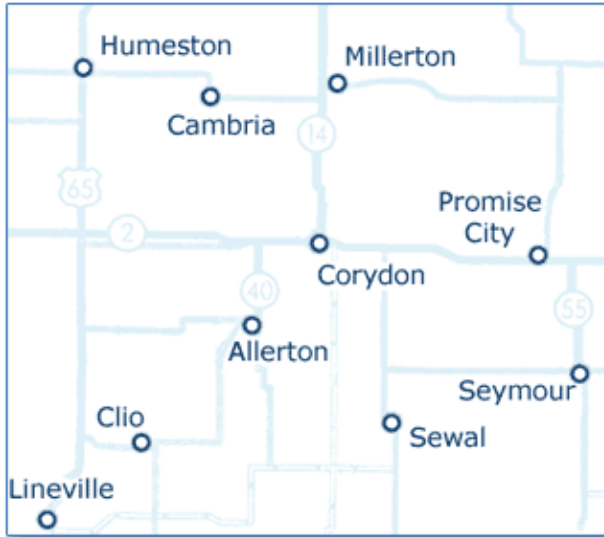


2012



Wayne County Multi-Jurisdictional Hazard Mitigation Plan

Unincorporated Wayne County

Allerton

Clio

Corydon

Humeston

Lineville

Millerton

Promise City

Seymour

Wayne County Hospital

Wayne Community School



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1. Introduction

This chapter addresses the background and purpose of this plan, who was involved, and how it was developed. Combined, these elements are expected to provide an overview of the decision making process on disaster mitigation issues. This document is officially a Multi-Jurisdictional Hazard Mitigation Plan, but for simplicity, it will be referred to as the Wayne Disaster Mitigation Plan in this document.

A. Adoption

The Wayne County Multi-Jurisdictional Hazard Mitigation Plan was adopted by the following jurisdictions on the dates listed. See *Appendix A: Resolutions Adopting Wayne Disaster Mitigation Plan*. Adoption is important for the communities to receive the benefits of the plan; if the plan is not adopted by a particular jurisdiction, that jurisdiction is not eligible for certain disaster recovery and disaster prevention programs and funds.

Adoption of plan by respective jurisdictions is pending FEMA and State conditional approval.

| Jurisdiction | Adoption date |
|-----------------------------|---------------|
| Unincorporated Wayne County | 3/26/2012 |
| Corydon | |
| Seymour | |
| Promise City | |
| Humeston | |
| Allerton | |
| Millerton | |
| Lineville | |
| Clio | |
| Wayne Community School | |
| Wayne County Hospital | |

B. Purpose and Participation

The purpose of the Hazard Mitigation Plan is to identify steps to prevent or reduce the impact of disasters on the residents and property in Wayne County. This is accomplished through compliance with the Federal Emergency Management Agency's (FEMA) Mitigation Planning Regulations under Code of Federal Regulations (CFR), Title 44, Part 201 (Standard 44 CFR 201.4, 44CFR 201.5) Administrative Code 29C 605-7.3(4)(d)(1)(2).

The development of the Wayne County Hazard Mitigation Plan is the result of the input from elected officials, emergency management and other governmental personnel, agency representatives, business people, interested citizens, and the State of Iowa Hazard Mitigation Plan.

As the cost of disasters continue to rise, it became evident that more pre-disaster steps are necessary if we expected to reduce the damage that can affect the communities we live in. Hazard

mitigation plans are intended to break the cycle of losses from various disasters. ADLM secured grant funds from FEMA for the development of a multi-jurisdictional plan for Wayne County. The county then contracted with Chariton Valley Planning and Development Council of Governments to write and aid in the development of their Hazard Mitigation Plan. This plan identifies all of the natural hazards that affect and risks that pose a threat to the county. A hazard analysis, which is a part of this Plan, provides a better understanding of each hazard, knowledge of the impacts the hazard could have on the county, and a prioritized list of actions for each hazard identified as a possible threat to the county. By assessing the current mitigation actions already in effect, evaluating alternatives, prioritizing and outlining a strategy for implementation the hazard mitigation plan has been developed and written.

i. Planning Committee Members

The following chart contains the Wayne Disaster Planning Committee members and their attendance. The committee was not established until after the orientation meeting.

| Member | Orientation | Meeting 2 | Meeting 3 | Meeting 4 |
|--|--------------------|------------------|------------------|------------------|
| Bob Mortimore, City of Clio | X | X | X | |
| John Harman, Private Citizen | | X | | |
| Rod Parham, City of Corydon | X | X | | X |
| Mike Schroeder, City of Humeston | | X | | |
| Amy Sinclair, County Supervisor | | X | X | |
| Boyd Sinclair, Private Citizen | | X | | |
| Brain Shelley, City of Corydon | X | X | | X |
| Carla Johnson, Private Citizen | | X | | |
| Don Greenlee, former County Supervisor | X | X | | |
| Edwin Johnson, City of Seymour | | X | | |
| Sharon Rash, Public Health Dept | X | X | | X |
| Duffy Kester, County Supervisor | | X | X | X |
| Jerry O'dell, former County Supervisor | | X | | |
| Tim Tometich, City of Promise City | | X | | |
| Ron Schreck, City of Allerton | | X | | |
| Brentt Snow, City of Lineville | | X | | X |
| Tim Ehrich, former County Engineer | | X | | |

| | | | | |
|---|---|---|---|---|
| Keith Davis, City of Millerton/Wayne County Sherriff's Office | X | X | | X |
| Roger Carpenter, City of Corydon | | X | | X |
| Joyce Greenlee, Private Citizen | | | | |
| Bill Yeager, former Emergency Management | X | | X | X |
| Billy Jo Alley, County Supervisor | | | X | X |
| Caleb Housh, City of Seymour | | | X | |
| Ron Marolf, City of Clio | | | X | |
| Cody Babbitt, Wayne County Hospital | | | X | X |
| Denise Hook, Wayne County Hospital | | | X | |
| Brenda Devore, City of Promise City | | | X | X |
| Dave Daughton, Wayne Community Schools | | | | X |

C. What is a Hazard Mitigation Plan?

Generally the first question asked when communities begin the process of preparing a Hazard Mitigation Plan is very simply “What is a Hazard Mitigation Plan and what is its intended purpose?” First, it is imperative to define what precisely the term mitigation entails. One definition of the term is stated perhaps most effectively by the Federal Emergency Management Agency (FEMA) and is as follows:

“Mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event. Mitigation, also known as prevention (when done before a disaster), encourages long-term reduction of hazard vulnerability. The goal of mitigation is to decrease the need for response as opposed to simply increasing the response capability.” (www.fema.gov).

A mitigation plan is a document that is intended to accomplish several things. First, through the planning process the hazards that pose a risk to the community are identified. Second, an assessment of the hazards is made that takes into account historic occurrence, the number of people impacted, the area of the jurisdictions affected, potential costs that the jurisdictions, individuals, and organization may incur, the likelihood of future occurrence, and the amount of warning time before an event occurs.

Once the assessment is completed, a list of current and historic mitigation efforts are evaluated. Through this discussion, areas that can be improved upon are identified and developed into

“action steps”. Early in the planning process meeting attendees identify broad goals that briefly state what the plan should attempt to accomplish. Every action step should, if implemented, work toward one or more of the goals of the plan. An action step may suggest continuing a current mitigation effort or propose a new project altogether.

Finally, once the hazards have been assessed, mitigation steps have been identified, and action steps have been prioritized, the plan makes some suggestions for implementation and makes estimates as to the costs of implementation. Some proposed projects are small in scope and thus relatively low cost. However, other projects are broad in nature and would require more funding than the local community can reasonably provide. Therefore, the final piece of the plan suggests methods to implement the plan, how to keep the public involved, and what steps should be taken by local government to ensure that the concept of hazard mitigation is always a priority.

When implemented appropriately, mitigation projects can save lives, reduce property damage, save public monies, and protect the environment. Mitigation can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities, reduce exposure to liability, and minimize community disruption.

D. The Planning Process

The Wayne County Disaster Planning Committee developed this Disaster Mitigation Plan in conjunction with professional services from Chariton Valley Planning and Development Council of Governments. The Committee consisted of a Community Development Planner from Chariton Valley Planning Development, community representatives, elected officials, and private citizens. Meetings were advertised by posting flyers in the county courthouses of Centerville, Chariton and Corydon.

The committee met 4 times from January 14, 2010 and January 30, 2012. All meetings complied with the Iowa Open Meetings Law; this simply means all sessions are open to the public and appropriate notifications were present. The initial orientation disaster planning meeting took place January 14, 2010 in Corydon. The attendees discussed what a Hazard Mitigation Plan contains, some reasons for having one, the basic process for developing such a plan, and some initial brainstorming of information for the plan and people that should be involved. A brief survey was utilized to help spark conversation about the various types of hazards that might impact Wayne County. Committee members agreed that participating jurisdictions will be considered eligible if a representative attends meetings and/or provide information required by the planning agency. It was recognized that attendance at meetings could be difficult with scheduling and commuting in a rural area. At the end of the orientation meeting, blank surveys and informational brochures were distributed to attendees with the request that they share them with others in their respective communities.

The second open meeting took place on May 18, 2010 at the Wayne County Courthouse and was advertised by local flyer postings in the courthouse, local gas stations, and the courthouses of Appanoose and Lucas Counties. The committee worked to establish goals of the Wayne County

Hazard Mitigation Plan. Members then began discussion and selection of hazards that could occur in this region. Guidance was provided by Chariton Valley Planning & Development staff that had examples of hazards that the surrounding counties had selected. The committee was quickly able to agree on hazards for the region, as well as jurisdictions, and began the initial scoring.

Julie Pribyl and Nichole Moore with Chariton Valley Planning and Development compiled and wrote a draft of the hazards and scoring for comment and review of the disaster mitigation committee. The third meeting took place on May 5, 2011 at the Wayne County Sherriff's office; the Committee, attending Public and other interested parties reviewed and discussed the scoring proposed to hazards, jurisdictions confirmed hazards of most concern for each individual site, and members worked as a large group activity to select Mitigation strategies with the guidance of FEMA-R5 "Mitigation Ideas: Possible Mitigation Measures by Hazard Type". Through this activity CVPD was also able to compile information about existing mitigation strategies in the communities.

On January 19, 2012 the planning committee met a fourth time to review the results of the mitigation selections from the previous meeting. Members confirmed the data selected and completed the STAPLEE process and scoring to prioritize for the county. During this process, each community considered the STAPLEE scoring and selected several priority strategies for each jurisdiction.

Discussion was then held to entertain the idea of allowing Wayne County Hospital and Wayne Community School to be profiled as each it's own jurisdiction in the plan. Pribyl indicates that participation is critical with a representative from each entity. The Hospital has been active throughout the process and viable as an independent jurisdiction. This would allow the hospital to apply directly for possible grant funding. The committee unanimously approved the addition of Wayne County Hospital to the Wayne County HMP as an individual jurisdiction. Pribyl will work with Mr. Cody Babbitt and/or other hospital representatives to gather the necessary data for their profile.

Mr. Dave Daughton, Superintendent of Wayne County Community School, was present at the meeting. Dave had previously met with Wayne Emergency Management Coordinator to gather a clear understanding of the purposes of the Hazard Mitigation Plan. Mr. Daughton is indicating the school is interested in possible safe room funding for their facility. Pribyl has indicated it would be possible for the school to be added to this plan if the committee provides approval and Dave agrees to continued participation. The committee unanimously agreed to add Wayne Community Schools to this plan. Mr. Daughton and CVPD met at a later time to review the document, the intent, and strategies to improve disaster prevention/preparedness. At that time, more information was gathered to create a profile for the school as an individual jurisdiction.

The Wayne Disaster Mitigation Plan was then sent to FEMA and the State for conditional approval prior to being subjected to the adoption process by each incorporated community and the Wayne County Board of Supervisors.

To insure the opportunity for participation public flyers were posted at Chariton Valley Planning & Development in Centerville, Wayne County courthouse, and Corydon City Hall. Invitations to the orientation meeting were also sent to numerous individuals ranging from elected officials, local businesses, non-profit organizations, neighboring communities (Centerville and Chariton) and jurisdictions and educational institution of Wayne Community Schools.

E. Materials Reviewed

In the preparation of the Wayne County Disaster Mitigation Plan, various materials were reviewed that provided which informed the development of this plan. Important documents among these include various FEMA 386 “How to” guidebooks, Iowa’s *Hazard Analysis and Risk Assessment: 2003 Local Guide*, and *Iowa Hazard Mitigation Plan: Iowa Comprehensive Emergency Plan September 2007*.¹ Other sources of information include: Iowa Department of Natural Resources, Iowa Department of Transportation, the U.S Census Bureau, the Environmental Protection Agency, United States Geological Survey, Federal Emergency Management Agency, Wayne County Emergency Management Agency, National Weather Service, National Climatic Data Center (NCDC), Iowa Homeland Security and Emergency Management Division. Wikipedia, Sperling’s Best Places, and community websites were used along with past newspaper clippings for an overview of communities and their histories. Other materials were consulted and utilized in this plan as well, most of which indicated in the sections where they were used.

Spatial Hazard Events and Losses Database for the United States (SHELDUS) from the University of South Carolina

http://webra.cas.sc.edu/hvriapps/sheldus_setup/sheldus_login.aspx

¹ This document can be found on either of the following websites;
<http://www.iowahomelandsecurity.org/AboutUs/SecuringCommunities/Mitigation/tabid/98/Default.aspx> or
<http://www.iowahomelandsecurity.org/Partners/CountyCoordinators/Planning/tabid/108/Default.aspx>

2. Community Profiles

The various communities in Wayne County are in relatively close proximity to one another and share many of the same topographic and geographic features in addition to socio-economic characteristics. Each community will be addressed separately in this section to ensure that the needs of each are adequately covered. The following profiles are divided into official jurisdictions; unincorporated communities are lumped into Wayne County as the county is the most direct level of government for them. Some of the Census numbers may not be the same between tables due to statistical and sampling methods used and the originating table from the American Factfinder website. The variations are statistically insignificant

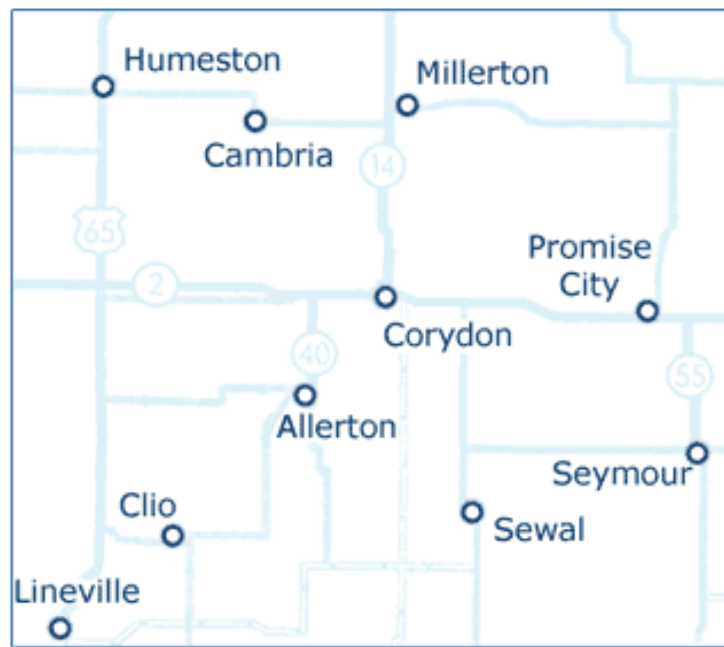
A. Unincorporated Wayne County

Wayne County is located in the southern tier of counties in Iowa adjoining the Missouri border. There are five unincorporated communities in Wayne County and eight incorporated cities.

i. Geography

Wayne County is located in the south-central sector of Iowa at coordinates 40° 45' 16" N, 93° 18' 37" W. The counties surrounding Wayne are as follows; Wayne, Monroe, Appanoose, Decatur, and Clarke. see *Figure 1: Location of Wayne County*. Wayne County encompasses an area of 525.6 square miles with a population density of 12.8 people per square mile according to the 2000 Census.

Figure 1: Location of Communities in Wayne County

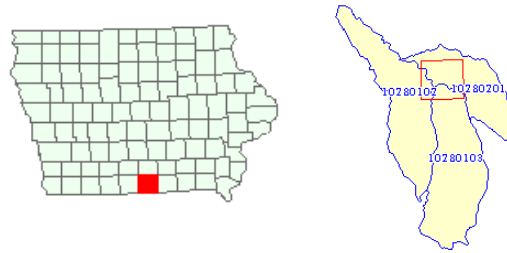


Source: National Atlas and IA DOT GIS data compiled by Chariton Valley Planning and Development

Rathbun Lake is located primarily in Appanoose County, but extends into the far Northeast corner of Wayne County covering a total area of 12,040 acres across four counties. Rathbun Lake is the second largest water body in Iowa. Eight rivers and creeks cross through Wayne County, the most significant of which is the Chariton River which created Rathbun Lake once dammed in the 1970's (see *Table 1: Wayne County Rivers and Creeks*). Wayne County's terrain is predominantly undulating topography that characterizes the rolling hills of the Southern Iowa Drift Plain.

Wayne County is located in 3 different watersheds, all within the Mississippi Basin. The Lake Red Rock watershed encompasses slightly more of the county than the other two. See *Figure 2: Wayne County Watersheds* and the US EPA "Surf Your Watershed" website for more information.

Figure 2: Wayne County Watersheds



[Current Population](#) (2000 U.S., county) [EXIT Disclaimer](#)

This county crosses 3 [watersheds](#).

Find environmental information for each of these watersheds:

[10280102](#) Thompson; state(s): IA, MO

[10280103](#) Lower Grand; state(s): IA, MO

[10280201](#) Upper Chariton; state(s): IA, MO

Source: US EPA Surf Your Watershed,

http://cfpub.epa.gov/surf/county.cfm?fips_code=19117

ii. Climate

The climate in Wayne County is of a continental character much like other parts of the Midwest. Four distinct seasons are experienced in the area. On average, Wayne County receives about 35 inches of rain annually and 27 inches of snow annually. There are 206 sunny days per year with 99 days of measurable precipitation on average. July tends to be the hottest month with highs around 87 degrees and January tends to be the coldest month with lows around 11 degrees on average.

There are seasonal variations in weather patterns and there are extremes that can pose risks to residents. Climate projections by the Union of Concerned Scientists, the US EPA, the USDA, and International Panel of Climate Change suggest that Wayne County and the mid-west overall will experience more extreme and more frequent weather fluctuations in the near future.

iii. Vegetation

Initially the county was predominantly forest and prairie land. This land cover has been transformed into various cropland uses over

Table 1: Wayne County Rivers and Creeks

| |
|---------------------------------|
| Cool Easy Creek |
| Rolling Fork |
| Old Channel Little River |
| Clear Creek |
| Stringtown Creek |
| Walnut Springs Creek |
| Blue Creek |
| Little Creek |
| South Chariton River |
| Jackson Creek |

Source: IA DNR GIS data compiled by Chariton Valley

the last one hundred and fifty years. Substantial stands of deciduous forest remained despite the vast changes, more-so than may be found elsewhere in Iowa. See *Appendix C: Changes in Vegetative Cover* for a graphic comparison.

iv. Soils Information

According to the Natural Resource Conservation Service (NRCS), Wayne County is located in two soil regions; Loess Ridges / Glacial Till Sideslopes and Loess, Shale, and Glacial Till. Loess is fine, loamy, wind-blown sediment that is typically yellowish or brownish in color that is unstratified (Dictionary.com). Geologically, Loess is highly erodible, but in terms of the human life-span it is relatively stable soil. Loess soils tend to become very rich soil after it accumulates over time. See *Appendix E: NRCS Iowa Soil Regions Map*.

There are no areas of Karst soils in Wayne County which are at risk of subsidence. Karst soils are soil compositions that contain rock that can be dissolved by water thereby creating a gap in the soil that can collapse.

v. History / Development Trends

Wayne County was established on January 13, 1846 and was formally organized on February 13, 1851. The county is named after General "Mad Anthony" Wayne, of the Revolutionary War.

Wayne County is unusual in that it is one of the few Iowa counties to have had only one county seat, Corydon. Corydon has had more than one name however. Originally called Springfield, the name Corydon was chosen by County Judge Seth Anderson, who won the right to name the town in a poker game. He named it after his hometown of Corydon, Indiana.

The first "courthouse" was built in 1852. It was a hastily built log cabin and was used even before it was completed. The floor was laid down loosely, the walls were not chinked and half of the roof was unfinished. The judge's desk was an old keg, and the jury would go to the slough or ravine to decide cases. This building was used for four years. Then, in 1856, William F. Lancaster and John Davis built a small building to use as a courthouse at a cost of \$600. When this building was abandoned by the county in 1871, the business of the county was conducted in various downtown buildings.

Several attempts were made to vote bonds for a new courthouse between 1869 and 1889, but all failed. Around this time the town of Allerton became a contender for the county seat. Finally, with the help of people favorable to Corydon, a subscription was started in 1890 to build a new courthouse. Around \$19,000 was raised, and construction began on the new courthouse in 1891. The contractors were E. A. Rea and Alex Mardis. The courthouse was made of red brick that was made and burned at Corydon.

After nearly 73 years of service, the courthouse was declared unsafe by a grand jury. A \$450,000 bond issue was approved in September of 1962 by the voters in a special election for a new courthouse. The new courthouse was designed by the architects Frankhiser and Hutchens and was built by Grabau Construction. A ceremony for the laying of the cornerstone was held on August 15,

1964, and the new courthouse was finished later that same year. It is a three-story, modern looking facility and lies just east of the previous one.

Source: Burton, Warren, *History Of Wayne County, Iowa, 1956*

Table 2: Wayne County Population

| CENSUS | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 6,730 | 2,829 |
| 1990 | 7,067 | 2,952 |

Source: US Census Bureau

vi. Population and Projections

As of the 2000 Census, the total population of Wayne County was 6,730 with a total of 2,829 households. This is down 337 persons since the 1990 Census count of 7,067 people; a total decrease of 3.7%. In 1990 there were 2,952 households. According to Iowa State University’s Regional

Capacity Analysis Program² (ReCAP), Wayne County has faced five decades of decline starting in 1920 through 1970. More recently, a slight decreased occurred as captured in the 2000 Census. The 2000 Census population of Wayne County is slightly under the population of the county in 1870.

The population of the unincorporated county is over one-third of the total population of the county. The proportion of households decreased between 1990 and 2000 in relation to the total county numbers only slightly. Likewise the total unincorporated population has decreased by only a little.

Table 3: Unincorporated Population and Proportion of Total Population

| | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 2710 | 2073 |
| 1990 | 2803 | 1061 |

| | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 39.86% | 61.75% |
| 1990 | 39.66% | 35.94% |

Source: US Census Bureau

Woods and Poole Economics, Inc. provided population projections for each of the counties in Iowa in 2007 for 2010 through 2030. Wayne County is projected to lose population into 2010, 2015, 2020 and continued decreasing through 2030. Cumulative projected change for Wayne County is a loss of 6.41% suggesting that by 2030 the county’s population could be down to 6,304. See Table 4 for the Woods and Poole population projection for Wayne County.

² Historic Population Census data is available for the State of Iowa through ReCAP at the following website; <http://www.recap.iastate.edu/atlas/population/population-historical.php>.

Table 4: Woods & Poole Population Projection for Wayne County

| AREA | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 |
|----------------|-------|--------|--------|--------|--------|-------|--------|
| WAYNE | 6,736 | 6,548 | 6,483 | 6,411 | 6,319 | 6,319 | 6,304 |
| PERCENT CHANGE | | -1.03% | -1.01% | -1.01% | -1.01% | 0.0% | -1.00% |

Source: Iowa State Data Center, <http://www.iowadatacenter.org>

vii. At Risk Groups

The elderly are often identified as an “at risk group” for various reasons including potential health frailties and mobility challenges. Likewise younger populations are at potential risk due to lack of familiarity with disasters and especially with actions to take following a disaster. However, young people may also have more education and more current education due to school drills that may not be as well known among populations over the age of 18. The elderly population of unincorporated Wayne County was about 9% (602) of the total county population as of the 2000 Census. Young people in the unincorporated county comprised about 8% (549) with only about 2% (127) of those young people under age 5.

Table 6: Median Household Incomes in Wayne County

| | 1999 | 1989 |
|--------------|----------|----------|
| TOTAL COUNTY | \$29,380 | \$17,599 |
| ALLERTON | \$28,929 | \$13,125 |
| CLIO | \$42,813 | \$13,750 |
| CORYDON | \$28,542 | \$17,952 |
| HUMESTON | \$22,917 | \$15,380 |
| LINEVILLE | \$30,625 | \$11,912 |
| MILLERTON | \$19,286 | \$15,938 |
| PROMISE CITY | \$17,917 | \$14,861 |
| SEYMOUR | \$26,172 | \$13,958 |

Another population that is often identified as an “at risk group” are those that are deemed “linguistically isolated” in the Census. This designation for households is defined as all members of the household over age 5 speak little or no English, or speak English “not very well.” The reason for

Table 5: Potential At Risk Population in Wayne County

| | UNDER 5 | UNDER 18YRS | 65+ | LINGUISTICALLY ISOLATED: 2000 |
|-----------------------|---------|-------------|------|-------------------------------|
| TOTAL COUNTY | 338 | 1748 | 1601 | 151 |
| UNINCORPORATED COUNTY | 128 | 764 | 507 | 2 |

Source: US Census Bureau

this population as an “at risk group” is the concern that they may not understand storm warnings or information provided by law enforcement or emergency responders. In unincorporated Wayne

County the proportion of linguistically isolated households is under 1% (2 households), while a small proportion, it is still important to consider their needs.

viii. Income

In the 2000 Census, median household income for Wayne County was \$29,380, up from \$17,599 in the 1990 Census. Over half of the households in unincorporated Wayne County (56%) had incomes under \$25,000 annually. In 2000, unincorporated Wayne County had 923 people under the Federal Poverty Guidelines in 1999 comprising about 14% of the unincorporated population.

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$45,000 TO \$74,999 | \$75,000 + |
|--------------------------|---------------------------|---------------------------------|---------------------------------|-------------------|
| HOUSEHOLDS | 624 | 295 | 106 | 36 |
| PROPORTION | 56.31% | 26.62% | .09% | .03% |
| Source: US Census Bureau | | | | |

ix. Major Employers

Ten major employers are identified in Wayne County by the Location One Information System (LOIS) website.

| | |
|---------------------------------|---------------------------|
| HyVee | Allerton Lumber Co |
| Wayne County Community Schoolss | Log Chain Apiary |
| Wayne County Hospital | NXMP, North America Inc |
| Country Clipper | Clio Oil |
| Shivver’s | Taylor Fencing & Hardware |

x. Housing Information

Private homes are an important element in disaster mitigation as they represent not only a place of residence but one of the most significant investments that Americans own. Even with declines in the housing market, private homes retain their status as a significant personal investment. Lack of protection of homes can have devastating impacts on their owners in many ways, not the least being economically and psychologically.

a. Age of Housing

Some of the housing stock (45%) in Wayne County was constructed before 1940 suggesting that the structural integrity of the buildings likely does not met newer building codes designed to ensure the safety of residents. These structures are likely the most vulnerable to various hazards due to their age and the difference in construction techniques which have improved in many ways since they were built. A larger proportion of the older housing stock is found in incorporated communities in Wayne County. Median year built of the homes in Wayne County is 1947, meaning that half of the homes were built before and half after this year.

Another potential concern is the prevalence of bottled fuels such as LP gas, kerosene, and oil used as heating fuel in the homes in Wayne County; 33% (963) of homes use LP gas as heating fuel. While LP tanks can be safe forms of fuel containment and transport, liquefied petroleum gas is flammable and can explode. LP gas is heavier than air and so it will sink to the lowest level possible; if inhaled it can cause asphyxiation through oxygen deprivation but is otherwise nontoxic. A further concern is that 188 homes (.06%) in 2000 reported using wood as the primary heating fuel. This becomes a concern due to its potential fire hazard but also to carbon monoxide poisoning in the home if a chimney is blocked.

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

About 67% of the owner-occupied homes in unincorporated Wayne County was valued at less than \$50,000 (15.73%) as of the 2000 Census and no homes were valued above \$500,000. Only seventeen homes were valued above \$200,000 as of the 2000 Census. About 95% of the homes in the unincorporated portion of Wayne County are valued less than \$99,999.

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|----------------------------|---------------------------|-----------------------------|-------------------------------|-------------------|
| HOMES | 116 | 105 | 13 | 16 |
| PROPORTION OF TOTAL | 87.9% | 25.2% | 33.3% | 57.1% |

Source: US Census Bureau

xi. Transportation

There is only one distinct US Highways crossing through Wayne County, highway 65 running north to south. Two distinct county highways are located in the county, highway 2 running east to west at the mid-section and the spur of highway 14 that extends north to Chariton. Two railroads cross through the county, one (UP) running north-south connecting Lineville, Clio, Allerton, Corydon, and Millerton. The second rail (DME) crosses the southeast corner of Wayne County and enters the cities of Sewal and Seymour.

| FACILITIES | NUMBER |
|--|---------------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 0 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | 0 |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 1 |

Source: Google

xii. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins.

| ASSETS | NUMBER |
|--------------------------|---------------|
| MUSEUMS | 0 |
| COLLEGES | 0 |
| SCHOOLS | 0 |
| LIBRARIES | 0 |
| COMMUNITY CENTERS | 0 |
| PLACES OF WORSHIP | 5 |

Source: Google

xiii. Community Assets

Community assets are not always easily identified and can often include cultural resources which are similar but may be more focused on historical or scientific significance (see 2.A.xiv. below). Generally speaking, community assets are those buildings, public or private facilities, and other infrastructure that make a settlement more than a cluster of homes and perhaps a few businesses. Often if such assets leave a community or are severely damaged, there may be a sense of loss in the community and it may signal impending decline of population. In these terms, community assets are more difficult to define for an unincorporated area or county since communities are generally thought of as a town or a city. None-the-less, the same assets that can be identified for an incorporated community in Wayne County, can be identified as an asset to the unincorporated county where they are present. This section also includes critical facilities which are assets that play a role in disaster recovery or are particularly vulnerable to disasters due to their vital role in the community. Grocery stores are included in this category as if they are lost or closed for extended periods of time then additional problems arise in the respective community including an incentive for residents to relocate.

For a geographic area like a county, community assets may also include water resources, wildlife preserves, and parkland. See Table 10: Community Assets for buildings located in the unincorporated county, Table 9: Critical Facilities, and Appendix R: Public Lands for natural and recreation areas. See Appendix G: Community Assets and Critical Facilities for listing of which assets and facilities are present in Wayne County.

Below are valuations for the unincorporated county from the Wayne County Assessor's office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

| Type of Structure (Occupancy Class) | Number of Structures | Total Valuation |
|-------------------------------------|----------------------|------------------|
| Residential | 2221 | \$111,122,335.00 |
| Commercial | 575 | \$16,408,064.00 |
| Industrial | 69 | \$6,899,415.00 |
| Agricultural | 884 | \$236,256,140.00 |
| Religious / Non-profit | | \$4,125,632.00 |
| Government | | |
| Education | | \$32,978,172 |
| Utilities | | |
| Total | 3,749 | \$407,789,758 |

xiv. Cultural Resources

Non-living examples of objects acquired and preserved because of their potential value as examples, as reference material, or as objects of artistic, historic, scientific, educational, or social importance, either individually or as a collection. Cultural resources include “moveable heritage,” such as collections of artifacts, statuary, artwork, and important documents or repositories. Often housed in libraries, museums, archives, historical repositories, or historic properties, these resources range from three-dimensional examples such as sculptures, historic furnishings, family heirlooms, or textiles, to two-dimensional examples such as family records, written history or memorabilia, old photographs and maps, and other archival materials.

Source: FEMA Guide 386-6 pgvii

Most of the Cultural Resources in Wayne County that are identified in external sources are of either archeological nature or on the National Register of Historic Sites. These sources do not necessarily capture all of the cultural resources in the county, but they are a start.

The National Register of Historic Places is a program under the National Park Service that identifies places of historic significance as initiated by local efforts. These places then are subject to regulations to preserve their intrinsic nature but also qualify for funding to maintain them when available and may qualify for Federal tax benefits.

Table 11: National Register of Historic Places

| PROPERTY | ADDRESS | CITY | DATE LISTED |
|------------------------|----------------------------|---------------|-------------|
| NELSON ROUND BARN | | ALLERTON, IA | 1986 |
| PLEASANT HILL SCHOOL | 3 MILES NORTH OF LINEVILLE | LINEVILLE, IA | 1975 |
| W.H. THEDFORD HOUSE | 312 S WEST ST | CORYDON, IA | 1979 |
| CORYDON PUBLIC LIBRARY | N DEKALB ST | CORYDON, IA | 1983 |
| | | | |

Source: <http://www.nps.gov/history/nr/>

There are approximately 176 known historic sites in Wayne County; these sites include Historic Sites and Prehistoric Sites. See *Appendix D: Archeological locations in Wayne County* for an image of the county by section with a count of historic sites listed for each. Exact location and details of the historic sites is not publicly available in order to protect the sites from looting or intentional damage the exception to this may be sites that are on the National Historic Registry. The State Archeologist's office may be contacted for more information as needed.

xv. Endangered Species

Endangered or threatened animal species in Wayne County are confined to the Indiana Bat (endangered). Plant species on the endangered species list includes the Western Prairie Fringed Orchid (threatened) and the Prairie Bush Clover (threatened). See the *Iowa List of Federally Endangered, Threatened, Proposed, and Candidate Species – by County* list from the U.S. Fish and Wildlife Service for more information. The Sheepnose mussel (not pictured) is a candidate for the Endangered Species list.

Figure 3: Indiana Bat



Source: US Fish and Wildlife Service, photo by Adam Mann, Environmental Solutions and innovations, <http://www.fws.gov/midwest/Endangered/esday/index.html>

Figure 4: Western Prairie Fringed Orchid



Source: Iowa Department of Natural Resources, <http://www.iowadnr.com/other/images/platanthera.jp>

Figure 5: Prairie Bush Clover



Photo by USEWS; Phil Delphey

Source: US Fish and Wildlife Service, photo by Phil Delphey <http://www.fws.gov/midwest/endangered/plants/prairieb.html>

B. Corydon

The City of Corydon is the County Seat of Wayne County; see Figure 1: *Communities of Wayne County* for location of Corydon relation to other communities in the county.

i. Geography

Corydon is located approximately in the center of the county at coordinates 40° 45' 16" N, 93° 18' 37" W. See Figure 1: *Communities of Wayne County*. Corydon encompasses an area of 1.4 square miles with a population density of 1,144.3 people per square mile according to the 2000 Census.

ii. History / Development Trends

Corydon was founded in 1851 as the county seat for Wayne County, Iowa. It only took a couple of years for it to grow to a population of 100 with several businesses. Judge Seth Anderson, the second postmaster, named the town after his old hometown (Corydon, Indiana) after he won a poker game to decide the winner to name the town.

The first courthouse was conducted in 1856 along with a log building to be used for the jail. The courthouse was sold in 1876 and moved out of town for a new building to be built. There have been two courthouses since that time.

Corydon's population of 1800 has remained steady throughout the years after its peak of 17,500 in 1900.

Table 12: Corydon Population (2000)

| | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 1591 | 718 |
| 1990 | 1675 | 749 |

Source: US Census Bureau

iii. Population

As of the 2000 Census, the total population of Corydon was 1,600 with a total of 720 households. Between 1990 and 2000, Corydon lost 75 people and 29 households.

Table 13: Potential At Risk Populations in Corydon (2000)

| | UNDER 5 | UNDER 19 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|---------|----------|------|-------------------------|
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| CORYDON | 69 | 363 | 508 | 26 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a "at risk groups." Less than half of each of the potential at risk populations in Wayne County is

Table 14: Corydon Household Incomes (2000)

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|----------------|----------------------|----------------------|------------|
| HOUSEHOLDS | 325 | 222 | 96 | 77 |
| PROPORTION | 45.1% | 30.8% | 13.3% | 10.7% |

Source: US Census Bureau

located in Corydon (21.06 to 22.82% each category) except for the linguistically isolated population. As of the 2000 Census, there were no people that are considered linguistically isolated.

v. Income

In the 2000 Census, median household income for Corydon was \$28,542 up from \$17,952 in the 1990 Census. Once inflation is accounted for, the real median household income has increased by nearly 5% since 1990 meaning that increased incomes were exceeding inflation.³ Nearly 80% of the households in Corydon had incomes less than \$50,000 in 1999. Approximately 12% (183 people) of the population of Corydon have incomes below the 1999 Federal Poverty Guidelines.

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

Nearly half (37.96%) of homes in Corydon were built prior to 1940 though there was a spike in new homes built in the 1970’s with nearly 19% of the housing stock built during this decade. Approximately 1% of homes (8 homes) in Corydon are heated with bottled fuels and no homes were heated by firewood in 2000.

| Table 15: Years Built of Housing in Corydon | | | | | | | |
|--|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
| HOMES | 306 | 103 | 89 | 96 | 153 | 28 | 31 |
| PROPORTION | 37.96% | 12.77% | 11.04% | 11.91% | 18.98% | 3.47% | 3.84% |
| Source: US Census Bureau | | | | | | | |

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

Approximately 93% of the owner-occupied homes in Corydon were valued at less than \$100,000. Only thirty-three homes were valued between \$100,000 and \$250,000.

| Table 16: Housing Valuation in Corydon (2000) | | | | |
|--|-------------------------------|---------------------------------|-----------------------------------|-------------------|
| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
| HOMES | 254 | 186 | 23 | 10 |
| PROPORTION | 53.7% | 39.3% | 4.9% | 2.1% |
| Source: US Census Bureau | | | | |

³ Various Inflation and Consumer Price Index calculators are available online, for the estimates in this plan utilizes [www.coinnews.net’s calculator](http://www.coinnews.net/tools/cpi-inflation-calculator/); <http://www.coinnews.net/tools/cpi-inflation-calculator/>.

viii. Transportation

Two state roads intersect the city of Corydon. Highway 2, traveling east-west through the center of town, and Highway 14, running north-south extends from the center of Corydon north to Chariton.

ix. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various

Table 17: Corydon Critical Facilities

| FACILITIES | NUMBER |
|---|--------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 2 |
| HOSPITALS | 1 |
| AMBULANCE SERVICES | 1 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 1 |
| COURTHOUSES | 1 |
| GROCERY STORES | 2 |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 3 |

Source: Google Maps

hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne County.

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 18: Community Assets and Table 17: Critical Facilities for buildings located in Corydon. See Appendix G: Community Assets and Critical Facilities for listing of which assets and facilities are present in Corydon.

Below are valuations for the Corydon from the Wayne County Assessor’s office. The number of structures for exempt properties is not readily available and thus is

omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There is one library and one museum located in Corydon. There are no known historic sites in sections that would be within Corydon’s municipal boundaries. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

Table 18: Corydon Community Assets

| ASSETS | NUMBER |
|-------------------|--------|
| COLLEGES | 0 |
| SCHOOLS | 1 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 5 |

Source: Google Maps

xii. Priority Hazards

The City of Corydon Mayor, Rod Parham, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of severe winter storms, windstorm, thunderstorm, and rail transportation incident as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on replacing or repairing the early warning

system, address vacant structures/collapsed buildings, water and/or sewer system management, and improving roadway systems.

C. Seymour

See Figure 1: *Communities of Wayne County* for location of Seymour in relation to other communities in the county.

i. Geography

Seymour is the eastern-most incorporated community in Wayne County in the south-east portion of the county at coordinates 40° 40' 54" N, 93° 6' 42" W. The city encompasses an area of 2.4 square miles with a population density of 344.5 people per square mile according to the 2000 Census.

ii. History / Development Trends

With the coming of the Rock Island Railroad in 1871, the town of Seymour was formed. Citizens gave alternated lots to the railroad in goodwill and the town incorporated in 1874, with most businesses coming from Genoa (a few miles to the south). A tall cottonwood to the west served as a landmark to travelers for miles around and the name "Lone Tree" was first choice. However, founding fathers wanted to use "Seymour" after a New York governor and a town in Indiana, and they prevailed.

From a community of 300, the town grew to the largest town of Wayne county for a short time in the late 1800's. Its growth was due to the booming coal mining industry of the area. Many nationalities were present and an Italian group formed a "Little Italy" sector. Much mining history still remains. But as the coal lode lessened, the town's main industry was gone and it dropped to second in size, where it is today.

iii. Population

As of the 2000 Census, the total population of Seymour was 810 with a total of 336 households. Between 1990 and 2000, Seymour lost 59 people and 31 household. This is a loss of about 1% of population and almost 1% loss of households.

Table 19: Seymour Population (2000)

| | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 810 | 336 |
| 1990 | 869 | 367 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a "at risk groups." Few people in Seymour fall within this category, about 13% of the county's at risk population were in the city in 2000. As of the 2000 Census, there were two people that are considered linguistically isolated.

Table 20: Potential At Risk Populations in Seymour (2000)

| | UNDER 5 | UNDER 18 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|---------|----------|------|-------------------------|
| TOTAL COUNTY | 573 | 2391 | 1814 | 151 |
| SEYMOUR | 35 | 202 | 201 | 33 |

Source: US Census Bureau

v. Income

In the 2000 Census, median household income for Seymour was \$26,172, up from \$13,958 in the 1990 Census. Once inflation is accounted for, the real median household income has increased by about 21% since 1990 meaning that increased incomes were exceeding inflation. More than 94% of the households in Seymour had incomes less than \$45,000 in 1999. About 21.2% (172 people) of the population of Seymour have incomes below the 1999 Federal Poverty Guidelines.

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

Table 21: Seymour Household Incomes (2000)

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|----------------|----------------------|----------------------|------------|
| HOUSEHOLDS | 157 | 101 | 43 | 28 |
| PROPORTION | 47.7% | 30.7% | 13.1% | 8.5% |

Source: US Census Bureau

Table 22: Years Built of Housing in Seymour

| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
|-------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| HOMES | 215 | 20 | 20 | 40 | 63 | 20 | 14 |
| PROPORTION | 54.84% | 5.10% | 5.10% | 10.20% | 16.07% | 5.10% | 3.57% |

Source: US Census Bureau

The majority (54.84%) of homes in Seymour were built prior to 1940 though there was a spike in new homes built in the 1970's with about 16% of the housing stock built during this decade. Less than 1% of homes (3 homes) in Seymour are heated with bottled fuels and four homes were heated by firewood in 2000. The difference between the total homes heated by bottled fuels and wood and the total number of households in town could be either due to a margin of error in Census estimates or some homes heated by both.

b. Condition of Housing

There is no current Housing Assessment.

Table 23: Housing Valuation in Seymour (2000)

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|-------------------|--------------------|----------------------|------------------------|------------|
| HOMES | 193 | 39 | 0 | 0 |
| PROPORTION | 83.2% | 16.8% | 0.00% | 0.00% |

Source: US Census Bureau

c. Value of Housing

All of the owner-occupied homes in Seymour were valued at less than \$100,000 in 2000. More than three quarters of the homes were valued at less than \$50,000 as of the 2000 Census.

ix. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins. *Appendix G* will show the existing programs, policies and documents that exist for any of the communities in Wayne county.

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 24: Community Assets and

Table 24: Seymour Community Assets

| ASSETS | NUMBER |
|-------------------|--------|
| COLLEGES | 0 |
| SCHOOLS | 1 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 4 |

Source: Google Maps

Table 25: Critical Facilities for buildings located in Seymour. See *Appendix G: Community Assets and Critical Facilities* for listing of which assets and facilities are present in Seymour.

Table 25: Seymour Critical Facilities

| FACILITIES | NUMBER |
|---|--------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 1 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 1 |
| COURTHOUSES | 0 |
| GROCERY STORES | 2 |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

Source: Google Maps

Below are valuations for the Seymour from the Wayne County Assessor’s office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan.. There is one known archeological sites in the southeast section of the outer city limits of Seymour. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

xii. Priority Hazards

The City of Seymour Mayor, Caleb Housh, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of severe winter storms, tornados, and Thunderstorm/Lightning as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on addressing vacant or collapsed buildings in the city, dam maintenance for the City Reservoir, and GIS mapping.

D. Promise City

See Figure 1: *Communities of Wayne County* for location of Promise City in relation to other communities in the county.

i. Geography

Promise City is in the eastern third of Wayne County at coordinates 40° 44' 50" N, 93° 8' 38" W. The city encompasses an area of .2 square mile with a population density of 561.6 people per square mile according to the 2000 Census..

ii. History / Development Trends

Promise City, yet another town on the Keokuk and Western Railroad, was one of the early towns in the county. Platted in 1855 and a post office established in 1856. This town has not lived up to the hopes indicated in the name. In the early 1900's, the population was about 500 and the town had many businesses and several churches. There remains today a large brick building on Main Street which once housed a general store and bank, and later, during World War II, a toy factory. The Methodist church was built in 1912 is yet another interesting building with a very distinctive dome on the top.

The town's population is now approximately 100, many of which are life-long residents. A community center was built by the community club and offers a nice facility for events.

iii. Population

As of the 2000 Census, the total population of Promise City was 103 with a total of 50 households. Between 1990 and 2000, Promise City lost 29 people and lost 3 households in contrast with the County's gain in both population and households.

| | POPULATION | HOUSEHOLDS |
|-------------|-------------------|-------------------|
| 2000 | 105 | 50 |
| 1990 | 132 | 53 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a "at risk groups." Promise City's share of at risk groups was predominantly younger people although the proportion of them is about 1.6% of the county total. As of the 2000 Census, there were two people that are considered linguistically isolated.

| | UNDER 5 | UNDER 19 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|----------------|-----------------|------------|--------------------------------|
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| PROMISE CITY | 3 | 23 | 25 | 2 |

Source: US Census Bureau

v. Income

In the 2000 Census, median household income for Promise City was \$17,917, up from \$14,861 in the 1990 Census. Once inflation is accounted for, the real median household income has declined by nearly 4% since 1990 meaning that increased incomes are falling behind inflation. More than 78% of the households in Promise City had incomes less than \$45,000 in 1999. 101 people of the population of Promise City have incomes below the 1999 Federal Poverty Guidelines.

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|-----------------------|-----------------------------|-----------------------------|-------------------|
| HOUSEHOLDS | 30 | 12 | 5 | 0 |
| PROPORTION | 63.8% | 25.6% | 10.6% | 0% |

Source: US Census Bureau

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

The majority (70%) of homes in Promise City were built prior to 1940. Nearly 78% of homes (40 homes) in Promise City are heated with bottled fuels and 4 homes were heated by firewood in 2000.

| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
|-------------------|------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| HOMES | 47 | 3 | 4 | 3 | 6 | 0 | 4 |
| PROPORTION | 70.14% | 4.47% | 5.97% | 4.47% | 8.95% | 0% | 5.97% |

Source: US Census Bureau

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

Over 85% of the owner-occupied homes in Promise City were valued at less than \$50,000; no homes were valued above \$150,000 in the 2000 Census.

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|-------------------|-------------------------------|---------------------------------|-----------------------------------|-------------------|
| HOMES | 36 | 6 | 0 | 0 |
| PROPORTION | 85.7% | 14.3% | 0% | 0.00% |

Source: US Census Bureau

ix. Existing Programs, Policies, and Technical Documents

| FACILITIES | NUMBER |
|--|---------------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | 0 |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne County.

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 32: Community Assets and Table 31: Critical Facilities for buildings located in Promise City. *See Appendix G: Community Assets and Critical Facilities* for listing of

which assets and facilities are present in Promise City.

Below are valuations for Promise City from the Wayne County Assessor’s office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There is not a library in Promise City. There eight known prehistoric sites in a section partially within Wayne’ municipal boundaries. *See Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

| ASSETS | NUMBER |
|--------------------------|---------------|
| COLLEGES | 0 |
| SCHOOLS | 0 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 2 |

Source: Google Maps

xii. Priority Hazards

The City of Promise City Mayor, Brenda Devore, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of severe winter storms, tornados, and Highway Transportation Incident as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on obtaining weather radios, and addressing vacant or collapsed buildings in the city.

E. Allerton

See Figure 1: *Communities of Wayne County* for location of Allerton in relation to other communities in the county.

i. Geography

Allerton is near the center of Wayne County at coordinates 40° 42’ 25” N, 93° 21’ 57” W. The city encompasses an area of 1.1 square mile with a population density of 490.4 people per square mile according to the 2000 Census.

ii. History / Development Trends

Allerton came into existence following the construction of the Kansas City division of the Rock island Railroad. The railroad authorities secured 160 acres of land to be sold in lots at the considerable advance over cost. Judge Aller, of Leavenworth, Kansas, was one of the magnates of the road and also secured 160 acres. It was agreed that he and the railroad should be partners in the profitable scheme of building a town to be called “Aller town” or “Allerton” for short.

The railroad was completed in 1870 and the first train passed through in 1871. The earliest businesses included a lumberyard, bakery, blacksmith, and machine shop. The population was 394 when Allerton was incorporated in 1874 and grew to around it’s peak of 900 in 1880.

iii. Population

As of the 2000 Census, the total population of Allerton was 559 with a total of 231 households. Between 1990 and 2000, Allerton lost 40 people and lost 10 households.

| | POPULATION | HOUSEHOLDS |
|-------------|-------------------|-------------------|
| 2000 | 559 | 231 |
| 1990 | 599 | 241 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a “at risk groups.” Some of the county at risk population was located in Allerton amounting approximately 29% under 18 and about 16% over 65. As of the 2000 Census, none of the county’s linguistically isolated population reside in Allerton.

Table 34: Potential At Risk Populations in Allerton (2000)

| | UNDER 5 | UNDER 18 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|---------|----------|------|-------------------------|
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| ALLERTON | 27 | 166 | 92 | 11 |

Source: US Census Bureau

v. Income

In the 2000 Census, median household income for Allerton was \$28,929, up from \$18,281 in the 1990 Census. Once inflation is accounted for, the real median household income has increased by more than 12% since 1990 meaning that increased incomes were exceeding inflation. More than 84% of the households in Allerton had incomes less than \$50,000 in 1999. Nearly 19% (102 people) of the population of Allerton have incomes below the 1999 Federal Poverty Guidelines.

Table 35: Allerton Household Incomes (2000)

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|----------------|----------------------|----------------------|------------|
| HOUSEHOLDS | 91 | 82 | 21 | 12 |
| PROPORTION | 44.2% | 39.8% | 10.2% | 5.8% |

Source: US Census Bureau

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

Nearly half (48.59%) of homes in Allerton were built prior to 1940 though there was a spike in new homes built in the 1970's with nearly 21.47% of the housing stock built during this decade. Only 1.7% of homes (4 homes) in Allerton are heated with bottled fuels and 4 homes were heated by firewood in 2000.

Table 36: Years Built of Housing in Allerton

| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
|-------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| HOMES | 138 | 28 | 13 | 26 | 61 | 10 | 8 |
| PROPORTION | 48.59% | 9.85% | 4.57% | 9.15% | 21.47% | 3.52% | 2.81% |

Source: US Census Bureau

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

All of the owner-occupied homes in Allerton were valued at less than \$100,000; about 16% homes were valued above \$50,000.

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|-------------------|--------------------|----------------------|------------------------|------------|
| HOMES | 125 | 24 | 0 | 0 |
| PROPORTION | 83.9% | 16.1% | 0.00% | 0.00% |

Source: US Census Bureau

| FACILITIES | NUMBER |
|--|--------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

Source: Google Maps

ix. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne County.

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 39: Allerton Assets and Table 39: Allerton Critical Facilities for buildings located in Allerton. See *Appendix G: Community Assets and Critical Facilities* for listing of which assets and facilities are present in Allerton.

Below are valuations for Allerton from the Wayne County Assessor’s office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There are no libraries or museums located in Allerton. There are no known archeological sites in or adjacent to Allerton. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

| ASSETS | NUMBER |
|--------------------------|--------|
| COLLEGES | 0 |
| SCHOOLS | 0 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 4 |

Source: Google Maps

xii. Priority Hazards

The Allerton representative, Amy Sinclair, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of severe winter storms, tornados, Thunderstorm/Lightning and Pipeline Incident as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on addressing vacant structures and/or collapsed buildings, training for first responders and fire departments, increase drug prevention, identification and enforcement, and smoke/fire/carbon monoxide detectors and/or sprinkler systems.

F. Humeston

See Figure 1: *Communities of Wayne County* for location of Humeston in relation to other communities in the county.

i. Geography

Humeston is in the northeast corner in Wayne County at coordinates 40° 51' 11" N, 93° 29' 56" W. The city encompasses an area of .6 square miles with a population density of 862.5 people per square mile according to the 2000 Census.

ii. History / Development Trends

One of the earliest settlers to Wayne County was Marshall Richman who lived about 3.5 miles northwest of what is now Humeston. The township, in which the city of Humeston resides, was named after Mr. Richman since he helped survey the townships out in this county. The town did not grow much until after the railroad was built from the east in 1879. The track from Shenandoah west was built in 1880. Humeston was incorporated in 1881 with 302 inhabitants.

The town had began to boom in 1880 when the MI&N Railroad come in. By the end of the year 1881, there were nearly 1,000 residents within the precinct of Humeston. The trains brought the people, and it took the people away. When automobiles became common, citizens relied less on the rail lines for transportation and employment. The community has had a declining population over many years.

iii. Population

As of the 2000 Census, the total population of Humeston was 543 with a total of 265 households. Between 1990 and 2000, Humeston lost 10 people and lost 10 households.

**Table 40: Humeston
Population (2000)**

| | POPULATION | HOUSEHOLDS |
|------|------------|------------|
| 2000 | 543 | 265 |
| 1990 | 553 | 275 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a “at risk groups.” Less than 8%

of the county’s young people and about 9% of the county’s elderly are located in Humeston. As of the 2000 Census, there were 2 people that are considered linguistically isolated.

Table 41: Potential At Risk Populations in Humeston (2000)

| | UNDER 5 | UNDER 19 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|---------|----------|------|-------------------------|
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| HUMESTON | 27 | 121 | 156 | 18 |

Source: US Census Bureau

v. Income

In the 2000 Census, median household income for Humeston was \$22,917 up from \$15,380 in the 1990 Census. Once inflation is accounted for, the real median household income has declined by nearly 31% since 1990 meaning that increased median incomes were dramatically falling behind inflation. About 84% of the households in Humeston had incomes less than \$50,000 in 1999 and 2 had incomes above \$75,000. Approximately 110 people of the population of Humeston have incomes below the 1999 Federal Poverty Guidelines.

Table 42: Humeston Household Incomes (2000)

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|----------------|----------------------|----------------------|------------|
| HOUSEHOLDS | 125 | 78 | 33 | 4 |
| PROPORTION | 52.1% | 32.5% | 13.8% | 1.6% |

Source: US Census Bureau

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

Less than half (40.87%) of homes in Humeston were built prior to 1940 though there was a spike in new homes built in the 1990’s with about 26% of the housing stock built during this decade. Nearly 53% of homes (138 homes) in Humeston are heated with bottled fuels and about 1.9% homes (5 homes) were heated by firewood in 2000.

Table 43: Years Built of Housing in Humeston

| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
|-------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| HOMES | 121 | 30 | 17 | 22 | 79 | 9 | 18 |
| PROPORTION | 40.87% | 10.13% | 5.74% | 7.43% | 26.68% | 3.04% | 6.08% |

Source: US Census Bureau

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

Over 77% of the owner-occupied homes in Humeston were valued at less than \$50,000 and 3 homes were valued above \$100,000.

Table 44: Housing Valuation in Humeston (2000)

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|-------------------|-----------------------|-------------------------|---------------------------|------------|
| HOMES | 133 | 35 | 3 | 0 |
| PROPORTION | 77.8% | 20.5% | 1.8% | 0.00% |

Source: US Census Bureau

Table 45: Humeston Critical Facilities

| FACILITIES | NUMBER |
|--|--------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | 1 |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

Source: Google Maps

ix. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne county.

Table 46: Humeston Community Assets

| ASSETS | NUMBER |
|--------------------------|--------|
| COLLEGES | 0 |
| SCHOOLS | 1 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 2 |

Source: Google Maps

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 46: Community Assets and Table 45: Critical Facilities for buildings located in Humeston. See *Appendix G: Community Assets and Critical Facilities* for listing of which assets and facilities are present in Humeston.

Below are valuations for Humeston from the Wayne County Assessor’s office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There are no libraries or museums located in Humeston. There are not historic sites in the municipal boundaries. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

xii. Priority Hazards

The City of Humeston representative, Mike Schroeder, participated throughout the mitigation process and identified priority hazards shown in Appendix DD: Hazards by Jurisdiction. The members have identified the hazards of severe winter storms, tornado, and fixed hazardous materials as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on repairing or replacing the early warning system, obtaining generators for emergency shelter sites, and establishing storm shelter that could also be a heating/cooling center for residents.

G. Millerton

See Figure 1: *Communities of Wayne County* for location of Millerton in relation to other communities in the county.

i. Geography

Millerton is in the north-central portion of Wayne County at coordinates 40° 50’ 56” N, 93° 18’ 19” W. The city encompasses an area of .2 square mile with a population density of 230.1 people per square mile according to the 2000 Census.

ii. History / Development Trends

The Short Line railroad was responsible for the town of Millerton, which was laid out in 1912. The Post office established in 1914 and several additions were made to increase the size of the current community to one-half square mile or 160 acres. During the peak of its population, Millerton was home to 400-500 people and sixteen businesses.

iii. Population

As of the 2000 Census, the total population of Millerton was

| | POPULATION | HOUSEHOLDS |
|-------------|-------------------|-------------------|
| 2000 | 48 | 22 |
| 1990 | 44 | 23 |

Source: US Census Bureau

48 with a total of 22 households. Between 1990 and 2000, Millerton gained 4 people and lost 1 households.

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a “at risk groups.” Little of the county at risk population was located in Millerton amounting to just over 1% under 18 and less than 1% over 65. As of the 2000 Census, none of the county’s linguistically isolated population reside in Millerton.

| Table 48: Potential At Risk Populations in Millerton (2000) | | | | |
|--|----------------|-----------------|------------|--------------------------------|
| | UNDER 5 | UNDER 18 | 65+ | LINGUISTICALLY ISOLATED |
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| MILLERTON | 5 | 13 | 10 | 0 |

Source: US Census Bureau

v. Income

In the 2000 Census, median household income for Millerton was \$19,286, up from \$15,938 in the 1990 Census. Once inflation is accounted for, the real median household income has increased by more than 12% since 1990 meaning that increased incomes were exceeding inflation. More than 76% of the households in Millerton had incomes less than \$45,000 in 1999. Nearly 0% of the population of Millerton have incomes below the 1999 Federal Poverty Guidelines.

| Table 49: Millerton Household Incomes (2000) | | | | |
|---|-----------------------|-----------------------------|-----------------------------|-------------------|
| | UNDER \$25,000 | \$25,001 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
| HOUSEHOLDS | 15 | 7 | 2 | 0 |
| PROPORTION | 62.5% | 29.1% | 8.3% | 5.70% |

Source: US Census Bureau

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

Over half (55.17%) of homes in Millerton were built prior to 1940.. Nearly 64% of homes (16 homes) in Millerton are heated with bottled fuels and no homes were heated by firewood in 2000.

| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
|-------------------|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| HOMES | 16 | 2 | 7 | 0 | 0 | 2 | 2 |
| PROPORTION | 55.17% | 6.89% | 24.13% | 0% | 0% | 6.89% | 6.89% |

Source: US Census Bureau

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

All of the owner-occupied homes in Millerton were valued at less than \$50,000.

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|-------------------|-------------------------------|---------------------------------|-----------------------------------|-------------------|
| HOMES | 17 | 0 | 0 | 0 |
| PROPORTION | 100% | 0% | 0.00% | 0.00% |

Source: US Census Bureau

| FACILITIES | NUMBER |
|--|---------------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | 0 |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

ix. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne county.

x. Community Assets

Refer to page 19 for a description of what

constitutes community assets in this plan.

| ASSETS | NUMBER |
|--------------------------|---------------|
| COLLEGES | 0 |
| SCHOOLS | 0 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 1 |

Source: Google Maps

See Table 53: Community Assets and Table 52: Critical Facilities for buildings located in Millerton. See *Appendix G: Community Assets and Critical Facilities* for listing of which assets and facilities are present in Millerton.

Below are valuations for Millerton from the Wayne County Assessor's office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There is one structure, the Nelson Round Barn, located in Millerton. There are no known archeological sites in or adjacent to Millerton. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

xii. Priority Hazards

The City of Millerton representative, Keith Davis, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of severe winter storms, tornados, and Thunderstorm/Lightning as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on replacing or repairing early warning system and addressing vacant structures and/or collapsed buildings.

H. Lineville

See Figure 1: *Communities of Wayne County* for location of Lineville in relation to other communities in the county.

i. Geography

Lineville is in the south-west quadrant of Wayne County at coordinates 40° 34' 53" N, 93° 31' 16" W. The city encompasses an area of .9 square mile with a population density of 300.5 people per square mile according to the 2000 Census.

ii. History / Development Trends

Lineville, which straddles the Iowa-Missouri border, was first settled by 3 families in the 1840's and is the oldest town in the county. Before Iowa became a state, there was a "Honey Bee War" waged between the pioneers that resided on both sides of the now state line. Iowa pioneers would go down to Missouri and cut bee trees. Missouri pioneers would come into Iowa to cut their trees. Competition became so fierce that vigilante troops here formed on both sides and a shooting war began. In 1846, Iowa was accepted into the Union and President Polk sent troops to break up the "Honey Bee War".

In 1858, the village of Lineville was platted and recorded at the County Recorder's office. At that time it was all on the north side of the state line. After the arrival of the railroad in March of 1871, the town grew rapidly and was incorporated.

Lineville Mineral Springs, located three miles southwest of Lineville, was discovered in the late 1800's. A large resort hotel of 40-50 rooms with mineral baths was built. The water was bottled in large five gallon jugs and hauled to the Lineville Depot on dray wagons and shipped everywhere.

iii. Population

As of the 2000 Census, the total population of Lineville was 273 with a total of 126 households. Between 1990 and 2000, Lineville lost 16 people and lost 24 households.

Table 54: Lineville Population (2000)

| | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 273 | 126 |
| 1990 | 289 | 150 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a "at risk groups." Some of the county at risk population was located in Lineville amounting to approximately 18% under 18 and only about 32% over 65. As of the 2000 Census, none of the county's linguistically isolated population was in Lineville.

Table 55: Potential At Risk Populations in Lineville (2000)

| | UNDER 5 | UNDER 18 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|---------|----------|------|-------------------------|
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| LINEVILLE | 14 | 51 | 87 | 0 |

Source: US Census Bureau

v. Income

In the 2000 Census, median household income for Lineville was \$30,625, up from \$11,912 in the 1990 Census. Once inflation is accounted for, the real median household income has increased by more than 12% since 1990 meaning that increased incomes were exceeding inflation. More than 77% of the households in Lineville had incomes less than \$50,000 in 1999. Approximately 69 people in the population of Lineville have incomes below the 1999 Federal Poverty Guidelines.

Table 56: Lineville Household Incomes (2000)

| | UNDER \$25,000 | \$25,001 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|----------------|----------------------|----------------------|------------|
| HOUSEHOLDS | 54 | 39 | 17 | 10 |
| PROPORTION | 45% | 32.5% | 14.2% | 8.4% |

Source: US Census Bureau

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

Nearly half (47.36%) of homes in Lineville were built prior to 1950 though there was a spike in new homes built in the 1970’s with nearly 27% of the housing stock built during this decade. Only 5.4% of homes (7 homes) in Lineville are heated with bottled fuels and no homes were heated by firewood in 2000.

| Table 57: Years Built of Housing in Lineville | | | | | | | |
|--|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
| HOMES | 58 | 14 | 5 | 27 | 27 | 16 | 5 |
| PROPORTION | 38.15% | 9.21% | 3.28% | 17.76% | 17.76% | 10.52% | 3.28% |
| Source: US Census Bureau | | | | | | | |

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

The majority of the owner-occupied homes in Lineville were valued at less than \$100,000; about 72% homes were valued below \$50,000.

| Table 58: Housing Valuation in Lineville (2000) | | | | |
|--|-------------------------------|---------------------------------|-----------------------------------|-------------------|
| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
| HOMES | 55 | 19 | 0 | 2 |
| PROPORTION | 72.4% | 25% | 0.00% | 2.6% |
| Source: US Census Bureau | | | | |

ix. Existing Programs, Policies, and Technical Documents

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places. However, these tools are of possible use to protecting residents of an area from various hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne county.

| Table 59: Lineville Community Assets | |
|---|---------------|
| ASSETS | NUMBER |
| COLLEGES | 0 |
| SCHOOLS | 0 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 4 |
| Source: Google Maps | |

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 59: Community Assets and Table 60: Critical Facilities for buildings located in Allerton. See *Appendix G: Community Assets and Critical Facilities* for listing of which assets and facilities are present in Lineville.

Below are valuations for Lineville from the Wayne County Assessor’s office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There is one location listed on the National Register of Historic Places located near Lineville (3 miles north). There are no known archeological sites in or adjacent to Lineville. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

xii. Priority Hazards

The City of Lineville representative, Brent Snow, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of severe winter storms, tornado, Thunderstorm/Lightning, pipeline incident, and fixed hazardous materials incident as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on repairing or replacing the early warning system, training for first responders and/or fire department, and possibly a safe room.

| FACILITIES | NUMBER |
|--|---------------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 1 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

Source: Google Maps

I. Clio

See Figure 1: *Communities of Wayne County* for location of Clio in relation to other communities in the county.

i. Geography

Clio is in the south-west quadrant of Wayne County at coordinates 40° 38’ 9” N, 93° 26’ 29” W. The city encompasses an area of .7 square mile with a population density of 122.4 people per square mile according to the 2000 Census..

ii. History / Development Trends

The community of Clio, that is on the Rock Island Railroad between Lineville and Allerton, was platted in 1874. The community was established approximately 3 years after the railroad was built in this area. Following the advent of the railroad the town and community enjoyed a rapid growth in business and agriculture pursuits, as well, as a marked increase in population by the steady influx of new settlers into the community so that by 1885 the population of the town had grown to more than one hundred.

iii. Population

As of the 2000 Census, the total population of Clio was 91 with a total of 37 households. Between 1990 and 2000, Clio lost 12 people and gained 5 households.

Table 61: Clio Population (2000)

| | POPULATION | HOUSEHOLDS |
|-------------|------------|------------|
| 2000 | 91 | 37 |
| 1990 | 103 | 33 |

Source: US Census Bureau

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, the elderly, and those that are linguistically isolated are generally identified as a “at risk groups.” Some of the county at risk population was located in Clio amounting to 25% under 18 and about 26% over 65. As of the 2000 Census, none of the county’s linguistically isolated population was in Clio.

Table 62: Potential At Risk Populations in Clio (2000)

| | UNDER 5 | UNDER 18 | 65+ | LINGUISTICALLY ISOLATED |
|---------------------|---------|----------|------|-------------------------|
| TOTAL COUNTY | 337 | 1599 | 1589 | 151 |
| RUSSELL | 2 | 23 | 24 | 0 |

Source: US Census Bureau

v. Income

In the 2000 Census, median per capita household income for Clio was \$14,362 up from \$13,750 in the 1990 Census. Once inflation is accounted for, the real median household income has increased by more than 12% since 1990 meaning that increased incomes were exceeding inflation. More than 57% of the households in Clio had incomes less than \$50,000 in 1999.

Table 59: Clio Household Incomes (2000)

| | UNDER \$25,000 | \$25,000 TO \$49,999 | \$50,000 TO \$74,999 | \$75,000 + |
|-------------------|----------------|----------------------|----------------------|------------|
| HOUSEHOLDS | 12 | 9 | 8 | 6 |
| PROPORTION | 31.3% | 25.7% | 22.9% | 17.2% |

Source: US Census Bureau

vi. Major Employers

See page 17 for major employers in Wayne County for a chart of major area employers.

vii. Housing Information

a. Age of Housing

More than 3/4 (78.72%) of homes in Clio were built prior to 1940. Nearly 58% of homes (23 homes) in Clio are heated with bottled fuels and 1 homes were heated by firewood in 2000.

| | BUILT 1939 OR EARLIER | BUILT 1940 TO 1949 | BUILT 1950 TO 1959 | BUILT 1960 TO 1969 | BUILT 1970 TO 1979 | BUILT 1980 TO 1989 | BUILT 1990 TO 2000 |
|-------------------|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| HOMES | 37 | 2 | 3 | 0 | 2 | 3 | 0 |
| PROPORTION | 78.72% | 4.25% | 6.38% | 0% | 4.25% | 6.38% | 0% |

Source: US Census Bureau

b. Condition of Housing

There is no current Housing Assessment.

c. Value of Housing

All of the owner-occupied homes in Clio were valued at less than \$100,000; about 94% homes were valued below \$50,000.

| | LESS THAN \$50,000 | \$50,001 TO \$99,999 | \$100,000 TO \$149,999 | \$150,000+ |
|-------------------|-------------------------------|---------------------------------|-----------------------------------|-------------------|
| HOMES | 32 | 2 | 0 | 0 |
| PROPORTION | 94.1% | 5.9% | 0.00% | 0.00% |

Source: US Census Bureau

ix. Existing Programs, Policies, and Technical Documents

| ASSETS | NUMBER |
|--------------------------|---------------|
| COLLEGES | 0 |
| SCHOOLS | 0 |
| COMMUNITY CENTERS | 1 |
| PLACES OF WORSHIP | 1 |

Source: Google Maps

There are many tools available to communities for them to determine their own futures; many of these tools are not as common in rural areas or small communities as they are in more populated places.

However, these tools are of possible use to protecting

| FACILITIES | NUMBER |
|--|---------------|
| NURSING / CONVALESCENT / RETIREMENT HOMES | 0 |
| HOSPITALS | 0 |
| AMBULANCE SERVICES | 0 |
| FIRE DEPARTMENTS / STATIONS | 0 |
| POLICE / LAW ENFORCEMENT FACILITIES | 0 |
| COURTHOUSES | 0 |
| GROCERY STORES | |
| COMMUNICATIONS | 0 |
| OTHER FACILITIES | 0 |

Source: Google Maps

residents of an area from various hazards, such as flooding, and cave-ins. *Section 10: Incorporation into existing and future planning mechanisms* will show the existing programs, policies and documents that exist for any of the communities in Wayne County.

x. Community Assets

Refer to page 19 for a description of what constitutes community assets in this plan.

See Table 66: Community Assets and Table 67: Critical Facilities for buildings located in Clio. See *Appendix G: Community Assets and Critical Facilities* for listing of which assets and facilities are present in Clio.

Below are valuations for Clio from the Wayne County Assessor's office. The number of structures for exempt properties is not readily available and thus is omitted from the chart.

xi. Cultural Resources

Refer to page 20 for a description of what constitutes cultural resources in this plan. There are no libraries or museums located in Clio. There is one known archeological sites in or adjacent to Clio. See *Appendix D: Archeological Sites in Wayne County* for an image of the county by section with a count of historic sites listed for each.

xii. Priority Hazards

The City of Clio Mayor, Bob Mortimore, participated throughout the mitigation process and identified priority hazards shown in *Appendix P: Hazards by Jurisdiction*. The members have identified the hazards of tornado, rail transportation incident, and Thunderstorm/Lightning as major concerns for that community. The city was interested in pursuing many of the mitigation strategies but felt priority would be placed on repairing or replacing the early warning system or possibly pursuing the option of a community safe room.

J. Wayne Community Schools

ii. Geography

Wayne Community School is located in the heart of Corydon in Wayne County. Corydon is located approximately in the center of the county at coordinates 40° 45' 16" N, 93° 18' 37" W. Corydon encompasses an area of 1.4 square miles with a population density of 1,144.3 people per square mile according to the 2000 Census.

ii. History / Development Trends

Wayne Community Schools was created in the mid 60s, as some of the individual school districts in the area reorganized. Students are housed in two buildings that are located within the city limits of Corydon. The sites are Wayne Community Junior/Senior High School, and Wayne Community Elementary School.

iii. Population/Enrollment/Staff Membership

| Enrollment | | |
|--|--------|------------|
| Wayne Community School 2009-2010 (www.webschoolpro.com) | | |
| Elementary | (K-6) | 319 |
| Middle School | (7-8) | 79 |
| High School | (9-12) | 203 |
| Total Enrollment | | 601 |

The Wayne Community Schools, like every public school district in Iowa, is governed by a board of directors. The board is responsible for determining policies, setting the budget and maintaining standards of excellence in education on behalf of the community. Board members are elected by Wayne County voters for four year terms. Because the district school board members are committed to their own lifelong learning, they are regular participants in training and board development opportunities through the Iowa Association of School Boards

Our Staff: Dedicated to Excellence

Total number of employees: 96 (www.localschooldirectory.com). This includes full-time and part-time employees of:

Administration & Support Staff: 26

Full-time Teaching Staff: 52

Instructional Aids: 14

Counselors: 2

Library staff: 2

iv. At Risk Groups

As discussed in 2.A.vii, the Wayne County section on at risk groups, young children, and those that are linguistically isolated are generally identified as a “at risk group”.

The school would also include children who live in poverty and those who are of a minority race. The Wayne Community School is predominantly (99%) white ethnicity.

The current number of students who are enrolled for the Free and Reduced Lunch program is used to determine the number of at risk students who reside in poverty conditions. There are approximately 44% of students in High school (Iowa average 27%), approximately 44% of students in middle school (Iowa average 34%), and 48% of elementary students (Iowa average 39%) that participate in that program in this school district (source: www.publicschoolreview.com).

viii. Transportation

Wayne Community Schools offers transportation to enrolled students throughout the district. Six (6) buses travel throughout the district to transport children to and from school.

xii. Community Identified Hazards & Mitigation Strategies

Mr. Dave Daughton is the Superintendent of Wayne County Community School had previously met with the Wayne Emergency Management Coordinator to gather a clear understanding of the purposes of the Hazard Mitigation Plan and also attending mitigation planning meetings. Mr. Daughton is indicating the school is interested in possible safe room funding for their facility. The committee unanimously agreed to individually profile the Wayne Community Schools in this plan. Mr. Daughton and CVPD met on February 14, 2012 to review the document, the intent, and strategies to improve disaster prevention/preparedness. The school system is concerned about the safety of students, parents, and visitors that could be at a school function during the event of a disaster and particularly concerned about the event of a Tornado and thunderstorm occurrence during a school event. The school has established and approved emergency procedures in place for the number of students enrolled in the facilities. However, greater concern happens when there are a large number of people attending the numerous events held at the school. Wayne Community Schools plans to apply for any grant funded opportunities to assist them in constructing a Safe Room for their district. The school district does not have any structures in the flood plain and does not have concerns of river flooding.

K. Wayne County Hospital

A two-time (2010 & 2009) Press Ganey Summit Award recipient for outstanding patient satisfaction, the Wayne County Hospital team of health care professionals is dedicated to improving the health and well being of patients. Wayne County Hospital is a general medical/surgical hospital with modern medical imaging and laboratory services, inpatient & outpatient rehabilitation therapy, new labor-delivery-recovery obstetrical suites and an exceptional dialysis unit. The emergency department, designated as a Level IV Trauma Center, provides 24-hour emergency care and offers stabilization and transfer services to patients requiring more specialized care. Ambulance and medical helicopter transfer services are available with highly trained emergency personnel.

The medical staff consists of family practice physicians, a general surgeon and orthopedic specialist, complemented by physician assistants and nurse practitioners. In addition, obstetric care service in a 5-county area.

The Amy Robertson Specialty Clinic offers patients local care with visiting specialists in areas such as audiology, cardiology, orthopedics, podiatry, and urology. The Wayne County Hospital rehabilitation services team provides physical, occupational and speech language therapy. The hospital clinic system operates four clinics conveniently located in Corydon, Humeston, Lineville and Seymour to provide better health care access to patients within Wayne County.

Wayne County Hospital is one of the largest employers in the county serving a population of 6,600 people in Wayne County plus surrounding areas. (2002 Census) Wayne County Hospital operates as a tax-exempt; 25-bed licensed Critical Access Hospital (CAH).

Convenient, free parking is available in the main parking lot on the east side at the main entrance to the hospital.

WCH Facts & Figures

- Founded 1954
- Total CAH licensed beds 25
- Gross revenues \$25 million (as of July 2011)

Affiliate of Mercy Medical Center, Des Moines

Since 1986, the Wayne County Hospital has been a part of the Mercy Medical Center of Des Moines, Iowa, statewide collaborative Network of Healthcare Services. This affiliation is through a management contract with that facility

i. Geography

Wayne County Hospital is located on a hill on the east edge of Corydon. Corydon is located approximately in the center of the county at coordinates 40° 45' 16" N, 93° 18' 37" W. Corydon encompasses an area of 1.4 square miles with a population density of 1,144.3 people per square mile according to the 2000 Census.

ii. History / Development Trends

Completed in 1954, Wayne County Hospital opened in January 1955 as a 34 bed, non-profit, community owned, rural hospital serving Wayne County and neighboring communities. Cost for the original project, including the building and equipment, was \$450,000 of which \$140,000 was available from the Federal Government through the Hill-Burton Act. The County's share of the project, through taxation, was \$200,000, and the balance was obtained by subscriptions through the efforts of a local committee. The county's population in 1955 was between 9,000-10,000 people.

Designed by the architectural firm of Williamson and Loeb sack and Associates of Topeka, Kansas; the original structure was 256 feet long and 60 feet wide. A private room cost \$10.50 per day, a semi-private room was \$8.50 and the charge was \$6.50 per day for children under 7 years old. The new hospital employed a staff of approximately 25 members.

- 1949 Board of Trustees Established
- 1954 Hospital Complete
- 1955 Hospital Opened in January
- 1961 Corydon Medical Clinic Opens
- 1965 Surgical Suite & Emergency Room Improvements
- 1976 Ancillary Department Addition (Registered Dietitian, Laboratory, Radiology)
- 1980 Pharmacy Addition & Seymour Medical Clinic Opens
- 1985 Wayne Family Medical Clinic Opens
- 1986 Lineville Medical Clinic Open
- 1994 Amy Robertson Outpatient Clinic Addition
- 1997 Eva Rees Physician's Clinic Addition
- 2000 Susie Tuttle Dialysis Center Addition
- 2002 Magical Beginnings Early Childhood Center, Inc. Addition
- 2004 Completion of \$2 million construction project which included new cafeteria, kitchen, laundry, Murphy Place Assisted Living and Elgin Independent Housing facilities
- 2004 Designated as Critical Access Hospital (CAH) with 25 licensed beds in August
- 2009 Completed \$7.2 million Modernization & Renovation Project including a new Emergency Department, new Rehabilitation Department and the new H. Dale & Lois Bright Patient Care Wing with the Roger & Janet Winslow Family Maternity Suite; plus, renovated Imaging and Laboratory areas and significant infrastructure upgrades throughout the facility.
- 2011 South Central Iowa Medical Clinic joins the Wayne County Hospital clinic system

- 2011 Humeston Family Medical Clinic opens rounding out the Wayne County Hospital county wide clinic system

iii. At Risk Groups

It could be state that all patients of the Health Care Center are considered vulnerable and at risk due to their physical or mental health state that is requiring additional care. In this situation, all 25 beds would given an estimated number to be considered “at risk” for this facility.

iv. Employees

Wayne County Hospital is one of the major employers in Wayne County. There are approximately 232 employees, of which 183 or full time.

v. Community Identified Hazards & Mitigation Strategies

Wayne County Hospital employee, Mr. Cody Babbitt, was actively involved in the entire HMG planning sessions and participated in all of the meetings held. The hospital is concerned about the safety of patients, clients, and visitors that could be at in the building during the event of a disaster. The hospital has established and approved emergency procedures in place for the potential number of patients in the facilities. However, greater concern happens when there are a large number of people attending the numerous events held at the hospital or when it is utilized as an emergency recovery site such as for a terrorism event, human disease pandemic or incident, extensive severe natural weather events (tornado, ice, etc). Wayne County Hospital is interested in the following mitigation strategies: Enhanced Public Health Systems; establishing a vulnerable population contact plan; Public Outreach and Education; and possibly assisting with an evacuation plan.

This hospital is situated on a hill near the edge of Corydon and is not located in a floodplain.

3. Identifying and Profiling Hazards

In order to properly identify mitigation strategies and activities, the hazards that may affect the county or its jurisdictions must be identified. This section lists the potential hazards to the county that were identified by the planning committee. This section also discusses previous occurrences of the hazards, the areas of the county most at risk from each hazard, and the populations most at risk. By identifying the hazards and quantifying the risks, the county or its jurisdictions can better assess current mitigation strategies, develop future mitigation strategies, and identify needed mitigation projects.

The hazards addressed in this plan were identified by taking the list of hazards from the Iowa Hazard Mitigation Plan (*Figure 6*) which were evaluated in relation to local conditions. Descriptions of the hazards and preliminary data on the impacts and the vulnerable populations and structures were taken largely from the State Plan supplemented with local knowledge during the meeting where the hazards were selected initially. There were hazards that clearly apply to Wayne County, some that may or may not, and a few that clearly do not apply. The ones that do not apply were removed from the list of hazards that were detailed in the hazard profiles.

Figure 6: Hazards Identified in State Plan

| Natural Hazards | Human Caused/Combination Hazards |
|--------------------------|---|
| Flash Flood | Human Disease Pandemic |
| Tomadoes | Fixed Hazardous Materials |
| Windstorms | Transportation Hazardous Materials Incident |
| Extreme Heat | Structural Fire |
| Hailstorms | Cyber Terrorism |
| Grass or Wild land Fire | Highway Transportation Incident |
| Sink Holes | Air Transportation Incident |
| River Flooding | Rail Transportation Incident |
| Severe winter storms | Bioterrorism |
| Levee Failure | Radiological Terrorism |
| Drought | Enemy Attack |
| Earthquakes | Pipeline Transportation Incident |
| Landslide | Fixed Radiological Incident |
| Dam Failure | Chemical Terrorism |
| Expansive Soils | Agro-Terrorism |
| Thunderstorm & Lightning | Human Disease Incident |
| | Waterway Incident |
| | Energy Failure |
| | Conventional Terrorism |
| | Public Disorder |
| | Structural Failure |
| | Communications Failure |
| | Animal/ Plant/ Crop Disease |
| | Radiological Transportation |

Source: Iowa Hazard Mitigation Plan: Iowa Comprehensive Emergency Plan September 2007

The hazards that may or may not apply were predominantly human caused or combination hazards; these were evaluated by the planning committee as far as their local relevance. This was done as a large group discussion as we reviewed the hazards neighboring counties has included.

Determining what *hazards are likely to occur* in Wayne County was based on preliminary research conducted following the initial hazard selection and on local knowledge conveyed during committee meetings. The preliminary research on what hazards are likely to occur in Wayne County consisted of the Description, Historical Occurrence, and Probability elements in the hazard profiles. This method of incorporating the information to determine what hazards *are likely* into the profiles themselves was used to avoid repetition of hazard information.

The potential hazards identified for Wayne County and discussed in detail below correspond to hazards identified by FEMA and the Iowa Department of Homeland Security with additional hazards locally identified. The list of hazards addressed in this plan is as follows:

Natural Hazards

- Flash Floods
- Tornado
- Windstorms / High Wind Events
- Extreme Heat
- Hailstorms
- Grass or WildFire
- Sink Holes
- Severe Winter Storms
- River Flooding
- Drought
- Earthquake
- Dam Failure
- Thunderstorm & Lightning
- Radon/Lead
- Expansive soils
- Waterway incident
- Fixed Hazardous Materials
- Energy Failure
- Communications Failure
- Animal/plant/crop disease
- Structural Failure
- Structural Fire
- Agro-Terrorism
- Biological Terrorism
- Chemical Terrorism
- Conventional Terrorism
- Cyber Terrorism
- Radiological Terrorism
- Enemy Attack
- Public Disorder
- Transportation of Radiological Materials

Human Caused and Combination Hazards

- Pipeline
- Waterway Incident
- Air Transportation Incident
- Rail Transportation Incident
- Highway Transportation Incident
- Transportation Hazardous Materials
- Human Disease Incident
- Human Disease Pandemic

Documented historic events are not always specifically noted for individual communities so some information in the following hazard analysis includes the entire Wayne County area. Wayne County contains 11 communities (incorporated & unincorporated) in relatively close proximity to one another and share similar topography, land uses, and land cover in addition to sharing other socio-economic characteristics. Events that impact neighboring communities, likely impact several other communities.

Some information in the following hazard analyses is drawn directly from Iowa's *Hazard Analysis and Risk Assessment: 2003 Local Guide* and the *Iowa Hazard Mitigation Plan: Iowa Comprehensive Emergency Plan September 2007*.

A. Fire Insurance Rating

The fire insurance rating is measured on a scale of 1 to 10 with 1 representing exemplary public protection. A rating of 10 indicates that a community's fire suppression program does not meet minimum requirements of ISO. ISO is an organization that provides data, analysis, and decision-making support for various professions about risk.

| Community | Fire Dept. (Y/N) | Rating 1 - 10 | Community | Fire Dept. (Y/N) | Rating 1 - 10 |
|--------------|---------------------|------------------|-----------|---------------------|------------------|
| Wayne County | - | - | Seymour | Y | 7 |
| Corydon | Y | 7 | Allerton | Y | 7 |
| Promise City | N | - | Clio | N | - |
| Lineville | Y | 7 | Humeston | Y | 7 |
| Millerton | N | - | | | |

B. National Flood Insurance Program (NFIP) Participation

The following table organizes information provided by the Iowa DNR's flood plain coordinator for Wayne County and its communities.

| Community | Participates? (Y / N) | NFIP # | Mapped? (Y / N) | Map Date | Repetitive Loss Properties |
|--------------|--------------------------|--------|--------------------|----------|-------------------------------|
| Wayne County | N | -- | N | -- | -- |
| Corydon | N | -- | N | -- | -- |
| Promise City | N | -- | N | -- | -- |
| Seymour | Y | 190655 | Y | 7/1/1987 | -- |
| Allerton | N | -- | N | -- | -- |
| Clio | N | -- | N | -- | -- |
| Lineville | N | -- | N | -- | -- |
| Humeston | N | -- | N | -- | -- |
| Millerton | N | -- | N | -- | -- |

C. Risk Assessment

The risk assessment identifies how people, properties, and structures will be impacted by an event. If the hazard can harm people or damage their homes and other structures, they are vulnerable. Finding the weak points in the system, for example, identifying building types that are vulnerable to damage and anticipating the loss in high risk areas, will help the community decide what mitigation measure should be undertaken and how to implement the activities they select.

Some information in the following hazard analyses is drawn from Iowa's *Hazard Analysis and Risk Assessment: 2003 Local Guide* and the *Iowa Hazard Mitigation Plan: Iowa Comprehensive Emergency Plan September 2007*.

In making their hazard analysis and risk assessment, the Wayne County Hazard Mitigation Planning Committee considered the following:

- Historical Occurrence
- Probability
- Vulnerability
- Maximum Threat
- Severity of Impact
- Speed of Onset

The following tables define each factor and the rating scale the Planning Committee used to assess the hazards risk to the community.

Historical Occurrence: Number of times that a hazard has occurred in the community in the past.

| Rating | Number of Historical Occurrences |
|--------|----------------------------------|
| 1 | Fewer than 4 occurrences |
| 2 | 5 to 7 occurrences |
| 3 | 8 to 12 occurrences |
| 4 | More than 12 occurrences |

Probability: Likelihood of the hazard occurrence, sometimes without regard to hazard history.

| Rating | Likelihood | Frequency of Occurrence |
|--------|-------------|--|
| 1 | Unlikely | Less than 1% probability in the next 100 years |
| 2 | Possible | Between 2 and 10% probability in next year, or at least one chance in the next 100 years |
| 3 | Likely | Between 11 and 100% probability in next year, or at least one chance in next 10 years |
| 4 | Very Likely | Near 100% chance in the next year |

Vulnerability: Measure of the percentage of people and property that would be affected by the hazard event.

| Rating | Magnitude | Percentage of people and property affected |
|--------|--------------|--|
| 1 | Negligible | Less than 10% |
| 2 | Limited | 11 to 25% |
| 3 | Critical | 26 to 50% |
| 4 | Catastrophic | More than 50% |

Maximum Threat: Spatial extent of the community that might be impacted.

| Rating | Magnitude | Percentage of jurisdiction that can be affected |
|--------|--------------|---|
| 1 | Negligible | Less than 10% |
| 2 | Limited | 11 to 25% |
| 3 | Critical | 26 to 50% |
| 4 | Catastrophic | More than 50% |

Severity of Impact: Assessment of the severity in terms of fatalities, injuries, property losses, and economic losses.

| Rating | Level | Characteristics |
|--------|--------------|---|
| 1 | Negligible | Few if any injuries or illness. Minor quality of life lost with little or no property damage. Brief interruption of essential facilities and services for less than four hours. |
| 2 | Limited | Minor injuries and illness. Minor or short term property damage which does not threaten structural stability. Shutdown of essential facilities and services for 4 to 24 hours. |
| 3 | Critical | Serious injury and illness. Major or long term property damage, which threatens structural stability. Shutdown of essential facilities and services for 24 to 72 hours. |
| 4 | Catastrophic | Multiple deaths. Property destroyed or damaged beyond repair. Complete shutdown of essential facilities and services for 3 days or more. |

The State of Iowa expands this evaluation element by specifically addressing nine factors of any given hazard's impacts. These factors are as follows;

- A) Health and Safety of persons in the affected area at the time of the incident (injury and death)
- B) Health and Safety of persons responding to the incident
- C) Continuity of operations
- D) Property, facilities, and infrastructure
- E) Delivery of services
- F) The environment
- G) Economic and financial conditions
- H) Regulatory and contractual obligations
- I) Reputation of the entity

Speed of Onset: Potential amount of warning time available before the hazard occurs.

| Rating | Probable amount of warning time |
|--------|----------------------------------|
| 1 | More than 24 hours warning time. |
| 2 | 12 to 24 hours warning time. |
| 3 | 5 to 12 hours warning time. |
| 4 | Minimal or no warning time. |
| | |

D. Hazard Analysis Summary

| | <i>Historical</i> | <i>Probability</i> | <i>Vulnerability</i> | <i>Threat</i> | <i>Impact</i> | <i>Onset</i> | <i>Comb.</i> |
|---|-------------------|--------------------|----------------------|---------------|---------------|--------------|--------------|
| Natural Hazards | | | | | | | |
| Flash Flood | 4 | 4 | 3 | 3 | 3 | 3 | 20 |
| Tornado | 4 | 3 | 3 | 2 | 3 | 4 | 19 |
| Windstorms / High Wind Events | 4 | 4 | 4 | 4 | 3 | 4 | 23 |
| Extreme Heat | 2 | 3 | 3 | 4 | 3 | 2 | 17 |
| Hailstorm | 4 | 4 | 2 | 2 | 2 | 4 | 18 |
| Grass / Wildfire | 2 | 2 | 1 | 1 | 2 | 4 | 12 |
| Sink Holes | 1 | 2 | 1 | 1 | 1 | 4 | 10 |
| River Flooding | 4 | 4 | 2 | 2 | 2 | 2 | 16 |
| Severe Winter Storm | 4 | 4 | 4 | 4 | 3 | 3 | 22 |
| Drought | 2 | 3 | 3 | 4 | 3 | 1 | 16 |
| Earthquake | 1 | 1 | 1 | 4 | 1 | 4 | 12 |
| Dam Failure | 1 | 2 | 2 | 2 | 2 | 2 | 11 |
| Expansive Soils | 4 | 4 | 2 | 1 | 2 | 1 | 14 |
| Thunderstorm / Lightning | 4 | 4 | 2 | 2 | 3 | 3 | 18 |
| Radon/lead | 4 | 4 | 3 | 3 | 3 | 1 | 18 |
| Human Caused and Combination Hazards | | | | | | | |
| Air Transport. Incident | 1 | 3 | 1 | 1 | 4 | 4 | 14 |
| Rail Transport. Incident | 3 | 2 | 2 | 1 | 2 | 4 | 14 |
| Waterway Incident | 1 | 2 | 1 | 1 | 2 | 4 | 11 |
| Pipeline Incident | 1 | 2 | 1 | 1 | 3 | 4 | 12 |
| Highway Transport. Incident | 4 | 4 | 2 | 1 | 3 | 4 | 18 |
| Transport. Haz. Materials | 2 | 3 | 2 | 2 | 2 | 4 | 15 |
| Transport. Rad. Materials | 1 | 2 | 2 | 3 | 2 | 1 | 11 |
| Human Disease Incident | 2 | 3 | 3 | 3 | 3 | 1 | 15 |
| Human Disease Pandemic | 2 | 3 | 3 | 3 | 3 | 1 | 15 |
| Fixed Hazardous Materials | 4 | 4 | 2 | 1 | 2 | 4 | 17 |
| Animal/plant/crop disease | 1 | 2 | 2 | 3 | 3 | 1 | 12 |
| Enemy Attack | 1 | 2 | 2 | 2 | 2 | 2 | 11 |
| Public Disorder | 1 | 2 | 2 | 2 | 2 | 2 | 11 |
| Agro-Terrorism | 1 | 1 | 2 | 2 | 2 | 2 | 10 |
| Biological Terrorism | 1 | 1 | 2 | 2 | 2 | 2 | 10 |

| | | | | | | | |
|------------------------|---|---|---|---|---|---|----|
| Chemical Terrorism | 1 | 1 | 2 | 2 | 2 | 2 | 10 |
| Conventional Terrorism | 1 | 1 | 2 | 2 | 2 | 2 | 10 |
| Cyber Terrorism | 1 | 1 | 2 | 1 | 2 | 2 | 9 |
| Radiological Terrorism | 1 | 1 | 2 | 2 | 2 | 2 | 10 |
| Energy Failure | 2 | 3 | 3 | 3 | 2 | 4 | 17 |
| Communications Failure | 3 | 3 | 3 | 3 | 2 | 4 | 18 |
| Structural Failure | 1 | 3 | 2 | 2 | 3 | 4 | 15 |
| Structural Fire | 3 | 3 | 2 | 2 | 3 | 4 | 17 |

E. Hazards Not Addressed

The State of Iowa and FEMA recognize a certain list of hazards that all hazard mitigation plans are to address. However, not all hazards impact all areas, this brief section indicates what hazards are not addressed and why. Likewise, not all hazards were determined by the Wayne County Planning Committee to be significant enough to include in this plan.

Levees – There are only small levees that are known in Wayne County. Members noted that there are levees along the wetlands but that if they were to break it will only slightly affect some nearby crop land and no major flooding would occur.

Landslides- It was discussed that the area could potentially see landslides but that there is a very slight risk and not worth the attention it would take in comparison to the other hazards in the plan.

Hurricane – While Iowa is not known for being impacted by hurricanes, remnants of tropical storms have impacted the state, more in the southern counties than northern and western counties. These remnants would be covered by the detailed section on severe thunderstorms and possibly flooding (flash and river). One event of note should be mentioned, the 1900 hurricane that devastated Galveston, TX did pass through Wayne County. This hurricane maintained hurricane status through Iowa to the Great Lakes and ultimately into the Atlantic Ocean. No other hurricanes have entered Iowa in recorded history.

Climate change- the committee felt that it was inappropriately placed under “Human caused” events and that the conditions that would occur in this situation would be addressed under the “Natural Hazards” portions of the plan. However, regardless of the category, the committee determined that the hazard of Climate Change would not be included in the plan.

Fixed Radiological Incident – There are no radiological facilities in Wayne County.

F. Assessment Summary

Once the Wayne County Hazard Mitigation Committee had identified and scored the hazards, they examined each hazard in relation to the risk that hazard presented to the community. All of the identified hazards were then given a priority state. The Committee defined high-risk hazards to be those hazards that caused the substantial damage to the community in the past, have a high

probability of occurring in the future, contribute to other hazards happening, or have the potential to affect a large proportion of the community. High-risk hazards were also considered to be the hazards for which immediate planning and mitigation activities were to be focused. These hazards are given as one through ten on the following priority ranking chart.

The Committee considered moderate-risk hazards to be those hazards that should be addressed by the community in the future, however the need for mitigation activities for these hazards was not considered to be as immediate. These hazards were in the ranks of eleven through twenty on the priority chart. Finally, acceptable risk hazards were defined by the Committee as those hazards that, at the present time, have an acceptable level of risk. This does not mean that they are not of concern for the community but they did score in the bottom fourteen hazards of concern. The hazards are listed below by priority:

WAYNE COUNTY HAZARD RANKINGS

| | |
|--|----|
| 1. Windstorms/High Wind Events | 23 |
| 2. Severe winter storms | 22 |
| 3. Flash Flood | 20 |
| 4. Tornado | 19 |
| 5. Hailstorm | 18 |
| 6. Thunderstorm/Lightning | 18 |
| 7. Communications Failure | 18 |
| 8. Highway Transportation Incident | 18 |
| 9. Radon/Lead | 18 |
| 10. Structural Fire | 17 |
| 11. Energy Failure | 17 |
| 12. Fixed Hazardous Materials | 17 |
| 13. Extreme Heat | 17 |
| 14. River Flooding | 16 |
| 15. Drought | 16 |
| 16. Rail Transportation Incident | 16 |
| 17. Structural Failure | 15 |
| 18. Transportation Hazardous Materials | 15 |
| 19. Human disease Incident | 15 |
| 20. Human Disease Pandemic | 15 |
| 21. Air Transportation Incident | 14 |
| 22. Expansive Soils | 14 |
| 23. Grass/Wildfire | 12 |
| 24. Pipeline Incident | 12 |
| 25. Animal/plant/crop disease | 12 |
| 26. Earthquake | 12 |
| 27. Waterway Incident | 11 |
| 28. Dam Failure | 11 |
| 29. Transportation of Radiological Materials | 11 |
| 30. Public Disorder | 11 |

| | |
|----------------------------|----|
| 31. Enemy Attack | 11 |
| 32. Sinkholes | 10 |
| 33. Conventional Terrorism | 10 |
| 34. Chemical Terrorism | 10 |
| 35. Biological Terrorism | 10 |
| 36. Agro-Terrorism | 10 |
| 37. Radiological Terrorism | 10 |
| 38. Cyber Terrorism | 9 |

4. Hazard Profiles

A. Natural Hazards

Some natural hazards impact a broad area simply due to their nature; these hazards are often weather related. This section addresses those hazards that may impact a broader area than one community or could be restricted to a specific geographical area depending on the hazard.

| Hazard | Flash Flood | |
|-------------|--|--------|
| Definition | Flash Flood: A flood caused by heavy or excessive rainfall in a short period of time, generally less than 6 hours. Flash floods are usually characterized by raging torrents after heavy rains that rip through river beds, urban streets, or mountain canyons sweeping everything before them. They can occur within minutes or a few hours of excessive rainfall. They can also occur even if no rain has fallen, for instance after a levee or dam has failed, or after a sudden release of water by a debris or ice jam (National Weather Service). | Rating |
| Description | <p>Flooding causes more damage in the United States than any other severe weather related event, an average of \$5 billion a year. Flooding can occur in any of the 50 states or U.S. territories at anytime of the year.</p> <p>Flash flooding is an extremely dangerous form of flooding which can reach full peak in only a few minutes and allows little or no time for protective measures to be taken by those in its path. Flash flood waters move at very fast speeds and can roll boulders, tear out trees, scour channels, destroy buildings, and obliterate bridges. Flash flooding often results in higher loss of life, both human and animal, than slower developing river and stream flooding.</p> <p>Two common terms to describe areas that are prone to flooding are 100-year flood plain and 500-year flood plain. The meaning of these terms are often confused; though they sound like a flood in the</p> | |

| | <p>designated areas only happens once every 100 or 500 years, this interpretation is incorrect. What the designation actually means is that for a 100-year flood plain, the chance of a flood occurring in any given year is 1% which is statistically about once every 100 years. Likewise, for the 500-year flood plain, the probability is .2% for any given year. Floods may certainly occur more frequently in either flood plain designation, but these would be rare occurrences.</p> <p>Flash floods do not always occur in flood plains, during heavy downpours the capacity of the soil to absorb rain can be overwhelmed leading to water accumulating and running off of the surface of the land. Similarly with compaction of soil due to built infrastructure such as roads and buildings heavy rain is limited in its local soil infiltration capacity leading to runoff. This runoff can accumulate very quickly resulting in flash flooding.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|----------|-------------------|------------------------|-------------|------------------------|-------------|---------|---|---|---|------|-----|----------|---|---|---|-----|-----|---------|---|---|---|------|------|-------------|---|---|---|------|-----|-----------|---|---|---|-----|------|--------------|---|---|---|-----|-----|---------|---|---|---|------|------|-------------|---|---|---|------|------|----------|
| <p>Historical Occurrence</p> | <p>Since 1993, there have been twelve recorded flash flood events in Wayne County. These flash flood events caused nearly \$4 million in property damage with no injuries or loss of life reported. About \$685 thousand in crop damage has resulted from these events.</p> <table border="1" data-bbox="394 1010 1287 1486"> <thead> <tr> <th>Location</th> <th># of flash floods</th> <th>Injuries</th> <th>Death</th> <th>Personal Property loss</th> <th>Crop damage</th> </tr> </thead> <tbody> <tr> <td>Corydon</td> <td>3</td> <td>0</td> <td>0</td> <td>170k</td> <td>55k</td> </tr> <tr> <td>Humeston</td> <td>1</td> <td>0</td> <td>0</td> <td>50k</td> <td>10k</td> </tr> <tr> <td>Cambria</td> <td>3</td> <td>0</td> <td>0</td> <td>540k</td> <td>120k</td> </tr> <tr> <td>County wide</td> <td>1</td> <td>0</td> <td>0</td> <td>100k</td> <td>25k</td> </tr> <tr> <td>Millerton</td> <td>1</td> <td>0</td> <td>0</td> <td>50k</td> <td>100k</td> </tr> <tr> <td>Promise City</td> <td>1</td> <td>0</td> <td>0</td> <td>25k</td> <td>25k</td> </tr> <tr> <td>Harvard</td> <td>1</td> <td>0</td> <td>0</td> <td>500k</td> <td>100k</td> </tr> <tr> <td>Bentonville</td> <td>1</td> <td>0</td> <td>0</td> <td>2.5M</td> <td>250K</td> </tr> </tbody> </table> <p>See <i>Appendix O: NCDC Storm Events</i> for a record of events that have impacted Wayne County. The chart above provides a summary of NCDC recorded flash floods; property and crop damages are in thousands of dollars.</p> | Location | # of flash floods | Injuries | Death | Personal Property loss | Crop damage | Corydon | 3 | 0 | 0 | 170k | 55k | Humeston | 1 | 0 | 0 | 50k | 10k | Cambria | 3 | 0 | 0 | 540k | 120k | County wide | 1 | 0 | 0 | 100k | 25k | Millerton | 1 | 0 | 0 | 50k | 100k | Promise City | 1 | 0 | 0 | 25k | 25k | Harvard | 1 | 0 | 0 | 500k | 100k | Bentonville | 1 | 0 | 0 | 2.5M | 250K | <p>4</p> |
| Location | # of flash floods | Injuries | Death | Personal Property loss | Crop damage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Corydon | 3 | 0 | 0 | 170k | 55k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Humeston | 1 | 0 | 0 | 50k | 10k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cambria | 3 | 0 | 0 | 540k | 120k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| County wide | 1 | 0 | 0 | 100k | 25k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Millerton | 1 | 0 | 0 | 50k | 100k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Promise City | 1 | 0 | 0 | 25k | 25k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harvard | 1 | 0 | 0 | 500k | 100k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bentonville | 1 | 0 | 0 | 2.5M | 250K | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Probability</p> | <p>With 12 reported flash flooding events occurring in Wayne County in the last fifteen years, the probability of future flash floods is very</p> | <p>4</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

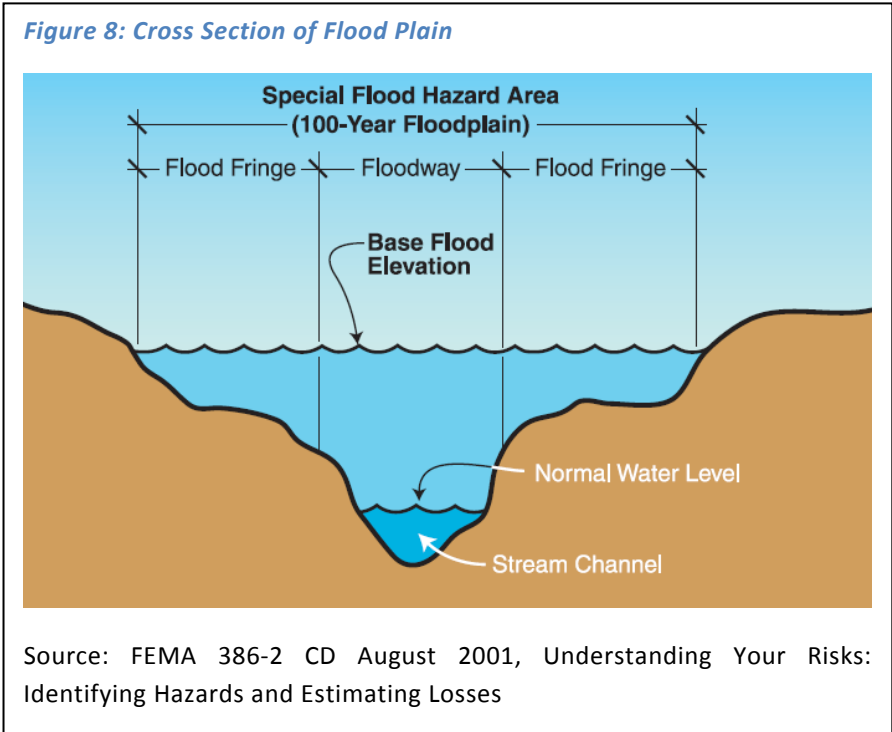
| | | |
|--------------------|---|---|
| | likely. Approximately one flash flood has occurred in Wayne County per year and given the nature of flash floods, one or more can be expected in the next 15 years. The State hazard mitigation plan suggests that there is a 60% chance of a flash flood in Iowa in the next year. Climate change projections for Iowa suggest that Iowa is and will become wetter with increased precipitation which contributes to flash floods. Projections suggest an increase in 20% more precipitation in the summer, 10% in the winter and spring, and 15% in the fall. (Climate Change and Iowa, US EPA, September 1998). | |
| Vulnerability | Flood zones and low-lying areas are most vulnerable to flash floods as this is where the water will accumulate and move fastest. People in vehicles are historically vulnerable when they attempt to drive through water flowing over a road or bridge. Two feet of flowing water can carry away most vehicles, including SUVs and a mere foot of water can float most vehicles. | 3 |
| Maximum Threat | <p>The most threat is to property and persons within flood plains, especially near streams and rivers and individuals in vehicles. More than half of all flash-flooding fatalities result from individuals misjudging the depth and strength of flood waters.</p> <p>As flash floods can happen anywhere at any time (FEMA), the entire county could be considered a hazard area. However, properties located in floodplains are at higher risk than those on high ground. The major low areas in Wayne County predominately lie in the rural region. There are two locations (180th & 200th roads) near the Chariton River that are more susceptible and damage has occurred to the secondary roadways. One additional rural area just east of Promise City has an area that experiences flash flooding. This area suffers from poor drainage due to the small drainage tube. Past experiences have seen water flooding over Highway 2. The communities of Seymour and Humeston have all had limited experiences with flash flooding. The eastern portion of Seymour has had flash flooding incidents due to poor drainage. The City does intend to apply for state assistance in the next year to repair the storm/sewer drainage system. Humeston also has past experience of flash flooding due to storm drainage issues that affected the school building and MFA (MISSOURI FARMER'S ASSOCIATION).</p> | 3 |
| Severity of Impact | A. Flash floods can result in death and injury, typically to individuals caught either in vehicles swept off of roads or who may be in low-lying | 3 |

| | | |
|----------------|---|---|
| | <p>areas when fast moving water moves through</p> <p>B. Flash floods can present a challenge to first responders by limiting access to a site or by requiring alternative modes of access such as by boat or helicopter; special training is often necessary for such rescues</p> <p>C. Continuity of operations can be affected depending on the facilities impacted, transportation impacts, and delays in government responses</p> <p>D. Property can be impacted either by being damaged by the force of flowing water, water damage inside buildings, and compromises to structural integrity due to erosion</p> <p>E. Flash floods can quickly inundate areas thought to be out of flood-prone areas. Loss of life; property damage and destruction; damage and disruption of communications, transportation, electric service, and community services; crop and livestock damage and loss and interruption of business are common impacts from flash flooding.</p> <p>F. Hazards of fire, health and transportation accidents, and contamination of water supplies are likely effects of flash flooding situations. Materials swept away by flood waters can contaminate and leave a lasting impact on the environment.</p> <p>G. Most impacts are indirect due to disruption of business and damage to infrastructure on which industry and services rely upon.</p> <p>I. Flash floods can be damaging to the reputation of the community if proper notification and warning are not given. Often times the victim will blame development or other changes in the community as the cause of the flooding on their property.</p> | |
| Speed of Onset | <p>Flash floods are unpredictable, but there are factors that can point to the likelihood of a flood's occurring in the area. Flash floods occur within a few minutes or hours of excessive rainfall, a dam or levee failure, or a sudden release of water held by an ice jam. Warnings may not always be possible for these sudden flash floods. Predictability of flash floods depends primarily on the data available on the causal rain. Individual basins react differently to precipitation events. Weather surveillance radar is being used to improve monitoring capabilities of intense rainfall. Knowledge of the watershed characteristics, modeling, monitoring, and warning systems increase the predictability of flash floods. Depending on the location in the watershed, warning times can be increased. The National Weather Service forecasts the height of</p> | 3 |

| | | |
|------------------------|--|----|
| | flood crests, the data, and time the flow is expected to occur at a particular location. | |
| Hazard Worksheet Score | | 20 |
| Composite Score | | 44 |

National Climatic Data Center

<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>



| Hazard | Tornado | |
|-----------------------|--|------------------------|
| Definition | <p>Tornado: A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of 1 mile wide and 50 miles long (FEMA 386-2 CD).</p> | |
| Description | <p>Tornadoes are among the most unpredictable of weather phenomena. While tornadoes can occur almost anywhere in the world, they are most prevalent in the United States. According to the National Weather Service, about 42 people are killed because of tornadoes each year. Tornadoes can occur in any state but are more frequent in the Midwest, Southeast, and Southwest. Tornado season runs ordinarily from March through August; however, tornadoes can strike at any time of the year if the essential conditions are present. Most tornadoes are relatively weak, about 75% are F0 or F1 on the Fujita Scale, another 2.5% reach up to F3 and only 1% are the violent F4 or F5 range.</p> <p>Thunderstorms and hurricanes spawn tornadoes when cold air overrides a layer of warm air, causing the warm air to rise rapidly. The winds produced from hurricanes, earthquake-induced fires, and wildfires have also been known to produce tornadoes. The frequency of tornadoes in the nation's midsection is the result of the recurrent collision of moist, warm air moving north from the Gulf of Mexico with colder fronts moving east from the Rocky Mountains.</p> <p>Tornadoes are generally measured in intensity by a rating scale known as the Fujita Scale. The Fujita Scale and the Pearson Scale follow this hazard profile.</p> | |
| Historical Occurrence | <p>In the U.S., Iowa is ranked third in the number of strong-violent (F2-F5) tornadoes per 10,000 square miles. From 1950-95, Iowa averaged 31 twisters per year. In Iowa most tornadoes occur in the spring and summer months, but twisters can and have occurred in every month of the year. Late afternoon to evening hour tornadoes are the most common, but they can occur at any time of the day.</p> <p>Wayne County has had 27 recorded tornadoes between 1953 and 2008. A total of seven injuries, \$39.157 million in property damage, and \$5,000 in crop damage. There were 3 events (1953, 1959, and 1980) that had F4 tornado activity in Wayne County. These three</p> | <p>Rating</p> <p>4</p> |

| | | |
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| | <p>events alone were responsible for \$2.77 million in property damage and 5 local injuries. The most recent tornadic activity in the past 10 years have been in the communities of Corydon, Sewal, Seymour, and Lineville which resulted in over \$250,000 personal property damage.</p> <p>See <i>Appendix O: NCDC Storm Events</i> for a record of events that have impacted Wayne County. The chart below provides a summary of NCDC recorded tornadoes; property and crop damages are in thousands of dollars.</p> | |
| Probability | <p>There have been 27 recorded tornadoes in Wayne County in the past 55 years. This equates to approximately one event per 7.9 years. Because tornadoes are sporadic there cannot be a reliable long-term prediction made as to when they may occur. Likewise, the chance of a tornado occurring at an exact location is very low making forecasting of tornado paths or touch-downs impossible. If, however, the tornado events hold to their average an event is likely and Wayne County can expect approximately one tornado for any given decade.</p> | 3 |
| Vulnerability | <p>Everyone is vulnerable to the powerful forces that accompany a tornado.</p> <p>There are those who are more vulnerable than others. For example:</p> <ol style="list-style-type: none"> 1. People in automobiles, 2. People in mobile homes, 3. People who may not understand warnings due to language barriers, 4. The elderly and very young, 5. People with physical or mental impairments. <p>See each jurisdiction’s respective profiles for demographic information relevant to vulnerable populations. There are approximately 307 (9.1%) mobile homes in the unincorporated county and the table below shows the number per community as of the 2000 Census.</p> | 3 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|-----------|------------------------|-----------|------------------------|---------|-----------|----------|-----------|----------|--|--|-----|----|---|---|----|----|---|----|----|--|--|--|
| | <p style="text-align: center;">Mobile Home Count (2000)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Wayne Co.</td> <td>Corydon</td> <td>Millerton</td> <td>Unincorporated City</td> <td>Seymour</td> <td>Allerton</td> <td>Clio</td> <td>Lineville</td> <td>Humeston</td> <td></td> <td></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">307</td> <td>40</td> <td>0</td> <td>2</td> <td>30</td> <td>35</td> <td>2</td> <td>19</td> <td>21</td> <td></td> <td></td> </tr> </table> <p>The number of mobile homes comprises a range of 3.0%-12.5% of housing units in each of the jurisdictions. The most vulnerable populations of each jurisdiction ranges between 20% and 30% encompassing the very young, the elderly, the linguistically isolated, and individuals residing in mobile homes.</p> | Wayne Co. | Corydon | Millerton | Unincorporated City | Seymour | Allerton | Clio | Lineville | Humeston | | | 307 | 40 | 0 | 2 | 30 | 35 | 2 | 19 | 21 | | | |
| Wayne Co. | Corydon | Millerton | Unincorporated City | Seymour | Allerton | Clio | Lineville | Humeston | | | | | | | | | | | | | | | | |
| 307 | 40 | 0 | 2 | 30 | 35 | 2 | 19 | 21 | | | | | | | | | | | | | | | | |
| <p>Maximum Threat</p> | <p>Generally the destructive path of a tornado is only a couple hundred feet in width, but as stated earlier, stronger tornadoes can be over one mile wide and fifty miles long. Wayne County communities are relatively small and so a single tornado could damage the entire town. Likewise, a single tornado could cross the entire county. Normally a tornado will stay on the ground for no more than 20 minutes; however, one tornado can touch ground several times in different areas. Large hail, strong straight-line winds, heavy rains, flash flooding, and lightning are also associated with severe storms and may cause significant damage to a wider area.</p> <p>The spatial threat to communities from a single event is far greater than for the county ranging from limited impact to catastrophic damage. The impact of a single tornado in the unincorporated county is relatively smaller due to the size of the county; one event is more likely to be negligible to limited.</p> | 2 | | | | | | | | | | | | | | | | | | | | | | |
| <p>Severity of Impact</p> | <p>A. Injury or death related to tornadoes most often occurs when buildings collapse; people are hit by flying objects or are caught trying to escape the tornado in a vehicle.</p> <p>B. Response personnel are exposed to the same risk as the general public when caught in the storm without shelter.</p> <p>C. Tornadoes can destroy government facilities just as they could other property. Disruption of critical services can also affect operations. Employees may be affected and unable to attend work-related issues.</p> <p>D. Impacts can range from broken tree branches, shingle damage to roofs, and some broken windows; all the way to complete destruction and disintegration of well-constructed structures, infrastructure, and trees.</p> <p>E. Tornadoes can impact many critical services, mainly electrical power. Buried services are not as vulnerable, but can be affected</p> | 3 | | | | | | | | | | | | | | | | | | | | | | |

| | | |
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| | <p>by their system components that are above ground.</p> <p>F. Tornadoes are naturally occurring phenomena. Damages to the environment could result from spills and other contaminants from the built environment.</p> <p>G. Whole towns have been known to be “wiped off the map” such as Greensburg, KS in recent years. Economic impacts can result from direct damages to facilities or business disruption from the lack of critical services such as power, gas, or water.</p> <p>H. Debris removal is a vital service that is often too vast for the jurisdiction to do without contractual assistance. These plans should be in place and monitored; a debris management plan for Wayne County was completed in 2009.</p> <p>I. Adequate warning is critical to the positive reputation of the jurisdiction. Responding in a timely manner and reconstructing the community is also important. Bringing critical services back on line quickly will ensure the residents can begin their personal recovery process sooner.</p> | |
| Speed of Onset | Tornado watches can warn of likely conditions hours in advance of an upcoming storm. Although significant advances in meteorological technology has allowed for much more effective forecasting, specific tornadoes cannot be predicted with any precision any more than minutes before they develop. The rapid change in direction a tornado can achieve makes it difficult to say with certainty the path the tornado will continue on even after it has been identified. Therefore warning time can sometimes be very short or occasionally non-existent. | 4 |
| Hazard Worksheet Score | | 19 |
| Composite Score | | 33 |

Figure 9: Fujita Scale

| ORIGINAL FUJITA SCALE | | ENHANCED FUJITA SCALE | |
|-----------------------|--------------------|-----------------------|--------------------|
| F5 | 261-318 mph | EF5 | +200 mph |
| F4 | 207-260 mph | EF4 | 166-200 mph |
| F3 | 158-206 mph | EF3 | 136-165 mph |
| F2 | 113-157 mph | EF2 | 111-135 mph |
| F1 | 73-112 mph | EF1 | 86-110 mph |
| F0 | <73 mph | EF0 | 65-85 mph |

Source: National Oceanic and Atmospheric Administration, <http://www.srh.noaa.gov/lch/jamb/jambalaya0407-5.php>

Figure 10: Fujita-Pearson Scale

| Fujita-Pearson Tornado Scale | | | | |
|------------------------------|-------------------|---------------|---------------|-------------|
| Pearson Rating | length | Width | Fujita Rating | Wind Speed |
| P0 | 0.3 - 0.9 miles | 6-17 yards | F0 | 40-72 mph |
| P1 | 1.0-3.1 miles | 18-55 yards | F1 | 73-112 mph |
| P2 | 3.2-9.9 miles | 56-175 yards | F2 | 113-157 mph |
| P3 | 10.0-31.0 miles | 176-566 yards | F3 | 158-206 mph |
| P4 | 32.0-99.0 miles | 0.3-0.9 miles | F4 | 207-260 mph |
| P5 | 100.0-315.0 miles | 1.0-3.1 miles | F5 | 261-318 mph |

Source: [http://www.storMFA \(Missouri Farmer's Association\)x.com/fujita.htm](http://www.storMFA(MissouriFarmer'sAssociation)x.com/fujita.htm)

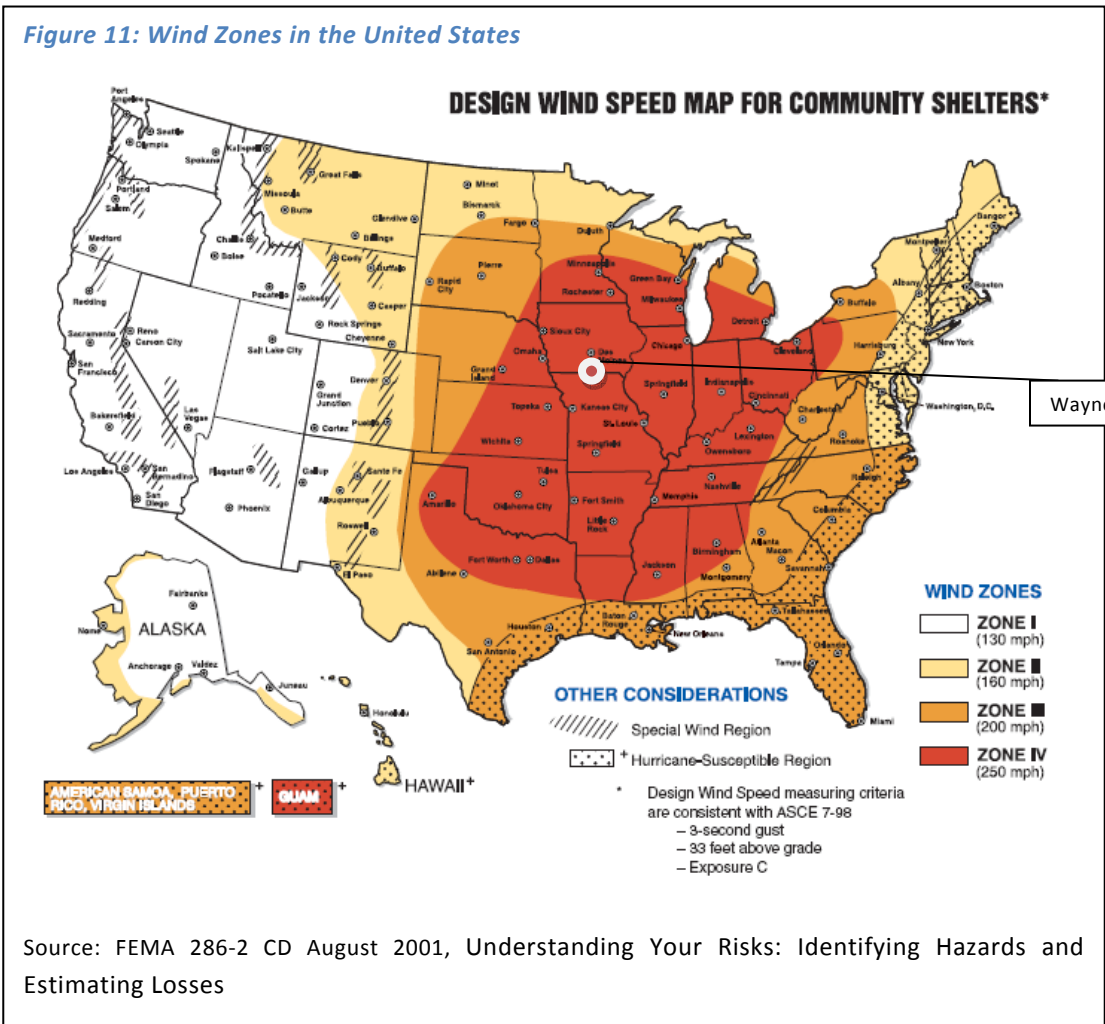
| Hazard | Wind Storms / High Wind Events | |
|-----------------------|--|---|
| Definition | <p>Windstorm: A storm with high winds or violent gusts but little or no rain (American Heritage Dictionary).</p> <p>High Wind Event: An event where sustained winds of at least 40 mph or gusts are 58 mph or more (NOAA).</p> | |
| Description | <p>Damage from severe thunderstorm winds account for half of all severe reports in the lower 48 states and is more common than damage from tornadoes. Wind speeds can reach up to 100mph and can produce a damage path extending for hundreds of miles. These winds are often called "straight-line" winds to differentiate the damage they cause from tornado damage. Strong thunderstorm winds can come from a number of different processes. Damaging winds are classified as those exceeding 50-60mph.</p> <p>Since most thunderstorms produce some straight-line winds as a result of outflow generated by the thunderstorm downdraft, anyone living in thunderstorm-prone areas of the world is at risk for experiencing this phenomenon.</p> <p>High winds can result from thunderstorm inflow and outflow, or downburst winds when the storm cloud collapses, and can result from strong frontal systems, or gradient winds (high or low pressure systems) moving across a region. High winds are defined as speeds reaching 50 mph or greater, either sustaining (continuous) or gusting. Downdraft winds are from a strong thunderstorm downburst which causes damaging winds on or near the ground, and can extend to as little as 2 ½ miles or extend over a hundred miles. Downdraft wind speeds can be from 80 mph up to 168 mph, and occur quite suddenly as a thunderstorm cloud collapses. This is different from the winds associated with tornadoes. Winds associated with storms are convective. Non-convective winds are caused by fronts or gradient winds. These speeds can range from light breezes to sustained speeds of 80 to 100 mph. Windstorms can be with little or no rain.</p> <p>Wayne County is located within Zone IV which means that wind speeds can reach and exceed 250 mph. A map showing extents of each wind speed follows this hazard profile.</p> | |
| Historical Occurrence | High winds have been responsible for 23 recorded events since 1993 in Iowa and Wayne County. However, many other high wind events are | 4 |

Rating

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| | <p>on record combined with thunderstorms since 1965. High winds tend to affect a large area so an event that impacts Wayne County is very likely to include surrounding counties as well. Of the high wind events that impacted Wayne County, there were \$44.89 million in property damages, \$360 thousand in crop damage, one death, and 9 injuries. These numbers encompass more than Wayne County and so the impacts within the county are far less severe.</p> <p>The highest recorded wind speed from a high wind event was 72 knots which is equivalent to almost 83 miles per hour.</p> <p>One of the most significant events was on November 10, 1998 which affected 52 counties and resulted in \$17.3 million in property damage, \$260 thousand in crop damages, and one death. This amounts to about \$333 thousand in property damage on average per county, however it is unlikely that each of the affected counties were impacted equally. See <i>Appendix O: NCDC Storm Events</i> for a record of events that have impacted Wayne County.</p> | |
| Probability | Based on the high wind events occurring since 1993, there is on average about 1.5 events each year so an event is very likely to occur on any given year. The State of Iowa estimates that throughout the state there will be 7-10 high wind events in excess of 70 knots (80.5 mph) annually. | 4 |
| Vulnerability | <p>Vulnerability to windstorms is very similar to tornadoes as windstorms mimic tornadoes in their effects. Buildings may be damaged by debris picked up by the storm, windows could be potentially blown out, and vehicles may be overturned. Persons in mobile homes, outdoors, and in vehicles during windstorms are at the most risk. See the Tornado profile above for additional relevant information.</p> <p>People living in mobile homes, homes that are built prior to building codes and homes in deteriorating conditions are particularly vulnerable to high winds. People in automobiles and campground are also at a greater risk. Generally an injury is minor and seldom is death associated with a wind storm.</p> <p>Committee members discussed the most vulnerable locations such as the campgrounds at Bobwhite State Park, City of Corydon Lake Park, other camping locations and the mobile homes located throughout the county. Also of critical concern is the aged (and possibly weak)</p> | 4 |

| | <p>housing structure in the area.</p> <table border="1" data-bbox="397 262 1282 535"> <thead> <tr> <th data-bbox="397 262 592 420">Number of Mobile Homes</th> <th data-bbox="592 262 787 420">Number of homes built prior to 1950</th> <th data-bbox="787 262 982 420">Number of Camp slots at Bobwhite State Park</th> <th data-bbox="982 262 1282 420">Number of Camp slots at City of Corydon Lake Park</th> </tr> </thead> <tbody> <tr> <td data-bbox="397 420 592 472">158</td> <td data-bbox="592 420 787 472">741</td> <td data-bbox="787 420 982 472">30</td> <td data-bbox="982 420 1282 472">20</td> </tr> <tr> <td data-bbox="397 472 592 535">2000 US Census</td> <td data-bbox="592 472 787 535"></td> <td data-bbox="787 472 982 535"></td> <td data-bbox="982 472 1282 535">www.mycountyparks.com</td> </tr> </tbody> </table> | Number of Mobile Homes | Number of homes built prior to 1950 | Number of Camp slots at Bobwhite State Park | Number of Camp slots at City of Corydon Lake Park | 158 | 741 | 30 | 20 | 2000 US Census | | | www.mycountyparks.com | |
|------------------------|---|---|---|---|---|-----|-----|----|----|----------------|--|--|-----------------------|--|
| Number of Mobile Homes | Number of homes built prior to 1950 | Number of Camp slots at Bobwhite State Park | Number of Camp slots at City of Corydon Lake Park | | | | | | | | | | | |
| 158 | 741 | 30 | 20 | | | | | | | | | | | |
| 2000 US Census | | | www.mycountyparks.com | | | | | | | | | | | |
| Maximum Threat | <p>The maximum threat of a windstorm may be spread over a wider area than many tornadoes since the winds are not confined to a rotating and therefore concentrated area. A windstorm that occurs within Wayne county would likely impact the entire county.</p> | 4 | | | | | | | | | | | | |
| Severity of Impact | <ul style="list-style-type: none"> A. Injury or death related to windstorms most often occur from building failure, or people struck by flying objects B. Response personnel are exposed to the same risk as the public when caught in storms without shelter. C. Windstorms can damage government facilities just as they could other property. Disruption of critical services can also affect operations. Employees may be affected and unable to attend work-related issues. D. Impacts can range from broken tree branches, shingle damage to roofs, and some broken windows; all the way to complete destruction of well constructed structures, infrastructure, and trees. E. Windstorms can affect many critical services, especially electrical power. Buried Services are not as vulnerable, but can be affected by their system components that are above ground. F. Windstorms are naturally occurring phenomena. Damages to the environment could result from hazardous materials spills and other contaminants from the built environment. G. Economic impacts can result from direct damages to facilities or business disruption from the lack of critical services such as power. Crop damage is often associated with windstorms; laying down crops, breaking stalks, and twisting plants, reducing the yield and making it difficult to harvest. H. Debris removal is a vital service that is often too vast for the jurisdiction to do without contractual assistance. These plans should be in place and monitored. I. Adequate warning is critical to the positive reputation of the jurisdiction. Responding in a timely manner and reconstructing the community is also important. Bringing critical services back on line quickly will ensure the residents can begin their personal recovery process sooner. | 3 | | | | | | | | | | | | |
| Speed of | <p>Although significant advances in meteorological technology has</p> | 4 | | | | | | | | | | | | |

| | | |
|------------------------|--|----|
| Onset | allowed for much more effective forecasting, windstorms are the hardest of storm events to predict due to the variety of conditions that create them. Doppler radar can help to identify windstorms and their strength but may not provide much warning for people in the affected area to seek shelter. Currently the best lead-time for a specific severe storm is about 30 minutes. | |
| Hazard Worksheet Score | | 23 |
| Composite Score | | 37 |

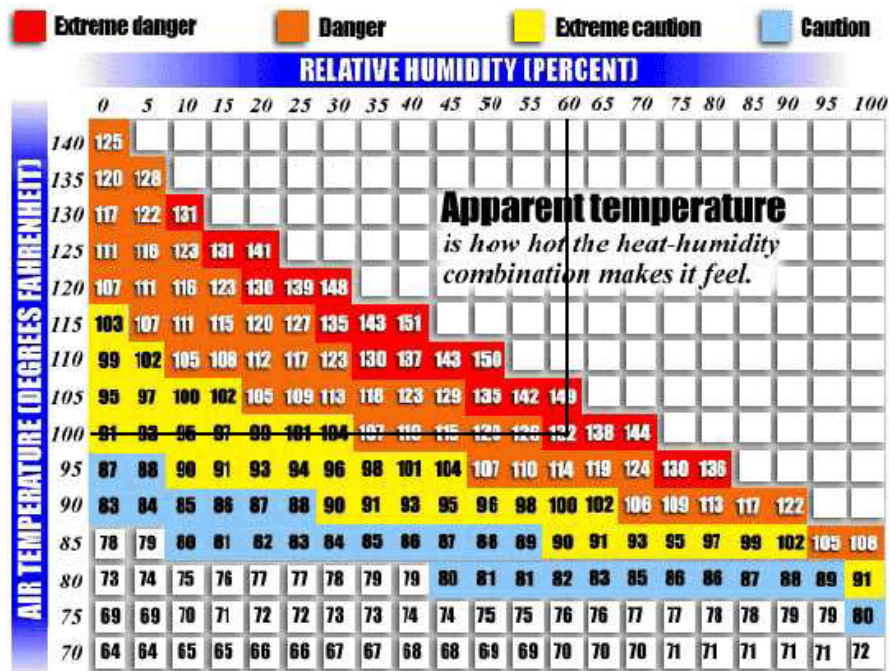


| Hazard | Extreme Heat | | | | | | Rating | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|------|--------|----------|----------|------|-------------------------|--|--|--|--|--|--|--------------|--------|------|--------|----------|----------|------|-------|---|-----|---|---|-------|---|---|
| Definition | <p>Extreme Heat: Temperatures (including heat index) in excess of 100 degrees Fahrenheit or 3 successive days of 90+ degrees Fahrenheit. A heat advisory is issued when temperatures reach 105 degrees and a warning is issued at 115 degrees.</p> <p>Note: Extreme cold is addressed in the severe winter storm hazard, matching the State hazard mitigation plan.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | <p>A prolonged period of excessive heat and humidity. The heat index is a number in degrees Fahrenheit that tells how hot it really feels when relative humidity is added to the actual air temperature. Exposure to full sunshine can increase the heat index by at least 15 degrees. Extreme heat can impose stress on humans and animals. Heatstroke, sunstroke, cramps, exhaustion, and fatigue are possible with prolonged exposure or physical activity due to the body's inability to dissipate the heat. Urban areas are particularly at risk because of air stagnation and large quantities of heat absorbing materials such as streets and buildings. Extreme heat can also result in distortion and failure of structures and surfaces such as roadways and railroad tracks.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Historical Occurrence | <p>Two periods of extreme heat between 1994 and 2001 resulted in 4 deaths and \$3.8 million in property damage for the region including Wayne County. See <i>Appendix O: NCDC Storm Events</i> for a record of events that have impacted Wayne County.</p> <p>During the summer of July 1995, the entire state of Iowa suffered a heat wave that resulted in 3 deaths, \$3.8 million in personal property damage. There were 3 periods when temperatures were 90 degrees or above for at least 3 consecutive days between in the summer of 2001.</p> <table border="1" data-bbox="386 1465 1300 1577"> <thead> <tr> <th colspan="7" data-bbox="386 1465 1300 1493">Extreme Heat since 1994</th> </tr> <tr> <th data-bbox="386 1499 581 1535">Jurisdiction</th> <th data-bbox="586 1499 716 1535">number</th> <th data-bbox="721 1499 808 1535">mag.</th> <th data-bbox="813 1499 927 1535">deaths</th> <th data-bbox="932 1499 1062 1535">injuries</th> <th data-bbox="1066 1499 1196 1535">property</th> <th data-bbox="1201 1499 1300 1535">crop</th> </tr> </thead> <tbody> <tr> <td data-bbox="386 1541 581 1577">Total</td> <td data-bbox="586 1541 716 1577">2</td> <td data-bbox="721 1541 808 1577">n/a</td> <td data-bbox="813 1541 927 1577">4</td> <td data-bbox="932 1541 1062 1577">0</td> <td data-bbox="1066 1541 1196 1577">3.8 M</td> <td data-bbox="1201 1541 1300 1577">0</td> </tr> </tbody> </table> | | | | | | Extreme Heat since 1994 | | | | | | | Jurisdiction | number | mag. | deaths | injuries | property | crop | Total | 2 | n/a | 4 | 0 | 3.8 M | 0 | 2 |
| Extreme Heat since 1994 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jurisdiction | number | mag. | deaths | injuries | property | crop | | | | | | | | | | | | | | | | | | | | | | |
| Total | 2 | n/a | 4 | 0 | 3.8 M | 0 | | | | | | | | | | | | | | | | | | | | | | |
| Probability | <p>Indicated in Iowa's <i>Hazard Analysis and Risk Assessment: 2003 Local Guide</i>, Iowa will likely experience about 26 days a year with temperatures above 90 degrees. There is a very good chance that there will also be a period of 3 consecutive days or more with temperatures in the 90s. It is also common for the temperature to hit 100 degrees or more once every three years during the summer months.</p> <p>Climate projections suggest that Iowa will experience more frequent</p> | | | | | | 3 | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--------------------|---|---|
| | <p>very hot days and longer periods of high temperatures. This is despite the fact that the average annual temperature in Iowa has declined by .2 degrees over the last century (Climate Change and Iowa, US EPA, September 1998).</p> | |
| Vulnerability | <p>The very young and the elderly are particularly vulnerable to extreme heat as are low income populations. Likewise, those on certain medications or drugs (especially tranquilizers and anticholinergics), and persons with weight and alcohol problems are particularly susceptible to heat reactions. Children are less likely to recognize the risk and therefore less likely to take precautionary measures. Likewise, the elderly may have more difficulty in sensing the extremities and may become over-exposed to the dangers.</p> <p>Those included in this calculation are residents over 65 years, children under 5 years, individuals living below the poverty line and people living with a diagnosed disability. Economic impact on the agricultural sector could result from the damage to animals and crops. Livestock is particularly vulnerable to the effects of the extreme heat and there are approximately 31,000 cattle and 18,000 hogs. Roads, bridges, and railroad tracks are also susceptible to damage from extreme heat. The HMGP committee believes that the major effect of an extreme heat will be on livestock and crops. Livestock is particularly vulnerable. The 2007 Agricultural Census reports that the estimated market value of all livestock, poultry, and products in Wayne County is \$16.7 million. Transportation facilities are also vulnerable to extreme heat. Most common type of damage is road buckles; however Wayne County has not tracked the damage expenses directly related to this hazard.</p> <p>See individual jurisdiction profiles for specifics on the size of vulnerable populations. Generally speaking, the vulnerable population is no more than about 30-40% in any given jurisdiction.</p> | 3 |
| Maximum Threat | <p>Most of the state would likely be impacted by extreme heat, but urban areas pose special risks. The stagnant atmospheric conditions of the heat wave trap pollutants in urban areas and add to the stresses of hot weather.</p> | 4 |
| Severity of Impact | <p>A. Nationally, over the last 30 years, excessive heat accounts for more reported deaths annually than hurricanes, floods, tornadoes, and lightning combined.</p> <p>B. Response personnel could suffer heat stroke and dehydration working in extreme heat conditions.</p> | 3 |

| | | |
|------------------------|---|----|
| | <p>C. Transportation impacts include the loss of lift for aircrafts, softening of asphalt roads, buckling of highways and railways, and stress on automobiles and trucks (increase in mechanical failures).</p> <p>D. Electric transmission systems are impacted when power lines sag in high temperatures. High demand for electricity also outstrips supply, causing electric companies to have rolling black outs. The demand for water also increases sharply during periods of extreme heat. This can contribute to fire suppression problems for both urban and rural fire departments.</p> <p>E. Livestock and other animals are adversely impacted by extreme heat. High temperatures at the wrong time inhibit crop yields as well.</p> <p>F. Economic costs in transportation, agriculture, production, energy, and infrastructure. These direct costs could impact many other economic sectors indirectly.</p> | |
| Speed of Onset | As with some other weather phenomena, periods of extreme heat are predictable within a few degrees within about 3 days. Variations in local conditions can affect the actual temperature within a matter of hours or even minutes. The National Weather Service will initiate alert procedures in the event of extreme heat. | 2 |
| Hazard Worksheet Score | | 17 |
| Composite Score | | 22 |

Figure 12: Apparent Temperature; Heat-Humidity Combination



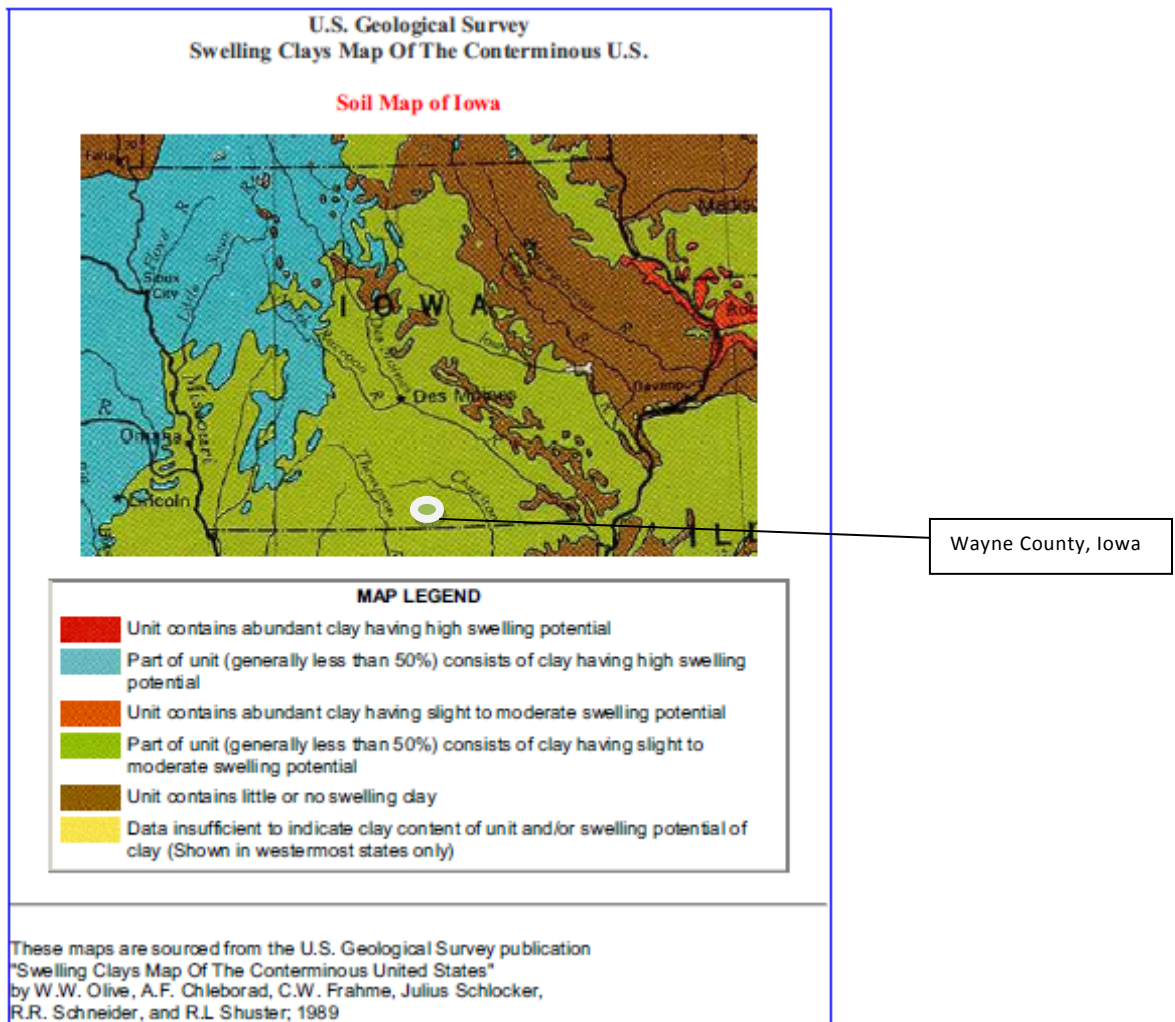
Source: National Oceanic and Atmospheric Administration

| Hazard | Expansive Soils | | |
|-----------------------|--|--------|---|
| Definition | Expansive Soils: Soils and soft rock that tend to swell or shrink excessively due to changes in moisture content. | | |
| Description | The effects of expansive soils are most prevalent in regions of moderate to high precipitation, where prolonged periods of drought are followed by long periods of rainfall. The hazard occurs in many parts of the Southern, Central, and Western United States. Recent estimates put the annual damage from expansive soils as high as \$7 billion. However, because the hazard develops gradually and seldom presents a threat to life, expansive soils have received limited attention, despite their costly effects. Wayne County is considered by the State of Iowa to be in a soil area that has a “slight to moderate swelling potential.” | Rating | |
| Historical Occurrence | No formal documentation could be located in libraries, Wayne County Courthouse, or the State Department of roads. It is believed by the county engineer and other members of the committee that some of the problems the county and cities have with road could be evidence of the Expansive Soils. The roadways frequently experience “frost | | 2 |

| | | |
|--------------------|---|---|
| | heaves (boils)” that cause damage to the roadways. | |
| Probability | Probability and frequency analyses have not been prepared because of the nature of occurrence of this hazard. This is consistent with other geologic hazards that occur slowly over time. It is difficult to predict probability without adequate data to support it. The committee has identified this as a necessary mitigation strategy in order to better address this hazard. | 2 |
| Vulnerability | Little if any direct human impacts. Impacts commonly involve swelling clays beneath areas covered by buildings and slabs of concrete and asphalt, such as those used in construction of highways, walkways, and airport runways. | 1 |
| Maximum Threat | The availability of data on expansive soils varies greatly. In or near metropolitan areas and at dam sites, abundant information on the amount of clay generally is available. However, for large areas of the U.S., little information is reported other than field observations of the physical characteristics of clay. | 1 |
| Severity of Impact | <p>A. Continuity of operations would not likely be affected.</p> <p>B. The most extensive damage from expansive soils occurs to highways and streets. Houses and one-story commercial buildings are more apt to be damaged by the expansion of swelling than are multi-story buildings, which usually are heavy enough to counter swelling pressures. The most obvious manifestations of damage to buildings are sticking doors, uneven floors, and cracked foundations, floors, walls, ceilings, and windows. Utilities could be affected because of constant pushing and pulling resulting in cracks, breaks, and severing of underground infrastructure.</p> <p>C. Naturally occurring phenomena. Environmental impacts would be limited to spills and leaks of containment facilities.</p> <p>D. Economic and financial impacts would be felt by individual owners of buildings and facilities. These would occur over time and would not be a onetime impact.</p> <p>E. Building code requirements may impose due burden on construction to ensure proper performance of buildings and utilities in areas with expansive soils.</p> <p>F. Very limited if any. The most extensive damage from expansive soils occurs to highways and streets. Houses and one-story commercial buildings are more apt to be damaged by the expansion of swelling than are multi-story buildings, which usually are heavy enough to counter swelling pressures. The most obvious manifestations of damage to buildings are sticking doors, uneven floors, and cracked foundations, floors, walls, ceilings, and windows.</p> | 1 |

| | | |
|------------------------|---|----|
| Speed of Onset | Speed of onset is generally slow and substantial warning time is typically available. This is consistent with other geologic hazards that occur slowly over time. | 1 |
| Hazard Worksheet Score | | 14 |
| Composite Score | | 16 |

Figure 13:



| Hazard | Hailstorm | | | | | | | Rating | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|-------------|--------|----------|----------|------|--|--------------|--------|------|--------|----------|----------|------|-------|----|-------------|---|---|-----|-----|---------|---|-------------|---|---|---|----|-----------|---|-------------|---|---|----|----|--------------|---|-------------|---|---|----|---|---|
| Definition | Hailstorm: An outgrowth of a severe thunderstorm in which balls or irregularly shaped lumps of ice greater than 0.75 inches in diameter fall with rain. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | <p>Hail is frozen water droplets formed inside a thunderstorm cloud. They are formed during the strong updrafts of warm air and downdrafts of cold air, when the water droplets are carried well above the freezing level to temperatures below 32 deg F, and then the frozen droplet begins to fall, carried by cold downdrafts, and may begin to thaw as it moves into warmer air toward the bottom of the thunderstorm. This movement up and down inside the cloud, through cold then warmer temperatures, causes the droplet to add layers of ice and can become quite large, sometimes round or oval shaped and sometimes irregularly shaped, before it finally falls to the ground as hail.</p> <p>Hail can be smaller than a pea or as large as a softball and can be very destructive to plants and crops. Pets and livestock are particularly vulnerable to hail. Hailstorms impact an area about 15 miles in diameter on average. See <i>Appendix K: TORRO Hailstorm Intensity Scale</i> for charts indicating the impacts of hail based on size of hail.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Historical Occurrence | <p>A total of 4,472 hail events have occurred in Iowa since 1993 according to the National Climatic Data Center. These have resulted in 11 injuries and 4 deaths in the state.</p> <p>Since 1968 there have been 68 recorded hail storms in Wayne County. The cumulative damage of these events on property amounted to \$537 thousand and \$278 thousand in crop losses. The largest diameter hail found in Wayne County was 3 inches!</p> <p style="text-align: center;"><i>See Appendix O: NCDC Storm Events</i> for a record of events that have impacted Wayne County. The chart below provides a summary of NCDC recorded hailstorms; property and crop damages are in thousands of dollars.</p> <p style="text-align: center;">Hail since 1968</p> <table border="1" data-bbox="381 1633 1307 1871"> <thead> <tr> <th>Jurisdiction</th> <th>number</th> <th>mag.</th> <th>deaths</th> <th>injuries</th> <th>property</th> <th>crop</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td>68</td> <td>2.75 in max</td> <td>0</td> <td>0</td> <td>537</td> <td>278</td> </tr> <tr> <td>Corydon</td> <td>2</td> <td>1.75 in max</td> <td>0</td> <td>0</td> <td>8</td> <td>15</td> </tr> <tr> <td>Millerton</td> <td>3</td> <td>1.75 in max</td> <td>0</td> <td>0</td> <td>20</td> <td>10</td> </tr> <tr> <td>Promise City</td> <td>3</td> <td>2.75 in max</td> <td>0</td> <td>0</td> <td>75</td> <td>5</td> </tr> </tbody> </table> | | | | | | | Jurisdiction | number | mag. | deaths | injuries | property | crop | Total | 68 | 2.75 in max | 0 | 0 | 537 | 278 | Corydon | 2 | 1.75 in max | 0 | 0 | 8 | 15 | Millerton | 3 | 1.75 in max | 0 | 0 | 20 | 10 | Promise City | 3 | 2.75 in max | 0 | 0 | 75 | 5 | 4 |
| Jurisdiction | number | mag. | deaths | injuries | property | crop | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 68 | 2.75 in max | 0 | 0 | 537 | 278 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Corydon | 2 | 1.75 in max | 0 | 0 | 8 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Millerton | 3 | 1.75 in max | 0 | 0 | 20 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Promise City | 3 | 2.75 in max | 0 | 0 | 75 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | |
|--------------------|---|---|-------------|---|---|-----|----|---|
| | Seymour | 6 | 1.75 in max | 0 | 0 | 25 | 25 | |
| | Allerton | 5 | 1.75 in max | 0 | 0 | 16 | 30 | |
| | Clio | 4 | 3in max | 0 | 0 | 160 | 50 | |
| | Lineville | 3 | 1.25in max | 0 | 0 | 51 | 55 | |
| | Humeston | 8 | 2.75in max | 0 | 0 | 91 | 30 | |
| Probability | <p>Data on probability and frequency of occurrence of hailstorms is limited, but research indicates that any given point in Iowa can expect on average two to three hailstorms in a year (Iowa's <i>Hazard Analysis and Risk Assessment: 2003 Local Guide</i>).</p> <p>Based on the recorded events that have impacted Wayne County, the county is very likely to experience one hailstorm annually.</p> | | | | | | | 4 |
| Vulnerability | <p>Agricultural crops such as corn and beans are particularly vulnerable to hailstorms stripping the plant of its leaves. Hail can also do considerable damage to vehicles and buildings. Hail only rarely results in loss of life directly although injuries can occur. As a storm, large areas of the county or whole communities would be impacted.</p> | | | | | | | 2 |
| Maximum Threat | <p>There are many similarities between hailstorms and thunderstorms as they often occur together. Hail can cause debris to accumulate in roads along with the hail itself making travel more difficult, visibility can be reduced, and the hail can cause significant damage to vehicles and buildings. As a storm, large areas of the county or whole communities would be impacted.</p> | | | | | | | 2 |
| Severity of Impact | <p>A. Exposure to hail larger than a nickel can be very dangerous and life threatening.</p> <p>B. Risk to response personnel is the same as the risk to others without shelter from the hail.</p> <p>C. Operations should not be affected to any significant degree.</p> <p>D. Damage to property, facilities, and infrastructure is usually limited to broken windows and damaged roofs.</p> <p>E. Delivery of services should not be affected to any significant degree. There may be minor disruptions, but they would likely come from high winds and lightning (usually associated with hailstorms).</p> <p>F. Hail can strip plants of their vegetation in very little time. If this occurs at a critical time in the life cycle of plants, it could have fatal consequences.</p> <p>G. Hailstorms cause nearly \$1 billion dollars annually in property and crop damage in the United States. The peak hail activity coincides with the Midwest's peak agricultural season. Financial impacts resulting from damage to property is in the millions of dollars every year, most of which is covered by crop and hazard insurance.</p> | | | | | | | 2 |

| | | |
|------------------------|---|----|
| | H. Timely and adequate response to the event is the key. | |
| Speed of Onset | Forecasting hailstorms as with their parent thunderstorms, is becoming quite accurate due to the advancement in Doppler Radar and other technologies operated by the National Weather Service and local television weather departments. Warnings in the 20 to 30 minute range are usually available prior to the occurrence of the storm. | 4 |
| Hazard Worksheet Score | | 18 |
| Composite Score | | 24 |

| Hazard | Grass or Wildfire | |
|-----------------------|---|--------|
| Definition | <p>Wildfire: An uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures (FEMA).</p> <p>Grass Fire: An uncontrolled fire in a grassy area</p> | Rating |
| Description | <p>According to FEMA, fire is the fourth largest accidental killer in the United States and the most common disaster experienced by Americans. Most fire deaths occur as a result of fires beginning in the late evening, when people are sleeping. In addition, 84% of fires are accidental, the remaining percentage are set intentionally.</p> <p>Fires may also occur as a secondary effect from an initial disaster, such as lightning, high winds, tornadoes, or transportation disasters.</p> <p>Grass and wildfires can occur when conditions are favorable such as during periods of drought when natural vegetation would be drier and subject to combustibility.</p> | |
| Historical Occurrence | Over 11,400 grass fires were reported in Iowa during the years 1994 to 1999. There have been no recorded grass or wildfires in the NCDL database in Wayne County currently; however the risk does exist especially if droughts affect the area. Anecdotal evidence suggests that there have been grass or wildfires in Wayne County despite the lack of documentation. | 2 |
| Probability | The State of Iowa indicates that there is nearly 100% chance that there will be a grass fire in each county in the state each year. | 2 |
| Vulnerability | For most grass or wildfires, the number of people or properties impacted would be negligible. However, firefighters are vulnerable to health hazards resulting from the fires themselves as well as the physical stresses of fighting such fires. | 1 |

| | | |
|-------------------------------|--|-----------|
| Maximum Threat | Most grass fires are contained to highway right-of-way and rail right-of-way ditches and are less than a few acres in size. High winds can turn a small flame into a multi-acre grassfire within a matter of minutes. The extent is dependent upon conditions such as land use/land cover, moisture, and wind. | 1 |
| Severity of Impact | <p>A. Grass and wildfires pose a threat to individuals ranging from smoke inhalation to severe burns and death.</p> <p>B. Risk to response personnel includes heart attack and smoke inhalation.</p> <p>C. Operations could be impacted if facilities are damaged by a grass or wildfire or if electrical transmission lines are damaged.</p> <p>D. Damage to property, facilities, and infrastructure can range from minor smoke damage to incineration. Grass and wildfires pose a threat to crops and livestock as well as structures.</p> <p>E. Delivery of services may not see major impacts though some delays may occur depending on where the fires occur.</p> <p>F. Grass and wildfires may be of particular concern in Wayne County due to the presence of old coal mines. Not all of these mines were exhausted of coal, most abandoned as coal mining technology changed in the early part of the 20th Century. A fire spreading to coal mines could lead to mine collapse and the associated impacts.⁴</p> <p>G. Economic impacts would be most significant on the agricultural community unless such a fire were to spread into a settled community. Insurance policies may or may not cover grass or wildfire damage.</p> <p>H. Timely and adequate response to the event is critical.</p> | 2 |
| Speed of Onset | <p>Fires can spread very rapidly in buildings. Improvements in technology have enabled the development of affordable early warning systems such as smoke detectors, which have been installed in many homes and businesses. In addition, those responsible for providing fire, police, and ambulance service in the town participate in ongoing training to improve their response times and abilities.</p> <p>Most grassfires occur without warning and travel at a moderate rate. This situation depends upon conditions at the time such as moisture, wind, and land cover.</p> | 4 |
| Hazard Worksheet Score | | 12 |

⁴ Such mine fires and community abandonments are not without historical precedent; Centralia, Pennsylvania has had a coal mine fire burning underneath it for 46 years. The town had a population of about 1,000 until 1981 when a sinkhole suddenly opened and nearly killed a young boy. The population has declined to about 9 as of 2007 and much of the town has been condemned.

| Hazard | Severe Winter Storm | | |
|-----------------------|---|--|--------|
| Definition | <p>Severe Winter Storm: Severe winter weather conditions that affect day-to-day activities. These can include blizzard conditions, heavy snow, blowing snow, freezing rain, heavy sleet, and extreme cold.</p> | | |
| Description | <p>Winter storms are common during the winter months of October through April. The various types of extreme winter weather cause considerable damage. Heavy snows cause immobilized transportation systems, downed trees and power lines, collapsed buildings, and loss of livestock and wildlife. Blizzard conditions are winter storms which last at least three hours with sustained wind speeds of 35 mph or more, reduced visibility of 1/4 mile or less, and white-out conditions. Heavy snows of more than six inches in a 12-hour period or freezing rain greater than 1/4 inch accumulation causing hazardous conditions in the community can slow or stop the flow of vital supplies as well as disrupting emergency and medical services. Loose snow begins to drift when the wind speed reaches 9 to 10 mph under freezing conditions. The potential for some drifting is substantially higher in open country than in urban areas where buildings, trees, and other features obstruct the wind. Ice storms result in fallen trees, broken tree limbs, downed power lines and utility poles, fallen communications towers, and impassable transportation routes.</p> <p>Severe ice storms have caused total electric power losses over large areas of Iowa and rendered assistance unavailable to those in need due to impassable roads. Frigid temperatures and wind chills are dangerous to people, particularly the elderly and the very young. Dangers include frostbite or hypothermia. Water pipes, livestock, fish and wildlife, and pets are also at risk from extreme cold and severe winter weather.</p> <p>Winter storms, when accompanied by a repeated freeze-thaw cycle can cause substantial damage to rural, gravel roads by essentially turning them to mud. In rural southern Iowa counties this is a significant challenge that puts additional pressures on secondary roads departments' budgets and staff. While temperatures are projected to continue to increase in Iowa on average by a few degrees, precipitation is expected to increase by about 10% in future winters (US EPA, Climate Change and Iowa, September 1998).</p> | | Rating |
| Historical Occurrence | There have been 41 recorded snow and ice events in Wayne County | | 4 |

since 1993 including freezing rain, snow, ice storms, and winter storms. Four deaths are associated with these events and property damage totaling \$41.805 million are recorded. In 1997 a snow event affected Wayne County, were recorded for a larger part, or all of Iowa totaling \$25 million in property damage for all included areas.

Since 1994 there were 11 periods of extreme cold or extreme wind chill amounting to \$1.8 million in property damages and \$281 million in crop damages. No deaths are associated with these events. Each of these events included a broader area than just Wayne County. See *Appendix O: NCDC Storm Events* for a record of events that have impacted Wayne County.

Severe Winter Storms since 1993

| Jurisdiction | number | mag. | deaths | injuries | property | crop |
|--------------|--------|------|--------|----------|----------|------|
| Total | 41 | n/a | 4 | 0 | 41.805 M | 65 M |

Extreme Cold since 1994

| Jurisdiction | number | mag. | deaths | injuries | property | crop |
|--------------|--------|------|--------|----------|----------|-------|
| Total | 11 | n/a | 1 | 0 | 1.8 M | 281 M |

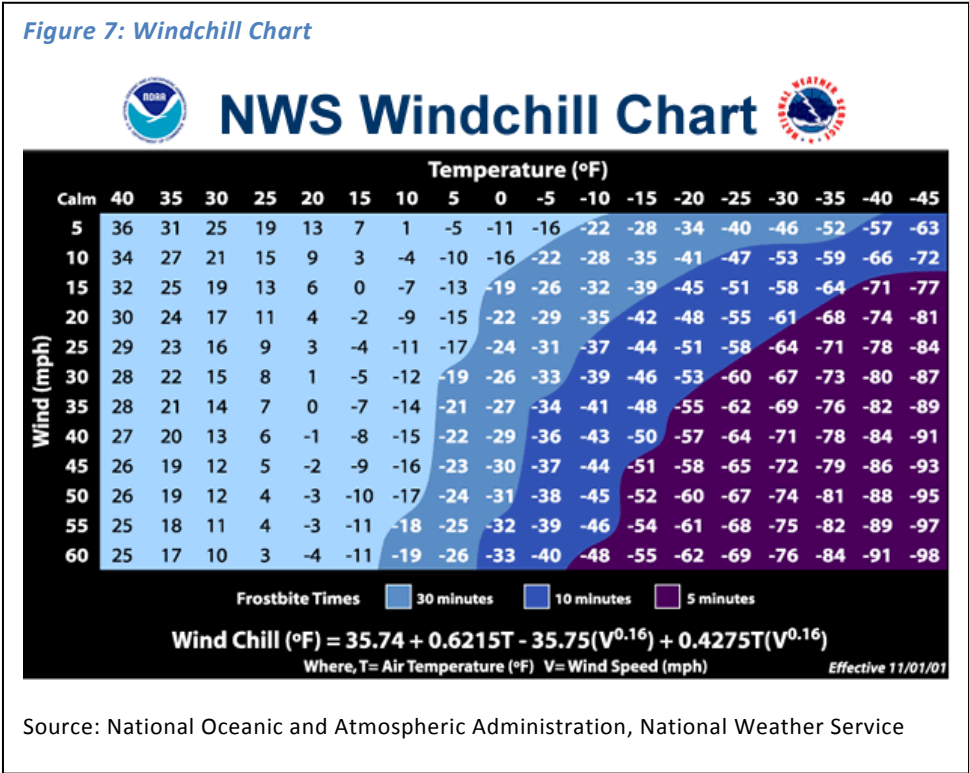
| | | |
|---------------|---|---|
| Probability | <p>Winter storms regularly move easterly and use both the southward plunge of arctic cold air from Canada and the northward flow of moisture from the Gulf of Mexico to produce heavy snow and sometimes blizzard conditions in Iowa and other parts of the Midwest. The cold temperatures, strong winds, and heavy precipitation are the ingredients of winter storms.</p> <p>According to the State mitigation plan, most counties can usually expect 2 or 3 winter storms a season with an extreme storm every 3 to 5 years on average (more in the northwest, fewer in the southeast). A snowfall of six inches or more from one storm only occurs in 49% of Iowa winters, while a large winter storm event of 10 inches or more will occur about once every 3 years.</p> | 4 |
| Vulnerability | <p>Hazardous driving conditions due to snow and ice on highways and bridges lead to many traffic accidents. The leading cause of death during winter storms is transportation accidents. About 70% of winter-related deaths occur in automobiles and about 25% are people caught out in the storm. The majority of these are males over 40 years of age. Emergency services such as police, fire, and ambulance are unable to respond due to road conditions. Emergency needs of remote or isolated residents for food or fuel, as well as for feed, water and shelter for</p> | 4 |

| | | |
|---------------------------|---|----------|
| | <p>livestock are unable to be met. People, pets, and livestock are also susceptible to frostbite and hypothermia during winter storms. Those at risk are primarily either engaged in outdoor activity (shoveling snow, digging out vehicles, or assisting stranded motorists), or are the elderly or very young. Schools often close during extreme cold or heavy snow conditions to protect the safety of children and bus drivers. Citizens' use of kerosene heaters and other alternative forms of heating may create other hazards such as structural fires and carbon monoxide poisoning.</p> <p>About 40% of the population of Wayne County resides in the unincorporated county. More than 23% of the population lives in Corydon, which due to its size and resources may be better situated to handle winter storms. At the same time, smaller communities, especially those without grocery stores, may be more vulnerable as residents are more likely to be on the roads for work, household supplies, and groceries. Individuals who may experience certain medical and psychological conditions or who may be under the influence of alcohol or drugs may be particularly vulnerable.</p> | |
| <p>Maximum Threat</p> | <p>Although the developments in technology have been very beneficial in reducing the long-term negative effects of winter storms, certain dangers still exist. The maximum threat of winter conditions would be realized if it was accompanied by power outages and elimination of travel due to hampered road conditions. This could result in the inability for some of the population to maintain temperatures necessary for the body. In addition long winter events that eliminate communication could result in the reduction of adequate medical response time.</p> <p>Due to the nature of winter storms, the whole county as well as surrounding counties would likely be impacted by an event. The Iowa Department of Transportation, county road departments, and local public works agencies are responsible for the removal of snow and treatment of snow and ice with sand and salt on the hundreds of miles of streets and highways in the area.</p> | <p>4</p> |
| <p>Severity of Impact</p> | <p>A. Severe winter storms can lead to injury and death through traffic accidents or to individuals that may be caught outdoors. Cold temperature impacts on agriculture are frequently discussed in terms of frost and freeze impacts early or late in growing seasons and unprotected livestock.</p> <p>B. Response personnel are exposed to cold temperatures and traffic accidents when responding to the victims needs.</p> <p>C. Operations can be limited or halted when critical services are not available. Staff may not be able to make it to the place of work,</p> | <p>3</p> |

| | | |
|----------------|--|---|
| | <p>thus, limiting the continuity of operations.</p> <p>D. Immobilized transportation (including emergency vehicles), downed trees and electrical wires, building and communication tower collapse, and bodily injury/death are just a few of the impacts of a severe winter storm. Vehicle batteries and diesel engines are stressed and the fuel often gels in extreme cold weather. This impacts transportation, trucking, and rail traffic.</p> <p>E. Fire during winter storms presents a great danger because water supplies may freeze and firefighting equipment may not function effectively, or personnel and equipment may be unable to get to the fire. If power is out, interiors of homes become very cold and lead to pipes freezing and possibly bursting. Rivers and lakes freeze and subsequent ice jams threaten bridges and can close major highways. Ice jams can also create flooding problems when temperatures begin to rise. Ice coating of one-fourth inch in thickness is heavy enough to damage trees, overhead wires, and similar objects and to produce widespread power outages. Buried water pipes can burst causing massive ice problems and loss of water and subsequent evacuations during sub-zero temperatures.</p> <p>F. Winter storms are a natural occurrence and there would be no direct significant impact on the environment beyond tree damage and the impacts related to ice dams.</p> <p>G. The cost of snow removal, repairing damage, and loss of business can have large economic impacts on the community. Also, the state estimated \$76,159,000 in property damage, and \$346,900,000 in lost crops due to heavy snow, ice storm, or extreme wind-chill events statewide.</p> <p>H. Enforced snow ordinances allow the jurisdiction to more effectively open transportation routes. Delivery and adequate supplies of salt, sand, and saline are important inputs to the snow removal process. These contracts should be in place. Removal of debris and reinstatement of energy are vital to safety of the public as well. Agreements should be in place with the power company to ensure power is restored in an effective and timely manner following the storm. Severe winter storms can contribute to substantial damage to rural roads and place a strain on secondary roads departments in maintaining them and keeping rural roads safe for travel.</p> <p>I. Effective and timely response to the snowstorm is critical to maintaining a good reputation. Streets clear of snow and ice are important factors to the mobile public.</p> | |
| Speed of Onset | The National Weather Service (NWS) has developed effective weather advisories that are promptly and widely distributed. Radio, TV, and Weather Alert Radios provide the most immediate means to do this. Accurate information is made available to public officials and the public up to days in advance. Several notifications made by the National Weather Service include winter storm watch, winter storm warning, | 3 |

| | | |
|------------------------|---|----|
| | blizzard warning, winter weather advisory, and a frost/freeze advisory. | |
| Hazard Worksheet Score | | 22 |
| Composite Score | | 35 |

Figure 7: Windchill Chart



| | | |
|-----------------------|--|---|
| Hazard | Drought | |
| Definition | Drought: A period of prolonged lack of precipitation for weeks at a time producing severe dry conditions. | |
| Description | <p>There are three types of drought conditions that are relevant to Iowa:</p> <p>Meteorologic drought, which refers to precipitation deficiency;</p> <p>Hydrological drought, which refers to declining surface water and groundwater supplies; and</p> <p>Agricultural drought, which refers to soil moisture deficiencies.</p> <p>Droughts can be spotty or widespread and last for weeks to a period of years. A prolonged drought can have serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock. While droughts are generally associated with extreme heat, droughts can and do occur during cooler months.</p> <p>At a meeting in the preparation for a neighboring county’s hazard mitigation plan, a representative from the Natural Resource Conservation Service indicated that the region is well on its way to handling floods. However it is not well situated to handle droughts. This passing comment is important as Iowa is generally considered to be “water rich” and is not known as an area that must prepare for droughts. This lack of preparedness places the state and the various jurisdictions within it at greater risk should a drought occur.</p> <p>See <i>Figure 8: Example of Palmer Index for Drought Severity</i> for a graphic representation of the Palmer Index.</p> | |
| Historical Occurrence | <p>There have been six droughts affecting Wayne County since 1995 when the first recorded drought occurred. No deaths or injuries are associated with these events; however \$645.15 million in property damage resulted from the most recent drought in August of 2003. A combined total of \$1.5 billion in crop damage is recorded among the six events. All of these six recorded events included multiple counties thus the costs of damages are dispersed.</p> <p>According to the Palmer Drought Severity Index, a composite of evapotranspiration, recharge, runoff, loss, and precipitation, Iowa has suffered seven periods of drought conditions since 1910. These periods</p> | 2 |

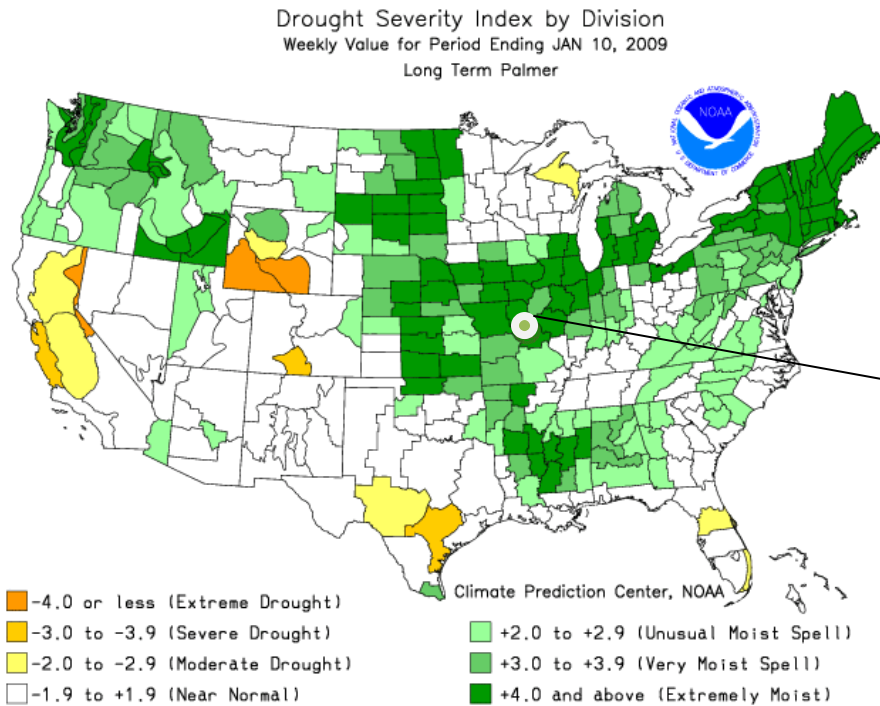
Rating

| | <p>are 1910-1913, 1933-1935, 1955-1958, 1967-1969, 1976-1977, 1980-1982, and 1988-1990. While some may have been more severe than others, agricultural areas were impacted much more than the metropolitan areas where impacts were indirect.</p> <p style="text-align: center;">Drought since 1995</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Jurisdiction</th> <th>number</th> <th>mag.</th> <th>deaths</th> <th>injuries</th> <th>property</th> <th>crop</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td>6</td> <td>n/a</td> <td>0</td> <td>0</td> <td>645 M</td> <td>1.5 B</td> </tr> </tbody> </table> | Jurisdiction | number | mag. | deaths | injuries | property | crop | Total | 6 | n/a | 0 | 0 | 645 M | 1.5 B | |
|---------------|---|--------------|--------|----------|----------|----------|----------|------|-------|---|-----|---|---|-------|-------|--|
| Jurisdiction | number | mag. | deaths | injuries | property | crop | | | | | | | | | | |
| Total | 6 | n/a | 0 | 0 | 645 M | 1.5 B | | | | | | | | | | |
| Probability | <p>Drought is part of normal climate fluctuations. Climatic variability can bring dry conditions to the region for up to years at a time. Research and observations of the El Nino/La Nina climatic events are resulting in more predictable climatic forecasts. However, with climatic changes currently taking place, greater variability in precipitation can be expected in coming years increasing the frequency and/or severity of future droughts. It is likely that Wayne County could experience a drought any given year.</p> | 3 | | | | | | | | | | | | | | |
| Vulnerability | <p>Those dependent on rain would be the most vulnerable to a drought. This means that agriculture, agribusiness, and consumers (if the drought lasted long enough or impacted a large area) would be impacted. A drought limits the ability to produce goods and provide services. Because citizens draw their drinking water from surface water and groundwater sources, a prolonged severe drought may impact all citizens if there were to be a dramatic drop in the stream flow coupled with the drop in the water table.</p> <p>Fire suppression can also become a problem due to the dryness of the vegetation and possible lack of water. This would be most threatening to older buildings, especially those that are attached or are located very close to adjacent structures such as in commercial clusters such as on town squares. While the majority of the water supply for Wayne County comes from Rathbun Lake, a prolonged, severe drought could compromise the best efforts of Fire Departments in fighting fires anywhere in town.</p> <p>Since Rathbun Lake water has replaced the individual municipal water sources in some communities, a portion of the county could be impacted by a particularly severe drought. Aside from municipal water, about 25% of the county's residents are in rural areas and presumably on well water. A number of ponds and small wetlands are present in the county which presumably supply water needs for agricultural and livestock needs.</p> | 3 | | | | | | | | | | | | | | |

| | | |
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| <p>Maximum Threat</p> | <p>A drought would likely affect most of Iowa if not the Midwest as a whole. Because of the dependence on precipitation and water, the agricultural community would be impacted the most. The agricultural areas would be most adversely impacted, but the entire state would likely feel at least some impact. Geographically, most or all of the county could be affected by a drought.</p> <p>Rathbun Lake is a significant resource in Wayne County and surrounding counties that may well mitigate drought events. However, numerous counties draw from Rathbun Lake for water resources and so a prolonged, severe drought could negatively impact local water supplies. Likewise, the lake is an economic resource for the region including tourism; drought could have deep impacts on the local and regional economy.</p> | <p>4</p> |
| <p>Severity of Impact</p> | <ul style="list-style-type: none"> A. Few if any health impacts to people in the affected area because of secondary sources of water. Drought in the U.S. seldom results directly in the loss of life. Health impacts would be more significant on livestock without auxiliary water supplies. B. Response personnel are at minimal risk. C. Continuity of operations would not be affected. D. Property losses would be limited to livestock and crops to the agricultural community. Facilities would not be impacted. Infrastructure could be affected in areas of expansive soils due to drying soils, lower water levels around dams, etc. E. Delivery of services would be limited to source water delivery and those services that consume large amounts of water. F. Drought is a naturally occurring hazard that occurs about every 20 years. The environmental impacts are usually short-term (resilient) and the natural environment is used to drought cycles. Drought more directly affects agricultural crops, livestock, natural vegetation, wildlife, and stream flows (fish and aquatic vegetation). G. Drought can lead to large and damaging impacts to the agricultural economy. Because of Iowa's reliance on the agricultural economy, the economic and financial impacts would certainly ripple out into other sectors. Rural areas can be especially affected by long-term drought. If restrictions are put on manufacturers that use large amounts of water, the local economy can be impacted that way as well. H. Regulations in the agricultural sector can be and are often adjusted to provide some lenience for adverse conditions for livestock and crop loss. I. Drought is a naturally occurring hazard and is "out of the hands" of local and state officials. Local jurisdictions can have their reputation damaged if they do not provide source water to residents or respond in a satisfactory manner to provide an alternative supply. | <p>3</p> |

| | | |
|------------------------|---|----|
| Speed of Onset | Drought warning is based on a complex interaction of many different variables, water uses, and consumer needs. Drought warning is directly related to the ability to predict the occurrence of atmospheric conditions that produce the physical aspects of drought, primarily precipitation and temperature. There are so many variables that can affect the outcome of climatic interactions, and it is difficult to predict a drought in advance. In fact, an area may already be in a drought before it is even recognized. While the warning of the drought may not come until the drought is already occurring, the secondary effects of a drought may be predicted and warned against weeks in advance. | 1 |
| Hazard Worksheet Score | | 16 |
| Composite Score | | 23 |

Figure 8: Example of Palmer Index for Drought Severity



Wayne County, Iowa

Source: National Oceanic and Atmospheric Administration,
http://www.cpc.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif

Note: The Palmer Index ranges from -4 (or less) to +4 (or more) to indicate the severity of droughts with 0 indicating normal conditions.

| Hazard | Earthquake | |
|-----------------------|---|---|
| Definition | <p>Earthquake: A sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of earth’s tectonic plates (FEMA).</p> <p>Mercalli Intensity Scale: The Mercalli Scale is based on observable damage which while is more subjective, is easier to comprehend for the general populace (USGS FAQ – Measuring Earthquakes). See <i>Appendix P: Modified Mercalli Scale for Earthquake Intensity</i>.</p> <p>Richter Scale: The Richter Scale is a measure of size and power of earthquakes; “as an estimate of energy, each whole number step in the magnitude scale corresponds to the release of about 31 times more energy than the amount associated with the preceding whole number value” (USGS Visual Glossary – Richter Scale). See <i>Appendix F: Richter Scale</i>.</p> | |
| Description | <p>An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the Earth's surface. This shaking can cause buildings and bridges to collapse; disrupt gas, electric, and phone service; and sometimes trigger, flash floods, and fires. The three general classes of earthquakes now recognized are: tectonic, volcanic, and artificially produced.</p> <p>While Iowa is not thought of as a state that can experience an earthquake, the New Madrid fault line is located where Missouri, Arkansas, Kentucky, and Tennessee meet. Additionally the Wabash Valley seismic zone is located along the south eastern boarder of Illinois and Indiana.</p> | |
| Historical Occurrence | <p>Iowa as a whole has experienced the effects of only a few earthquakes in the past 175 years. The epicenters of 12 earthquakes have been located in the state. The majority has been along the Mississippi River, and none have been in central Iowa. While more than 20 earthquakes have occurred in or impacted Iowa over the past 175 years, they have not seriously impacted the state. See <i>Appendix J: Iowa Historic Earthquakes</i>.</p> <p>In 1811 and 1812 earthquakes struck the broader region with a magnitude of between 7.5 and 8.0 accompanied by accounts of the Mississippi River reversing direction. The damage was significant within many miles of the quake and could be felt throughout several states. The nature of the soils in the Midwest helps in transmitting tremors over longer distances than in areas where earthquakes are</p> | 1 |

Rating

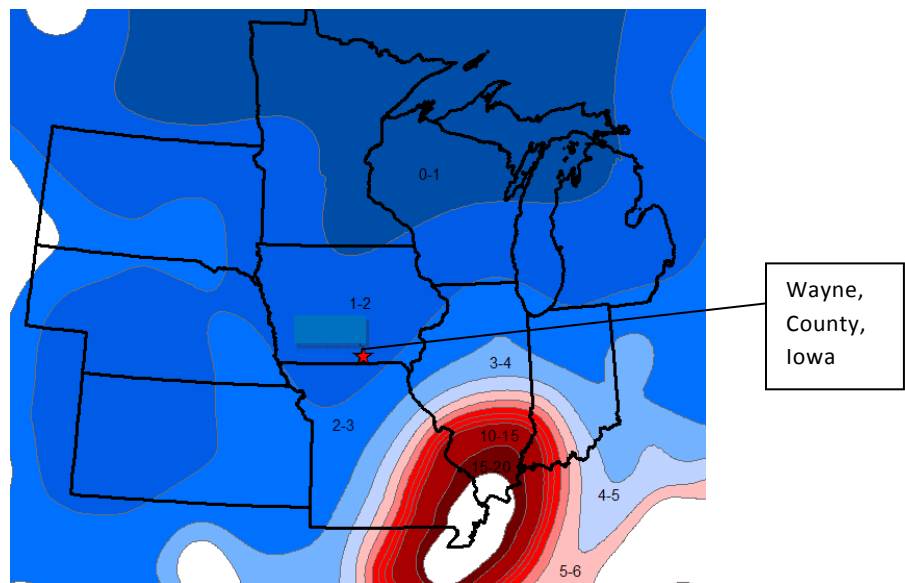
| | | |
|---------------|---|---|
| | <p>more commonly thought of.</p> <p>In the spring of 2008, slight tremors could be felt in parts of Iowa resulting from an earthquake originating in south eastern Illinois.⁵</p> | |
| Probability | <p>Wayne County is in an area where the probability of exceeding horizontal peak gravity acceleration by 1-2% is 10% over a period of 50 years (see Figure 8). In other words, there is a 90% chance that any earthquake in the next 50 years affecting the county will not exceed an acceleration of 1-2% of the force of gravity.</p> <p>An intensity of 6-7 on the Mercalli Scale is approximately equal to 10% gravity acceleration, meaning the speed at which the ground shakes. This magnitude is roughly equivalent to a strong earthquake that would be very noticeable with some structural damage, especially to older or poorly built structures and movement of heavy furniture. Ground acceleration of 1-2%, the intensity applicable to Wayne County, would be minor or negligible.</p> <p>Based on recurrence intervals for small earthquakes, scientists estimate a 90% chance of a Richter magnitude 6.0 earthquake in the New Madrid Fault Zone by 2040. A magnitude 6.5 in New Madrid would create a magnitude 4 effect in Iowa resulting in little or no damage.</p> | 1 |
| Vulnerability | <p>Vulnerability to earthquakes in Iowa is largely related to buildings and infrastructure. As Iowa is not known as an area at risk of earthquakes, buildings often do not incorporate the earthquake resistant features that those in California and other earthquake-prone regions do. Unreinforced brick structures face the risk of collapse or similar significant damage which poses a risk to the inhabitants and those that may be outside but near. Likewise, damage to infrastructure ranging from roadways, to buried pipelines, to structures could cripple a municipality's capacity to maintain services or recover following a significant earthquake.</p> <p>Buildings at most risk to earthquake damage in the Midwest are unreinforced brick buildings. Many of these structures are older and some may be historic buildings which if lost, would not likely be rebuilt</p> | 1 |

⁵ The Kalamazoo Gazette ran a story about the earthquake indicating that it could be felt as far into Iowa as Des Moines, Midwest earthquake felt in southwestern Michigan by Sara Waisanen <http://www.mlive.com/news/index.ssf/2008/04/midwest_earthquake_felt_in_sou.html>, the Cedar Rapids Gazette had a number of reader accounts on their website about the earthquake <<http://www.gazetteonline.com/apps/pbcs.dll/article?AID=/20080418/NEWS/718266055/1001/NEWS>>.

| | | |
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| | <p>to similar aesthetic or functional standards. This would be a loss to the community. The proportion of people and property that this would impact directly would likely be limited or negligible, though the economic impact could ripple through the affected communities.</p> <p>Perhaps the most severe impact of an earthquake affecting Wayne County would be damage to Rathbun Dam which would impact everyone in the region. Compromise of the dam could result in severe flooding in parts of the neighboring counties (see the flooding and flash flooding hazard profiles) in addition to compromising the region's water supply.</p> | |
| <p>Maximum Threat</p> | <p>Estimated effects of a 6.5 Richter magnitude earthquake along the New Madrid Fault Zone suggest lowans in four southeast counties could experience trembling buildings, some broken dishes and cracked windows. About 29 other counties, from Page to Polk to Muscatine, could experience vibrations similar to the passing of a heavy truck, rattling of dishes, creaking of walls, and swinging of suspended objects. This would include Wayne County. Specific parts of Central Iowa could sustain different levels of damage based on the soundness of the structures; structures built after 1985 will likely have the greatest resistance to damage while those built prior to 1940 will have the greatest risk (USGS, definition of "%g"). A large proportion of the homes in Wayne County were built prior to 1980 suggesting some limited damage may be seen from even minor earthquake effects felt in the area. See individual community profiles for more detailed information on housing stock.</p> | <p>4</p> |
| <p>Severity of Impact</p> | <ul style="list-style-type: none"> A. Few if any injuries would likely be seen in Iowa from an earthquake. However, the elderly and individuals with mobility or balance challenges may face some injuries from falls. B. Response personnel are at minimal risk in Iowa. C. Continuity of operations would not likely be affected. D. Property losses would likely be minimal generally confined to minor cracks in walls to potentially knocking pictures or other objects hung on walls down. Dams may be most at risk, though given the distance from the nearest known fault lines, the risk would likely be limited. E. Delivery of services is unlikely to be affected. F. Earthquakes are naturally occurring events though threats to the environment may occur through chemical spills or hazardous substances disturbed by an earthquake. G. Damage to infrastructure and buildings, while minor, could result in costs to repair damaged brick or utilities. H. Earthquake coverage in Iowa insurance policies is not common, | <p>1</p> |

| | | |
|------------------------|---|----|
| | <p>however the monetary impacts of an earthquake are likely minor given the distance to the nearest known fault lines.</p> <p>I. Since Iowa is not known for earthquakes, the reputation of local jurisdictions would likely not face much risk unless there is a significant event and lack of local response.</p> | |
| Speed of Onset | Earthquake prediction is an inexact science. Even in areas that are well monitored with instruments, such as California's San Andreas Fault Zone, scientists only very rarely predict earthquakes. | 4 |
| Hazard Worksheet Score | | 12 |
| Composite Score | | 26 |

Figure 9: Earthquake Hazard Map for the Midwest



Note: The numbers indicated on the map are in percentage of gravity horizontal acceleration. The lower the percentage indicates the lower intensity of shaking and thus lower potential damage.

Source: Iowa Department of Natural Resources and USGS GIS data compiled by Chariton Valley Planning and Development

| Hazard | Thunderstorm & Lightning | |
|------------|--|--------|
| Definition | <p>Thunderstorm: A thunderstorm is formed from a combination of moisture, rapidly rising warm air and a force capable of lifting air such as a warm and cold front, a sea breeze or a mountain. All thunderstorms contain lightning. Thunderstorms may occur singly, in clusters or in lines. Thus, it is possible for several thunderstorms to affect one location in the course of a few hours. Some of the most severe weather occurs when a</p> | Rating |

| | | |
|-----------------------|---|---|
| | <p>single thunderstorm affects one location for an extended time.</p> <p>Lightning: Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. When the buildup becomes strong enough, lightning appears as a "bolt." This flash of light usually occurs within the clouds or between the clouds and the ground. A bolt of lightning reaches a temperature approaching 50,000 degrees Fahrenheit in a split second. The rapid heating and cooling of air near the lightning causes thunder.</p> | |
| Description | <p>Thunderstorms are common in Iowa and can occur singly, in clusters, or in lines. They are formed from a combination of moisture, rapidly raising warm air, and a lifting mechanism such as clashing warm and cold air masses. Most thunderstorms produce only thunder, lightning, and rain. Severe storms however, can produce tornadoes, high straight-line winds above 58 mph, microbursts, lightning, hailstorms, and flooding. The NWS considers a thunderstorm severe if it produces hail at least 3/4-inch in diameter, wind 58 mph or higher, or tornadoes. High straight-line winds, which can often exceed 60 mph, are common occurrences and are often mistaken for tornadoes. Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. When the buildup becomes strong enough, lightning appears as a "bolt." This flash of light usually occurs within the clouds or between the clouds and the ground. A bolt of lightning reaches temperatures approaching 50,000 degrees Fahrenheit in a split second. This rapid heating, expansion, and cooling of air near the lightning bolt creates thunder.</p> <p>Lightning associated with thunderstorms is itself a major hazard. In the United States, from 75 to 100 Americans are hit and killed each year by lightning. The power of lightning's electrical charge and intense heat can electrocute on contact, split trees, ignite fires and cause electrical failures.</p> | |
| Historical Occurrence | <p>Since 1965, there has been 67 Thunderstorm events recorded in Wayne County. Since 1965, thunderstorms have caused approximately \$51.355 million in property damage, \$141 thousand in crop damage, 0 death and 0 injuries. The storm that netted the largest loss of personal property occurred in 2008 in Corydon with a loss of \$40,000. The most crop loss was noted in the Promise City area during August 2007 with a loss of \$65,000 in crops.</p> <p>Between 1993 and 2007 there has been one recorded Lightning event in</p> | 4 |

Wayne County, which caused \$3,000 in property damage..

Thunderstorm / Wind – most recent

| Jurisdiction | Number | mag. | deaths | injuries | property | crop |
|--------------|--------|------------|--------|----------|----------|------|
| Total | 67 | 72 kts max | 0 | 0 | 632k | 156k |
| Corydon | 13 | 65kts | 0 | 0 | 142k | 57k |
| Millerton | 0 | 61kts | 0 | 0 | 0k | 0 |
| Promise City | 3 | 61kts | 0 | 0 | 43k | 67 |
| Seymour | 8 | 70kts | 0 | 0 | 189k | 10 |
| Allerton | 3 | 71kts | 0 | 0 | 17k | 0 |
| Lineville | 2 | 52kts | 0 | 0 | 55k | 1 |
| Clio | 1 | 50kts | 0 | 0 | 2k | 0 |
| Humeston | 8 | 61kts | 0 | 0 | 69k | 6 |
| | | | | | | |

Lightning since 1996

| Jurisdiction | number | mag. | deaths | injuries | property | crop |
|--------------|--------|------|--------|----------|----------|------|
| Total | 1 | n/a | 0 | 0 | 50k | 0 |
| Corydon | 1 | n/a | 0 | 0 | 50k | 0 |

Probability

Iowa experiences between 30 and 50 thunderstorm days per year on average. With Iowa's location in the interior of the U.S., there is a very high likelihood that a few of these summer storms will become severe and cause damage. Because of the humid continental climate that Iowa experiences, ingredients of a severe thunderstorms are usually available (moisture to form clouds and rain, relatively warm and unstable air that can rise rapidly, and weather fronts and convective systems that lift air masses).

Based on the events over the last 44 years, Wayne County may anticipate at least two thunderstorms or lightning event per year.

4

Vulnerability

Those in unprotected areas, mobile homes, or automobiles during a storm are at risk. Sudden strong winds often accompany a severe thunderstorm and may blow down trees across roads and power lines. Lightning presents the greatest immediate danger to people and livestock during a thunderstorm. It is the second most frequent weather-related killer in the U.S. with nearly 100 deaths and 500 injuries each year following flooding and flash flooding. Livestock and people who are outdoors, especially under a tree or other natural lightning rods, in or on water, or on or near hilltops are at risk from lightning.

Hail can be very dangerous to people, pets, and livestock if shelter is not

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| | <p>available. Flash floods and tornadoes can develop during thunderstorms as well. People who are in automobiles or along low-lying areas when flash flooding occurs and people who are in mobile homes are particularly vulnerable to the impacts of severe thunderstorms. It is a concern that 9% of Wayne County households reside in mobile homes, however a great number of people may be on the roads when a thunderstorm hits. However the whole county would likely be impacted by a thunderstorm; lightning would impact a much more localized area per strike.</p> | |
| <p>Maximum Threat</p> | <p>Although the developments in technology have been very beneficial in reducing the long-term negative effects of thunderstorms, certain dangers still exist. The maximum threat of a thunderstorm would be realized if it was accompanied by power outages and limitation of travel due to debris in the roadways. In addition lightning damage to communication centers could result in the reduction of adequate medical response time.</p> <p>Severe thunderstorms can be quite expansive with areas of localized severe conditions. Most severe thunderstorm cells are 5 to 25 miles wide with a larger area of heavy rain and strong winds around the main cell. Most non-severe thunderstorms have a lifespan of 20 to 30 minutes, while severe thunderstorms last longer than 30 minutes. While short-lived, a thunderstorm could impact up to the entire county.</p> | <p>2</p> |
| <p>Severity of Impact</p> | <ul style="list-style-type: none"> A. Like tornadoes, thunderstorms and lightning can cause death, serious injury, and substantial property damage. The power of lightning's electrical charge and intense heat can electrocute people and livestock on contact, split trees, ignite fires, and cause electrical failures. Thunderstorms can also bring large hail that can damage homes and businesses, break glass, destroy vehicles, and cause bodily injury to people, pets, and livestock. B. Response personnel are exposed to the same risk as the general public when caught in the storm without shelter. Work on ladders and other apparatus during lightning can expose responders to higher risk situations. C. Continuity of operations would be affected through indirect impacts such as loss of critical services. D. High winds can damage trees, homes (especially mobile homes), and businesses and can knock vehicles off of the road. Straight-line winds are responsible for most thunderstorm damage. E. One or more severe thunderstorms occurring over a short period (especially on saturated ground) can lead to flooding and cause extensive power and communication outages as well as agricultural damage. | <p>3</p> |

| | | |
|------------------------|--|----|
| | <p>F. Thunderstorms and lightning can damage trees, but this is a naturally occurring hazard and the environment proves to be resilient following these and other natural hazards.</p> <p>G. Thunderstorms and lightning occur rapidly and do not persist. The aftermath may cause moderate economic impacts, but most will be related to cascading hazards such as flooding.</p> <p>H. Timely and adequate response will stave off any negative reputation that the jurisdiction could be exposed to. Clean up procedures should be established including a debris removal and disposal plan.</p> | |
| Speed of Onset | The National Weather Service has developed effective weather advisories, which are promptly and widely distributed. Radio, TV, and Weather Alert Radios provide the most immediate means to do this. Accurate information is made available to public officials and the public in advance of the storm. Again, weather prediction capabilities have made significant improvements in the past few years. There are several notifications made by the National Weather Service. These include severe thunderstorm watch, severe thunderstorm warning, tornado watch, tornado warning, flash flood watch, and flash flood warning. | 3 |
| Hazard Worksheet Score | | 18 |
| Composite Score | | 35 |

National Climatic Data Center

<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

| Hazard | Radon / Lead | |
|-----------------------|---|---|
| Definition | <p>Radon: Radon is a colorless, odorless, and tasteless gas resulting from the radioactive decay of naturally occurring substances in many types of soil.</p> <p>Lead: Lead was a common component in paints prior to 1978 as well as gasoline and is a known carcinogen.</p> | |
| Description | <p>Radon percolates through the soil and can infiltrate homes through cracks in basements or lower-level floors. Radon is a problem inside enclosed spaces such as basements and the first two to three floors of buildings. Radon is the second leading cause of lung cancer overall and the first leading cause of lung cancer in nonsmokers. Once it is outside of an enclosed space, radon disperses and dilutes quickly and thus is not a problem outdoors. Radon results from the radioactive decay of uranium and radium which are naturally occurring elements found in soil and ground water. Radon is measured in picocuries per liter (pCi/L); 4 pCi/L is a threshold set by the US EPA as the level where action should be taken to mitigate radon levels. However, no amount of radon exposure is safe. Radon levels tend to be higher during periods when homes and other buildings have windows and doors closed such as during the winter as the gas can build up greater concentrations. Fans and open windows can help to disperse the gas.</p> <p>Lead becomes a problem when existing paint is disturbed such as through sanding prior to repainting, carpentry activities, and home maintenance. Flaking paint chips can become a significant health hazard to young children and pets that may eat the chips.</p> | |
| Historical Occurrence | <p>Radon can occur in any home and any building, but certain parts of the country are more susceptible than others due to soil composition and radium content in the soil. Iowa has some of the highest estimated rates of radon infiltration into homes in the western United States. Wayne County has an estimated 15% to 20% of homes with elevated levels of radon.</p> <p>Approximately 77% of homes in Wayne County were built before 1970, which exposes them to the high likelihood that lead based paint is present.</p> | 4 |
| Probability | <p>Iowa State University Extension and the EPA found that 70% of homes in Iowa had radon levels exceeding 4 pCi/L. This study includes the entire state. Figure 10 suggests that for Wayne County, about one in five homes has elevated levels of radon. However, each home would</p> | 4 |

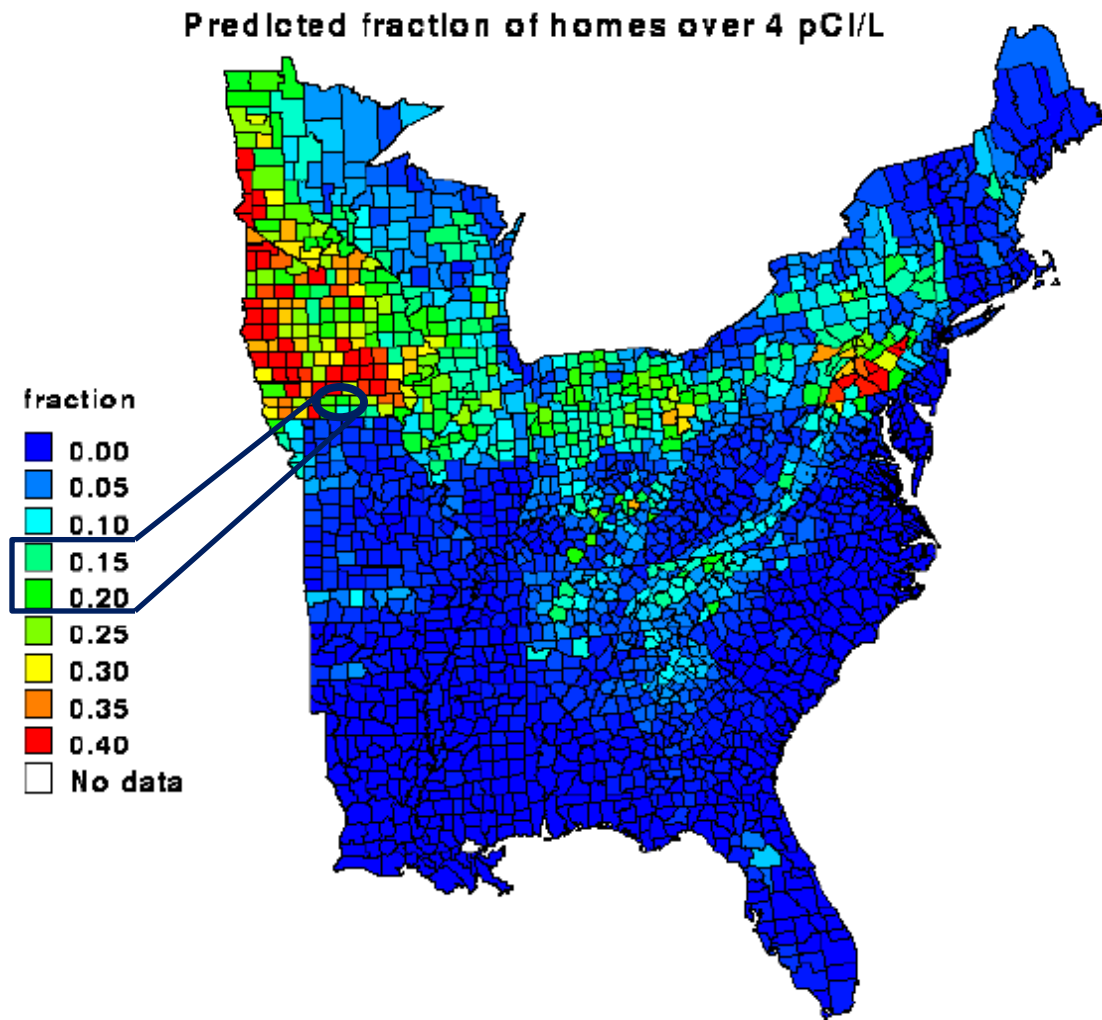
Rating

| | | |
|--------------------|---|---|
| | <p>need to be tested to be certain of radon levels since there is variation in soils and homes.</p> <p>The median age of homes built in Wayne County is 1947 and thus have a high likelihood of containing lead paint unless they have had lead mitigation previously conducted.</p> | |
| Vulnerability | <p>People are most at risk in basements with radon levels equal to or exceeding 4 pCi/L. Following basements, risk exists in enclosed spaces in lower levels of buildings. There is little risk to people outdoors and little if any risk to property. A conservative estimate of vulnerability to lead and radon would likely be limited given 1) the exposure to elevated levels of radon gas in enclosed spaces and 2) the exposure to lead through ingesting or inhaling dust or chips of lead-based paints.</p> <p>It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 767 (60%) of the residence in the rural region of Wayne County date prior to 1978 and this places them at a higher risk of containing Lead.</p> | 3 |
| Maximum Threat | <p>Radon affects the entire state of Iowa though there are areas with greater and areas with lesser risk. Radon levels can vary from home to home, even between buildings located next to one another. Lead is more predictable as a common component of paints prior to 1978 when the Federal government banned its use. Over three-quarter of homes were built prior to 1970, a proportion that may be more for businesses and farm structures. As environmental human health hazards, more than half of Wayne County residents are potentially exposed.</p> | 3 |
| Severity of Impact | <p>A. Radon does not harm people immediately, the health impacts take time to manifest. Despite this fact, radon is known as the second most prevalent cause of lung cancer deaths after tobacco smoke and causes more deaths than drunk drivers, drowning, home fires, and others. Tobacco smokers exposed to radon have ten times the risk of developing lung cancer than non-smokers as radon reacts to compounds found in tobacco smoke. Likewise, lead does not harm human health immediately, though the effects of lead exposure compound and lead to more severe health impacts.</p> <p>B. Response personnel are generally health care professionals and are not generally exposed to the same health threats as the patients.</p> <p>C. Lead and Radon do not pose a threat to the built environment though renovations to structures containing lead can release this toxin. Lead that accumulates in the soil or in sediment behind</p> | 3 |

| | | |
|------------------------|--|----|
| | <p>dams can become a health threat when disturbed.</p> <p>D. Radon is a naturally occurring gas that rapidly dissipates once outside of an enclosed space. Lead can cause fish and animal poisoning if ingested and may accumulate in the food chain as it does not decay, dissipate, or dissolve.</p> <p>E. Mitigation of lead can be particularly costly due to the health threats to contractors. Mitigation of radon is relatively inexpensive. Health costs for people poisoned by either substance could be significant.</p> | |
| Speed of Onset | As a naturally occurring pollutant, radon varies from location to location. Without testing a particular enclosed space, there is no way of knowing whether radon is present. Radon tests are available for purchase, many for less than \$10 and can be mailed into a given laboratory for results. Mitigation of radon hazards are relatively simple and inexpensive, generally involving the installation of a pipe extending under the lowest level of a structure to the outside with a fan to draw the gas out of the structure. Lead is a similarly slow onset hazard generally requiring inhalation or ingestion of lead-containing products before health impacts are seen. | 1 |
| Hazard Worksheet Score | | 18 |
| Composite Score | | 20 |

| Additional Resources: | |
|---|---|
| "Radon Facts" | Iowa State Extension Service - http://www.extension.iastate.edu/Publications/PM1336.pdf |
| "Radon" | US EPA - http://www.epa.gov/radon/ |
| Air Quality: Radon | American Lung Association - http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=35395 |
| Iowa Where You Live Indoor Air Quality US EPA Air | US EPA - http://www.epa.gov/iaq/states/iowa.html |
| "A Citizen's Guide to Radon" | US EPA - http://www.epa.gov/iaq/radon/pubs/citguide.html |

Figure 10: Predicted Proportion of Homes with High Radon Levels



Source: E.O. Lawrence Berkeley National Laboratory (<http://eetd.lbl.gov/IEP/high-radon/frac4.htm>)

| Hazard | Sink Holes | |
|-----------------------|--|---|
| Definition | <p>Sinkhole: A natural depression in a land surface communicating with a subterranean passage, generally occurring in limestone regions and formed by solution or by collapse of a cavern roof (American Heritage Dictionary).</p> | |
| Description | <p>Sinkholes, also known as subsidence, come in two primary forms in Iowa, Karst subsidence and Mine subsidence. Mines subsidence occurs when a mine or part of a mine collapses causing surface land to create a basin or hole. Karst subsidence occurs as water dissolves underlying rock creating a gap that ultimately collapses. Karst Soils – “Fissures, tubes and caves generally less than 1,000 ft (300 m) long; 50 ft (15 m) or less vertical extent; in gently dipping to flat-lying beds of carbonate rock beneath an overburden of noncarbonate material 10 ft (3 m) to 200 ft (60 m) thick” (from GIS data).</p> <p>Most of Iowa's sinkholes occur in rural areas where their main impact is rendering some land unsuitable for row-crop agriculture. Sinkholes have also resulted in the failure of farm and other types of ponds, roads, and one sewage-treatment lagoon. As sinkholes sometimes allow surface runoff to directly enter bedrock aquifers, their presence has a potential impact on groundwater quality.</p> <p>Given the history of mining in Wayne County, mine subsidence may well be of concern for the county and its communities. See <i>Appendix L: Coal Mining Locations in Wayne County</i>.</p> | |
| Historical Occurrence | <p>There has been one recorded incident of sinkholes opening in Wayne County. The “Big Jim Mine” located in Seymour collapsed in 1918 and ended the productivity of this mine.</p> <p>The Iowa Department of Natural Resources tracks sinkholes and provides Geographic Information Systems (GIS) data on their locations. The vast majority of sinkholes in Iowa have occurred in the northeast quarter of the state. See <i>Appendix L</i> for a map of Iowa sinkholes, following this hazard profile.</p> | 1 |
| Probability | <p>While records of sinkholes in Wayne County are sparse, there is a possibility of subsidence occurring. The prevalence of mines in parts of the county provides the potential of large areas being damaged by mine cave ins. The Iowa Department of Natural Resources monitors and maps sinkholes and mines in Iowa. Not all of the mines in Wayne County are fully mapped; the extents of some mines are estimated. Based on these mapping limitations, the condition of at least some of</p> | 2 |

Rating

| | the mines is presumably not fully known. The committee has determined that it is possible that a sinkhole could develop during any given year. | | | | | | | | | |
|------------------------|---|------------------------|--|------|--------------|---------------------|-------|----------------|-------|---|
| Vulnerability | <p>Anyone is vulnerable to sinkholes should they occur in a developed area. Buildings and infrastructure such as roads, underground pipes, and railroad lines face potentially severe damage from mine subsidence. In the county the potentially for damage from Karst subsidence is low given the soil composition of the area (i.e. a lack of Karst soils). Personal injury or even death is possible should a cave in happen suddenly; indirect injury or death is possible from building collapse or damage to infrastructure. Likewise, motorists are at risk if a road collapses suddenly or is not identified promptly.</p> <p>Wayne county lies in the western limits of the coal measure zone in Iowa. There were approximately 20 coal mines throughout the county and almost all were located around the Confidence area (unincorporated community), Seymour and Promise City.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">Vulnerable Communities</th> </tr> <tr> <th style="text-align: left;">Name</th> <th style="text-align: left;">Approx. Area</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Promise City</td> <td style="text-align: left;">25% +</td> </tr> <tr> <td style="text-align: left;">Seymour</td> <td style="text-align: left;">50% +</td> </tr> </tbody> </table> | Vulnerable Communities | | Name | Approx. Area | Promise City | 25% + | Seymour | 50% + | 1 |
| Vulnerable Communities | | | | | | | | | | |
| Name | Approx. Area | | | | | | | | | |
| Promise City | 25% + | | | | | | | | | |
| Seymour | 50% + | | | | | | | | | |
| Maximum Threat | The maximum threat of subsidence would be if one or more of the underlying mines were to collapse damaging homes, businesses, and infrastructure. While it may be unlikely for multiple mines to collapse simultaneously, it is not impossible, especially if it is due to some triggering event such as an earthquake. Seymour would be at particular risk of this because it was noted at the turn of the century that Seymour had so many mines close together, that it was often referred to as a “Coal Camp”. See the table above for approximate geographic area in each community that has underlying mines. | 1 | | | | | | | | |
| Severity of Impact | <p>A. Generally subsidence poses a greater risk to property than to people. However, should a depression or hole open or occur suddenly, people may be injured or killed. Likewise if a road were to collapse due to subsidence and it is not identified promptly, motorists may fall into the gap and be injured or killed.⁶</p> <p>B. Impacts on response personnel is minimal and would be most</p> | 1 | | | | | | | | |

⁶ Resulting from flooding in 2007 a road northwest of Moulton washed out leading to a car falling into the hole entirely. While this is the result of a wash-out, similar events may occur from a mine collapse. Likewise, a sewer in Centerville collapsed leading to a large hole opening in the street.

| | | |
|------------------------|---|----|
| | <p>likely confined to falls or subsequent collapse in the event of a mine cave-in.</p> <p>C. Impacts on continuity depend on the structures or infrastructure damaged.</p> <p>D. Damage to structures and infrastructure depends on the severity of the subsidence ranging from foundation cracking to building collapse in the event of a mine-collapse.</p> <p>E. Delivery of services depends on the structures and infrastructure impacted.</p> <p>F. Most sinkholes are the result of naturally occurring events. However mine collapse can disturb harmful substances contained in the soil, in mines, and in structures located above.</p> <p>G. Depends on the affected area.</p> <p>H. Impacts to the reputation of the DNR, local government, and emergency management may occur if the threat of mine collapse is not addressed. Based on available data from the DNR, many mines in Wayne County are not mapped and so condition and full extent of these mines may not be known.</p> | |
| Speed of Onset | The speed of onset can vary from a sudden collapse with little if any warning to more gradual “sinking” of the ground. Monitoring of the area mines could provide additional warning if signs of subsidence or structural stress in the mines are found. | 4 |
| Hazard Worksheet Score | | 10 |
| Composite Score | | 23 |

Source: “Mines in Wayne County, Iowa”; Wayne County Historical Society.

| Hazard | River Flooding | | | | | Rating | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--|--------|----------|----------|------|-------------------|--|--|--|--|--|--------------|--------|--------|----------|----------|------|-------|----|---|---|------|-----|-----------------------|----|---|---|------|------|---|
| Definition | <p>River Flood: A rising or overflowing of a tributary or body of water that covers adjacent land not usually covered by water when the volume of water in a stream exceeds the channel’s capacity.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | <p>Floods are the most common and widespread of all natural disasters, except fire. Most communities in the United States can experience some kind of flooding after spring rains, heavy thunderstorms, winter snow thaws, waterway obstructions, or levee or dam failures. Often it is a combination of these elements that causes damaging floods. Floodwaters can be extremely dangerous. The force of six inches of swiftly moving water can knock people off their feet and two feet of water can float a car. Floods can be slow-, or fast-rising but generally develop over a period of days. Flooding is a natural and expected phenomenon that occurs annually, usually restricted to specific streams, rivers or watershed areas.</p> <p>Two common terms to describe areas that are prone to flooding are 100-year flood plain and 500-year flood plain. The meaning of these terms are often confused; though they sound like a flood in the designated areas only happens once every 100 or 500 years, this interpretation is incorrect. What the designation actually means is that for a 100-year flood plain, the chance of a flood occurring in any given year is 1% which is statistically about once every 100 years. Likewise, for the 500-year flood plain, the chance is .2% chance of a flood occurring in any given year. Floods may certainly occur more frequently in either flood plain designation, but these would be rare occurrences.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Historical Occurrence | <p>Since 1993 there have been seventy-nine flood events in Wayne County in addition to the flash floods previously detailed. There have been no deaths or injuries directly attributed to these events. Of these floods, many impacted an area broader than just Wayne County and so the damages listed in the total row are distributed among multiple counties.</p> <table border="1" data-bbox="444 1682 1235 1871"> <thead> <tr> <th colspan="6" data-bbox="444 1682 1235 1713">Floods since 1993</th> </tr> <tr> <th data-bbox="444 1713 631 1755">Jurisdiction</th> <th data-bbox="631 1713 764 1755">number</th> <th data-bbox="764 1713 878 1755">deaths</th> <th data-bbox="878 1713 1000 1755">injuries</th> <th data-bbox="1000 1713 1122 1755">property</th> <th data-bbox="1122 1713 1235 1755">crop</th> </tr> </thead> <tbody> <tr> <td data-bbox="444 1755 631 1797">Total</td> <td data-bbox="631 1755 764 1797">67</td> <td data-bbox="764 1755 878 1797">0</td> <td data-bbox="878 1755 1000 1797">0</td> <td data-bbox="1000 1755 1122 1797">154M</td> <td data-bbox="1122 1755 1235 1797">41M</td> </tr> <tr> <td data-bbox="444 1797 631 1871">Confidence (unincorp)</td> <td data-bbox="631 1797 764 1871">15</td> <td data-bbox="764 1797 878 1871">0</td> <td data-bbox="878 1797 1000 1871">0</td> <td data-bbox="1000 1797 1122 1871">330K</td> <td data-bbox="1122 1797 1235 1871">230k</td> </tr> </tbody> </table> | | | | | Floods since 1993 | | | | | | Jurisdiction | number | deaths | injuries | property | crop | Total | 67 | 0 | 0 | 154M | 41M | Confidence (unincorp) | 15 | 0 | 0 | 330K | 230k | 4 |
| Floods since 1993 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jurisdiction | number | deaths | injuries | property | crop | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 67 | 0 | 0 | 154M | 41M | | | | | | | | | | | | | | | | | | | | | | | | | |
| Confidence (unincorp) | 15 | 0 | 0 | 330K | 230k | | | | | | | | | | | | | | | | | | | | | | | | | |

| | <table border="1" data-bbox="444 197 1235 388"> <tr> <td>Promise City</td> <td>2</td> <td>0</td> <td>0</td> <td>50K</td> <td>100K</td> </tr> <tr> <td>Allerton</td> <td>1</td> <td>0</td> <td>0</td> <td>5k</td> <td>0</td> </tr> <tr> <td>Cambria (unicorp)</td> <td>1</td> <td>0</td> <td>0</td> <td>10k</td> <td>0</td> </tr> <tr> <td>Humeston</td> <td>1</td> <td>0</td> <td>0</td> <td>250K</td> <td>0</td> </tr> </table> <p>Damages are given in thousands of dollars unless otherwise noted.</p> <p>See <i>Appendix O: NCDC Storm Events</i> for a record of events that have impacted Wayne County. See <i>Appendix Q: Estimated 100 year Floodplain</i> for more information.</p> | Promise City | 2 | 0 | 0 | 50K | 100K | Allerton | 1 | 0 | 0 | 5k | 0 | Cambria (unicorp) | 1 | 0 | 0 | 10k | 0 | Humeston | 1 | 0 | 0 | 250K | 0 | |
|------------------------|--|------------------------|---|------|--------------|---------|------|----------|---|---|---|----|---|-------------------|---|---|---|-----|---|----------|---|---|---|------|---|--|
| Promise City | 2 | 0 | 0 | 50K | 100K | | | | | | | | | | | | | | | | | | | | | |
| Allerton | 1 | 0 | 0 | 5k | 0 | | | | | | | | | | | | | | | | | | | | | |
| Cambria (unicorp) | 1 | 0 | 0 | 10k | 0 | | | | | | | | | | | | | | | | | | | | | |
| Humeston | 1 | 0 | 0 | 250K | 0 | | | | | | | | | | | | | | | | | | | | | |
| Probability | <p>Flooding is a regular and frequent hazard in Iowa; in Wayne County, the number of flooding events suggests that there can be 1-2 floods annually. Many floods tend to be along river and stream corridors and impacting limited areas. The location of the unincorporated community of Confidence is of particular concern with 15 river flooding events in the last six years.</p> <p>With the projections that Iowa will see an increase in precipitation in the next century of approximately 20% annually, an increase in frequency and severity of floods should be anticipated (Climate Change and Iowa, US EPA, September 1998).</p> | 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| Vulnerability | <p>In river flooding events, the flood plains and flood zones are at the most risk, but this is not necessarily the case for flash floods as detailed previously. Only one community in the county has a flood plain map and the flood zone boundary on each are only approximate as of when they were created. Additionally, several unincorporated communities are located close to or in low-lying areas around rivers or streams. Because boundaries of the unincorporated communities are not readily available, approximate area of these communities is not given. There are eight rivers and/or creeks that pass through the county that can create a situation of flooding.</p> <table border="1" data-bbox="618 1461 1062 1667"> <thead> <tr> <th colspan="2">Vulnerable Communities</th> </tr> <tr> <th>Name</th> <th>Approx. Area</th> </tr> </thead> <tbody> <tr> <td>Seymour</td> <td>15%</td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table> <p>Given the 1) rolling hill nature of Wayne County, 2) state highways pass through low-lying areas containing rivers or streams, and 3) the limited number of goods and services available in the county, severe flooding would impact most of the county. This was evidenced in the 2008 floods. Some of this impact is limited to traveling inconveniences.</p> | Vulnerable Communities | | Name | Approx. Area | Seymour | 15% | | | 2 | | | | | | | | | | | | | | | | |
| Vulnerable Communities | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name | Approx. Area | | | | | | | | | | | | | | | | | | | | | | | | | |
| Seymour | 15% | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--------------------|--|---|
| Maximum Threat | The Flood Insurance Rate Maps for Seymour are given in <i>Appendix S: Seymour Floodplain</i> . <i>Appendix Q: Estimated 100 year Floodplain for Wayne County</i> will show approximately 5% of the county is located in low-lying areas where permanent rivers or streams pass through and includes the City of Seymour’s drainage issue. | 2 |
| Severity of Impact | <ul style="list-style-type: none"> A. Flooding impacts include potential loss of life. River flooding does not have as high of risk as does flash flooding because of the slower onset of the river flood. B. Responding to river flooding often includes sandbagging and working in floodwaters. Response personnel should have current tetanus and hepatitis shots. Rescuing victims often requires rescue from boat. Wearing personal protective gear such as life vests at all times can prevent most injuries related to river flooding. C. Operations could be disrupted from direct impacts if facilities are in the floodplain and indirectly from loss of critical services to maintain operations. Backup power and other services can eliminate the impact to operations. D. Personal property can be extensively damaged and destroyed by swift moving water. Facilities and infrastructure can be scoured around and degrading its structural integrity. E. Damage and disruption of communications, transportation, electric service, and community services are likely in severe cases. Wastewater treatment facilities may be located in the floodplain and thus at high risk of flooding; this is not uncommon around Iowa and eventually results in them being taken offline for a period of time. F. Hazards of fire, health and transportation accidents; and contamination of water supplies are likely affects of flooding situations as well. G. Crop and livestock losses and interruption of businesses either from direct flooding or loss of the delivery of critical services can have damaging impacts on the local economy. River flooding can last for weeks and the impacts can last for months and even years following the flood. Economic impacts can be felt with only a couple days of disruption. H. Jurisdictions should pay careful attention to disclosing flood risk in the community. Participation in the National Flood Insurance Program and providing accurate and up to date flood insurance rate maps will head off most allegations of poor service by the jurisdiction by the citizens. | 2 |
| Speed of Onset | Gauges along streams and rain gages throughout the state provide for an early flood warning system. River flooding usually develops over the course of several hours or even days depending on the basin characteristics and the position of the particular reach of the stream. The National Weather Service provides flood forecasts for Iowa. Flood | 2 |

| | | |
|------------------------|---|----|
| | warnings are issued over emergency radio and television messages as well as the NOAA Weather Radio. People in the paths of river floods may have time to take appropriate actions to limit harm to themselves and their property. | |
| Hazard Worksheet Score | | 16 |
| Composite Score | | 38 |

| Hazard | Dam Failure | Rating |
|-------------|--|--------|
| Definition | Dam Failure: A dam is any artificial barrier together with appurtenant works that will divert or restrain the flow of a stream or other body of water for the purpose of protecting an area from inundation by floodwaters. Dam failure occurs when the structural integrity of the dam is lost and the structure fails to hold back the water. | |
| Description | <p>When a dam failure occurs the structure fails to hold back the water, resulting in flooding. In the event of a dam failure, the energy of the water stored behind even a small dam is capable of causing loss of life and great property damage if there are people downstream of the dam.</p> <p>There are six bodies of water that have dams in Wayne County that range in rankings from Significant Hazard Dams to Low Hazard Dams as deemed by the State of Iowa. Each reservoir once served as the source of water for a community prior to the creation of large rural water system, however no longer do. The water bodies are listed below:</p> <p>Bobwhite State Park – Allerton As Wayne County's only State Park, Bobwhite State Park offers an abundance of activities. This 390 acre park, with a 90 acre lake, has facilities for: Hiking (3 miles), picnicking, swimming, boating (restricted to electric motors only), camping (you can even "pitch your tent" where 500 covered wagons camped on the original 1846 Mormon Pioneer Trail). A Park Ranger is located at the park year round. The park is located one mile west of Allerton.</p> <p>City of Corydon Lake Park Corydon Lake Park 1 mile southwest of Hwy. 2. Corydon Reservoir was constructed in 1919 and is located in south central Iowa on the west edge of Corydon, Iowa. The reservoir is an on-stream impoundment on a tributary of West Jackson Creek. The reservoir has a surface area of</p> | |

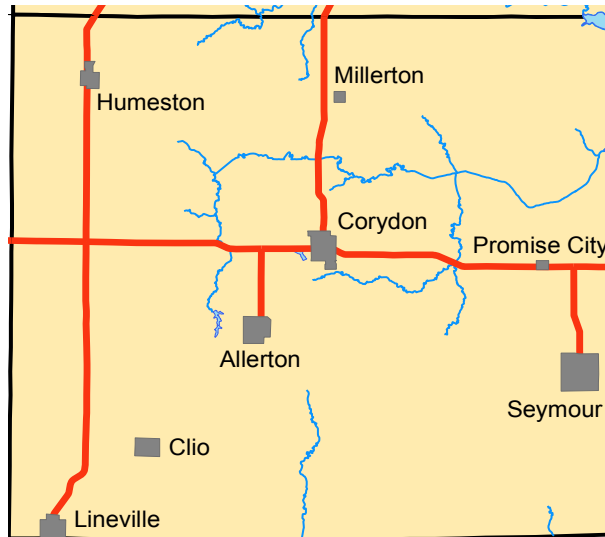
| | | |
|------------------------------|--|----------|
| | <p>58 acres when completely full and is split into two sections by railroad tracks. The main area of the reservoir is 52 acres, and the remaining 6 acres are a shallow marsh like area. The mean depth of the reservoir is approximately 5.9 feet and the volume is almost 15 million cubic feet when full. Corydon Reservoir is located within the Corydon Lake Park (approx. 160 acres), managed by the Wayne County Conservation Board. The park and reservoir are used primarily for camping, fishing, boating, picnicking and hiking.</p> <p>Lakeside Park – Humeston Located one mile north of Humeston on Hwy 65, is an 86 acre park with facilities for: Camping (with or without electrical hookups, drinking water, and pit toilets), fishing on its 45 acre lake, and picnicking areas.</p> <p>Moore-Gosch Memorial Park Located one mile north of Lineville on Hwy 65, is a 29 acre park featuring facilities for: Camping (with or without electrical hookups, drinking water, and pit toilets), fishing on the 12 acre lake, and picnicking areas.</p> <p>Medicine Creek Wildlife Area Located 5 miles east of Lineville, is a 1028 acre area with facilities for: Hunting and fishing, as well as upland timber ground, a restored prairie area, and 140 acres of wetland.</p> <p>Seymour Lake Park Located one quarter of a mile south of Seymour on county road S60, is rustic park with facilities for: Camping (20 undesignated campsites for tent camping and restrooms), fishing on its 24 acre lake (with boat ramp), and picnicking areas.</p> | |
| <p>Historical Occurrence</p> | <p>There are no incidents of dam failure in Wayne County on record. Iowa DNR officials said the Lake Delhi dam failure in July 2010 is probably the worst moderate-hazard dam failure in recent history. They haven't had any other reports of dam failures this year in any categories of high-hazard, moderate-hazard or low-hazard.</p> | <p>1</p> |
| <p>Probability</p> | <p>With increased attention to sound design, quality construction, and continued maintenance and inspection, dam failure probability can be reduced. It is important to consider that by 2020, 85% of the dams in the United States will be more than 50 years old (the design life of a dam). It is possible that any of the six dams in Wayne county could experience dam failure.</p> | <p>2</p> |

| | | |
|---------------|--|---|
| | <p>Bobwhite Lake in Wayne County is considered a “moderate hazard” dam according to Iowa DNR GIS data. The dam is stated to be in fair condition but in need of maintenance of the spillway. Particular concern is that the abutment walls of the spillway are in poor condition.</p> <p>Humeston Reservoir near the community of Humeston in Wayne County. Iowa DNR has also flagged it as a “Moderate hazard dam”. A Moderate Hazard Dam is described as the same level of dam as a “Significant Hazard Dam” deemed by FEMA. It is “where failure may damage isolated homes or cabins, industrial or commercial buildings, moderately traveled roads, interrupt major utility services, but are without substantial risk of loss of human life. Dams are also classified as Moderate Hazard where the dam and its impoundment are themselves of public importance, such as dams associated with public water supply systems, industrial water supply or public recreation or which are an integral feature of a private development complex.” (www.iowadnr.gov) Suggested repairs are a new chute spillway or major repairs must happen to the existing one is needed.</p> | |
| Vulnerability | <p>People and property along streams are most vulnerable. Facilities and lives considerable distances from the actual impoundment are not immune from the hazard. Depending on the size and volume of the impoundment as well as the channel characteristics, a flash flood from a dam failure can travel a significant distance.</p> <p>The 2007 State of Iowa Hazard Mitigation Plan indicates that there are four “Significant Hazard Dams” in Wayne County. A “Significant Hazard Dam” in the State of Iowa Mitigation plan is determined if it’s located in an area where failure may dam failure may damage isolated homes or cabins, industrial/commercial buildings, moderately traveled roads or railroads, interrupts major utility services, but without substantial risk of loss of human life. In addition, structures where the dam and its impoundment are of themselves of public importance, such as dams associated with public water supply systems, public recreation, etc. The most direct impact of a dam failure of Bobwhite Lake on Bobwhite State Park grounds would be one a section of the unincorporated region of Wayne County. The topography of the area the lake would dissipate the water. The only major structure at risk of damage would be a rural bridge located downstream. Other “significant” Hazard Dams include City of Corydon Lake, Lakeside Park near Humeston, and Medicine Creek Wildlife Area (located 5 miles east</p> | 2 |

| | | |
|---------------------------|---|----------|
| | <p>of Lineville). There would be limited significant damage from each of these sources as the drainage would occur in the rural region waterway. Primary damage would be to secondary roads and agricultural land. Limited damage would occur to roads and properties in the failure of Corydon Lake dam. Lakeside Park is located in the Unincorporated region near Humeston and would affect secondary roads and agriculture crops. Medicine Creek Wildlife area is a wetland east of Lineville that contains water as flood mitigations for that region. Should the dam systems fail around Medicine Creek agricultural fields would be inundated.</p> <p>There are 45 low hazard dams identified throughout the county, but primary damage would occur to the unincorporated region of the county. A Low Hazard dam is defined if it is located in an area where damages from a failure would be limited to loss of the dam, loss of livestock, damages to farm outbuildings, agricultural lands and lesser used roads and where loss of human life is considered unlikely. Maximum risk would be to the roadways and bridges throughout the county. For example, a breach of Seymour Lake would release water to a rural region of the county. A larger concern would be the impact that could occur to highway S60, a few rural homes and a possibly a couple homes on the edge of the city limits.</p> | |
| <p>Maximum Threat</p> | <p>The area impacted following a dam failure would be limited to those areas in and near the floodplain. People and property outside the floodplain could also be impacted depending on the proximity to the dam and the height above the normal stream level.</p> <p>Approximately 5% of the county would be impacted should the Rathbun Dam fail, primarily through resulting flooding. However a much more significant impact could be seen as the lake provides municipal water throughout the region, including all of Wayne County.</p> | <p>2</p> |
| <p>Severity of Impact</p> | <p>A. The severity of damage could be similar to flash flooding impacts. B. None directly, but operations could be affected by communication loss, critical facility damage/destruction, etc. C. Depends upon the downstream property, facilities, and infrastructure. Worst case scenario could involve whole subdivisions being swept away by the fast flowing water. D. Property can be impacted either by being damaged by the force of flowing water, water damage inside buildings, and compromises to</p> | <p>2</p> |

| | | |
|------------------------|--|----|
| | <p>structural integrity due to erosion</p> <p>E. Flash floods can quickly inundate areas thought to be out of flood-prone areas. Loss of life; property damage and destruction; damage and disruption of communications, transportation, electric service, and community services; crop and livestock damage and loss and interruption of business are common impacts from flash flooding.</p> <p>F. Hazards of fire, health and transportation accidents, and contamination of water supplies are likely effects of flash flooding situations. Materials swept away by flood waters can contaminate and leave a lasting impact on the environment.</p> <p>G. Most impacts are indirect due to disruption of business and damage to infrastructure on which industry and services rely upon.</p> | |
| Speed of Onset | <p>In the event of dam failure, advanced notice would likely be minimal and the onset of the event could occur very rapidly. With maintenance and monitoring, weak areas and possible failure points can be identified allowing time for evacuation and securing of the dam. Most dams are only inspected periodically thus allowing problems to go undetected until a failure occurs. Rathbun Dam is inspected every five years (http://rathbun.uslakes.info/DamInfo.asp?DamID=100199).</p> | 2 |
| Hazard Worksheet Score | | 11 |
| Composite Score | | 16 |

Figure 11: Wayne County Bodies of water - Dams



Source: Iowa Department of Natural Resources GIS data compiled by Chariton Valley Planning and Development

B. Human / Combination Hazards

Human caused and combination hazards may impact a broader area than just certain communities, much like natural hazards. These hazards may include disease pandemics, energy failure, or fires. The human and combination hazards that may affect the broader Wayne County area are addressed here.

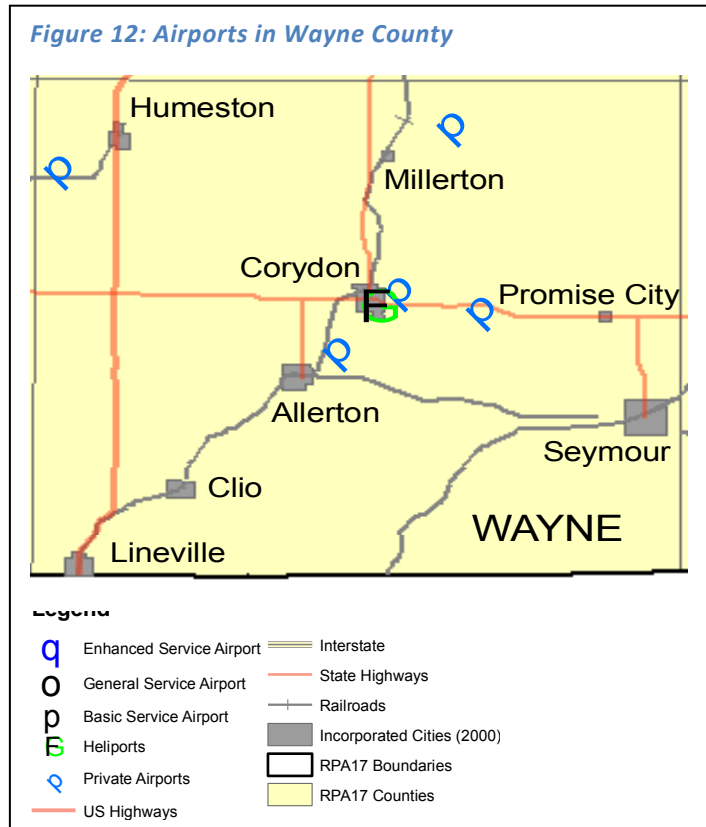
| Hazard | Air Transportation Incident | |
|-----------------------|--|--------|
| Definition | Air Transportation Incident: Any incident involving a military, commercial, or private aircraft. | Rating |
| Description | <p>An air transportation incident may involve a military, commercial, or private aircraft. Air transportation is playing a more prominent role in transportation as a whole; airplanes, helicopters, and other modes of air transportation are used to transport passengers for business and recreation as well as thousands of tons of cargo. A variety of circumstances can result in an air transportation incident; mechanical failure, pilot error, enemy attack, terrorism, weather conditions, and on-board fire can all lead to an incident at or near the airport. Air transportation incidents can occur in remote unpopulated areas, residential areas, or downtown business districts, incidents involving military, commercial, or private aircraft can also occur while the aircraft is on the ground.</p> <p>The Davis Municipal Airport is located in the unincorporated county area west of Corydon. A heliport is located at the Wayne County Hospital on the north side of Corydon. There are four private airports in Wayne county: Cobb Farm Airport is located between Allerton and Corydon, Grismore Airport is northeast of Corydon, Moore Private Airport is northeast of Millerton, and Watkins Private Airport is east of Humeston.; see <i>Figure 19: Wayne County Air Facilities</i>.</p> | |
| Historical Occurrence | According to the National Transportation Safety Board (NTSB), there have been no aviation accidents or incidents in Wayne County in the last ten years. Only a few major accidents have impacted Iowa since 1935 but numerous less severe accidents have occurred around the state in both large and small cities. | 1 |
| Probability | The lack of precedent does not mean that an air incidents and accidents cannot impact Wayne County or its communities. There are airports and/or heliports in or near county seats of surrounding counties in Iowa. Private airports are also in the area as well as major airports within 200 miles located in Des Moines and in Kansas City. | 3 |

| | | |
|----------------------|---|----------|
| <p>Vulnerability</p> | <p>Despite the increase in the number of people using air travel, incidents that require response personnel and involve casualties are likely to continue to decrease in number due to increases in the quality of training, equipment, and safety. Carefully planned land-use near the airport will also decrease the chance that people and property on the ground will suffer significant impacts in the event of an air transportation accident. Such land use controls generally consist of zoning ordinances. Most incidents involving airplanes takes place in or immediately near airports such as during take-offs and landings.</p> <p>However, planes can and do crash or need to make emergency landings, sometimes in populated places. One example is the October 6, 2008 incident of a small plane that crashed in an Iowa City residential neighborhood.⁷ Ice or other debris may fall from planes flying overhead which may cause injuries or damage, although reports of such incidents are rare. Anything struck by falling debris is vulnerable to damage regardless of type of building.</p> <p>People aboard airplanes are the most vulnerable. Statistics from the National Transportation Safety Board and the airline industry show that the majority (over 75%) of airplane crashes and accidents occur during the takeoff or landing phases of a flight. As a result, developed areas adjacent to the airports and in airport flight paths are particularly vulnerable to this hazard. For areas away from the airport, a smaller percentage of the population would be directly in the area of impact. Because of the infrequency of aircraft in the skies above areas away from the airport, these areas would not be considered as vulnerable.</p> <p>Maximum population and building exposure to an air transportation incident. There is not a “Basic Service Airport” nor “General Service Airport” as acknowledged by the National Plan of Integrated Airport System (NPIAS). There are approximately 4 privately owned airports throughout the Wayne County Region. One is northeast of Millerton about 3 miles, one is on the northeast edge of Corydon’s city limits, another is 7 miles east of Corydon along side Iowa State Highway 2, and the last one is located between Corydon and Allerton (approximately 1.5 miles northeast of Allerton). Wayne County Memorial Hospital also offers emergency flight service with the location of a helipad on grounds of the hospital at the southeast edge of Corydon. It is estimated 3% of the</p> | <p>1</p> |
|----------------------|---|----------|

⁷ Des Moines Register. *Iowa City plane crash injures one*. <<http://www.desmoinesregister.com/article/20081006/NEWS/81006035/1001/>>. October 6, 2008.

| | | |
|------------------------|--|----|
| | population could be affected in the county when a 3 mile radius is considered around each airport location. | |
| Maximum Threat | As mentioned above, most accidents occur during takeoffs and landings. Accordingly, the spatial extent of the majority of incidents would occur on airport grounds or adjacent areas. Compared to many other hazards, an air transportation accident would occupy a relatively small area. The extent to which the impacts would be felt would depend on the materials involved. For example, if a plane is used to transport volatile or hazardous substances were involved in an accident, the area of concern would be significantly larger than the area for an accident involving a small personal aircraft carrying stable materials. The largest share of accidents would likely affect only a few hundred yards at most. | 1 |
| Severity of Impact | <ul style="list-style-type: none"> A. Passengers may be severely injured or killed from a plane crash and injuries may be seen if a plane fails on the runway. B. Fire, hazardous chemicals, the threat of explosion, and debris threaten the health and safety of responders. C. Impact on continuity of operations depends on the facilities impacted; a runway may be shut-down temporarily while wreckage is cleared, the same impact would occur if a plane lands or crashes on a road; if a plane or helicopter crashes into a building, the building may be destroyed or severely damaged leading. D. Buildings and infrastructure could be destroyed or severely damaged by a plane or helicopter crash. E. Depends on the facilities impacted. F. Hazardous chemicals may impact the local environment, fire may damage foliage, and wreckage may block streams. G. Shut down of an airport or hospital heliport may cause economic losses through disrupted services plus the cost of clean-up and repair. H. Actual or perceived safety issues with air traffic or airports/heliports may result in increased regulation. I. Depending on the cause of the incident, the regulating and operating agencies/organizations may face damaged reputations. | 4 |
| Speed of Onset | The amount of warning time prior to an aircraft accident could vary from tens of minutes to a matter of seconds. Crew aboard a troubled aircraft can radio to ground crew to prepare for the incident, but little can be done to lessen the direct effects of the impact. Rarely is there adequate time to do more than position onsite response personnel and alert mass casualty care providers of the possible event. | 4 |
| Hazard Worksheet Score | | 14 |

| Additional Resources: | |
|---------------------------------------|---|
| FAA Accident & Incident Data | http://www.faa.gov/data_statistics/accident_incident/ |
| NTSB Aviation Accident Database Query | http://www.nts.gov/ntsb/query.asp |



| Hazard | Highway Transportation Incident | |
|-------------|---|--------|
| Definition | Highway Transportation Hazard: A hazard to the community resulting from an incident related to or caused by any road or highway vehicle used to transport persons or items, such as cars and trucks. | |
| Description | A highway transportation incident can be single or multi-vehicle requiring responses exceeding normal day-to-day capabilities. Hundreds of thousands of trips a day are made on the streets, roads, highways, and interstates in the state; if the designed capacity of the roadway is exceeded, the potential for a major highway incident increases. Weather conditions play a major factor in the ability of | Rating |

| | <p>traffic to flow safely in and through the state as does the time of day (rush hour) and day of week.</p> <p>Numerous major and minor traffic accidents occur daily in Iowa and result in property damage and injury, major accidents involving multiple vehicles and serious injury are not uncommon. Although traffic engineering, inspection of traffic facilities, land use management of adjacent areas to roads and highways, and the readiness of local response agencies has increased, highway incidents continue to occur.</p> <p>As the volume of traffic on Iowa streets, highways, and interstates increase, the number of traffic accidents will increase. The combination of large numbers of people on the road, unpredictable weather conditions, potential mechanical problems, and human error create the potential for a transportation accident.</p> | | | | | | | | | | | | | |
|---------------------------------------|--|---------------------------------------|--------------|------|---------|--------|-----------|---------|--------------|--------------|-----|----------|----|----------|
| <p>Historical Occurrence</p> | <p>The Department of Transportation does not make accident data available for cities under 5,000 residents online so obtaining an accurate number of traffic accidents is difficult for some communities.</p> <p>About 12% of traffic accidents in Wayne County are serious defined as involving a fatality or a major injury. See <i>Figures 20 and 21</i> for severe crash locations and all crashes reported for 2004 through 2008.</p> <table border="1" data-bbox="516 1142 1166 1314"> <thead> <tr> <th colspan="4">Highway/Roadway Incidents (2004-2008)</th> </tr> <tr> <th>Name</th> <th>Total</th> <th>Fatal</th> <th>Major Injury</th> </tr> </thead> <tbody> <tr> <td>County total</td> <td>782</td> <td>2</td> <td>21</td> </tr> </tbody> </table> | Highway/Roadway Incidents (2004-2008) | | | | Name | Total | Fatal | Major Injury | County total | 782 | 2 | 21 | <p>4</p> |
| Highway/Roadway Incidents (2004-2008) | | | | | | | | | | | | | | |
| Name | Total | Fatal | Major Injury | | | | | | | | | | | |
| County total | 782 | 2 | 21 | | | | | | | | | | | |
| <p>Probability</p> | <p>The probability of highway transportation incidents is often higher on heavily used roads. However more than 23% of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.</p> <p>Given the reliance on private vehicles and trucking in rural Iowa, the probability of an accident on any given roadway is relatively high, each jurisdiction can anticipate at least one accident in the next year, not all will necessarily be serious.</p> <table border="1" data-bbox="618 1696 1062 1906"> <thead> <tr> <th colspan="2">Jurisdictions with a State Highway</th> </tr> <tr> <th>Name</th> <th>Highway</th> </tr> </thead> <tbody> <tr> <td>County</td> <td>2, 14, 65</td> </tr> <tr> <td>Corydon</td> <td>2, 14</td> </tr> <tr> <td>Promise City</td> <td>2</td> </tr> </tbody> </table> | Jurisdictions with a State Highway | | Name | Highway | County | 2, 14, 65 | Corydon | 2, 14 | Promise City | 2 | <p>4</p> | | |
| Jurisdictions with a State Highway | | | | | | | | | | | | | | |
| Name | Highway | | | | | | | | | | | | | |
| County | 2, 14, 65 | | | | | | | | | | | | | |
| Corydon | 2, 14 | | | | | | | | | | | | | |
| Promise City | 2 | | | | | | | | | | | | | |

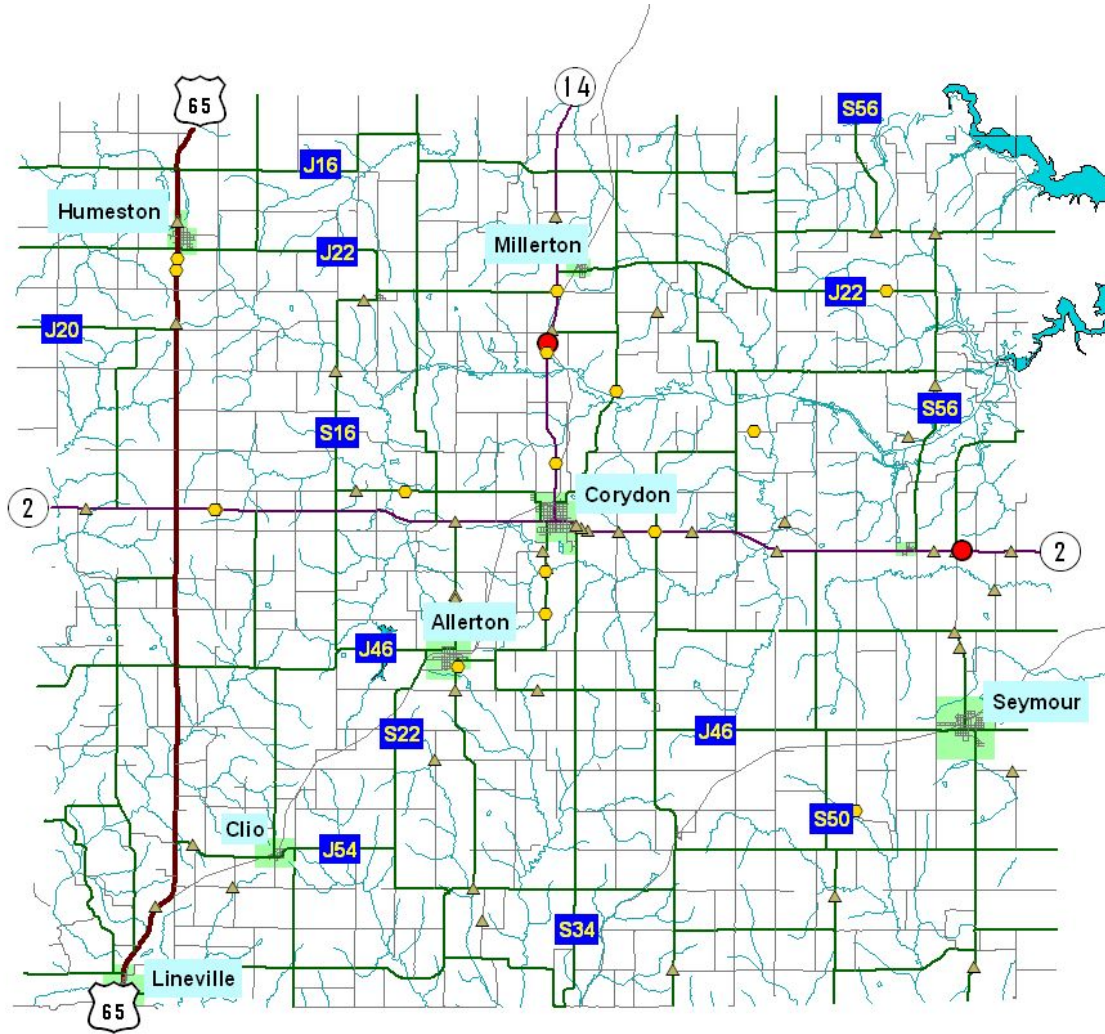
| | | |
|--------------------|--|---|
| | <p>Lineville 65</p> <p>Humeston 65</p> | |
| Vulnerability | <p>For most incidents, the people and property impacted would likely be negligible. However, if a truck hauling combustible materials was involved or a chemical spill from an accident was to spread beyond the road, a large number of people could be impacted.</p> <p>The county has three state highways that are identified in the county. Highway 65 transports traffic north and south and goes through the communities of Lineville and Humeston. This places approximately 95% of business buildings and 50% residential structures in Lineville. Humeston would have approximately 50% of businesses and 30% of residential homes in each community at risk of being in a Highway Transportation Incident because they are within 100 yards of the roadway. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. Highway 2 intersects the center of Promise City and places 50% of homes and businesses at risk. The City of Corydon has two major highways that pass through the center of the city. Highway 2 passes on the south side of the Wayne County Courthouse and on the community’s business square district. Iowa State highway 14 offers travel north from Corydon and into Lucas County. This highway spurs off the north side of the business square. The combination of the two highways in the city of Corydon places approximately 85% of businesses and 45% of private residential structures at risk. Also, More than 23% of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.</p> | 2 |
| Maximum Threat | <p>Spatially, any given highway transportation incident would impact a relatively small area. However in smaller towns, the impact could still affect a significant area. State Highways pass near or on the edge of Corydon, Promise City, Lineville and Humeston.</p> | 1 |
| Severity of Impact | <p>A. Drivers, passengers, and bystanders may be injured or killed in a highway accident. Amish populations in the area may be a concern as they use the shoulders of the roads when driving their buggies and thus may be more vulnerable to injury or death.</p> <p>B. Fire, explosion, and debris may pose a threat to responders.</p> <p>C. Depending on where the accident occurs, a disruption to services or operations may occur, though generally confined to a few hours at most.</p> <p>D. Most accidents would involve only a small number of properties or</p> | 3 |

| | | |
|------------------------|--|----|
| | <p>buildings. However if a bridge is involved, the impact may be more widespread if damaged or shut down for extended periods.</p> <p>E. Highway accidents may delay the delivery of services by surface transport, though generally for a relatively short period of time.</p> <p>F. Hazardous chemicals released from vehicles may contaminate waterways. The impact on the environment may be more severe if a truck hauling chemicals is involved.</p> <p>G. Temporary closure of roads and bridges due to a highway accident may lead to minor economic impacts. The impact would be more severe if the accident causes significant damage to a bridge causing the bridge to be closed for an extended period.</p> <p>H. Due to the relative frequency of highway accidents many drivers assume accidents as part of driving and thus little impact is seen on the reputation of local jurisdictions.</p> | |
| Speed of Onset | Due to their nature, there is little or no way to predict when or where a traffic accident will occur. The same can be said for rail disasters and air disasters. | 4 |
| Hazard Worksheet Score | | 18 |
| Composite Score | | 47 |

| | |
|---------------------------------------|---|
| Additional Resources: | |
| Iowa DOT Crash Data by County | http://www.iowadot.gov/crashanalysis/county.htm |
| Iowa DOT Annual Average Daily Traffic | http://www.iowadotmaps.com/msp/traffic/aadtpdf.html |

Figure 20: Wayne County Severe Crashes (2001-2006)

Source: Chariton Valley Transportation Planning Affiliation Long Range Transportation Plan 2010-2030

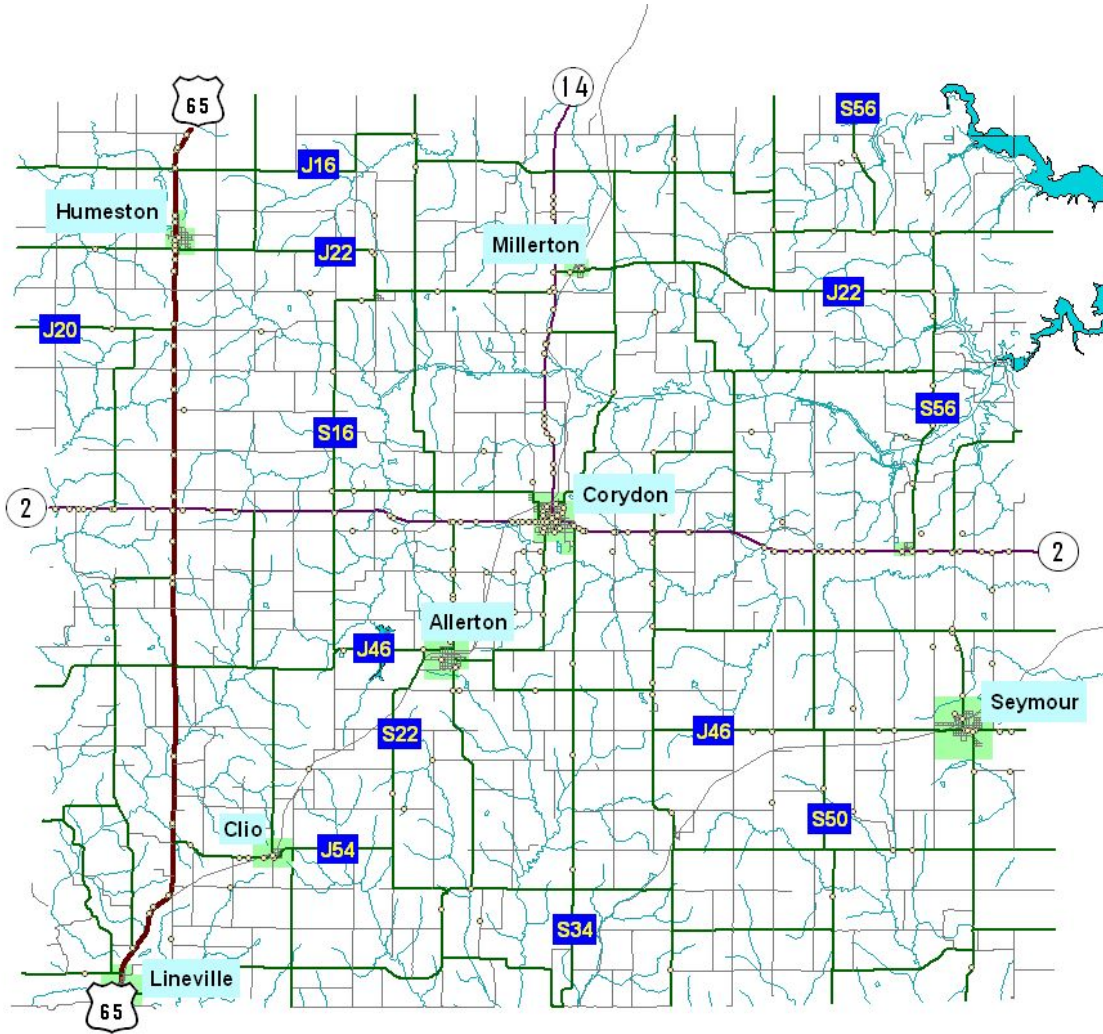


Crash Severity Key

-  Fatal
-  Major Injury
-  Minor Injury

Figure 21: Wayne County Traffic Accidents (2001-2006)

Source: Chariton Valley Transportation Planning Affiliation Long Range Transportation Plan 2010-2030



| Hazard | Transportation Hazardous Materials | |
|-------------|--|--------|
| Definition | Transportation Hazardous Materials: An accidental release of chemical substances or mixtures that present a danger to public health or safety as a result of transportation. | |
| Description | <p>This hazard constitutes an accidental release of chemical substances or mixtures that presents a danger to public health or safety during transportation. A hazardous substance is one that may cause damage to person(s), property, or the environment when released to soil, water, or air.</p> <p>Chemicals are manufactured and used in ever increasing types and quantities, as many as 500,000 products pose physical or health hazards and can be defined as “hazardous chemicals.” Hazardous substances are categorized as toxic, corrosive, flammable, irritant, or explosive and each year, over 1,000 new synthetic chemicals are introduced and transported across the county via semi-truck and train. Hazardous materials incidents generally affect a localized area and the use of planning and zoning can minimize the area of impact.</p> <p>Large quantities of hazardous materials are transported daily on Iowa streets, highways, interstates, and railways. Roadways are a common site for the release of hazardous materials, as are railways. The Department of Transportation (DOT) regulates the routes and speed limits used by carriers and monitors the types of hazardous materials crossing state lines. Despite increasing safeguards, more and more potentially hazardous materials are being used in commercial, agricultural, and domestic uses and are being transported on Iowa roads and railways.</p> | |
| | | Rating |

| | | | | | |
|-----------------------|-----------|-------------|----------------|----------------------|---|
| Historical Occurrence | 10/3/2000 | Corydon | Transportation | Petroleum | 2 |
| | 11/7/2001 | Humeston | Transportation | Fertilizer/Pesticide | |
| | 3/14/2000 | Humeston | Transportation | Ammonia/Ag-related | |
| | 4/4/2000 | Corydon | Transportation | Petroleum | |
| | 10/3/2000 | Corydon | Transportation | Petroleum | |
| | 11/7/2001 | Humeston | Transportation | Fertilizer/Pesticide | |
| | 3/14/2000 | Humeston | Transportation | Ammonia/Ag-related | |
| | 4/4/2000 | Corydon | Transportation | Petroleum | |
| | 9/3/2000 | Seymour | Transformer | Transformer oil/PCB | |
| | 3/16/2005 | rural Wayne | Transportation | Ammonia/Ag-related | |
| | 8/26/2005 | Humeston | Transportation | Inorganic Chemical | |
| | 4/12/2006 | Seymour | Transportation | Ammonia/Ag-related | |

| | | | | | | |
|---------------|--|----------------|--------------------------|----------------|--------------------------|--|
| | <table border="1" data-bbox="394 195 1243 327"> <tr> <td data-bbox="394 195 545 327">5/28/2008</td> <td data-bbox="545 195 696 327">rural Wayne</td> <td data-bbox="696 195 906 327">Transportation</td> <td data-bbox="906 195 1243 327">Animal/Vegetable Product</td> </tr> </table> <p data-bbox="394 401 1289 554">According to the Department of Natural Resources, there have been thirteen chemical releases related to transportation in Wayne county since 2000. Much of the releases dealt with in Wayne county are agriculture related in nature.</p> | 5/28/2008 | rural Wayne | Transportation | Animal/Vegetable Product | |
| 5/28/2008 | rural Wayne | Transportation | Animal/Vegetable Product | | | |
| Probability | <p data-bbox="394 741 1289 1058">Large quantities of hazardous materials are transported daily on Iowa streets, highways, interstates, and railways. Roadways are a common site for the release of hazardous materials. The Department of Transportation regulates routes and speed limits used by carriers and monitor the types of hazardous materials crossing state lines. Despite increasing safeguards, more and more potentially hazardous materials are being used in commercial, agricultural, and domestic uses and are being transported on Iowa roads and railways.</p> <p data-bbox="394 1094 1289 1289">The SHMT evaluated the probability of a highway transportation incident occurring in Iowa as high, with more than a 60% chance in the next year. Given the rural nature of the area, transportation of chemicals that are generally hazardous substances is relatively common, so an event is likely to occur.</p> | 3 | | | | |
| Vulnerability | <p data-bbox="394 1329 1289 1724">A hazardous materials incident can occur almost anywhere, so any area is considered vulnerable to an accident. People, pets, livestock, and vegetation in close proximity to transportation corridors and populations downstream, downwind, and downhill of a released substance are particularly vulnerable. Depending on the characteristics of the substance released, a larger area may be in danger from explosion, absorption, injection, ingestion, or inhalation. Occupants of areas previously contaminated by a persistent material may also be harmed either directly or through consumption of contaminated food and water.</p> <p data-bbox="394 1759 1289 1875">The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Highway 2 extends</p> | 2 | | | | |

| | | |
|---------------------------|---|----------|
| | <p>east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.</p> <p>For the most part, any one event is likely to impact fewer than 25% of the population for one of the incorporated communities and less than 10% for the county.</p> | |
| <p>Maximum Threat</p> | <p>Most of the hazardous materials incidents are localized and are quickly contained or stabilized by the highly trained fire departments and hazardous materials teams. Depending on the characteristic of the hazardous material or the volume of product involved, the affected area can be as small as a room in a building or as large as 5 square miles or more. Many times, additional regions outside the immediately affected area are evacuated for precautionary reasons. More widespread effects occur when the product contaminates the municipal water supply or water system such as a river, lake, or aquifer.</p> | <p>2</p> |
| <p>Severity of Impact</p> | <ul style="list-style-type: none"> A. Hazardous chemicals may cause burns, illness, suffocation, and death to individuals in direct contact. If there is a fire resulting from a vehicle accident that comes in contact with a hazardous material, the health and safety impacts may be magnified. B. Responders are subject to the same threats as in A. C. HazMat response may require the shut-down of a transportation corridor for a number of hours until the situation is contained and cleaned up. D. Most accidents would involve only a small number of properties or buildings. However if a bridge is involved, the impact may be more widespread if damaged or shut down for extended periods. E. The shut-down may delay the delivery of services by surface transport for a potentially extended period of time. | <p>2</p> |

| | | |
|------------------------|---|----|
| | <p>F. Contamination of water, air, and soil may result harming crops and wildlife. Some contaminants may remain for years and can cause birth defects, disease, and potentially contribute to cancer rates in humans and animals.</p> <p>G. Loss of crops or livestock can contribute to economic hardship.</p> <p>H. The DOT regulates the transportation of hazardous chemicals, however once released the DNR is the responsible agency.</p> <p>I. Few people are familiar with the risks associated with the transportation of chemicals used in manufacturing and agriculture. Education, public information, and timely response will reduce the negative impacts on jurisdictions' reputation.</p> | |
| Speed of Onset | When managed properly under current regulations, hazardous materials pose little risk. However, when handled improperly or in the event of an accident, hazardous materials can pose a significant risk to the population. Hazardous materials incidents usually occur very rapidly with little or no warning. Even if reported immediately, people in the area of the release have very little time to be warned and evacuated. During some events, sheltering in-place is the best alternative to evacuation because the material has already affected the area and there is no time to evacuate safely. Public address systems, television, radio, and the NOAA Weather Alert Radios are used to disseminate emergency messages about hazardous materials incidents. | 4 |
| Hazard Worksheet Score | | 15 |
| Composite Score | | 42 |

| | |
|-----------------------------------|---|
| Additional Resources: | |
| Iowa DNR Spill Data | http://www.iowadnr.gov/spills/data.html |
| NTSB Hazardous Material Incidents | http://www.nts.gov/PublicIn/Z_Acc.htm |

| Hazard | Transportation of Radiological Materials | Rating |
|-------------|---|--------|
| Definition | Transportation of Radiological Materials: is an incident resulting in a release of radioactive material during transportation. Transportation of radioactive materials through Iowa over the interstate highway system is considered a radiological hazard. The transportation of radioactive material by any means of transport is license and regulated by the federal government. | |
| Description | When these materials are moved across Iowa highways, Iowa officials are notified and appropriate escorts are provided. As a rule there are two (2) categories of radioactive materials that are shipped over the interstate highways. Low level radioactive substances, but pose no | |

| | | |
|-----------------------|--|---|
| | serious threat except through long term exposure. These materials are shipped in sealed drums within placarded trailers. The danger to the public is no more than a wide array of other hazardous materials. High-level waste usually in the form of spent fuel from nuclear plants, is transported in specially constructed casks that are built to withstand a direct hit from a locomotive. | |
| Historical Occurrence | Since 1990, hundreds of shipments have made it through Iowa. There have been no occurrences of a radiological incident in Iowa or in Wayne County. Transportation accidents are the most common type of incidents involving radioactive materials because of the sheer number of radioactive shipments. | 1 |
| Probability | There are no recorded events of a Transportation of Radiological incident in Iowa. This creates a very low probability of such an event occurring in Wayne County, but yet it is possible. Such a probability would be under 5%. | 2 |
| Vulnerability | <p>A hazardous materials incident can occur almost anywhere, so any area is considered vulnerable to an accident. People, pets, livestock, and vegetation in close proximity to transportation corridors and populations downstream, downwind, and downhill of a released substance are particularly vulnerable. Depending on the characteristics of the substance released, a larger area may be in danger from explosion, absorption, injection, ingestion, or inhalation. Occupants of areas previously contaminated by a persistent material may also be harmed either directly or through consumption of contaminated food and water.</p> <p>The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line</p> | 2 |

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| | <p>through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.</p> <p>For the most part, any one event is likely to impact fewer than 25% of the population for one of the incorporated communities and less than 10% for the county. Particular areas of concern include the rail lines that enter the communities of Corydon, Seymour, Lineville, Allerton and Clio.</p> | |
| <p>Maximum Threat</p> | <p>Operators of facilities that use radioactive materials and transporters of radioactive waste are circumspect in the packaging, handling, and shipment of the radioactive waste and, since they are closely regulated by a variety of federal, state, and local organizations the likelihood of an incident is remote.</p> <p>Wayne county committee members believe that State Highway 2 extending across all southern Iowa is sparingly used for transportation of radiological materials. Members also wonder if the railroad could be transporting such materials. Although neither of these options would be utilized often, it could still place residents and property along highway 2 and all rail lines. This could potential impact small portion in the cities of Corydon, Seymour, Lineville, Allerton, and Clio.</p> | <p>3</p> |
| <p>Severity of Impact</p> | <p>J. Hazardous chemicals may cause burns, illness, suffocation, and death to individuals in direct contact. If there is a fire resulting from a vehicle accident that comes in contact with a hazardous material, the health and safety impacts may be magnified.</p> <p>K. Responders are subject to the same threats as in A.</p> <p>L. HazMat response may require the shut-down of a transportation corridor for a number of hours until the situation is contained and cleaned up.</p> <p>M. Most accidents would involve only a small number of properties or buildings. However if a bridge is involved, the impact may be more widespread if damaged or shut down for extended periods.</p> <p>N. The shut-down may delay the delivery of services by surface transport for a potentially extended period of time.</p> <p>O. Contamination of water, air, and soil may result harming crops and wildlife. Some contaminants may remain for years and can cause birth defects, disease, and potentially contribute to cancer rates in humans and animals.</p> <p>P. Loss of crops or livestock can contribute to economic hardship.</p> | <p>2</p> |

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| | <p>Q. The DOT regulates the transportation of radiological materials, however once released the DNR is the responsible agency.</p> <p>R. Few people are familiar with the risks associated with the transportation of chemicals used in manufacturing and agriculture. Education, public information, and timely response will reduce the negative impacts on jurisdictions' reputation.</p> | |
| Speed of Onset | Radiological materials incidents would occur very rapidly with little or no warning. Even if reported immediately, people in the area of the release have very little time to be warned and evacuated. During some events, sheltering in-place is the best alternative to evacuation because the material has already affected the area and there is no time to evacuate safely. Public address systems, television, radio, and the NOAA Weather Alert Radios are used to disseminate emergency messages about radiological materials incidents. | 1 |
| Hazard Worksheet Score | | 11 |
| Composite Score | | 36 |

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| Additional Resources: | |
| Iowa DNR Spill Data | http://www.iowadnr.gov/spills/data.html |
| NTSB Hazardous Material Incidents | http://www.nts.gov/Publictn/Z_Acc.htm |

| Hazard | Human Disease Pandemic | |
|-----------------------|--|---|
| Definition | Human Disease Pandemic: A pandemic is defined as a disease that has spread around the world to many people. | |
| Description | <p>A pandemic human disease is defined as a disease that has spread around the world to many people. The word, “pandemic”, means that a disease has caused illness in a person on nearly every continent. Many diseases throughout the history of the world have been pandemic. Examples are HIV/AIDS/Influenza. A pandemic will have wide spread economic and societal implications for our state. Response and recovery to a pandemic will likely be lengthy.</p> <p>From 1900-2000, there were three (3) influenza pandemics, all about 30 years apart. In 2003, there were 80 new HIV patients and 76 new AIDS patients in Iowa. The last influenza pandemic in the United States was in 1968, historically pandemics occur every 30 years, and to date it has been 38 years since the last incident indicating the probability is high. Typically people who become ill are the elderly, the very young and people with chronic medical conditions and high risk behaviors. Greater than 20% of Iowa’s population is considered high risk.</p> <p>The SHMT had much discussion of the Speed of Onset to the disease. If the disease is highly infectious by the time it is discovered, it will likely have already spread across the state or nation. This will put us at a severe disadvantage during the response and recovery.</p> | |
| Historical Occurrence | Pandemics of influenza have occurred three times about every 100 years. From 1900-2000, there were three influenza pandemics, all about 30 years apart. In 2003 there were 80 new HIV patients and 76 new AID’s patients in Iowa. There are no confirmed reports of any pandemics in Wayne County. | 2 |
| Probability | <p>Public health agencies work to protect Iowans from infectious diseases and preserve the health and safety of Iowans through disease surveillance, investigation of suspect outbreaks, education and consultation to county, local and public/private health agencies. The last influenza pandemic in the US was in 1968, historically pandemics occur every 30 years, and to date it has been 38 years since the last incident suggesting the probability is high.</p> <p>The SHMT determined that based on the probability Iowa is likely to be between a 25% and 60% chance to have a pandemic outbreak occur in</p> | 3 |

Rating

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| | the next year. | |
| Vulnerability | <p>Influenza (flu) happens every year in nearly every country in the world. It spreads through a population for a few months and then will disappear or will move onto another country. Influenza usually occurs in the fall and winter months. Typically people who usually become ill are the elderly, the very young and people with chronic medical conditions and high risk behaviors.</p> <p>The individuals that travel internationally and have high exposure to potential vectors of disease are the most susceptible. Greater than 20% of Iowa's population is considered high risk. The elderly population of Wayne County makes up nearly 19% according to the 2000 Census with a youth population of nearly 25%, about 6% of which are under 5. About 44% of Wayne County may be considered at high risk based on age alone.</p> <p>Particular locations that are susceptible to such diseases would include assisted care facilities and school districts. There are 2 retirement homes or assisted care facilities in Wayne County. One is in Corydon, the other in Seymour. The children (age 18 and under) attending Wayne Community Schools are located throughout the communities include: Corydon 363, Seymour 203, Promise City 23, Allerton 166, Humeston 129, Millerton 13, Clio 23 and Lineville 64.</p> | 3 |
| Maximum Threat | Because of our highly mobile society, these diseases can move rapidly across the state and across the nation within days, weeks, or months. | 3 |
| Severity of Impact | <ul style="list-style-type: none"> A. Pandemics have historically caused severe illness if not death. B. Medical workers are at high risk due to their role in aiding infected people. C. Health care, government, and emergency response operations may be compromised if staff members of such organizations contract the illness. D. Healthcare & essential services infrastructure impact - human resource personnel infrastructure. E. Potential impact to essential environmental service personnel. F. Large outbreaks may warrant travel advisories to the area and will impact the tourism and general commerce in the area. High number of ill human resources across the board. | 3 |
| Speed of Onset | If the disease is highly infectious by the time it is discovered, it will likely have already spread across the state or nation. This will put us at | 1 |

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| | a severe disadvantage during response and recovery. However, hospitals and public health agencies have access to Health Alert, an online system through the CDC (http://www2a.cdc.gov/han/Index.asp) to help with disseminating information quickly. | |
| Hazard Worksheet Score | | 15 |
| Composite Score | | 27 |

| Hazard | Enemy Attack | |
|-----------------------|---|--------|
| Definition | An incident which would cause massive destruction and extensive casualties. An all-out war would affect the entire population. Some areas would experience direct weapons' effects: blast, heat, and nuclear radiation; others would experience indirect weapon's effect, primarily radioactive fallout. | Rating |
| Description | The federal government monitors the international political and military activities of other nations that would notify the state of Iowa of escalating military threats. There are many smaller military installations in Iowa. Most are Iowa National Guard assets spread throughout the state comprised of various military units and functions. | |
| Historical Occurrence | There have been no enemy attacks on or in Iowa (including Wayne County) in modern times. There are no documented events of enemy attack in any jurisdiction of Wayne County. The only history of enemy attack dates back to the days of settlement and the Civil War in the 1800's. | 1 |
| Probability | Although Des Moines is the state capitol, county seat, and most populous city and thus a potential target in an all-out attack on the United States, it is unlikely that Iowa would be a primary target during enemy attack. The U.S. federal government monitors global political situation and provides security from international attacks. World events in recent years have greatly changed the nature of enemy attack/war. The breakup of the Soviet Union and other Soviet-Bloc nations has ended the Cold War. However, enemy attack is still a possibility due to the international conflicts and the large number of weapons still in existence throughout the world. | 2 |
| Vulnerability | Since the targets of the attacks on critical infrastructure would likely include both facilities in the economy and those in the government. These critical infrastructures include information and communications systems; electrical power systems; gas and oil productions, storage and transportation systems; banking and financial organizations; | 2 |

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| | transportation and distribution systems; water supply systems; emergency services; and government services. Nearly every citizen, business, and organization depends on these for normal operation as well as safety and security. If not affected directly, the entire community would be vulnerable through indirect impacts. | |
| Maximum Threat | While the entire state would likely be affected in some way, areas near government buildings, military complexes, and transportation, communication, and fuel facilities would experience the largest impact. A full-scale attack in the foreseeable future is not likely; however, a limited attack could take place that could potentially threaten target areas. Given the tremendous destructive capability of even one nuclear weapon, the devastation that could occur would be far worse than anything ever experienced in this country. | 2 |
| Severity of Impact | <p>A) Severity would depend on the type of weapons deployed and the scale of the attack. Nuclear, chemical, biological, or conventional weapons have various types of impacts. In a full attack on the state, there could be mass casualties and fatalities. Lives not threatened by the primary attack would be in jeopardy from many various post-attack threats such as sickness, starvation, and exposure to the elements.</p> <p>B) In a full attack on the state, there could be catastrophic property and infrastructure damage.</p> <p>C) In a full attack on the state, there could be radiological, chemical, or biological contamination of the air, soil, water and food supply.</p> <p>D) A full scale attack could be extremely costly, not only monetarily but also economically.</p> <p>E) The states reputation will be determined by how they respond to such an attack.</p> | 2 |
| Speed of Onset | As mentioned above, the United States federal government monitors worldwide political and military activity. The citizen and the states of the U.S. would be put on heightened alert during periods of intense political or military conflict. With Iowa's position in the interior of the U.S., there would likely be significant warning of an impending enemy attack. | 2 |
| Hazard Worksheet Score | | 11 |
| Composite Score | | 28 |

| Hazard | Human Disease Incident | |
|-------------|---|---|
| Definition | Human Disease Incident: A medical, health, or sanitation threat to the general public (such as contamination, epidemics, plagues, and insect infestation). | |
| Description | <p>An incident related to human disease is defined as a medical, health, or sanitation threat to the general public (such as contamination, epidemics, plagues, and insect infestation). Public health action to control infectious diseases in the 21st century is based on the 19th century discovery of microorganisms as the cause of many serious diseases (e.g., cholera and TB). Disease control resulted from improvements in sanitation and hygiene, the discovery of antibiotics, and the implementation of universal childhood vaccination programs. Scientific and technological advances played a major role in each of these areas and are the foundation for today's disease surveillance and control systems. Scientific findings have contributed to a new understanding of the evolving relationship between humans and microbes. As of January 1, 2000, sixty (60) infectious diseases were designated as notifiable at the national level. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease.</p> <p>The Iowa Department of Public Health tracks epidemiological statistics in Iowa. Their data indicate no major incidents of diseases that have high percentages of loss of life or severe illness in the last 25 years. Public health agencies work to protect lowans from infectious diseases and preserve the health and safety of lowans through disease surveillance, investigation of suspect outbreaks, education and consultation to county, local, and health agencies.</p> <p>Public health agencies also work to reduce the impact of communicable diseases in Iowa and to eliminate the morbidity associated with these diseases. Programs guide community-based prevention planning, monitor current infectious disease trends, prevent transmission of infectious diseases, provide early detection and treatment for infected persons, and ensure access to health care for refugees in Iowa. While vaccines are available for many diseases, lowans remain vulnerable to other diseases known and unknown.</p> | |
| Historical | The Iowa Department of Public Health tracks epidemiological statistics | 2 |

Rating

| | | |
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| Occurrence | in Iowa. Their data indicate no major incidents of diseases that have high percentages of loss of life or severe illness in the last 25 years. | |
| Probability | <p>Public health agencies work to protect Iowans from infectious diseases and preserve the health and safety of Iowans through disease surveillance, investigation of suspect outbreaks, education and consultation to county, local, public health agencies.</p> <p>Climatic changes are predicted to impact disease vectors by changing the range of habitat for disease carriers. This includes mosquitoes and diseases such as West Nile Virus, Lyme Disease, and even Malaria and California Encephalitis.</p> <p>The SHMT analysis evaluated the probability of a human disease incident between 10% and 25% in the next year and is likely to occur in Wayne County.</p> | 3 |
| Vulnerability | <p>Public health agencies also work to reduce the impact of communicable diseases in Iowa and to eliminate the morbidity associated with these diseases. Programs guide community-based prevention planning, monitor current infectious disease trends, prevent transmission of infectious diseases, provide early detection and treatment for infected persons, and ensure access to health care for refugees in Iowa. While vaccines are available for many diseases, Iowans remain vulnerable to other diseases known and unknown.</p> <p>Particular locations that are susceptible to such diseases would include assisted care facilities and school districts. There are 2 retirement homes or assisted care facilities in Wayne County. One is in Corydon, the other in Seymour. The children (age 18 and under) attending Wayne Community Schools are located throughout the communities include: Corydon 363, Seymour 203, Promise City 23, Allerton 166, Humeston 129, Millerton 13, Clio 23 and Lineville 64.</p> | 3 |
| Maximum Threat | Because of our highly mobile society, these diseases can move rapidly across the state and across the nation within days, weeks, or months. | 3 |
| Severity of Impact | <p>A. Many of the diseases on the national notification list result in serious illness if not death. Some are treatable, other only the symptoms are treatable.</p> <p>B. Doctors, nurses, paramedics, and emergency medical technicians are vulnerable to contagious diseases. Universal precautions can greatly diminish the transfer rate and risk to responders to human</p> | 3 |

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| | <p>disease.</p> <p>C. Limited impact on critical services. Healthcare services may be at the limits of capacity.</p> <p>D. No direct impact, but large outbreaks may warrant travel advisories to the area and will impact the tourism and general commerce in the area.</p> <p>E. Adequate disease prevention programs and response to the outbreak can limit the damage to the jurisdiction's reputation.</p> | |
| Speed of Onset | The private practitioner is the first line of defense and will undoubtedly be the first to witness the symptoms of human disease incidents. The Iowa Department of Public Health and the U.S. Centers for Disease Control monitor reports submitted by doctors, hospitals, and labs to identify patterns. The Department and CDC are proactive in providing information to the health care community on medical concerns. Conditions related to scope and magnitude can escalate quickly and area resources can be drained of personnel, medications, and vaccinations rather quickly. | 1 |
| Hazard Worksheet Score | | 15 |
| Composite Score | | 30 |

| Hazard | Waterway Incident | Rating |
|-------------|---|--------|
| Definition | A waterway incident is an accident involving any vessel that threatens life or which adversely impacts a community's capability to provide emergency service. Waterway incidents will primarily involve pleasure craft on area rivers and lakes. In the event of an incident involving a water vessel, the greatest threats would be drowning, fuel spillage, and property damage. Water rescue events would largely be handled by first responding agencies. Waterway incidents may also include events in which persons fell through the ice on partially frozen water bodies. | |
| Description | Waterway incidents obviously will only take place on a body of water; consult the community profile for a map of rivers and streams in the area. Waterway incidents in Wayne County are usually isolated events. There are no riverboats or other large passenger vessels in the area, so typically do not carry more than a dozen or so people. People on these vessels are most vulnerable to boating related waterway incidents and vulnerability does not normally extend beyond these people. However, waterway rescues can be dangerous and responders can be at risk also, particularly if poor weather conditions are involved or incidents take place near dams. | |

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| | <p>Incidents can also involve people entering the water way without a boat, either by falling through the ice, swimming in fast current, or jumping or falling from a bridge. As with other waterway incidents, those who are most vulnerable are the person or persons who are experiencing distress in the waterway and the rescuers.</p> <p>Typically the only property damage that would result from a waterway incident is damage to or loss of a boat, typically no larger than described above. In rare cases, damage to a dock may also occur. Typically no structural damage would occur unless a very large watercraft became lodged against a bridge. This would be more likely to occur in a flooding situation, but could cause structural damage to a bridge by either the direct impact or redirection of the water’s force against another part of the bridge.</p> | |
| Historical Occurrence | The Hazard Mitigation Planning Committee has indicated that there has been two drowning to be considered as waterway incidents in Wayne County. The events were the only document occurrences in the past ten years and both occurred at the Bobwhite State Park near Allerton. | 1 |
| Probability | There have been limited events that have occurred in Wayne county over the past ten years. However, with six bodies of water that offer multiple recreational activities in this county, an event is possible at any given time. | 2 |
| Vulnerability | <p>The people directly involved in the incident are most vulnerable. This is typically swimmers, boaters, or people canoeing the rivers. In the event that someone must be rescued from Bobwhite Lake, Corydon Reservoir, any river or a farm pond, the rescuers are also are at risk. No other people would be directly affected.</p> <p>There are numerous farm ponds, ten creeks, Bobwhite State Park (90 acres body of water), City of Corydon Lake and Park (52 acres water body) Lakeside Park (45 acres of water), Moore-Gosch Memorial Park (12 acres of water), Medicine Creek Wildlife & Wedlands Area (140 acres of wetlands), and Seymour Lake Park (24 acres of water). . A drowning or contamination spill has the potential of occurring at any of these. The seasonal visiting campers could be affected by a waterway incident</p> | 1 |

because the proximity to tributaries and tail waters of the Lakes.

Bobwhite State Park – Allerton

As Wayne County's only State Park, Bobwhite State Park offers an abundance of activities. This 390 acre park, with a 90 acre lake, has facilities for: Hiking (3 miles), picnicking, swimming, boating (restricted to electric motors only), camping (you can even "pitch your tent" where 500 covered wagons camped on the original 1846 Mormon Pioneer Trail). A Park Ranger is located at the park year round. The park is located one mile west of Allerton.

City of Corydon Lake Park

Corydon Lake Park 1 mile southwest of Hwy. 2. Corydon Reservoir was constructed in 1919 and is located in south central Iowa on the west edge of Corydon, Iowa. The reservoir is an on-stream impoundment on a tributary of West Jackson Creek. The reservoir has a surface area of 58 acres when completely full and is split into two sections by railroad tracks. The main area of the reservoir is 52 acres, and the remaining 6 acres are a shallow marsh like area. The mean depth of the reservoir is approximately 5.9 feet and the volume is almost 15 million cubic feet when full. Corydon Reservoir is located within the Corydon Lake Park (approx. 160 acres), managed by the Wayne County Conservation Board. The park and reservoir are used primarily for camping, fishing, boating, picnicking and hiking.

Lakeside Park – Humeston

Located one mile north of Humeston on Hwy 65, is an 86 acre park with facilities for: Camping (with or without electrical hookups, drinking water, and pit toilets), fishing on its 45 acre lake, and picnicking areas.

Moore-Gosch Memorial Park

Located one mile north of Lineville on Hwy 65, is a 29 acre park featuring facilities for: Camping (with or without electrical hookups, drinking water, and pit toilets), fishing on the 12 acre lake, and picnicking areas.

Medicine Creek Wildlife Area

Located 5 miles east of Lineville, is a 1028 acre area with facilities for: Hunting and fishing, as well as upland timber ground, a restored prairie area, and 140 acres of wetland.

Seymour Lake Park

Located one quarter of a mile south of Seymour on county road S60, is rustic park with facilities for: Camping (20 undesignated campsites for tent camping and restrooms), fishing on its 24 acre lake (with boat ramp), and picnicking areas.

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| Maximum Threat | The maximum extent of a waterway incident would be limited. Impacts would not extend beyond the immediate incident scene. The only exception would include a search and rescue event that could expand downstream. In the case of a hazardous material being released to the waterway, the impact could expand considerably. | 1 |
| Severity of Impact | Impacts would be limited to the personal injuries and possibly death of the persons directly involved. Property damage would be restricted to the craft involved. Small fuel spills could result from damaged watercraft. Environmental damage could impact the aquatic flora & fauna if hazardous materials are released from boats. | 2 |
| Speed of Onset | <p>Incidents would occur with little or no warning. Leading causes of waterway incidents are inclement weather and operator error. Weather forecasts are usually available days in advance and would give ample time to take shelter off water. Some particular events also increase traffic on waterways (Memorial weekend, July 4th weekend and Labor Day weekend), and thus responders can prepare for the increased likelihood of an incident during these times.</p> <p>The neighboring Appanoose County sheriff's office has a certified dive team that is comprised of members from each Jurisdiction's fire department. Those members can respond in their local, respective areas or anywhere throughout the county and neighboring jurisdictions.</p> | 4 |
| Hazard Worksheet Score | | 11 |
| Composite Score | | 16 |

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|-------------|---|--------|
| Hazard | Animal / Plant / Crop Disease | Rating |
| Definition | Animal / Plant / Crop Disease: An outbreak of disease that can be transmitted from animal to animal. The disease outbreak will likely have a significant economic implications or public health impact. The crop/plant pest infestation will likely have severe economic implications, cause significant crop production losses, or significant environmental damage. The crop/plant pests may also have implications for public health. | |
| Description | An outbreak of disease that can be transmitted from animal to animal or plant to plant represents an animal/crop/plant disease. The crop/plant pest infestation will likely have severe economic implications, cause significant crop production losses, or significant | |

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| | <p>environmental damage. The crop/plant pests may also have implications for public health. The introduction of some high consequence diseases may severely limit or eliminate our ability to move, slaughter, and export animals and animal products. Response and recovery to infectious animal disease outbreaks will be lengthy, and many producers may never be able to return to business. There will be many indirect effects on our economy. Rumors of an infectious animal disease outbreak could cause significant damage to the markets; as was evidenced in an incident in Kansas in 2003 where the mere rumor of a Foot and Mouth Disease outbreak caused the market to plummet.</p> <p>Crop/plant pest infestations can cause widespread crop/plant loss and severe economic hardship on farmers and landowners and related businesses. Once infestation occurs, the pest may become endemic, causing repeated losses in subsequent growing years. Loss of production will affect all related industries, such as fuel, food, synthetics, processors, etc.</p> | |
| <p>Historical Occurrence</p> | <p>Every year the Iowa Department of Agriculture and Land Stewardship (IDALS) conduct numerous animal disease investigations. In 2005, IDALS and USDA conducted 19 highly infectious disease investigations. Fortunately the investigation results are negative. IDALS, under the direction of the state plant regulatory official works with Iowa’s universities and industries to conduct regular crop / plant pest surveillance. To date, there has not been a founded case in Wayne County.</p> | <p>1</p> |
| <p>Probability</p> | <p>Disease/pests are present in many other areas of the country/world. Many disease/pests are easily transmitted therefore the probability of introduction is high. Iowa leads the nation in production of pork, soybeans, eggs, and corn and is among the leading beef production states. Human disease outbreaks can have an economic impact on agricultural products as well as recently seen with the H1N1 scare and the resulting aversion to pork products or even eradication of pigs in areas around the world. With the millions of animals and animal products that move across our state yearly, probability is possible.</p> <p>The SHMT analysis evaluated the probability that an animal/crop/plant disease infestation is highly likely to occur in Iowa next year with more than a 60% chance. Iowa is a productive agricultural state producing both crop and livestock. Although the severity of potential agricultural losses due to this hazard could be high, the Wayne County committee</p> | <p>2</p> |

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|------------------------|---|----|
| | believes that it is possible to occur any given year, but has a slim likelihood. | |
| Vulnerability | The movement of people, animals, animal products, wildlife, plants, crops and potential disease/pest vectors could all cause the introduction of diseases/pests. Diseases/pests could also be introduced naturally, for example by hurricanes or jet streams. Emerging disease is also a threat such as West Nile Virus, new more virulent influenza strains, etc. Because many diseases/pests are not present in Iowa, our populations of animals, crops, and plants have no immunity and are highly susceptible. | 2 |
| Maximum Threat | <p>The impact will vary by disease/pest and the type of animal/crop/plant infected/infested. When the United Kingdom faced an outbreak of Foot and Mouth Disease in 2001, the total economic loss to that country exceeded \$7 billion. This incident was one of the most economically significant historically, second only to World War II. Several states are currently dealing with an Emerald Ash Borer infestation and some threat now exists in northeastern Iowa along the Wisconsin-Iowa border. To date the state and federal governments have spent in excess of \$550 million to detect, delimit, control and eradicate the pest. Should the disease/pest have public health implications, the economic and social impact would be even greater. A changing climate increases the risk of pests and diseases spreading in agricultural sectors as well as in human populations.</p> <p>On average, the 699 acknowledged Wayne County farms (171,150 acres) have an annual agricultural product value of about \$49,000. (2007 Agricultural Census, USDA).</p> | 3 |
| Severity of Impact | The severity will vary by disease/pest. The types of animals, crops, or plants affected will also significantly influence the severity. [This hazard element reflects the description in the State Hazard Mitigation Plan which does not break severity of impact out further than this.] | 3 |
| Speed of Onset | If the diseases / pests are highly infectious (many animals that are infected with disease can be transmitting disease before they show clinical signs), by the time they are discovered, they will likely have spread across the state or nation. This will put us at a severe disadvantage during response and recovery. | 1 |
| Hazard Worksheet Score | | 12 |
| Composite Score | | 25 |

Table 64: Wayne County Farm Statistics

| Number of Farms | |
|--|--------|
| Wayne County | 699 |
| Iowa | 90,655 |
| % of Iowa Farms in Wayne County | 0.90% |
| Average Farm Size (acres) | |
| Wayne County | 245 |
| Iowa | 350 |
| % size of Wayne Co Farms to Iowa average | 70% |

Source: USDA, National Agricultural Statistical Service, 2006

Note: for the following terrorism-related hazards, caution is necessary in defining what constitutes an act of terrorism. Each profile includes a definition; however care in application is needed to determine when a particular incident is a criminal act or an act of terrorism. The reason for this concern is that the penalties for terrorism are potentially more severe and comprehensive than for criminal acts. There are appropriate applications of the more severe penalties but if they are applied to simple criminal activities, the effects may be unjustly extreme. U.S criminal and terrorism law takes precedence over this caution which is intended for use in simply profiling the terrorism-hazards locally.

| Hazard | Agro-Terrorism | |
|-----------------------|---|--------|
| Definition | Agro-Terrorism: An action causing intentional harm to an agricultural product or vandalism of an agricultural / animal related facility for the purposes of intimidation, coercion, or ransom. An example of this may be sabotaging crops or property of agro-businesses or farms that are seeking expansion or permits to open new facilities. | Rating |
| Description | This category covers a large variety of incidents from potential intentional introduction of disease; vandalism of facilities; theft of agricultural products, machinery, or chemicals; release of animals; and contamination of agricultural products. Depending upon the type of action taken, the implications will vary greatly. The common thread between these activities is the intention of causing fear in order for the perpetrators to obtain their objectives. | |
| Historical Occurrence | Incidents such as this have occurred in the state of Iowa. Over the past 10 years Iowa has experienced at least 10 incidents in which animal rights activists have vandalized or released animals in our agricultural facilities. Additionally, vandalism to agricultural facilities or incidents of disgruntled employees causing damage to animals and animal products. There are frequent cases of theft of agricultural machinery, products, and chemicals. There are no documented events of Agro-Terrorism in any jurisdiction of Wayne County. | 1 |

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| Probability | The farms in Wayne County are smaller than the Iowa average and less than 1% of all of Iowa's farms located in the county (see <i>Table 67: Wayne County Farm Statistics</i>). This makes Wayne County less attractive than other parts of Iowa for significant agro-terrorist activities, however local vandalism may still occur out of local issues. | 1 |
| Vulnerability | Usually these incidents have a limited area of impact. They may involve one herd of animals, one facility, one field of crops, etc. In most cases, the human impact would be limited to a small proportion of the population. | 2 |
| Maximum Threat | Usually these incidents have a limited area of impact. They may involve one herd of animals, one facility, one field of crops, etc. | 2 |
| Severity of Impact | In most cases the severity of impact would be limited. | 2 |
| Speed of Onset | In most incidents we would have no warning time. The only exception would be if someone called in a threat. | 2 |
| Hazard Worksheet Score | | 10 |
| Composite Score | | 24 |

Table 65: Wayne County Farm Statistics

| NUMBER OF FARMS | |
|---------------------------------------|--------|
| WAYNE COUNTY | 699 |
| IOWA | 90,655 |
| % OF IOWA FARMS IN WAYNE COUNTY | 0.90% |
| AVERAGE FARM SIZE | |
| WAYNE COUNTY | 245 |
| IOWA | 350 |
| % SIZE OF WAYNE FARMS TO IOWA AVERAGE | 70% |

Source: USDA, National Agricultural Statistical Service

| Hazard | Biological Terrorism | |
|-----------------------|---|--------|
| Definition | Biological Terrorism: Use of biological agents against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion or ransom. | |
| Description | <p>Liquid or solid contaminants can be dispersed using sprayers/aerosol generators or by point or line sources such as munitions, covert deposits and moving sprayers. Biological agents may pose viable threats from hours to years depending upon the agent and the conditions in which it exits.</p> <p>Depending on the agent used and the effectiveness with which it is deployed, contamination can be spread via wind and water. Infections can be spread via human or animal vectors. Argo-terrorism is the direct, generally covert contamination of food supplies or introduction of pests or disease agents to crops and livestock.</p> | Rating |
| Historical Occurrence | Iowa has not been immune to acts of terrorism or sabotage. The state has experienced many threats in the past. Most incidents have been limited to reported “suspect” powders, actual threats and hoaxes. Beginning in October 2001, following the original “Amerithrax” scares, we experienced a large number of responses for suspicious powders. Following the development of a threat assessment/response protocol the number of responses was reduced, and now averages a few responses each month. There are no documented events of Bio-Terrorism in any jurisdiction of Wayne County. | |
| Probability | <p>Internationally, such acts have, unfortunately, become quite commonplace, as various religious, ethnic, and nationalistic groups have attempted to alter and dictate political and social agendas, seek revenge for perceived past wrongdoing, or intentionally disrupt the political, social, and economic infrastructure of individual businesses, units of government, or nations. Unfortunately, there will never be a way to totally eliminate all types of these clandestine activities. Persons inclined to cause death and destruction, are often capable of finding a way to carry out their plans. As perpetrators of terrorism improve their ability to collect information, raise money and issue rhetoric, implementation of effective counter measures becomes even more important.</p> <p>Wayne County may be unlikely to be an attractive target for biological terrorism due to its relatively small population. However, Wayne</p> | 1 |

| | | |
|------------------------|---|----|
| | County is within 200 miles to at least two major cities, Kansas City and Des Moines. | |
| Vulnerability | Innocent people are often victims of terrorist activity targeted at certain organizations and activities. Based on the method of delivery, the general public is vulnerable to bioterrorism. State and local agencies developed the Biological Chemical Threat Agent (BCTA) Protocol Model to guide response agencies. The American public is not vaccinated for many of the agents used as weapons by terrorist groups. Iowa vaccinated volunteers against smallpox at 15 hospitals in early 2003. The U.S. Postal Service installed Bio-Detection Systems (BDS) in 2005-2006 in several postal sorting facilities in Iowa, to address early detection since many of the threats have used the postal system for delivery. | 2 |
| Maximum Threat | Because of the characteristics of the weapons terrorists use, the area can be limited to a room, building, or the entire community. Depending on the agent used and the effectiveness with which it is deployed, contamination can be spread via wind and water. Infections can be spread via human or animal vectors. Because of the variables described above, the geographic extent can become quite broad before the incident is recognized as a terrorist act. | 2 |
| Severity of Impact | The intent of the terrorist is to cause fear based on illness, injury, and death. A bioterrorism incident would likely result in illness at a minimum, with multiple deaths and long-term health problems as a worst-case. In addition to persons exposed to the release of biological agents, first responders would likely be at risk without knowing the nature of the incident. Depending on the nature of the agent used, environmental contamination may occur thus potentially posing a longer-term threat of exposure to humans and animals. | 2 |
| Speed of Onset | Acts of terrorism can be immediate and often come after little or no warning. There are occasions when terrorists have warned the targeted organization beforehand, but often the attack comes without previous threat. Terrorists threaten people and facilities through "bomb threats" and other scare tactics. Even if it is a shallow threat, precautions must be taken to ensure the safety of the people and property involved. | 2 |
| Hazard Worksheet Score | | 10 |
| Composite Score | | 15 |

| Hazard | Chemical Terrorism | |
|-----------------------|--|---|
| Definition | Chemical Terrorism: Use or threat of chemical agents against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion or ransom. | |
| Description | Liquid/aerosol, or dry contaminants can be dispersed using sprayers or other aerosol generators; liquids vaporizing from puddles/containers; or munitions. Other dispersal methods may include intentional releases from petro-chemical facilities or intentional releases during rail or truck transportation. Chemical agents may pose viable threats for hours to weeks depending on the agent and the conditions in which it exists. Contamination can be carried out of the initial target area by persons, vehicles, water and wind. Chemicals may be corrosive or otherwise damaging over time if not mitigated. | |
| Historical Occurrence | Iowa has not been immune to acts of terrorism or sabotage. The chemical terrorism history, fortunately, has been limited. The state has experienced at least one event in 2005, where a subject mailed “rat poison” to a number of state and local officials. One of the letters was torn open in a mail sorting machine in Des Moines, that led to the closure of the Main Post Office and the Emergency Room of Mercy Medical Center. Iowa experienced at least one event where subjects broke into a city’s water supply and it was suspected that chemicals may have been deposited in the water supply. Iowa experienced many releases of anhydrous ammonia by persons engaged in clandestine drug manufacturing. There are no documented events of Chemical Terrorism in any jurisdiction of Wayne County. | 1 |
| Probability | Unfortunately, there will never be a way to totally eliminate all types of these clandestine activities. Persons inclined to cause death and destruction is usually capable of finding a way to carry out their plans. As perpetrators of terrorism improve their ability to collect information, raise money and issue rhetoric, implementation of effective counter measures becomes even more important. Given that Wayne County communities are relatively small size and relative lack of regionally significant political, military, or social facilities, there is unlikely to be much threat of direct chemical attack. | 1 |
| Vulnerability | Chemical agents may pose viable threats for hours to weeks depending on the agent and the conditions in which it exists. Shielding in the form of sheltering in place can protect people and property from harmful effects. There are a limited number of antidotes available to reduce | 2 |

| | | |
|------------------------|---|----|
| | the vulnerability from chemical agents. | |
| Maximum Threat | Contamination can be carried out of the initial target area by persons, vehicles, water and wind. The micro-meteorological effects of buildings and terrain can alter travel and duration of agents. The extent is largely determined by the type of chemical, the method of dispersal, and the conditions at the time it is released. | 2 |
| Severity of Impact | Because the public may be the target of the attack, the terrorists will try to maximize injuries, illnesses, and deaths among the population. First responders may not be aware of the nature of the attack and thus may be exposed to harm as well. The economic impacts of a chemical attack may be more significant than the bodily harm caused. This is due to the need to evacuate and time needed to decontaminate property that is exposed to the chemicals. | 2 |
| Speed of Onset | Acts of terrorism can be immediate and often come after little or no warning. There are occasions where terrorists have warned the targeted organization beforehand, but often the attack comes without previous threat. Even if it is a shallow threat, precautions must be taken to ensure the safety of the people and property involved. | 2 |
| Hazard Worksheet Score | | 10 |
| Composite Score | | 16 |

| Hazard | Conventional Terrorism | |
|-----------------------|--|--------|
| Definition | Conventional Terrorism: Use of conventional weapons and explosives against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion or ransom. | Rating |
| Description | Detonation of explosive device on or near target; delivery via person, vehicle, or projectile. Hazard effects are instantaneous; additional secondary devices may be used, lengthening the duration of the hazard until the attack site is determined to be clear. The extent of damage is determined by the type and quantity of explosive. Effects are generally static other than cascading consequences, incremental structural failures, etc. Conventional terrorism can also include tactical assault or sniping from remote locations. | |
| Historical Occurrence | Iowa has not been immune to acts of terrorism or sabotage. Law Enforcement agencies respond to barricaded subject calls and deliver high risk warrants against armed persons, with a few each year involving an exchange of gunfire. While statewide statistics are not easily found, the City of Des Moines averages one bomb threat investigation every 6.9 days, generally targeting government agencies and schools. The state experienced several major bombings during 1969 – 1970, which represented the most bombings per capita in the Continental U.S. During the spring of 2002, 18 pipe bombs were found in mailboxes in five states stretching from Illinois to Texas, including Iowa. Six people were injured in the bombings in Iowa Illinois. In 2005 and 2006, pipe bombs were used in attempted murder cases in Forest City and Altoona. There are no documented events of Conventional Terrorism in any jurisdiction of Wayne County. | 1 |
| Probability | Unfortunately, there will never be a way to totally eliminate all types of these clandestine activities. Such an event in rural Iowa is unlikely. Persons inclined to cause death and destruction is usually capable of finding a way to carry out their plans. As perpetrators of terrorism improve their ability to collect information, raise money and issue rhetoric, implementation of effective counter measures becomes even more important. | 1 |
| Vulnerability | Energy decreases logarithmically as a function of distance from seat of blast. Terrain, forestation, structures, etc. can provide shielding by absorbing or deflecting energy and debris. In other words, more harm is likely to occur close to an explosive, especially where cover is not | 2 |

| | | |
|------------------------|---|----|
| | available. Exacerbating conditions include ease of access to target; lack of barriers/shielding; poor construction; and ease of concealment of device. | |
| Maximum Threat | Extent of damage is determined by type and quantity of explosive. Effects are generally static other than cascading consequences, incremental structural failure, etc. | 2 |
| Severity of Impact | As with an explosion or structural collapse, injuries and deaths are not uncommon especially in a terrorism incident where one of the intended acts is to harm people and property to cause fear among the population. Structurally unsound buildings face the risk of collapse. Damage from an explosion could have economic impacts depending on the time lost to repair of infrastructure or structures. | 2 |
| Speed of Onset | Explosions are usually instantaneous; additional secondary devices may be used, lengthening the duration of the hazard until the attack site is determined to be clear. | 2 |
| Hazard Worksheet Score | | 10 |
| Composite Score | | 26 |

| Hazard | Cyber Terrorism | |
|-----------------------|---|--------|
| Definition | Cyber Terrorism: Electronic attack using one computer system against another in order to intimidate people or disrupt other systems. | |
| Description | Cyber terrorism may last from minutes to days depending upon the type of intrusion, disruption, or infection. Generally, there are no direct effects on the built environment, but secondary effects may be felt depending upon the system being terrorized. Inadequate security can facilitate access to critical computer systems, allowing them to be used to conduct attacks. | |
| Historical Occurrence | <p>Cyber-security and critical infrastructure protection are among the most important national security issues facing our country today, and they will only become more challenging in the years to come. Recent attacks on our infrastructure components have taught us that security has been a relatively low priority in the development of computer software and Internet systems. These attacks not only have disrupted electronic commerce, but also have had a debilitating effect on public confidence in the Internet.</p> <p>Some Eastern European countries, Russia, and possibly China have cyber-security forces in either their police forces or within their military to handle cyber terrorism threats. There are no known cyber attacks other than possible computer viruses in Wayne county.</p> | |
| Probability | <p>Security experts describe the threat as eminent. Intrusion detection systems log thousands of attempts in a single month. There are constant probes by individuals and groups with intent to cause anything from total system shutdown to simply “seeing if they can do it.”</p> <p>Any computer, anywhere in the world is vulnerable to cyber terror attempts; there is no distinction based on concentrations of population. This means that a computer in Wayne County is just as vulnerable as a computer in Chicago. Some systems may be targeted more than others based on the use of the system, for example bank and government computers and websites. However personal computers can be hijacked and used to attack other computer systems.</p> | |
| | | Rating |
| | | 1 |
| | | 1 |

| | | |
|------------------------|--|----|
| Vulnerability | Security professionals argue that current approaches are inadequate. With companies increasingly using the Internet to connect to suppliers and customers, they say organizations place too much faith in technology to protect their data, and do not pay enough attention to security education and awareness. Inadequate security can facilitate access to critical computer systems, allowing them to be used to conduct attacks. | 2 |
| Maximum Threat | Our society is highly networked and interconnected. An attack could be launched from anywhere on earth and could cause impacts as small as a computer lab to as large as the world wide web. | 1 |
| Severity of Impact | Cyber terrorist attacks would not likely have physical infrastructure or bodily harm effects. The risk associated with cyber terrorism is predominantly economic as banking and government systems are disrupted, account numbers stolen, and viruses slow down businesses that rely on computers and internet access. | 2 |
| Speed of Onset | Because of the networks (formal and informal) that exist to share intrusion attempts and impacts, warnings can be put out in advance to alert those in similar situations to take protective security recommendations such as updating virus detection software, making sure security patches are in place, etc. Warning times can range from no warning to days. Because of our highly evolved computer networks and data sharing, bugs, viruses, and worms can proliferate rapidly. Effects of hacking can be instantaneous. | 2 |
| Hazard Worksheet Score | | 9 |
| Composite Score | | 22 |

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|---|---|
| Additional Resources: | |
| Iowa Hazard Mitigation Plan: Iowa Comprehensive Emergency Plan September 2007 | http://www.iowahomelandsecurity.org/AboutUs/SecuringCommunities/Mitigation/tabid/98/Default.aspx |
| PBS's Frontline: Cyber War! | http://www.pbs.org/wgbh/pages/frontline/shows/cyberwar/ |
| NPR's On Point: Cyber Insecurity | http://www.onpointradio.org/shows/2008/12/cyber-warfare/ |

| Hazard | Radiological Terrorism | |
|------------------------|---|--------|
| Definition | Radiological Terrorism: Use of radiological materials against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion or ransom. | Rating |
| Description | Radioactive materials can be dispersed using sprayers/aerosol generators, or by point of line sources such as munitions, covert deposits and moving sprayers. | |
| Historical Occurrence | There are no incidents of radiological terrorism in Wayne County. | 1 |
| Probability | With no prior events by which to judge probability, it becomes necessary to consider the technical feasibility of radiological terrorism. Given that the radiation would kill anyone before they could amass enough material to produce a weapon, the threat is relatively low. | 1 |
| Vulnerability | Duration of exposure, distance from the source of radiation, and the amount of shielding between source and target determine exposure to radiation. | 2 |
| Maximum Threat | Initial effects will be localized to site of attack; depending on meteorological conditions, subsequent behavior of radioactive contaminants may be dynamic. | 2 |
| Severity of Impact | Given the technical infeasibility of radiological terrorism, the severity of an incident would primarily be isolated to the detonation of explosive materials; however the discovery of slightly elevated radiation levels could induce fear and irrational behavior among the general public. | 2 |
| Speed of Onset | Acts of terrorism can be immediate and often come after little or no warning. There are occasions where terrorists have warned the targeted organization beforehand, but often the attack comes without previous threat. Even if it is a shallow threat, precautions must be taken to ensure the safety of the people and property involved. With radiation, the initial release may not be identified for a period of time until symptoms become apparent. | 2 |
| Hazard Worksheet Score | | 10 |
| Composite Score | | 25 |

| Hazard | Fixed Hazardous Materials | | |
|-------------|--|--|--------|
| Definition | <p>Hazardous Materials: Hazardous materials are chemical substances, which if released or misused can pose a threat to the environment or health. These chemicals are used in industry, agriculture, medicine, research, and consumer goods. Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released as a result of transportation accidents or because of chemical accidents in plants.</p> <p>Methamphetamine Lab: Methamphetamine is made mostly from common household ingredients. When these ingredients are mixed and "cooked" together they make a dangerous drug and potentially harmful chemical mixtures that can remain on household surfaces for months or years after "cooking" is over. There may be health effects in people exposed to lab chemicals before, during and after the drug-making process. Therefore, each drug lab is a potential hazardous waste site, requiring evaluation, and possibly cleanup, by hazardous waste (HazMat) professionals.</p> | | |
| Description | <p>A fixed hazardous materials incident is the accidental release of chemical substances or mixtures, which presents a danger to the public health or safety, during production or handling at a fixed facility. A hazardous substance is one that may cause damage to persons, property, or the environment when released to soil, water, or air. Chemicals are manufactured and used in ever-increasing types and quantities, each year, over 1,000 new synthetic chemicals are introduced, and as many as 500,000 products pose physical or health hazards and can be defined as "hazardous chemicals". Hazardous substances are categorized as toxic, corrosive, flammable, irritant, or explosive. Hazardous material incidents generally affect a localized area and the use of planning and zoning can minimize the area of impact.</p> <p>During the period 2002-2005, fixed facilities experienced 1,888 incidents according to the Iowa Department Natural Resources (DNR). Fixed facility releases accounted for about 71% of total releases. Despite increasing safeguards, more and more potentially hazardous materials are being used in commercial, agricultural, and domestic activities. This situation is made worse by the density of people and</p> | | Rating |

| | <p>hazardous materials in Iowa.</p> <p>A large amount of hazardous waste is created as a by-product of the illegal production of methamphetamine. These meth lab sites contain much hazardous waste and require specialized teams and equipment for proper clean-up and disposal of the waste materials. Meth labs are of particular concern in rural areas where smaller populations and remote places reduce the risk of being caught for meth producers.</p> <p>There are no Superfund Sites in Wayne County. See the table below for the Hazardous Materials Releases for locations of various hazardous materials releases on file with the EPA.</p> | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|----------------------|----------------------|---------------|---------------|-----------|----------|----------------------|-----------|-----------|---------|----------------|-----------|-----------|----------|----------------|----------------------|----------|----------|----------------------|-----------|----------|
| <p>Historical Occurrence</p> | <p>Of the 20 hazardous materials releases on file with the DNR between 2000 and 2008, two were transportation related and are addressed in the respective hazard profile. Nine of the incidents involve petroleum products but none are related to illegal dumping.</p> <p>There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff's Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County.</p> <table border="1" data-bbox="397 1060 1258 1827"> <thead> <tr> <th data-bbox="422 1060 503 1123">Spill date</th> <th data-bbox="503 1060 722 1123">Town</th> <th data-bbox="722 1060 917 1123">Incident Mode</th> <th data-bbox="917 1060 1112 1123">Incident Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="422 1123 503 1354">1/25/2000</td> <td data-bbox="503 1123 722 1354">Humeston</td> <td data-bbox="722 1123 917 1354">Handling And Storage</td> <td data-bbox="917 1123 1112 1354">Petroleum</td> </tr> <tr> <td data-bbox="422 1354 503 1596">10/3/2000</td> <td data-bbox="503 1354 722 1596">Corydon</td> <td data-bbox="722 1354 917 1596">Transportation</td> <td data-bbox="917 1354 1112 1596">Petroleum</td> </tr> <tr> <td data-bbox="422 1596 503 1732">11/7/2001</td> <td data-bbox="503 1596 722 1732">Humeston</td> <td data-bbox="722 1596 917 1732">Transportation</td> <td data-bbox="917 1596 1112 1732">Fertilizer/Pesticide</td> </tr> <tr> <td data-bbox="422 1732 503 1827">2/7/2001</td> <td data-bbox="503 1732 722 1827">Humeston</td> <td data-bbox="722 1732 917 1827">Handling And Storage</td> <td data-bbox="917 1732 1112 1827">Petroleum</td> </tr> </tbody> </table> | Spill date | Town | Incident Mode | Incident Type | 1/25/2000 | Humeston | Handling And Storage | Petroleum | 10/3/2000 | Corydon | Transportation | Petroleum | 11/7/2001 | Humeston | Transportation | Fertilizer/Pesticide | 2/7/2001 | Humeston | Handling And Storage | Petroleum | <p>4</p> |
| Spill date | Town | Incident Mode | Incident Type | | | | | | | | | | | | | | | | | | | |
| 1/25/2000 | Humeston | Handling And Storage | Petroleum | | | | | | | | | | | | | | | | | | | |
| 10/3/2000 | Corydon | Transportation | Petroleum | | | | | | | | | | | | | | | | | | | |
| 11/7/2001 | Humeston | Transportation | Fertilizer/Pesticide | | | | | | | | | | | | | | | | | | | |
| 2/7/2001 | Humeston | Handling And Storage | Petroleum | | | | | | | | | | | | | | | | | | | |

| | | | | |
|-------------|---|-------------|----------------------|--------------------------|
| | 3/14/2000 | Humeston | Transportation | Ammonia/Ag-related |
| | 4/4/2000 | Corydon | Transportation | Petroleum |
| | 6/27/2001 | Humeston | Handling And Storage | Petroleum |
| | 6/29/2004 | Corydon | Handling And Storage | Petroleum |
| | 9/3/2000 | Seymour | Transformer | Transformer oil/PCB |
| | 3/16/2005 | rural Wayne | Transportation | Ammonia/Ag-related |
| | 8/26/2005 | Humeston | Transportation | Inorganic Chemical |
| | 4/12/2006 | Seymour | Transportation | Ammonia/Ag-related |
| | 11/25/2006 | Clio | RR Incident | Petroleum |
| | 4/20/2007 | Russell | Manure | Manure |
| | 5/28/2008 | rural Wayne | Transportation | Animal/Vegetable Product |
| Probability | Anecdotal evidence suggests that meth use and production is not | | | 4 |

| | | |
|---------------------------|--|----------|
| | <p>uncommon in Wayne County. Chemical spills can occur anytime there is a traffic accident as oil, gasoline, and other fluids used in vehicles are released. Dumping of household cleaners, paints, and old oil can happen at any time and are more likely in areas where people do not understand hazardous materials laws.</p> <p>A number of homes (36.6% or 1,033) in Wayne County use LP Gas for heating fuel. Liquid petroleum is not by nature toxic, but can cause asphyxiation through oxygen deprivation. LP Gas is heavier than air so it will sink to the lowest places possible and is flammable. Stores of anhydrous ammonia in the county pose health and safety threats to potentially large areas of the county and are potential targets for meth producers as a source of raw materials.</p> | |
| <p>Maximum Threat</p> | <p>The maximum threat of a hazardous material spill or event would depend upon the size of the spill. A large spill or leak of a hazardous gas could result in the evacuation of entire neighborhoods or the rerouting of the local roads, highways, and/or the interstate.</p> <p>Most of the hazardous materials incidents are localized and are quickly contained or stabilized by the highly trained fire departments and hazardous materials teams. Depending on the characteristic of the hazardous material or the volume of product involved, the affected area can be as small as a room in a building or as large as 5 square miles or more. Many times, additional regions outside the immediately affected area are evacuated for precautionary reasons. More widespread effects occur when the product contaminates the municipal water supply or water system such as a river, lake, or aquifer.</p> | <p>1</p> |
| <p>Severity of Impact</p> | <p>A. The release of some toxic gases may cause immediate death, disablement, or sickness if absorbed through the skin, injected, ingested, or inhaled. Some chemicals may cause painful and damaging burns to skin if they come in direct contact with your body.</p> <p>B. Specialized training is needed to respond to these types of incidents. If inadequately trained personnel attempt to respond, the impacts could be the same as those for the general public exposed to the toxic materials. Proper training and equipment greatly reduce the risk to response personnel.</p> <p>C. None directly unless the incident occurs on or near critical facilities or services.</p> <p>D. Damage is usually limited to the immediate property involved. Proper decontamination is needed before the facilities go back in service.</p> | <p>2</p> |

| | | |
|------------------------|---|----|
| | <p>E. Contaminated water resources may be unsafe and unusable, depending on the amount of contaminant.</p> <p>F. Contamination of air, ground, or water may result in harm to fish, wildlife, livestock, and crops. The release of hazardous materials into the environment may cause debilitation, disease, or birth defects over a long period of time.</p> <p>G. Loss of livestock and crops may lead to economic hardships within the community.</p> <p>H. Safe and timely response will greatly limit any damage to the jurisdiction's reputation. Proper warning and public information before, during, and after the incident can also limit reputation damage.</p> | |
| Speed of Onset | <p>Most hazardous materials events happen suddenly and unexpectedly from transportation or other accidents. When managed properly under regulations, hazardous materials pose little risk. However, when handled improperly or in the event of an accident, hazardous materials can pose a significant risk to the population. Hazardous materials incidents usually occur very rapidly with little or no warning. Even if reported immediately, people in the area of the release have very little time to be warned and evacuated. During some events, sheltering in-place is the best alternative to evacuation because the material has already affected the area and there is no time to evacuate safely. Public address systems, television, radio, and the NOAA Weather Alert Radios are used to disseminate emergency messages about hazardous materials incidents.</p> | 4 |
| Hazard Worksheet Score | | 17 |
| Composite Score | | 36 |

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| Additional Resources: | |
| National Priority Sites in Iowa | http://www.epa.gov/superfund/sites/npl/ia.htm |
| US EPA Enviromapper | http://www.epa.gov/enviro/html/em/ |
| IA DNR Spill Response | http://www.iowadnr.gov/spills/data.html |

| Hazard | Energy Failure | | |
|-------------|---|--|--------|
| Definition | <p>Energy Failure: An extended interruption of electric, petroleum or natural gas service, which could create a potential health problem for the population and possibly mass panic.</p> | | |
| Description | <p>An extended interruption of service either electric, petroleum or natural gas, which by an actual or impending acute shortage of usable energy could create a potential health problem for the population and possibly mass panic. International events could potentially affect supplies of energy producing products while local conditions could affect distribution of electricity, petroleum or natural gas. The magnitude and frequency of energy shortages are associated with international markets. Local and state events such as ice storms can disrupt transportation and distribution systems; if disruptions are long lasting, public shelters may need to be activated to provide shelter from extreme cold or extreme heat. Stockpiles of energy products eliminate short disruptions but can increase the level of risk to the safety of people and property near the storage site.</p> <p>With India and China rapidly industrializing and the surge in private vehicle ownership in both countries, the price of oil will increase as international demand for it also increases. This is at a time when global oil supplies are diminishing as acknowledged by several petroleum industries and numerous scientists, scientific organizations, and governments. The 2008 price fluctuations of gasoline, asphalt, and some other building products reflect some of this uncertainty and global occurrences.</p> <p>The state of Iowa has three strategies to limit the likelihood of an energy shortage. Through voluntary and mandatory demand reduction mechanisms; the substitution of alternative energy sources when possible; and state government programs to curtail excessive use, energy supply and demand can be kept in check. The federal government has a strategic petroleum reserve to supplement the fuel supply during energy emergencies. These reserves cannot last indefinitely and cannot completely mitigation price fluctuations such as in the event of a global oil shortage. Shortages, especially electrical shortages, can be unpredictable with immediate effects. Natural events, human destruction, price escalation, and national security energy emergencies can cause unavoidable energy shortages.</p> | | Rating |

| | | |
|------------------------------|---|----------|
| <p>Historical Occurrence</p> | <p>The energy crisis of the 1970s had significant impacts on many consumers in Iowa. High inflation and unemployment were associated with the excessive dependence on foreign oil during the early and mid 1970s. In 2001 panic over access to gasoline was experienced throughout the United States and resulted in some of the longest lines at fuel pumps since the 1970's.</p> <p>Loss of power due to severe storms is not uncommon and is often regarded as merely a nuisance. However, extended periods without power are rare but more severe. Periods of power disruption in southern Iowa are most severe during the winter and have lasted for several days to over a week in recent years. Energy failure in Wayne County can and has involved real or perceived gasoline shortages and downed power lines.</p> | <p>2</p> |
| <p>Probability</p> | <p>Given the frequency of severe storms, the probability of short term energy failure is likely with it occurring annually. International events are increasingly likely as the global demand for oil is increasing in India and China. Violence in countries such as Nigeria centered on oil production have occurred in the last five years and may well increase as global oil exploration continues to become more expensive and difficult. Likewise, pirate attacks on oil supply tankers off of the coast of Somalia in November 2008 may be setting a precedent for other groups that wish to disrupt oil supplies to the west, India, and China.</p> | <p>3</p> |
| <p>Vulnerability</p> | <p>Because Iowa is almost entirely dependent on out-of-state resources for energy, Iowans must purchase oil, coal, and natural gas from outside sources. World and regional fuel disruptions are felt in Iowa. It is likely that increasing prices will occur as market mechanisms are used to manage supply disruptions. This will disproportionately affect the low-income population because of their lower purchasing power. Agricultural, industrial, and transportation sectors are also vulnerable to supply, consumption, and price fluctuations. In Iowa, petroleum represents 97% of transportation fuel. Individual consumers such as commuters and businesses are also vulnerable.</p> | <p>3</p> |
| <p>Maximum Threat</p> | <p>The effects of an energy shortage would be felt throughout the state. Because the distribution systems are very well developed, local shortages can quickly be covered. Storm-related energy disruptions may impact a few homes or the entire community and surrounding areas. Response to such disruptions depends on the severity of the damage and the availability of staff to repair the system. During the</p> | <p>3</p> |

| | | |
|------------------------|---|----|
| | holiday season, staff availability may be limited. | |
| Severity of Impact | <p>A. Injuries and fatalities would not be directly caused by an energy shortage. Injuries and fatalities could occur if energy was not available for heating during extreme cold periods or for cooling during extreme heat.</p> <p>B. Hospitals, shelters, emergency response vehicles and facilities, and other critical facilities would have priority during energy shortages.</p> <p>C. Effects could range from minor heating and air conditioning disruptions to transportation limitations all the way to civil unrest due to the high demand, low supply, and subsequent high price.</p> <p>D. Rotating blackouts, voluntary conservation measures, and possibly mandatory restrictions could be used to limit the severity of an energy shortage. Business disruption and increased cost of business would have far-reaching financial implications across many sectors of the economy.</p> <p>E. Reputation could be harmed if the reason for the shortage or failure could have been avoided by good planning. If caused by natural events, there would be no significant impact unless the response to the outage was poor.</p> | 2 |
| Speed of Onset | The Iowa Department of Natural Resources Energy Bureau monitors domestic and international energy situations and has developed a plan to deal with an energy crisis. Signs that an energy shortage may be developing can be recognized even months in advance, but energy shortages/emergencies can rise suddenly and unexpectedly. Supply distribution problems in other countries and local weather situations can lead to low supply coupled with high demand in a matter of a day or two. | 4 |
| Hazard Worksheet Score | | 17 |
| Composite Score | | 47 |

| Hazard | Public Disorder | |
|-----------------------|---|---|
| Definition | Public Disorder: Mass demonstrations or direct conflict by large groups of citizens, as in marches, protest rallies, riots, and non-peaceful strikes. | |
| Description | Mass demonstrations, or direct conflict by large groups of citizens, as in marches, protest rallies, riots, and non-peaceful strikes are examples of public disorder. These are assembling of people together in a manner to substantially interfere with public peace to constitute a threat, and with use of unlawful force or violence against another person, or causing property damage or attempting to interfere with, disrupting, or destroying the government, political subdivision, or group of people. Labor strikes and work stoppages are not considered in this hazard unless they escalate into a threat to the community. Vandalism is usually initiated by a small number of individuals and limited to a small target group or institution. Most events are within the capacity of local law enforcement. | |
| Historical Occurrence | <p>Large-scale civil disturbances rarely occur; but when they do, they are usually an offshoot or result of one or more of the following events: 1) labor disputes in which there is a high degree of animosity between the participating parties; 2) high profile/controversial laws or other governmental actions; 3) resources shortages caused by a catastrophic event; 4) disagreements between special interest groups over a particular issue or cause; or 5) a perceived unjust death or injury to a person held in high esteem or regard by a particular segment of society. There have been numerous labor disputes and protests in Iowa, but these have remained fairly nonviolent. Other non-peaceful incidents have occurred in the state, but were within the response capabilities of local law enforcement.</p> <p>Occurrences of public disorder in Wayne County, if any, are not readily documented and available. A Public disorder citation occurred in 2006 to a single individual for a subtle protest on a private residence outside of Corydon. There has been other citations issued in the broader area, however, this scale of incident fails to meet the definition of this hazard.</p> | 1 |
| Probability | Although destructive civil disturbances are rare, the potential is always there for an incident to occur. This is even more true today, where television, radio, and the internet provide the ability to instantly | 2 |

Rating

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|--------------------|--|---|
| | <p>broadcast information (factual or not), in real time, to the entire community. Oftentimes, that coverage helps to spread the incident to other, uninvolved or unaffected areas, exacerbating an already difficult situation. Alcohol is often involved in public disorder, especially related to college campuses, sporting events, and concerts.</p> <p>The size of the communities in Wayne County, absence of colleges, major sporting events, or strong cultural differences suggest that public disorder involving more than a handful of people is unlikely.</p> | |
| Vulnerability | <p>Civil disturbances are often difficult for local communities to handle. There is a fine line between the Constitutional right of individuals and groups to assemble and air their grievances and the overall needs of the community to provide essential services, ensure personal safety of citizens, prevent property damage, and facilitate normal commerce. Fortunately, most demonstrations and large public gatherings are held in a peaceful, responsible manner. However, there never seems to be a shortage of groups (drugs and alcohol are often involved) whose primary objective is to disrupt normal activities and perhaps even cause injury and property damage. People at risk are mainly the willing participants and law enforcement officials. Innocent bystanders and their property can be at risk as well.</p> | 2 |
| Maximum Threat | <p>The social rage that causes civil unrest often comes from racism, poverty, lack of economic opportunity, and unemployment. Events usually affect a localized area of the community. Often times only a couple of blocks or streets are affected. The local government units are left to pick up the pieces in the aftermath, cleaning up the area, reestablishing services, repairing or replacing damaged public facilities and infrastructure, and trying to restore some level of citizen and private investor confidence in the community.</p> | 2 |
| Severity of Impact | <p>Civil unrest can result in injuries, deaths, and property damage. Perhaps even more tragic has been the lingering, negative impact and loss of investment in the communities ravaged by the uprisings. Many riot areas do not fully recover from the damage, destruction, and negative image brought on by such events. Looting, burning, and sniping can occur during severe civil disturbances. Fires can sometimes burn uncontrolled because firefighters and equipment are unable to respond due to resistance from rioters. Public disorder of this scale is rare in Iowa over the last ten to twenty years.</p> | 2 |
| Speed of | <p>Events that incite such activity can build up over hours, days, or years,</p> | 2 |

| | | |
|------------------------|--|----|
| Onset | and the violent disturbance is a culmination of the long-term situation. Civil disruptions can also escalate very rapidly following events where people are gathered such as sporting events, concerts, or speeches. | |
| Hazard Worksheet Score | | 11 |
| Composite Score | | 35 |

| Hazard | Communications Failure | |
|-----------------------|---|--------|
| Definition | Communications Failure: When the method of communication fails to deliver the required information as needed. | Rating |
| Description | <p>Communication failure is the widespread breakdown or disruption of normal communication capabilities. This could include major telephone outages, loss of local government radio facilities, long-term interruption of electronic broadcast services, emergency 911, law enforcement, fire, emergency medical services, public works, and emergency warning systems are just a few of the vital services which rely on communication systems to effectively protect citizens. Business and industry rely heavily on various communication media as well. Mechanical failure, traffic accidents, power failure, line severance, and weather can affect communication systems and disrupt service.</p> <p>Disruptions and failures can range from localized and temporary to widespread and long-term. If switching stations are affected, the outage could be more widespread</p> | |
| Historical Occurrence | Communications failures have occurred in the past and most recently in the 2007 Severe Winter Storm. Emergency personnel relied on hand held radios to communicate. | 3 |
| Probability | The Iowa Hazard Mitigation Plan indicates that communications failure has a 10% chance of occurring in the next year in Iowa. While massive failures are unlikely to occur or to last long due to redundancy measures, the possibility of such an event does exist. Weather events are the most likely cause of communications failures in Wayne County. | 3 |
| Vulnerability | Potentially the entire community could be vulnerable to a communications failure, especially in the event that the local telephone system and radio system should fail. The cellular phones could be used as a back-up, however, that system could also fail do to the large number of calls going through or if the cell towers are damaged. | 3 |

| | | |
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| Maximum Threat | In the event of a communications failure, the entire County could be impacted, especially if the failure occurred during a community wide hazard event. | 3 |
| Severity of Impact | <p>A. A communications failure would not directly result in injuries or fatalities. If 911 systems were to fail due to phone communication disruption, secondary impacts could occur by the inability of citizens to alert responders of their needs.</p> <p>B. Inter-agency and intra-agency communications would be limited. Data transmission could also be affected.</p> <p>C. Financial losses would be incurred due to the direct damage to electronic equipment and the communication system infrastructure.</p> <p>D. If 911 systems were to fail due to phone communication disruption, secondary impacts could occur by the inability of citizens to alert responders of their needs.</p> <p>E. Failed communications could result in malfunctioning systems and potential does exist for facilities to discharge hazardous materials into the environment.</p> <p>F. Most economic impacts would be felt on those sectors dependent upon the communication system. This could result in multi-sector far reaching impacts due to business disruption.</p> <p>G. Widespread communication failures could moderately harm the reputation of the jurisdiction. If 911 systems are affected, the reputation damage could be more serious.</p> | 2 |
| Speed of Onset | Communications failure would likely result from a break in the system that could not be anticipated. Therefore, there would be little or no warning time for emergency crews responding to a hazard. | 4 |
| Hazard Worksheet Score | | 18 |
| Composite Score | | 45 |

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|-------------|---|--------|
| Hazard | Structural Failure | Rating |
| Definition | Structural Failure: The collapse (part or all) of any public or private structure including roads, bridges, towers, and buildings. | |
| Description | <p>The collapse (part or all) of any public or private structure including roads, bridges, towers, and buildings is considered a structural failure. A road, bridge, or building may collapse due to the failure of the structural components or because the structure was overloaded. Natural events such as heavy snow may cause the roof of a building to collapse under the weight of snow. Heavy rains and flooding can undercut and washout a road or bridge.</p> <p>The age of the structure is sometimes independent of the cause of the failure. Enforcement of building codes can better guarantee that structures are designed to hold-up under normal conditions. Routine inspection of older structures may alert inspectors to “weak” points. The level of damage and severity of the failure is dependent on factors such as the size of the building or bridge, the number of occupants of the building, the time of day, day of week, amount of traffic on the road or bridge, and the type, and amount of products stored in the structure.</p> <p>Civil structures may fail in a variety of modes. The unprecedented growth in technology has resulted in a host of problems related to complex structures, special materials, and severe operational and environmental loads, such as fire, excessive vibrations, explosion, high-energy piping failures, and earthquakes. With the possible exception of misuse, accidental or environmental loads, the causes of failure may be found in deficiencies of design, detailing, material, workmanship, or inspection. With the aging structures in the country along with problems with new materials discussed above, structural failures will continue to occur. Efforts to inspect and maintain these structures will lessen the probability of a failure, but not guarantee that it will not happen in the future. Internal weaknesses can be hidden from inspectors and not be realized until it is too late.</p> <p>The I-35 bridge collapse in Minneapolis in August 2007 dramatically underscored the critical nature of the nation’s infrastructure. Infrastructure such as roads, water and waste water systems, bridges, and civil buildings are aging, many are reaching or have reached their design capacity or intended lifespan. Most of these systems were</p> | |

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| | <p>designed to handle particular conditions but with population expansion in some areas, the capacity alone is under strain. In rural areas, the resources to maintain infrastructure is sparser than in more heavily populated areas due to tax base. With increasing environmental stresses such as increasingly severe and frequent storm and weather fluctuations, additional strains on infrastructure are being felt throughout the country.</p> <p>Sixty percent of Iowa’s bridges are rated as “functionally obsolete” meaning that they were designed for very different and much less intense conditions than they are subjected to. This may also include the width of the bridge being insufficient for modern vehicles and farm machinery. According to RPA 17 that serves Wayne County for the Iowa Department of Transportation, 31% of the bridges in Wayne County are deteriorated and need of rehabilitation and/or replacement. The county (as well as the state) is operating under “fiscally constraining” budgets that do not allow enough funding to repair bridges and maintain all roadways in the county.</p> | |
| Historical Occurrence | <p>Within the past five years there have been multiple occurrences of structural failure in Wayne County. All documented events are a result of aged structures. Seymour had a large business building on the east side of the community square recently fail. The structure had a wall crack and crumble. It was later demolished to prevent additional adjoining buildings from suffering damage. Lineville had a wall fail in a building that was housing a bank. The structure was determined to be unsafe and torn down. Recently, Corydon has had several older buildings that suffered cracked and deteriorating walls. An old motel and a residential structure were condemned due to safety.</p> | 1 |
| Probability | <p>Given the age of homes in Wayne County and on when the County flourished, and nationwide concerns over aging infrastructure, the risk of structural failures may be likely. This risk is alongside the risk of mine collapses addressed in the sink hole hazard profile. Additionally, many of the buildings in Wayne County were constructed in the late 1800’s and early 1900’s prior to the advent of building codes in the United States.</p> | 3 |
| Vulnerability | <p>There are many buildings in the County that are very old (over 45% of homes built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the</p> | 2 |

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| | <p>deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.</p> <p>All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.</p> <p>According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.</p> | |
| <p>Maximum Threat</p> | <p>The impacts of the failed structure would be contained to the immediate area and adjacent properties. This could be as small as the house and yard of a fallen chimney, or the area could be more extensive if a whole building were to collapse. Of particular concern would be if subsurface structures such as sewers were to collapse as the warning signs may not be observed until too late. Dam and levee failures would affect a much larger area and are discussed as separate hazards.</p> | <p>2</p> |
| <p>Severity of Impact</p> | <p>Personal injury, death, and property damage may occur in the collapse itself or by falling debris from nearby structures.</p> <p>Response personnel could limit their risk through proper training and equipment. Structural collapse rescue is a specialized form of rescue and can result in injury or death to responders.</p> <p>Functional purpose of the building would be terminated or suspended until the integrity of the structure could be restored.</p> <p>Impacts could range from minor disruption to full destruction of the structure. Structures that could be impacted would range from private homes and businesses to government facilities to transportation infrastructure.</p> <p>Bridge failures and debris in the streets and sidewalks would interrupt</p> | <p>3</p> |

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| | <p>normal routes of travel. Utilities may be cut off to surrounding areas and communication transmissions may be lost for a period of time.</p> <p>No severe impact to the environment unless the structural failure released a hazardous substance that could contaminate the air, water, or soil.</p> <p>There would also be a considerable price tag to replace or fix the structure, not to mention the loss of revenue that would occur because the structure could not be used.</p> <p>Failure during construction can be the liability of the contractor or the owner. This would depend upon the contract for construction and at which time the property ownership is transferred. Code development and enforcement can play a significant role in limiting the impact from structural failures in the jurisdiction.</p> <p>If the structural collapse could have been averted or limited in any way by code enforcement, the reputation could suffer from public outcry.</p> | |
| Speed of Onset | The actual failure of the structure would likely occur suddenly with little or no warning. There are several events that could lead up to the failure, and these have various warning times and are discussed in separate hazard worksheets. Causal hazards can include fire, explosion, overloading of ice and snow, vibration, earthquakes, flooding, high wind, erosion, chemical corrosion, subsidence, and lack of general upkeep. | 4 |
| Hazard Worksheet Score | | 15 |
| Composite Score | | 44 |

| Hazard | Structural Fire | |
|-------------|---|--------|
| Definition | Structural Fire: An uncontrolled fire in populated area that threatens life and property and is beyond normal day-to-day response capabilities. | Rating |
| Description | A structural fire is an uncontrolled fire in populated areas that threatens life and property and is beyond normal day-to-day response capability. Structural fires present a far greater threat to life and property and the potential for much larger economic losses. Modern fire codes and fire suppression requirements in new construction and building renovations, coupled with improved firefighting equipment, training, and techniques lessen the chance and impact of a major | |

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| | <p>urban fire. Most structural fires occur in residential structures, but the occurrence of a fire in a commercial or industrial facility could affect more people and pose a greater threat to those near the fire or fighting the fire because of the volume or type of the material involved.</p> <p>Structural fires are almost a daily occurrence in some communities. Nearly all are quickly extinguished by on-site personnel or local fire departments. There have been 1,535 deaths in Iowa from fires between the years 1974-2002 (this does not include the years 1978-79).</p> | |
| Historical Occurrence | <p>There have been multiple fires throughout Wayne county over the years. The most recent fires that have changed the communities have occurred in Clio and Humeston. Clio lost two businesses due to fire in their downtown district. This was a devastating loss to a small community. The south side of the Humeston square lost several buildings and businesses due to fire in the early 1990's.</p> <p>There have been a number of fires that have occurred within Wayne County, however, nearly all of these fires there have been individual house fires or small fires. Many of the home fires were accidental home fires caused by children playing with matches, homeowners' negligence, lightning strikes, or rodents chewing electrical wiring.</p> <p>As mentioned in other hazard profiles, the presence of coal mines under some of the County poses an additional and unique risk to the town.</p> | 3 |
| Probability | <p>Much of the fire prevention efforts have gone into nonresidential fires and the results have been highly effective. Even with an increase in the prevention efforts in residential fires, both residential and nonresidential fires will continue to occur. During colder months, clogged chimneys and faulty furnaces and fire places can increase the probability of structural fires. The age of structures in the County may make put them at more risk of fires due to faulty or substandard wiring and obsolete building methods.</p> | 3 |
| Vulnerability | <p>Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Combustible building materials obviously are more vulnerable than structures constructed of steel or concrete. Structures without early detection devices are more likely to be completely destroyed before containment by</p> | 2 |

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| | <p>response agencies. Structures in areas served by older, smaller, or otherwise inadequate water distribution infrastructure such as water mains and hydrants are also at significant risk. Problems vary from region to region, often because of climate, poverty, education, and demographics. The fire death risk for the elderly and children under 5 years of age is more than two times that of the average population.</p> <p>All people in the County are potentially at risk, but elderly and young children comprise about 35% of the total county population.</p> | |
| Maximum Threat | With modern training, equipment, fire detection devices, and building regulations and inspections, most fires can be quickly contained and limited to the immediate structure involved. Certain circumstances, such as the involvement of highly combustible materials, flammable chemicals, or high winds, can threaten a larger area. The age and density of a particular neighborhood can also make it more vulnerable to fire due to the spreading of fire from neighboring structures. | 2 |
| Severity of Impact | <p>A. Based on national averages in the 1990s, there is one death for every 119 residential structure fires and one injury for every 22 residential fires in nonresidential fires, there is one death for every 917 fires, one injury for each 52 fires. Statistically, in 1999 Iowa had 15 fire-related deaths per million people. (According to best available information, data is unchanged.)</p> <p>B. In the US, about 100 firefighters die each year in duty-related incidents. (According to best available information, data is unchanged.)</p> <p>C. Only in rare cases would a structural fire affect continuity of operations. These cases could be fire at a critical facility, data storage areas, communications, infrastructure, etc.</p> <p>D. On average, each residential fire causes nearly \$11,000 of damage. Each nonresidential fire causes an average of \$20,000 in damage. (According to best available information, data is unchanged.)</p> <p>E. Fires can affect critical services such as electrical energy.</p> <p>F. Structural fires are common occurrences hence little damage is done to reputations.</p> | 3 |
| Speed of Onset | While fires usually start with little or no warning time, alert devices can allow time for responders to contain the fire and allow occupants to evacuate the area. | 4 |
| Hazard Worksheet Score | | 15 |
| Composite Score | | 42 |

C. Human / Combination Hazards

Not all human caused and combination hazards affect all communities, geographic location may make some communities more prone to some hazard than other communities. These hazards may include pipeline incidents, railroad incidents, or hazardous chemical spills. These hazards that affect certain communities more than others are addressed in this section.

Note LUST sites: http://programs.iowadnr.gov/ims/website/lust_sites/viewer.htm for hazardous materials plus EPA release inventory? - <http://www.iowadnr.com/mapping/index.html>

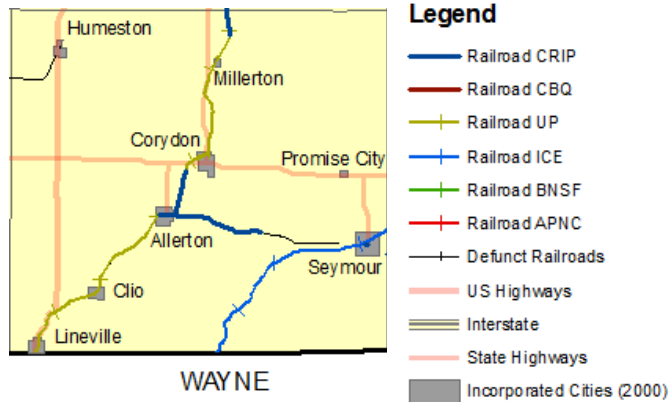
| Hazard | Rail Transportation Incident | |
|-----------------------|--|--------|
| Definition | Rail Transport Incident: A derailment or a train accident which directly threatens life or property, or which adversely impacts a community's capabilities to provide emergency services. | |
| Description | <p>A railway transportation incident is a train accident that directly threatens life and/or property, or adversely impacts a community's capabilities ability to provide emergency services.</p> <p>Railway incidents may include derailments, collisions, and highway/rail crossing incidents. Train incidents can result from a variety of causes. Human error, mechanical failure, faulty signals, and problems with the track can all lead to railway incidents. Results of an incident can be range from minor "track hops" to catastrophic hazardous materials incidents and even passenger casualties. With the many miles of track in Iowa, there are numerous at-grade crossings at which vehicles must cross the railroad tracks. See <i>Figure 22: Railroad Route Through Wayne County</i> for location of rail line.</p> | Rating |
| Historical Occurrence | <p>According to the National Transportation Safety Board, there have been eight railway accidents in Iowa since 1967. On October 12, 1987 an Amtrack passenger train derailed in Russell, Iowa. The train was operating eastbound and inadvertently took a sub-track and struck a piece of maintenance-of-way work equipment at the rate of 60mph. Fifteen crew members and 107 of the 203 passengers were injured in the incident. Two locomotive units and 11 of the 14 passenger cars were derailed, as well as the maintenance crane and 3 flat cars. A track laborer later acknowledged that he failed to return the west stub track switch back to its normal/correct position after placing the maintenance equipment on the alternate rail system. There have not been any documented train derailments in Wayne County during the past 10 years, however, anecdotal information indicates there were events when the coal mines were functioning.</p> | |

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| Probability | Two railroads cross through the county, one (UP) running north-south connecting Lineville, Clio, Allerton, Corydon, and Millerton. The second rail (DME) crosses the southeast corner of Wayne County and enters the cities of Sewal (unincorporated) and Seymour. There multiple crossings present the opportunity for train-vehicle or pedestrian accidents. The Union Pacific rail line enters through the city limits of Lineville, Clio, Allerton and Millerton and that creates a greater likelihood for accidents to happen. Derailments are also possible, while major derailments are less likely. | 2 |
| Vulnerability | <p>People and property in close proximity to the railway lines, crossings, sidings, switching stations, and loading/unloading points are most at risk. Those incidents that are more than 50 yards away from railroad tracks and facilities are vulnerable only to large-scale incidents including those in which hazardous materials or result from a higher rate of speed and greater dissipation are involved.</p> <p>Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. There are numerous crossings present the opportunity for train-vehicle or pedestrian accidents. The following estimates were created by the committee as to how many structures could be at risk if they are within 50 yards of a rail line (specific business can be seen in the Vulnerability section of this plan):</p> <p>Corydon buildings at risk: 20% of businesses and 30% of residential homes. Allerton buildings at risk: 10% of businesses and 50% of residential homes. Clio buildings at risk: 95% of businesses and 80% of residential homes. Lineville buildings at risk: 25% of businesses and 80% of residential homes. Seymour buildings at risk: 2% of businesses and 35% of residential homes.</p> | 2 |
| Maximum Threat | Numerous railways crisscross Iowa. Vehicle-train collisions are usually limited to areas in and near intersections. Rarely, the incident will result in widespread effects. The direct area of impact is usually quite | 1 |

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| | small, but depending on the products and materials involved, the area could become extensive. If hazardous materials are involved, the effects could reach areas up to 1.5 miles from the scene; this could encompass much or most all of the smaller communities of Lineville, Clio, Allerton, or Millerton if it occurred in town. Harmful products may contaminate streams, rivers, water distribution systems, and storm water systems. If this occurs, a large portion of the community could be affected. The ability of response agencies to contain the product on-scene usually limits the area affected. | |
| Severity of Impact | Deaths and bodily injury can range from those on a train or in the crossing to persons in the vicinity where debris may scatter. Depending on the contents of the train, hazardous materials may be released with their related hazards. Debris may damage nearby property or block transportation routes beyond the railroad itself. Railway or road infrastructure could be damaged by debris or by derailed train cars. | 2 |
| Speed of Onset | Like other transportation incidents, a railway incident would occur with no warning. There may be a limited amount of time to warn those in the pathway of the harmful effects. | 4 |
| Hazard Worksheet Score | | 14 |
| Composite Score | | 39 |

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| Additional Resources: | |
| NTSB Railroad Accidents | http://www.nts.gov/Publictn/R_Acc.htm |

Figure22: Railroad Route Through Wayne County



Source: IA DNR and IDOT GIS data compiled by Chariton Valley Planning and Development

| Hazard | Pipeline Incident | | |
|-------------|--|--|--------|
| Definition | <p>Pipeline Incident: A break in a pipeline creating a potential for an explosion or leak of a dangerous substance (oil, gas, etc.) possibly requiring evacuation.</p> | | |
| Description | <p>A pipeline transportation incident occurs when a break in a pipeline creates the potential for an explosion or leak of a dangerous substance (oil, gas, etc.) possibly requiring evacuation. An underground pipeline incident can be caused by environmental disruption, accidental damage, or sabotage. Incidents can range from a small slow leak to a large rupture where an explosion is possible. Inspection and maintenance of the pipeline system along with marked gas line locations and an early warning and response procedure can lessen the risk to those near to the pipelines.</p> <p>According to the Iowa Utilities Board (IUB), 186 pipeline accidents, incidents, or service outages were reported between 2000 and 2005, resulting in a total of 29 injuries and six (6) fatalities. Across the nation, hundreds of deaths and many more injuries have been caused by underground pipeline incidents. The vast majority of pipeline</p> | | Rating |

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| | <p>incidents that occur are caused by third party damage to the pipeline, often due to construction or some other activity that involves trenching or digging operations. With development occurring at an unprecedented rate and the ground becoming more and more congested with utilities, the probability of an underground pipeline incident is significant.</p> <p>Petroleum and natural gas pipeline accidents occur with some regularity, but they usually have a limited impact and are quickly and adequately handled by pipeline company emergency crews and local and state responders. Pipeline operators are required to coordinate all safety preparedness and response activities with the communities. Continuing to plan, train, and exercise emergency procedures help to limit the occurrence and severity of incidents.</p> <p>The SHMT evaluated the probability a pipeline transportation incident will occur in Iowa is more than a 60% chance in the next year.</p> <p>Iowa is served by many high pressure pipelines to residents and industries.</p> | |
| <p>Historical Occurrence</p> | <p>According to the National Transportation Safety Board (NTSB), there have been no pipeline incidents in Wayne County since 1969. However, there have been pipeline explosions and fires in Iowa during this time period.</p> <p>Anecdotal information shared during committee meetings indicate that there have been a couple incidents in Wayne County. Residents know that a small incident occurred at the booster station located near Lineville 8-9 years ago.</p> | <p>1</p> |
| <p>Probability</p> | <p>The vast majority of pipeline incidents that occur are caused by third-party damage to the pipeline, often due to construction or some other activity that involves trenching or digging operations. With development occurring at an unprecedented rate and the ground becoming more and more congested with utilities, the probability of an underground pipeline incident is significant.</p> <p>Petroleum and natural gas pipeline accidents occur with some regularity across the state, but they usually have a limited impact and are quickly and adequately handled by pipeline company emergency crews and local and state responders. Pipeline operators are required to coordinate all safety preparedness and response activities with the communities. Planning, training, and exercising of emergency</p> | <p>2</p> |

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| | <p>procedures with all involved parties help to limit the occurrence and severity of incidents. A Pipeline Incident is possible at any time for all jurisdictions.</p> | |
| Vulnerability | <p>About 5 interstate pipelines operate in the state under federal pipeline jurisdiction. There are many high-pressure gas mains throughout the state which supply residential and industrial users. People and property with pipelines on their land or nearby are the most at risk. People excavating earth near a pipeline are also at risk. Whether the greater hazard is posed to those upwind or downwind from a site depends on the product spilled, for example - natural gas is lighter than air. Private homes and business served by natural gas have smaller diameter pipelines connected to their structure.</p> <p>The underground pipelines cross public streets, roads, and highways as well as streams. Iowa's natural environment is also vulnerable to contamination from an underground pipeline incident.</p> <p>The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.</p> | 1 |
| Maximum Threat | <p>Though often overlooked, petroleum and natural gas pipelines pose a real threat in the community. Most incidents affect only the area directly above or near the damaged pipeline. Depending on the size of pipeline and amount of product released, the extent of impact could be several hundred feet in diameter. Large areas may need to be evacuated to remove people from the threat of fire, explosion, or exposure. Pipelines have automatic shutoff valves installed so that damaged sections can be isolated and the volume of product escaping can be limited. Identification and caution signs are posted wherever pipelines pass under roads, streams, fence lines, or at any aboveground utilities.</p> <p>The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur.</p> | 1 |
| Severity of Impact | <p>All petroleum liquids pose dangers from fire or explosion and the fire may produce poisonous or irritating gasses. Toxic fumes and direct contact can cause health hazards. Vapor clouds can travel a distance</p> | 3 |

| | | |
|------------------------|---|----|
| | and settle in low-lying areas where the fumes may overcome people and animals. Released products should be treated as any other hazardous material. Large areas may need to be evacuated to remove people from the threat of fire, explosion, or exposure. | |
| Speed of Onset | <p>A pipeline incident may occur suddenly, but sight, sound, and smell can alert individuals that there may have been damage done to a pipeline in the area.</p> <p>Products may bubble up from the ground or collect in low-lying areas, a roaring or hissing noise may be heard, and most products give off a distinct odor. These warning signs can alert individuals not to use any devices that may act as ignition sources and cause a fire or explosion.</p> | 4 |
| Hazard Worksheet Score | | 12 |
| Composite Score | | 26 |

| | |
|-------------------------|---|
| Additional Resources: | |
| NTSB Pipeline Accidents | http://www.nts.gov/Publictn/P_Acc.htm |

5. Vulnerability Assessment

The vulnerability assessment describes the impact each identified hazard may have on the community to greater detail by identifying and quantifying populations, buildings, critical facilities, and other community assets. The assessment follows the methodology described in FEMA – How-To Guide #2: *Understanding Your Risks: Identifying hazards and Estimating Losses*.

This assessment was conducted based on the best available data and the significance of the hazard. Data sources included: Iowa Homeland Security and Emergency Management; Iowa Hazard Mitigation Plan, September 2007; and other agencies as cited in the body of this section.

The assessment will have 3 components of community assets (A), vulnerability by hazard (B), and land use/Development Trends (C).

A. Community Assets

This section describes the assets at risk in Wayne County, including the total exposure to people and property, critical facilities, and infrastructure. It will also address other important assets in the county that may be at risk from natural hazards.

1. Total Exposure of Population and Structures and Vulnerability

a. UNINCORPORATED COUNTY & INCORPORATED JURISDICTIONS

The following tables provide information about Maximum Population and Building Exposure, Housing Units by jurisdiction and age of housing by community.

The table below summarizes the maximum population and building exposure for events that the HMGP committee determined could occur anywhere in Wayne County. These hazards include: Windstorm/High wind event, severe winter storms, thunderstorms/lightning, hailstorms, tornado, earthquake, expansive soils, enemy attack and all forms of Terrorism.

The number of residential structures and the number of people exposed were based on the 2000 census. The value of residential, commercial and industrial structures was based on Wayne County's assessor's data for 2010. The number of structure and the number of people were based on the city, county or committee's estimates.

1. Hailstorm Vulnerability - Hailstorms develop from severe thunderstorms and wide region can be vulnerable to such a storm. Although they occur in every state on the mainland, hailstorms occur primarily in the Midwestern states. Since 1968 there have been 68 recorded hail storms in Wayne County. The largest noted hailstorm occurred in Clio during May 1997. The storm produced 3.00 inch hail stones that created \$100,000 damage in personal property damage. The cumulative damage of these events on property amounted to \$537 thousand and \$278 thousand in crop losses. The greatest risk in Wayne County is to crops and structures.

Severe crop damage can occur as a result of storm with hail diameters of .8 inches. There is also a risk of injury to humans; however the risk of serious injury is slight. Damage to vehicles and structures is usually covered by private insurance.

2. Tornado Vulnerability – Wayne County is located in the path known as “Tornado Alley” in the United States in which tornadoes are most frequent. Tornado damage can be minimal from minor roof damage, broken glass, and windows to the extreme of total destruction. People living in manufactured homes are particularly vulnerable to extreme wind events or tornadoes. Older homes in deteriorating condition are also vulnerable, however there is no information about the number of homes needing rehabilitated. It was acknowledged by the HMGP committee that there are many variables that dictate the vulnerability of structures or injured people. These factors include wind speed, time on the ground, length/width of the cell, population density, building density, age & construction of buildings and time of day. It was determined regardless of the strength; the most vulnerable population is the elderly, very young, people with disabilities, mobile homes, and structures that are prior to 1950’s.

| Jurisdiction | Population 65yrs & older | | Population 18 years & younger | | Population living below poverty guidelines | | Residents living with a diagnosed disability |
|--------------------------------|--------------------------|-------|-------------------------------|-------|--|-------|--|
| Corydon | 508 | 31.9% | 363 | 22.7% | 183 | 12.1% | 312 |
| Seymour | 201 | 24.8% | 203 | 25% | 172 | 22% | 167 |
| Promise City | 25 | 23.8% | 23 | 21.9% | 20 | 19.8% | 36 |
| Allerton | 92 | 16.5% | 166 | 29.7% | 102 | 18.5% | 127 |
| Humeston | 156 | 28.7% | 129 | 22.2% | 110 | 21.4% | 123 |
| Millerton | 10 | 20.8% | 13 | 27.1% | N.A. | | 17 |
| Lineville | 87 | 31.9% | 64 | 23.5% | 13 | 10.8% | 66 |
| Clio | 15 | 16.5% | 23 | 25.3% | 13 | 10.8% | 15 |
| Wayne County Community Schools | 3 | | 601 | | 153 | | |
| Unincorp County | 507 | | 764 | | 274 | | 497 |
| | | | | | | | 2000 US Census |

| Jurisdiction | Number of Mobile Homes | | Number of homes built prior to 1960 | |
|-----------------|------------------------|-------|-------------------------------------|-------|
| Corydon | 40 | 5% | 498 | 61.8% |
| Seymour | 30 | 7.7% | 255 | 65% |
| Promise City | 2 | 3% | 54 | 80.5% |
| Allerton | 35 | 12.3% | 179 | 63% |
| Humeston | 21 | 7.1% | 168 | 56.8% |
| Millerton | 0 | | 25 | 86.2% |
| Lineville | 19 | 12.5% | 77 | 50.7% |
| Clio | 2 | 4.3% | 43 | 89.3% |
| Unincorp County | 158 | | 741 | |

3. Wind Storm / High Wind Event Vulnerability - – High winds can cause minor damage to major damage to homes and other buildings. Outdoor furniture, trash cans, yard debris, out buildings and other materials in the immediate vicinity of homes can become air borne missiles and dangerous to people and livestock. Loose shingles, broken tree limbs or trees down are also highly possible.

People living in mobile homes, homes that are built prior to building codes and homes in deteriorating conditions are particularly vulnerable to high winds. People in automobiles and campground are also at a greater risk. Generally an injury is minor and seldom is death associated with a wind storm.

Committee members discussed the most vulnerable locations as the campground at Bobwhite State Park, City of Corydon Lake Park, other camping locations and the mobile homes located throughout the county. Also of critical concern is the aged (and possibly weak) housing structure in the area. The estimated number of mobile homes and aging structures can be seen in the previous table under “Tornado Vulnerability”.

4. Severe Winter Storm Vulnerability – The entire planning area is vulnerable to the effects of severe winter storms. Winter storms tend to make driving more treacherous and can impact the response time of emergency vehicles. The probability of utility and infrastructure abruption or outages, increases during winter storms due to freezing rain accumulation on power lines. Elderly populations are especially vulnerable to the impacts of winter storms. Winter storms increase wear and tear on roadways also, but it is difficult to determine the amount of the expenses to maintain or recover from a storm.

Buildings with overhanging tree limbs are more vulnerable to damage during winter storms. Businesses experience loss of income as a result of closure due to power outages. Overhead power lines and infrastructure are also vulnerable to damages from winter storms. The weight from of the ice accumulation creates damage to power lines, as well as, damage to the lines and equipment from falling trees and/or tree limbs due to the weight. Potential losses would include the cost of repair or replacement of damaged facilities and lost economic opportunities. Secondary effects of loss of power could include ruptured water pipes in homes without electricity. Public safety hazards also include risk of electrocution from downed power lines. Specific amounts of estimated losses are not available due to the complexity and multiple variables with this hazard. The loss of use estimates are provided in the table below and were calculated using FEMA’s publication “*What is a Benefit? Guidance on Benefit-Cost Analysis of Hazard Mitigation Project, June 2009*”. The loss of use is provided in the heading s the loss of use cost per person per day of loss. The estimated loss of use provided for each jurisdiction represents the loss of service of the indicated utility for one day for 10 percent of the population. It is understood that in rural areas the typical loss of use may be for a longer period of time and

a larger percentage of the population. These figures do not take into account the physical damage to utility equipment and infrastructure.

| Jurisdiction | Population (2000) | Estimated Affected Population (10%) | Electric loss of use estimates @ \$128/person/day |
|----------------|-------------------|-------------------------------------|---|
| Corydon | 1591 | 159 | \$20,352 |
| Seymour | 810 | 81 | \$10,368 |
| Promise City | 105 | 11 | \$1,408 |
| Allerton | 559 | 56 | \$7,168 |
| Humeston | 543 | 54 | \$6,912 |
| Millerton | 48 | 5 | \$640 |
| Lineville | 273 | 27 | \$3,456 |
| Clio | 91 | 9 | \$1,152 |
| Unicorp County | 2710 | 271 | \$34,688 |

It is difficult to estimate the precise totals of damage to Wayne County because of the widespread nature of severe winter storms. There have been 41 recorded snow and ice events that have included Wayne County since 1993 including freezing rain, snow, ice storms, and winter storms. Four deaths are associated with these events and property damage totaling \$41.805 million are recorded. In 1994 two snow events that affected Wayne County, were recorded for a larger part, or all of Iowa totaling \$65 million in property damage for all included areas.

Wayne County was affect twice in December 2007 by 2 separate ice storms. The combined loss for this area was more than \$50,000 in personal property.

Between January 1994 and September 1999, there have been eleven recorded events of extreme wind chill and extreme cold that impacted Wayne County and the surrounding area. These 11 events are attributed for \$1.8 million in property damage, one death and no injuries.

The population most vulnerable and are most at risk to Severe Winter Storms are the elderly. The following table summarizes the number of residents that are over 65 years and what percentage of the county this comprises.

| Location | Population over 65yrs | Percentage of Population over 65yrs |
|-----------------|------------------------------|--|
| Corydon | 508 | 31.9% |
| Seymour | 201 | 24.8% |
| Promise City | 25 | 23.8% |
| Allerton | 92 | 16.5% |
| Humeston | 156 | 28.7% |
| Millerton | 10 | 20.8% |
| Lineville | 87 | 31.9% |
| Clio | 15 | 16.5% |
| Unicorp County | 507 | 19% |

2000 US Census

| Maximum Population and Building Exposure Hazard Area 100% of Jurisdiction | | | | | | | | | |
|--|-------------|---------------|--------|------------|-------------|--------|------------|-------------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 674 | \$40,471,155 | 1591 | 156 | \$6,711,269 | -- | 27 | \$1,187,633 | -- |
| Seymour | 331 | \$11,664,646 | 810 | 80 | \$1,961,280 | -- | 5 | \$483,326 | -- |
| Promise City | 60 | \$1,951,564 | 105 | 11 | \$222,526 | -- | 0 | 0 | 0 |
| Allerton | 232 | \$7,166,386 | 559 | 40 | \$934,030 | -- | 23 | \$3,541,259 | -- |
| Humeston | 242 | \$11,874,246 | 543 | 130 | \$2,611,676 | -- | 0 | 0 | 0 |
| Millerton | 25 | \$713,843 | 48 | 10 | \$95,658 | -- | 0 | 0 | 0 |
| Lineville | 128 | \$4,785,463 | 273 | 25 | \$949,494 | -- | 0 | 0 | 0 |
| Clio | 40 | \$964,857 | 91 | 36 | \$361,896 | -- | 0 | 0 | 0 |
| Unincorp County | 1284 | \$111,122,335 | 2710 | 575 | 16,408,064 | -- | 69 | \$8,899,415 | |

5. Flash Flooding Vulnerability- Flash flooding occurs as a result of heavy rains over a short period of time and occurs without sufficient warning for the communities or individuals to take emergency protective measures. Flash flooding that does occur in this region but it limited in nature. The most common impacts are minor street flooding, sewer infiltration and minimal basement flooding. A summary of flash flooding history is contained in the respective hazard profile. Flash flooding was given a rating of high concern throughout Wayne County. As flash floods can happen anywhere at any time (FEMA), the entire county could be considered a hazard area. However, properties located in floodplains are at higher risk than those on high ground. The major low areas in Wayne County predominately lie in the rural region. There are two locations (180th & 200th roads) near the Chariton River that are more susceptible and damage has occurred to the secondary roadways. One additional rural area just east of Promise City has an area that experiences flash flooding. This area suffers from poor drainage due to the small drainage tube. Past experiences have seen water flooding over Highway 2. The communities of Seymour and Humeston have all had limited experiences with flash flooding. The eastern portion of Seymour has had flash flooding incidents due to poor drainage. The City does intent to apply for state assistance in the next year to repair the storm/sewer drainage system. Humeston also has past experience of flash flooding due to storm drainage issues that affected the school building and MFA (MISSOURI FARMER’S ASSOCIATION).

| Maximum Population and Building Exposure | | | | | | | | | |
|--|-------------|--------------|--------|------------|-------------|--------|------------|-----------|--------|
| Flash Flooding | | | | | | | | | |
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 50 | \$1,749,697 | 122 | 2 | \$39,226 | -- | 0 | -- | -- |
| Humeston | 12 | \$593,712 | 27 | 7 | \$130,584 | -- | 0 | -- | -- |
| Unincorp County | 128 | \$11,112,233 | 271 | 58 | \$1,640,806 | | 7 | \$889,941 | |

6. Extreme Heat Vulnerability - The table below summarizes the maximum population and building exposure to Extreme Heat. The health of the public and the economic impact on the agricultural community are the primary concerns with extreme heat. The segments of the public most at risk from extreme heat are the elderly, the very young, and individuals living below the poverty line. The estimated number of affected people in the table below is derived from the 2000 US census. Those included in this calculation are residents over 65 years, children under 5 years, individuals living below the poverty line and people living with a diagnosed disability. Economic impact on the agricultural sector could result from the damage to animals and crops. Livestock is particularly vulnerable to the effects of the extreme heat. Roads, bridges, and railroad tracks are also susceptible to damage from extreme heat. The HMGP committee believes that the major effect of an extreme heat will be on livestock and crops. Transportation facilities are also vulnerable to extreme heat. Most common type of damage is road buckles; however Wayne County has not tracked the damage expenses directly related to this hazard.

Wayne County
Maximum Population Exposure
Extreme Heat

| Jurisdiction | Population 65yrs & older | | Population 18 years & younger | | Population living below poverty guidelines | | Residents living with a diagnosed disability |
|-----------------|--------------------------|-------|-------------------------------|-------|--|-------|--|
| Corydon | 508 | 31.9% | 363 | 22.7% | 183 | 12.1% | 312 |
| Seymour | 201 | 24.8% | 203 | 25% | 172 | 22% | 167 |
| Promise City | 25 | 23.8% | 23 | 21.9% | 20 | 19.8% | 36 |
| Allerton | 92 | 16.5% | 166 | 29.7% | 102 | 18.5% | 127 |
| Humeston | 156 | 28.7% | 129 | 22.2% | 110 | 21.4% | 123 |
| Millerton | 10 | 20.8% | 13 | 27.1% | N.A. | | 17 |
| Lineville | 87 | 31.9% | 64 | 23.5% | 13 | 10.8% | 66 |
| Clio | 15 | 16.5% | 23 | 25.3% | 13 | 10.8% | 15 |
| Unincorp County | 507 | | 156 | | 274 | | 497 |

2000 Census

7. Drought Vulnerability - Droughts can be spotty or widespread and last from weeks to a period of years. A prolonged drought can have serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock. While droughts are generally associated with extreme heat, droughts can and do occur during cooler months.

A severe drought, such as the event in 1988-1990 would have the greatest impact on agriculture crops, livestock, wildlife, and stream flows, as well as, the entire community. The agricultural would be the most severely impacted. Increased demand for water and electricity could result in shortages and rationing. The number and severity of fires may also increase.

The result of the drought on the economic impact would depend on the severity and length of the drought. A severe drought would have the greatest impact, but any reduction in agricultural income could result in reduced revenues for the agricultural and retail and service sectors. According to the 2007 Agricultural Census, Wayne County had 120,647 harvested acres of land in farms in Wayne County to account for approximately 44% of the 273,212 acres of land on farmsteads. State-wide drought damages noted in the NCDC database range from % of the crop damaged. The committee noted that these are statewide numbers and include the central section of the state which was the most severely damage.

Droughts rarely result in the loss of life, although the high heats that contribute to the droughts may also contribute to heat related illnesses and even death. In addition, property damage is not a direct impact of droughts, but drought conditions that may increase the fire hazard could be an indirect impact.

8. Sink Hole Vulnerability - The table below displays the maximum population and building exposure at risk with sink holes. Historical data collected gives estimated locations of such mines but there is no precise mapping to be able to identify target areas. History indicates that there were approximately 37 different mining companies throughout Wayne County. Many of them do not have precise mapping, however Wayne County officials indicate that they are monitoring an abandon mining area north of Promise; in the Right Township, sections 23-26. There are additional mines on the east county line that is adjacent to Appanoose County, who has a very rich history of coal mining. Included in that region are mines in the Seymour area.

Sinkholes, also known as subsidence, come in two primary forms in Iowa, Karst subsidence and Mine subsidence. Mines subsidence occurs when a mine or part of a mine collapses causing surface land to create a basin or hole. Karst subsidence occurs as water dissolves underlying rock creating a gap that ultimately collapses. Most of Iowa's sinkholes occur in rural areas where their main impact is rendering some land unsuitable for row-crop agriculture. Sinkholes have also resulted in the failure of farm and other types of ponds, roads, and one sewage-treatment lagoon. As sinkholes sometimes allow surface runoff to directly enter bedrock aquifers, their presence has a potential impact on groundwater quality.

The prevalence of mines under a large proportion of the communities provides the potential of large areas within the county being damaged by mine cave ins. The Iowa Department of Natural Resources monitors and maps sinkholes and mines in Iowa. Not all of the mines under Wayne County are fully mapped; the extents of some mines are estimated. Based on these mapping limitations, the condition of at least some of the mines is presumably not fully known.

Anyone is vulnerable to sinkholes should they occur in a developed area. Buildings and infrastructure such as roads, underground pipes, and railroad lines face potentially severe damage from mine subsidence. In the Seymour and Promise City area the potentially for damage from Karst subsidence is low given the soil composition of the area (i.e. a lack of Karst soils). Personal injury or even death is possible should a cave in happen suddenly; indirect injury or death is possible from building collapse or damage to infrastructure. The maximum threat of subsidence would be if one or more of the underlying mines were to collapse damaging homes, businesses, and infrastructure. The worst case scenario is if subsidence or a full cave-in were to happen on Seymour's historic square where a number of old, and presumably unreinforced (due to age), brick buildings are located. One building could lead to structural damage to adjacent structures as many buildings are attached.

| Maximum Population and Building Exposure | | | | | | | | | |
|--|-------------|-----------|--------|------------|----------|--------|------------|-------|--------|
| Sink Holes | | | | | | | | | |
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 15 | \$487,891 | 26 | 3 | \$55,632 | -- | 0 | -- | -- |

| | | | | | | | | | |
|-----------------|-----|--------------|-----|----|-----------|----|---|-----------|----|
| Seymour | 166 | \$5,832,323 | 405 | 40 | \$980,640 | -- | 2 | \$241,663 | -- |
| Unincorp County | 193 | \$16,668,350 | 407 | 6 | \$164,081 | | | | |

9. Radon or Lead Vulnerability - The maximum population and building exposure related to the concerns of Radon or Lead are shown below. It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 767 (60%) of the residence in the rural region of Wayne County date prior to 1978 and this places them at a higher risk of containing Lead. The presence of the mines under the cities may also elevate this estimated proportion. The greatest risk for the majority of homes is due to the age of the structure and the potential for possible Lead poisoning. Home that date prior to 1978 are considered to place the residents at risk. A large percentage (86-94%) of homes in these communities are at risk due to the age.

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|--------------|--------|------------|-------------|--------|------------|-------------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon(93%) | 627 | \$37,638,174 | 1480 | 145 | \$6,241,480 | -- | 25 | \$1,187,633 | -- |
| Seymour(91%) | 301 | \$10,614,828 | 737 | 73 | \$1,784,765 | -- | 4 | \$449,493 | -- |
| Promise City(94%) | 56 | \$1,834,470 | 99 | 10 | \$209,174 | -- | 0 | -- | -- |
| Allerton(94%) | 218 | \$6,736,403 | 525 | 38 | \$877,988 | -- | 0 | -- | -- |
| Humeston(91%) | 220 | \$10,805,563 | 494 | 118 | \$2,376,625 | -- | 0 | -- | -- |
| Millerton(86%) | 22 | \$613,905 | 41 | 9 | \$82,266 | -- | 0 | -- | -- |
| Lineville(86%) | 110 | \$4,115,598 | 235 | 22 | \$816,564 | -- | 0 | -- | -- |
| Clio(94%) | 38 | \$906,965 | 86 | 34 | \$340,182 | -- | 0 | -- | -- |
| Unincorp County | 767 | \$66,673,401 | 1626 | 345 | \$9,844,838 | | | | |

| Jurisdiction | Number of Mobile Homes | | Number of homes built prior to 1960 | | Combined Proportion of housing stock |
|-----------------|------------------------|-------|-------------------------------------|-------|--------------------------------------|
| Corydon | 40 | 5% | 498 | 61.8% | 66.8% |
| Seymour | 30 | 7.7% | 255 | 65% | 72.7% |
| Promise City | 2 | 3% | 54 | 80.5% | 83.5% |
| Allerton | 35 | 12.3% | 179 | 63% | 75.3% |
| Humeston | 21 | 7.1% | 168 | 56.8% | 63.9% |
| Millerton | 0 | | 25 | 86.2% | 86.2% |
| Lineville | 19 | 12.5% | 77 | 50.7% | 63.2% |
| Clio | 2 | 4.3% | 43 | 89.3% | 93.6% |
| Unincorp County | 158 | | 741 | | |

1. Grass or Wildfire Vulnerability - The table below summarized the maximum population and building exposure to Grass or Wildfire. When a fire is occurring, it was acknowledged by the HMGP committee, that elderly, children and people with disabilities are at greatest risk of death due to the fire. However, the unincorporated region has a low population density and the risk is

very low. Agricultural land where CRP land is burned and rural areas where debris is burned are very vulnerable to a Grass or Wildfire. There have been no recorded grass or wildfires in the NCDC database in Wayne County currently; however the risk does exist especially if droughts affect the area. Anecdotal evidence suggests that there have been grass or wildfires in Wayne County despite the lack of documentation. Committee members spoke with their respective fire departments and discovered that many have heard stories of Grass fires long ago but none are able to recall recent occurrences within the past 20 years or find documentation to support. The committee agreed that agricultural areas where CRP land is burned, rural areas where debris is burned and the wild land-urban interface areas are the most vulnerable. Of the approximate 273,212 acres in farms, approximately 14% is conservation and recreational areas. The HMPG committee estimated approximately 50% of residential structures, commercial structures, and industrial structures are in the Grass or Wildfire Hazard Area.

It was also agreed by committee members that a grass fire can happen anywhere but that those structures on the edge of the city limits (near open grass plains) would be at a higher risk. It was estimated that approximately 25% of each community could be included in that description.

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|--------------|--------|------------|-------------|--------|------------|-------------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 169 | \$10,117,789 | 398 | 39 | \$1,677,817 | -- | 7 | \$296,908 | -- |
| Seymour | 83 | \$2,916,162 | 203 | 20 | \$490,320 | -- | 1 | \$120,832 | -- |
| Promise City | 15 | \$487,891 | 26 | 3 | \$55,632 | -- | -- | -- | -- |
| Allerton | 58 | \$1,791,597 | 140 | 10 | \$233,508 | -- | 6 | \$885,315 | -- |
| Humeston | 61 | \$2,968,562 | 136 | 33 | \$652,919 | -- | 0 | -- | -- |
| Millerton | 6 | \$178,461 | 12 | 3 | \$23,915 | -- | 0 | -- | -- |
| Lineville | 32 | \$1,196,616 | 68 | 6 | \$237,374 | -- | 0 | -- | -- |
| Clio | 10 | \$90,474 | 23 | 9 | \$90,474 | -- | 0 | -- | -- |
| Unincorp county | 642 | \$55,561,168 | 1355 | 288 | \$8,204,032 | | 35 | \$4,447,708 | |

10. Rail Transportation Incident Vulnerability - Maximum Population and building

exposure for rail transportation incident is displayed below. Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that

continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. There are numerous crossings present the opportunity for train-vehicle or pedestrian accidents.

| Maximum Population and Building Exposure Rail Transportation Incident | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 169 | 10,117,789 | 398 | 39 | 1,677,817 | -- | 7 | 296,908 | -- |
| Millerton | 6 | 178,461 | 12 | 2 | 23,915 | -- | -- | -- | -- |
| Allerton | 58 | 1,791,597 | 140 | 10 | 233,508 | -- | -- | -- | -- |
| Clio | 10 | 241,214 | 23 | 9 | 90,474 | -- | -- | -- | -- |
| Seymour | 83 | 2,916,162 | 202 | 20 | 490,320 | -- | 1 | 120,831 | -- |
| Lineville | 32 | 1,196,366 | 68 | 6 | 237,373 | -- | -- | -- | -- |
| Unincorp county | 321 | 27,780,584 | 678 | 144 | 4,102,016 | | 17 | 2,224,854 | |

11. Human Disease Incident & Human Disease Pandemic Vulnerability – An

incident related to human disease is defined as a medical, health, or sanitation threat to the general public (such as contamination, epidemics, plagues, and insect infestation). Public health action to control infectious diseases in the 21st century is based on the 19th century discovery of microorganisms as the cause of many serious diseases (e.g., cholera and TB). Disease control resulted from improvements in sanitation and hygiene, the discovery of antibiotics, and the implementation of universal childhood vaccination programs. A pandemic human disease is defined as a disease that has spread around the world to many people. The word, “pandemic”, means that a disease has caused illness in a person on nearly every continent. Many diseases throughout the history of the world have been pandemic. Examples are HIV/AIDS/Influenza. A pandemic will have wide spread economic and societal implications for our state. Response and recovery to a pandemic will likely be lengthy. Considering that the manner that the diseases can spread so quickly, all residents can be considered at risk, however, the most vulnerable population considered are the elderly, youth and disabled residents.

The individuals that travel internationally and have high exposure to potential vectors of disease are the most susceptible. Greater than 20% of Iowa’s population is considered high risk. The elderly population of Wayne County who reside in communities makes up nearly 27% according to the 2000 Census with a youth population (under age 18) of nearly 24%, about 182 of which are under 5. About 51% of Wayne County residents that live in an incorporated city limits may be considered at high risk based on age alone.

Particular locations that are susceptible to such diseases would include assisted care facilities and school districts. There are 2 retirement homes or assisted care facilities in Wayne County.

One is in Corydon, the other in Seymour. The children (age 18 and under) attending Wayne Community Schools are located throughout the communities include: Corydon 363, Seymour 203, Promise City 23, Allerton 166, Humeston 129, Millerton 13, Clio 23 and Lineville 64.

| Maximum Population Exposure Human Disease Incident & Human Disease Pandemic | | | | | | | |
|--|--------------------------|-------|-------------------------------|-------|--|-------|--|
| Jurisdiction | Population 65yrs & older | | Population 18 years & younger | | Population living below poverty guidelines | | Residents living with a diagnosed disability |
| Corydon | 508 | 31.9% | 363 | 22.7% | 183 | 12.1% | 312 |
| Seymour | 201 | 24.8% | 203 | 25% | 172 | 22% | 167 |
| Promise City | 25 | 23.8% | 23 | 21.9% | 20 | 19.8% | 36 |
| Allerton | 92 | 16.5% | 166 | 29.7% | 102 | 18.5% | 127 |
| Humeston | 156 | 28.7% | 129 | 22.2% | 110 | 21.4% | 123 |
| Millerton | 10 | 20.8% | 13 | 27.1% | N.A. | | 17 |
| Lineville | 87 | 31.9% | 64 | 23.5% | 13 | 10.8% | 66 |
| Clio | 15 | 16.5% | 23 | 25.3% | 13 | 10.8% | 15 |
| Unincorp county | 507 | | 764 | | | | 497 |
| | | | | | | | |

12. Energy Failure Vulnerability - An extended interruption of service electric, petroleum or natural gas, which by an actual or impending acute shortage of usable energy could create a potential health problem for the population and possibly mass panic. International events could potentially affect supplies of energy producing products while local conditions could affect distribution of electricity, petroleum or natural gas. The magnitude and frequency of energy shortages are associated with international markets. Local and state events such as ice storms can disrupt transportation and distribution systems; if disruptions are long lasting, public shelters may need to be activated to provide shelter from extreme cold or extreme heat. Stockpiles of energy products eliminate short disruptions but can increase the level of risk to the safety of people and property near the storage site.

The effects of an energy shortage would be felt throughout the state. Because the distribution systems are very well developed, local shortages can quickly be covered. Storm-related Energy Failures may impact a few homes or the entire community and surrounding areas. Response to such disruptions depends on the severity of the damage and the availability of staff to repair the system. During the holiday season, staff availability may be limited. Due to the rural population and the relative isolation of Corydon, Seymour, Promise City, Allerton, Humeston, Millerton, Lineville, and Clio in relation to more urbanized parts of Iowa, Wayne County residents may face longer periods without energy. Much like the storms in the winter of 2007, Wayne County and all jurisdictions profiled experienced a widespread energy failure due to a severe winter storm. The area experienced this energy crisis for 2-3 days in the jurisdictions and 5-6 days in the un-

incorporated regions. The hospital operated off of generators, one shelter site had a generator and residents took shelter with each other.

13. Transportation of Radiological Material Vulnerability - The maximum population and building exposure to transportation of radiological materials is shown in the chart below. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 169 | 10,117,789 | 398 | 39 | 1,677,817 | -- | 7 | 296,908 | -- |
| Promise City | 15 | 487,891 | 26 | 3 | 55,632 | -- | 0 | -- | -- |
| Lineville | 32 | 1,196,366 | 68 | 6 | 237,373 | -- | -- | -- | -- |
| Humeston | 61 | 2,968,562 | 136 | 33 | 652,919 | -- | 0 | -- | -- |
| Clio | 10 | 241,214 | 23 | 9 | 90,474 | -- | -- | -- | -- |
| Millerton | 6 | 178,461 | 12 | 2 | 23,915 | -- | -- | -- | -- |
| Seymour | 83 | 2,916,162 | 202 | 20 | 490,320 | -- | 1 | 120,831 | -- |
| Allerton | 58 | 1,791,597 | 140 | 10 | 233,508 | -- | -- | -- | -- |
| Unincorp County | 321 | 27,780,584 | 678 | 144 | 4,102,016 | | 17 | 2,224,854 | |

14. Highway Transportation Incident Vulnerability - is displayed below. Given the reliance on private vehicles and trucking in rural Iowa, the probability of an accident on any given roadway is relatively high. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south and goes through the communities of Lineville and Humeston. This places approximately 95% of business buildings and 50%

residential structures in Lineville. Humeston would have approximately 50% of businesses and 30% of residential homes in each community at risk of being in a Highway Transportation Incident because they are within 100 yards of the roadway. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. Highway 2 intersects the center of Promise City and places 50% of homes and businesses at risk. The City of Corydon has two major highways that pass through the center of the city. Highway 2 passes on the south side of the Wayne County Courthouse and on the community's business square district. Iowa State highway 14 offers travel north from Corydon and into Lucas County. This highway spurs off the north side of the business square. The combination of the two highways in the city of Corydon places approximately 85% of businesses and 45% of private residential structures at risk. Also, More than 23% of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.

| Maximum Population and Building Exposure Highway Transportation Incident | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 270 | 16,188,461 | 636 | 62 | 2,684,508 | -- | 11 | 475,053 | --- |
| Promise City | 30 | 975,782 | 52 | 6 | 111,263 | -- | 0 | 0 | -- |
| Lineville | 51 | 1,914,185 | 109 | 10 | 1,044,670 | -- | 0 | 0 | -- |
| Humeston | 97 | 4,749,698 | 217 | 52 | 379,798 | -- | 0 | 0 | -- |
| Unincorp County | 64 | 5,556,117 | 136 | 29 | 820,403 | | 3 | 444,971 | |

15. Communications Failure Vulnerability - Communication failure is the widespread breakdown or disruption of normal communication capabilities. This could include major telephone outages, loss of local government radio facilities, long-term interruption of electronic broadcast services, emergency 911, law enforcement, fire, emergency medical services, public works, and emergency warning systems are just a few of the vital services which rely on communication systems to effectively protect citizens. Business and industry rely heavily on various communication media as well. Mechanical failure, traffic accidents, power failure, line severance, and weather can affect communication systems and disrupt service

Potentially the entire county could be vulnerable to a communications failure, especially in the event that the local telephone system and radio system should fail. The cellular phones could be used as a back-up, however, that system could also fail do to the large number of calls going through or if the cell towers are damaged.

16. Structural Failure Vulnerability - A summary of the maximum population and building exposure for structural failure are stated in the table below. Given the age of homes in

Corydon, Seymour, Promise City, Allerton, Humeston, Millerton, Lineville, and Clio the presumed age of infrastructure based on when Wayne County flourished, and nationwide concerns over aging infrastructure, the risk of structural failures may be relatively high. Additionally, many of the buildings in Wayne County were constructed in the late 1800's and early 1900's prior to the advent of building codes in the United States.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less can indicate 5 or less years remaining life.

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 303 | 18,212,020 | 716 | 70 | 3,020,071 | -- | 12 | 534,435 | -- |
| Seymour | 149 | 5,249,091 | 365 | 36 | 882,576 | -- | 2 | 217,497 | -- |
| Promise City | 27 | 878,204 | 47 | 5 | 100,137 | -- | 0 | 0 | -- |
| Allerton | 104 | 3,224,874 | 252 | 18 | 420,313 | -- | 10 | 1,593,567 | --- |
| Humeston | 109 | 5,343,411 | 244 | 59 | 1,175,254 | -- | 0 | 0 | -- |
| Millerton | 11 | 321,229 | 22 | 4 | 43,046 | -- | 0 | 0 | -- |
| Lineville | 58 | 2,153,458 | 123 | 11 | 427,272 | -- | 0 | 0 | -- |
| Clio | 18 | 434,186 | 41 | 16 | 162,853 | -- | 0 | 0 | -- |
| Unincorp County | 578 | 50,005,051 | 1220 | 259 | 7,383,629 | | 31 | 4,004,737 | |

17. Structural Fire Vulnerability - Structural Fire is a great concern in this area and is summarized in the table below. Wayne County unincorporated area is relatively old indicating two things, 1) the wood and building materials used in its structures may be more flammable due to age and 2) structures may not meet more recent building and fire codes. Similarly, the absence of a zoning ordinance means that hazardous and flammable materials may be stored and used anywhere in town elevating the potential threat of fire spreading to homes that may not be otherwise subject to substantial fires.

Fire Insurance Ratings were given previously in this document. The ratings indicate reason for concern with all Wayne County communities scoring "7" with the the lowest possible at "10". This score indicates that the community's fire suppression program does not meet minimum requirements for the ISO. ISO is an organization that provides data, analysis, and decision-making support for various professions about risk.

| Maximum Population and Building Exposure Structural Fire | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 303 | 18,212,020 | 716 | 70 | 3,020,071 | -- | 12 | 534,435 | -- |
| Seymour | 149 | 5,249,091 | 365 | 36 | 882,576 | -- | 2 | 217,497 | -- |
| Promise City | 27 | 878,204 | 47 | 5 | 100,137 | -- | 0 | 0 | -- |
| Allerton | 104 | 3,224,874 | 252 | 18 | 420,313 | -- | 10 | 1,593,567 | --- |
| Humeston | 109 | 5,343,411 | 244 | 59 | 1,175,254 | -- | 0 | 0 | -- |
| Millerton | 11 | 321,229 | 22 | 4 | 43,046 | -- | 0 | 0 | -- |
| Lineville | 58 | 2,153,458 | 123 | 11 | 427,272 | -- | 0 | 0 | -- |
| Clio | 18 | 434,186 | 41 | 16 | 162,853 | -- | 0 | 0 | -- |
| Unincorp County | 321 | 27,780,584 | 678 | 144 | 4,102,016 | | 17 | 2,224,854 | |

19. Animal/Plant/Crop Disease Vulnerability - An outbreak of disease that can be transmitted from animal to animal. The disease outbreak will likely have a significant economic implications or public health impact. The crop/plant pest infestation will likely have severe economic implications, cause significant crop production losses, or significant environmental damage. The crop/plant pests may also have implications for public health.

The movement of people, animals, animal products, wildlife, plants, crops and potential disease/pest vectors could all cause the introduction of diseases/pests. Diseases/pests could also be introduced naturally, for example by hurricanes or jet streams. Emerging disease is also a threat such as West Nile Virus, new more virulent influenza strains, etc. Because many diseases/pests are not present in Iowa, our populations of animals, crops, and plants have no immunity and are highly susceptible.

| Wayne County (Unincorporated) Maximum Population Exposure Animal/Plant/Crop Disease | | | | |
|--|---|--|---------------------------------|---|
| 660 Farms in Wayne County | Estimated Market Values per farm | | Type of Livestock | Estimated number in Wayne County |
| Land & buildings | \$751,524 | | Cattle & calves | 31,169 |
| Machinery & Equipment | \$90,804 | | Hogs & pigs sold in the year | 18,199 |
| Ag product Sold | \$68,580 | | | |
| | | | | |

20. Fixed Hazardous Materials Vulnerability - The table below summarizes the maximum threat to residents and structures that can be affected by fixed hazardous materials. The manufacturing plants, automobile repair, gas stations, and farm yards are potential sites for hazardous materials incidents in Wayne County. There are seven gas and/or farm stores located in Corydon, three in Lineville, one in Seymour, one in Allerton, one in Clio, and three in Humeston that are at a higher rate for possible incident.

A fixed hazardous materials incident is the accidental release of chemical substances or mixtures, which presents a danger to the public health or safety, during production or handling at a fixed facility. A hazardous substance is one that may cause damage to persons, property, or the environment when released to soil, water, or air. Chemicals are manufactured and used in ever-increasing types and quantities, each year, over 1,000 new synthetic chemicals are introduced, and as many as 500,000 products pose physical or health hazards and can be defined as “hazardous chemicals”. Hazardous substances are categorized as toxic, corrosive, flammable, irritant, or explosive. Hazardous material incidents generally affect a localized area and the use of planning and zoning can minimize the area of impact.

Chemical spills can occur anytime there is a traffic accident as oil, gasoline, and other fluids used in vehicles are released. Dumping of household cleaners, paints, and old oil can happen at any time and are more likely in areas where people do not understand hazardous materials laws.

A number of homes (36.6%) in Wayne County use LP Gas for heating fuel. Liquid petroleum is not by nature toxic, but can cause asphyxiation through oxygen deprivation. LP Gas is heavier than air so it will sink to the lowest places possible and is flammable. Stores of anhydrous ammonia in the county pose health and safety threats to potentially large areas of the county and are potential targets for meth producers as a source of raw materials.

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 249 | 14,974,327 | 589 | 7 | 268,451 | -- | NA | -- | -- |
| Seymour | 122 | 4,315,919 | 300 | 1 | 19,613 | -- | NA | -- | -- |
| Promise City | 22 | 722,079 | 39 | 0 | 0 | -- | 0 | -- | -- |
| Allerton | 86 | 2,651,563 | 207 | 1 | 9,340 | -- | NA | -- | -- |
| Humeston | 90 | 4,393,471 | 201 | 3 | 52,234 | -- | 0 | -- | -- |
| Millerton | 9 | 264,122 | 18 | 0 | 0 | -- | 0 | -- | -- |
| Lineville | 47 | 1,770,621 | 101 | 3 | 113,939 | -- | 0 | -- | -- |
| Clio | 15 | 356,997 | 34 | 1 | 7,238 | -- | 0 | -- | -- |
| Unincorp County | 128 | 11,112,233 | 271 | 58 | 1,640,806 | | 7 | 889,941 | |

21. Pipeline Incident Vulnerability - A Pipeline Incident occurs when a break in a pipeline creates the potential for an explosion or leak of a dangerous substance (oil, gas, etc.) possibly requiring evacuation. An underground pipeline incident can be caused by environmental disruption, accidental damage, or sabotage. Incidents can range from a small slow leak to a large rupture where an explosion is possible. Inspection and maintenance of the pipeline system along with marked gas line locations and an early warning and response procedure can lessen the risk to those near to the pipelines.

About 5 interstate pipelines operate in the state under federal pipeline jurisdiction. There are many high-pressure gas mains throughout the state which supply residential and industrial users. People and property with pipelines on their land or nearby are the most at risk. People excavating earth near a pipeline are also at risk. Whether the greater hazard is posed to those upwind or downwind from a site depends on the product spilled, for example - natural gas is lighter than air. Private homes and business served by natural gas have smaller diameter pipelines connected to their structure.

The underground pipelines cross public streets, roads, and highways as well as streams. Iowa’s natural environment is also vulnerable to contamination from an underground pipeline incident. The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur.

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

| Maximum Population and Building Exposure Pipeline Incident | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|------------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 13 | \$478,546 | 27 | 3 | \$94,949 | -- | 0 | -- | -- |
| Clio | 4 | \$96,485 | 9 | 4 | \$36,189 | -- | 0 | -- | -- |
| Humeston | 12 | \$593,713 | 27 | 7 | \$130,584 | -- | 0 | -- | -- |
| Corydon | 34 | \$2,023,558 | 80 | 8 | \$335,563 | -- | 2 | \$59,382 | -- |
| Allerton | 12 | \$358,319 | 28 | 2 | \$46,702 | -- | 0 | -- | -- |
| Unincorp County | 84 | 4,459,840 | 360 | 9 | 4,001,824 | | 12 | 13,130,822 | |

22. Transportation of Hazardous Materials Vulnerability - summarized in the table below that depicts the maximum threat to the population and building exposures. Iowa State Highways 2, 14, and 65 offers an increased potential for a transportation of Hazardous materials incident. As well as, semis frequently transport along this roadway in addition to local farmers that commonly transport Anhydrous Ammonia tanks.

| Maximum Population and Building Exposure Transportation of Hazardous Materials | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 270 | 16,188,461 | 636 | 62 | 2,684,508 | -- | 11 | 475,053 | --- |
| Promise City | 30 | 975,782 | 52 | 6 | 111,263 | -- | 0 | 0 | -- |
| Lineville | 51 | 1,914,185 | 109 | 10 | 1,044,670 | -- | 0 | 0 | -- |
| Humeston | 97 | 4,749,698 | 217 | 52 | 379,798 | -- | 0 | 0 | -- |
| Unincorp County | 578 | 50,005,051 | 1220 | 359 | 7,383,629 | | 31 | 4,004,737 | |

23. Public Disorder - A public disorder occurs when there is an assembling of people together in a manner to substantially interferes with public peace to constitute a threat, and with use of unlawful force or violence against another person or causing property damage or attempting to interfere with, disrupting, or destroying the government, political subdivision, or group of people. The committee had discussion of potential problems with motorcycle rallies passing through, community events, campgrounds; RAGBRI, etc could lead to a possible public disorder. It was also mentioned that difficult economic times can provoke such an event.

24. Air Transportation Incident - Maximum population and building exposure to an air transportation incident. There is not a “Basic Service Airport” nor “General Service Airport” as acknowledged by the National Plan of Integrated Airport System (NPIAS). There are approximately 4 privately owned airports throughout the Wayne County Region. One is northeast of Millerton about 3 miles, one is on the northeast edge of Corydon’s city limits, another is 7 miles east of Corydon along side Iowa State Highway 2, and the last one is located between Corydon and Allerton (approximately 1.5 miles northeast of Allerton). Wayne County Memorial Hospital also offers emergency flight service with the location of a helipad on grounds of the hospital at the southeast edge of Corydon. It is estimated 3% of the population could be affected in the county when a 3 mile radius is considered around each airport location.

| Maximum Population and Building Exposure Air Transportation Incident | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 34 | \$2,023,558 | 80 | 8 | \$335,563 | -- | 1 | \$59,382 | |
| Unincorp County | 39 | 3,333,670 | 81 | 17 | 492,242 | | 0 | | |

25. Dam Failure Vulnerability - The following chart summarizes the maximum population and building exposure to dam failure. Dam failure is the uncontrolled release of impounded water resulting in downstream flooding which can affect life and property. Flooding, earthquakes, blockages, lack of maintenance, improper operation and poor construction, vandalism, or terrorism cause dam failures. Dams are constructed for a variety of uses, including flood control, erosion control, water supply impoundment, hydroelectric power generation and recreation.

The 2007 State of Iowa Hazard Mitigation Plan indicates that there are four “Significant Hazard Dams” in Wayne County. A “Significant Hazard Dam” in the State of Iowa Mitigation plan is determined if it’s located in an area where failure may dam failure may damage isolated homes or cabins, industrial/commercial buildings, moderately traveled roads or railroads, interrupts major utility services, but without substantial risk of loss of human life. In addition, structures where the dam and its impoundment are of themselves of public importance, such as dams associated with public water supply systems, public recreation, etc. The most direct impact of a dam failure of Bobwhite Lake on Bobwhite State Park grounds would be one a section of the unincorporated region of Wayne County. The topography of the area the lake would dissipate the water. The only major structure at risk of damage would be a rural bridge located downstream. Other “significant” Hazard Dams include City of Corydon Lake, Lakeside Park near Humeston, and Medicine Creek Wildlife Area (located 5 miles east of Lineville). There would be limited significant damage from each of these sources as the drainage would occur in the rural region waterway. Primary damage would be to secondary roads and agricultural land. Limited damage would occur to roads and properties in the failure of Corydon Lake dam. Lakeside Park is located in the Unincorporated region near Humeston and would affect secondary roads and agriculture crops. Medicine Creek Wildlife area is a wetland east of Lineville that contains water as flood mitigations for that region. Should the dam systems fail around Medicine Creek agricultural fields would be inundated.

There are 45 low hazard dams identified throughout the county, but primary damage would occur to the unincorporated region of the county. A Low Hazard dam is defined if it is located in an area where damages from a failure would be limited to loss of the dam, loss of livestock, damages to farm outbuildings, agricultural lands and lesser used roads and where loss of human life is considered unlikely. Maximum risk would be to the roadways and bridges throughout the county. For example, a breach of Seymour Lake, would release water to a rural region of the county. A larger concern would be the impact that could occur to highway S60, a few rural homes and a possibly a couple homes on the edge of the city limits.

| Maximum Population and Building Exposure Dam Failure | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 13 | \$809,423 | 32 | 0 | -- | -- | -- | -- | -- |
| Seymour | 6 | \$233,293 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unincorp County | 128 | 11,112,233 | 271 | 58 | 1,640,806 | | 7 | 889,941 | |

6. Critical Facilities

The Wayne Planning Committee named various buildings and infrastructure in a preliminary discussion of critical facilities. Committee members were advised to consider buildings and infrastructure that represent health and welfare of unincorporated residents and residents in communities, high potential loss facilities, hazardous materials storage, emergency access, and lifeline facilities such as drinking water and power supply. This advice was derived from the FEMA guidance document Understanding Your Risk: Identifying Hazards and Estimating Losses (FEMA 386-2, August 2001).

A full assessment of the critical facilities has not been completed, but preliminary information is available. The following chart shows the types of information that would be useful in estimating potential losses and thus help in prioritizing mitigation actions.

Corydon

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/Use value | Displacement Cost |
|----------------------|---------------------|------------|-----------|-------------------|---------------|--------------------|-------------------|
| 1.Lift station | | | | | | | |
| 2.City Hall | 501 S East St | 4428 Sq ft | | \$215,744 | | | |
| 3. city shop | 511 Maple | 4678 Sq ft | | \$288,217 | | | |
| 4. Post Office | | | | | | | |
| 6. Community Bldg | 501 S East st | 2665 Sq ft | | \$264,017 | | | |
| 6. Sewer Lagoon | South st | | | | | | |
| 7. Museum | | | | | | | |
| 8.Library | 112 S Franklin St | 8400 Sq ft | | \$872,945 | | | |
| 9.fire Station(old) | 213 S Washington | 2135 Sq ft | | \$162,260 | | | |
| 10.Fire Station(new) | 213 S Washington St | 6410 Sq ft | | \$481,538 | | | |
| 11.Bath House | 100 McKinley St | 3222 Sq ft | | \$243,794 | | | |

Millerton

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/ Use value | Displacement Cost |
|-----------------|------------|-----------|-----------|-------------------|---------------|---------------------|-------------------|
| 1.Lift station | | | | | | | |
| 2. Post Office | 313 N Main | | | | | | |
| 3. Sewer Lagoon | | | | | | | |

Promise City

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/ Use value | Displacement Cost |
|-----------------------------------|---------------------------|-----------|-----------|-------------------|---------------|---------------------|-------------------|
| 1.Lift station | North edge of town | | | \$175,000 | | | |
| 2.City Hall/com- munity center | 112 Main St | 36x56 | | \$200,000 | \$30,000 | | |
| | | 30x30 | | \$19,000 | | | |
| 4. Post Office | 1 st & Main St | | | | | | |
| 6. Sewer Lagoon | South of town | | | \$500,000 | | | |

Seymour

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/ Use value | Displacement Cost |
|--------------------------|--------------------|-----------|-----------|-------------------|---------------|---------------------|-------------------|
| 1.N. Lift station | 625 N 5th | | | 120,000 | 1,000 | | |
| 2. S Lift Station | Southlawn Cemetary | | | 100,000 | 1,000 | | |
| Lagoon | J46 | | | 130,000 | 2500 | | |
| 2.Com- munity center | 135 N 5th | 60x 100 | | \$218,570 | 42,000 | | |
| 3. Library/ City Hall | 121 N 5th | 80x 40 | | \$764,996 | 223,500 | | |
| 4. Street Maint Bldg | 522 West Wall | 60x75 | | 91,071 | 122,877 | | |
| 5. Water Plant | 118 N 6th | 75x 80 | | 218,570 | 53,905 | | |
| 6. Fire Dept | 105 N 5th | | | 182,142 | 402,785 | | |

Allerton

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/ Use value | Displacement Cost |
|-----------------------------------|-------------|-----------|-----------|-------------------|---------------|---------------------|-------------------|
| 1.Lift station | | | | | | | |
| 2.City Hall/com- munity center | Central Ave | | | | | | |

| | | | | | | | |
|-------------------------------|---------------|--|--|--|--|--|--|
| 3. Ambulance garage/city shop | | | | | | | |
| 4. Post Office | 108 N Central | | | | | | |
| 5. Gas Station | 2716 Hwy 526 | | | | | | |
| 6. Sewer Lagoon | | | | | | | |

Clio

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/Use value | Displacement Cost |
|----------------------|-------------------------------|-----------|-----------|-------------------|---------------|--------------------|-------------------|
| 1. City Hall | 414 Main St | 12ftx20ft | 20-25 | \$20,000 | \$6,000 | | |
| 2. Motor Grader shed | 414 Main st | 17x20ft | 20-25 | \$20,000 | \$10,000 | | |
| 3. Clio Gym | 800 school st | | Appx 100 | | | | |
| 4. Gas Station | 6 st & Central ave | | | | | | |
| 5. Clio Hardware | 411 Main St | | | | | | |
| 6. Ewing Etprs | 605 Depot St | | | | | | |

Lineville

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/Use value | Displacement Cost |
|-------------------------------|-------------------------|-------------|-----------|-------------------------|---------------|--------------------|-------------------|
| 1. Lift station | West 3 rd St | 6ftx6ft | 0 | \$45,000 (with Content) | | Sewage pumping | |
| 2. City Hall/community center | 111 Main St | 105ftx 40ft | 100-200 | \$118,967 | \$17,000 | | |
| 3. Ambulance garage/Fire Dept | 207 Main St | 40ft x 60ft | 50-75 | \$50,246 | \$25,000 | | |
| 4. Post Office | 220 Brown St | | | | | | |
| 5. Sewer Lagoon | East Line St | 6ftx6ft | 0 | \$500,000 | \$2,000 | | |
| 6. Water Pump house | Washington St | | 0 | \$100,000 | \$50,000 | | |
| 7. Water tower | Brimm St | | | \$200,000 | | | |

Humeston**

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/ Use value | Displacement Cost |
|--------------------------------|---------------------------|-----------|-----------|-------------------|---------------|---------------------|-------------------|
| 1. Lift station | 6 th & Blevens | | | | | | |
| 2. City Hall/com-munity center | 422 N Eaton Ave. | | | | | | |
| 3. Fire & First Responders | 228 Broad St | | | | | | |
| 4. Sewer Lagoon | North of town | | | | | | |
| 7. Museum | 422 N Eaton Ave | | | | | | |

****Blanket Insurance for \$1,988,023**

Wayne Community School

| Facility | Location | Bldg size | Occupancy | Replacement Value | Content Value | Function/ Use value | Displacement Cost |
|-----------------------------|---------------------|--------------|-----------|-------------------|---------------|---------------------|-------------------|
| High School & Middle School | 102 North Dekalb St | 75,700 sq ft | 350 | \$11,532,000 | \$1,182,000 | | |
| Elementary School | 607 Southwest St | 36,100 sq ft | 350 | \$5,890,000 | \$650,000 | | |

7. Community Assets by Hazard

The following table lists community assets that would be affected in the event of a large hazard that would affect the entire community. These hazards include: High Wind Events, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Excessive Heat, Radon/Lead, and Earthquakes among others. In these events, the entire Communities are the "Hazard Area." This also includes events that do not have likely locations for potential occurrence such as Tornadoes, Structural Fire, or Air Transportation Incidents, among others. Government structures include City Hall, the post office, the City Shop, and the Lift Station; this differs from the feedback received from the County Assessor in order to account for the presence of these facilities which may be treated differently by the Assessor's Office. The numbers of structures within hazard areas are estimated based on the base and hazard maps, see *Appendix G: Wayne County Critical Facilities by Hazard* for these maps.

These estimates of structures and people within hazard areas are preliminary for this plan due to data limitations on the actual hazard areas and mapping data available. Valuations of tax exempt and utility properties are not readily separated by jurisdiction from data provided by the Wayne County Assessor's office contributing to the lack of some value estimates. Alternate forms of estimating such valuations (as well as occupancy, square footage, replacement value, etc.) exist

but were not employed for this version of the plan due to challenges with obtaining the necessary information, see *Appendix I: Alternate Facility Valuation Estimate Tools*. Obtaining this information will be important for updates to this plan.

No significant changes to the number of buildings or infrastructure in hazard areas are expected based on population and development trends. However with improved hazard mapping, when undertaken, the estimates of vulnerable buildings and infrastructure may change; these changes will be addressed in future updates to the Wayne County Multi-Jurisdiction Hazard Mitigation Plan.

Wayne County (entire) Assets affected by Hazard

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 2221 | 2221 | 100% | \$111,122,335 | \$111,122,335 | 100% | 2221 | 2221 | 100% |
| Commercial | 575 | 575 | 100% | \$16,408,064 | \$16,408,064 | 100% | 575 | 575 | 100% |
| Industrial | 69 | 69 | 100% | \$6,899,415 | \$6,899,415 | - | - | - | - |
| Agricultural | 884 | 884 | 100% | \$236,256,140 | \$236,256,140 | - | - | - | - |
| Religious / Non-profit | | | 100% | \$4,125,623 | \$4,125,623 | | | | |
| Government | | | 100% | | | 100% | | | 100% |
| Education | | | 100% | | | 100% | | | 100% |
| Utilities | | - | - | \$32,978,172 | \$32,978,172 | - | - | - | - |

UNINCORPORATED COUNTY AREA – Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in unincorporated area due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 2432 | 2432 | 100% | \$194,641,377 | \$194,641,377 | 100% | 4,805 | 4,805 | 100% |
| Commercial | 122 | 122 | 100% | \$17,018,799 | \$17,018,799 | 100% | | | 100% |
| Industrial | 2 | 2 | 100% | \$558,259 | \$558,259 | 100% | - | - | - |
| Agricultural | - | - | 100% | \$133,392,847 | \$133,392,847 | -100% | - | - | - |
| Religious / Non-profit | 4 | 4 | 100% | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

Corydon - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Corydon due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 674 | 674 | 100% | \$40,471,155 | \$40,471,155 | 100% | | | 100% |
| Commercial | 156 | 156 | 100% | \$6,711,269 | \$6,711,269 | 100% | | | 100% |
| Industrial | 27 | 27 | 100% | \$1,187,633 | \$1,187,633 | 100% | - | - | - |
| Agricultural | 3 | 3 | - | \$525,936 | \$525,936 | 100% | - | - | - |
| Religious / Non-profit | | | | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------|---------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Library | 112 S | | | X | | | | \$872,945 | | |

| | | | | | | | | | |
|---------------------------------|---------------------|---|---|---|---|---|--|-----------|--|
| | Franklin St | | | | | | | | |
| fire Station(old) | 213 S Washington | X | | | | | | \$162,260 | |
| Fire Station(new) | 213 S Washington St | X | | | | | | \$481,538 | |
| .Bath House | 100 McKinley St | | | X | X | | | \$243,794 | |
| Prairie Trail Museum | 515 E Jefferson | | | X | | X | | | |
| Wayne Co Community School HS/MS | 102 N Dekalb | | X | X | X | | | | |
| Wayne Co Community School (Elm) | 607 South west | | X | X | X | | | | |
| Magical Beginnings Preschool | 607 South West | | X | X | X | | | | |
| Lecompte Memorial Library | 110 S Frankling | | | X | | | | | |
| Community Center | 100 E Jefferson | | | | X | | | | |
| Corydon Nursing & Rehab Center | 745 E South St | | X | X | | | | | |
| Wayne County Hosp | 417 S East St | X | X | X | X | | | | |
| Wayne Co Sheriff's Office/Jail | 207 N Lafayette St | X | X | X | X | | | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | |
| HyVee Food Store | 303 E Jefferson | | | X | X | | | | |
| Casey's | 220 W Washington | | | X | X | | | | |
| Ziggy's Automotive | 2560 Euclid Rd | | | | X | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | |
| . | | | | | | | | | |

Millerton - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Millerton due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 25 | 25 | 100% | \$713,843 | \$713,843 | 100% | | | 100% |
| Commercial | 10 | 10 | 100% | \$95,658 | \$95,658 | 100% | | | 100% |
| Industrial | 0 | 0 | - | - | - | - | - | - | - |
| Agricultural | 1 | 1 | - | \$88,263 | \$88,263 | - | - | - | - |
| Religious / Non-profit | | | | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

Millerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Post Office | 313 N Main | X | | | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| | | | | | | | | | | |

Promise City - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Promise City due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 60 | 60 | 100% | \$1,951,564 | \$1,951,564 | 100% | | | 100% |
| Commercial | 11 | 11 | 100% | \$222,526 | \$222,526 | 100% | | | 100% |
| Industrial | - | - | - | - | - | - | - | - | - |
| Agricultural | - | - | - | \$16,974 | \$16,974 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | 100% | | | 100% | | | 100% |

| | | | | | | | | | |
|-----------|---|---|------|---|---|------|---|---|------|
| Education | | | 100% | | | 100% | | | 100% |
| Utilities | - | - | - | - | - | - | - | - | - |

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| | | | | | | | | \$19,000 | | |
| Post Office | 1 st & Main St | X | | | X | | | | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Seymour - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Seymour due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 331 | 331 | 100% | \$11,664,646 | \$11,664,646 | 100% | | | 100% |
| Commercial | 80 | 80 | 100% | \$1,961,280 | \$1,961,280 | 100% | | | 100% |
| Industrial | 5 | 5 | - | \$483,326 | \$483,326 | - | - | - | - |
| Agricultural | 6 | 6 | - | \$1,142,762 | \$1,142,762 | - | - | - | - |
| Religious / Non-profit | | | | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------|--------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| N. Lift station | 625 N 5th | X | | | | | | 120,000 | 1,000 | |
| S Lift Station | Southlawn Cemetary | X | | | | | | 100,000 | 1,000 | |
| Lagoon | J46 | X | | | | | | 130,000 | 2500 | |
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |

| | | | | | | | | | | |
|--------------------------|-----------------------|---|---|---|---|---|--|---------|---------|--|
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| Casey's | 500 W Main | | | X | | | | | | |
| | | | | | | | | | | |

Allerton - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Allerton due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 232 | 232 | 100% | \$7,166,386 | \$7,166,386 | 100% | | | 100% |
| Commercial | 40 | 40 | 100% | \$934,030 | \$934,030 | 100% | | | 100% |
| Industrial | 23 | 23 | - | \$3,541,259 | \$3,541,259 | - | - | - | - |
| Agricultural | 4 | 4 | - | \$375,723 | \$375,723 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | 100% | | | 100% | | | 100% |
| Education | | | 100% | | | 100% | | | 100% |
| Utilities | - | - | - | - | - | - | - | - | - |

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| Nelson's Round Barn | | | | X | | X | | | | |

| | | | | | | | | | |
|---------------------|--------------|---|---|---|---|--|--|--|--|
| Allerton Head Start | 204 W Oak | | X | X | X | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | |
| | | | | | | | | | |

Clio - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Clio due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 40 | 40 | 100% | \$964,857 | \$964,857 | 100% | 91 | 91 | 100% |
| Commercial | 36 | 36 | 100% | \$361,896 | \$361,896 | 100% | | | 100% |
| Industrial | 0 | 0 | - | \$0 | \$0 | - | - | - | - |
| Agricultural | 3 | 3 | - | \$346,881 | \$346,881 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|-------------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Gas Station | 6 st & Central ave | X | | X | | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etprs | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Lineville - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Lineville due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 128 | 128 | 100% | \$4,785,463 | \$4,785,463 | 100% | | | 100% |
| Commercial | 25 | 25 | 100% | \$949,494 | \$949,494 | 100% | | | 100% |
| Industrial | 0 | 0 | - | \$0 | \$0 | - | - | - | - |
| Agricultural | 3 | 3 | - | \$524,589 | \$524,589 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | 100% | | | 100% | | | 100% |
| Education | | | 100% | | | 100% | | | 100% |
| Utilities | - | - | - | - | - | - | - | - | - |

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|-------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------------|---------------|-----------------------|
| Lift station | West 3 rd St | X | | | | | | \$45,000 (with Content) | | |
| City Hall/community center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Sewer Lagoon | East Line St | X | | | | | | \$500,000 | \$2,000 | |
| Water Pump house | Washington St | X | | | | | | \$100,000 | \$50,000 | |
| Water tower | Brimm St | X | | | | | | \$200,000 | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Humeston - Communitywide hazards that could potentially affect all structures, land and/or people. (Windstorm/High Wind Event, Severe Winter Storms, Thunderstorms/Lightning, Hailstorms, Drought, Earthquake, Tornado, Structural Fire, & any forms of Terrorism)

Estimated loss in Humeston due to large community wide hazard:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 242 | 242 | 100% | \$11,874,246 | \$11,874,246 | 100% | | | 100% |
| Commercial | 130 | 130 | 100% | \$2,611,676 | \$2,611,676 | 100% | | | 100% |
| Industrial | 0 | 0 | - | \$0 | \$0 | - | - | - | - |
| Agricultural | 1 | 1 | - | \$113,830 | \$113,830 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | 100% | | | 100% | | | 100% |
| Education | | | 100% | | | 100% | | | 100% |
| Utilities | - | - | - | - | - | - | - | - | - |

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | 6 th & Blevens | X | | | | | | | | |
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Sewer Lagoon | North of town | X | | | | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Corydon – Radon/Lead Estimated loss in Corydon due to a Radon or Lead Hazard:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|--------------|--------|------------|-------------|--------|------------|-------------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon(93%) | 627 | \$37,638,174 | 1480 | 145 | \$6,241,480 | -- | 25 | \$1,187,633 | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 74% of the residence in Corydon date prior to 1978 and this places them at a higher risk of containing Lead.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------|--------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Library | 112 S Franklin St | | | X | | | | \$872,945 | | |
| fire Station(old) | 213 S Washington | X | | | | | | \$162,260 | | |
| .Bath House | 100 McKinley St | | | X | X | | | \$243,794 | | |
| Community Center | 100 E Jefferson | | | | X | | | | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | | |
| Ziggy's Automotive | 2560 Euclid Rd | | | | X | | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | | |
| . | | | | | | | | | | |

Corydon – Rail Transportation Incident Estimated loss in Corydon due to Rail Transportation Incident:

| Maximum Population and Building Exposure Rail Transportation Incident | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 169 | 10,117,789 | 398 | 39 | 1,677,817 | -- | 7 | 296,908 | -- |

Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and

extends north through Millerton. There are numerous crossings present the opportunity for train-vehicle or pedestrian accidents.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------------------|----------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| NO CRITICAL FACILITIES AT RISK. | | | | | | | | | | |

Corydon – Highway Transportation Incident Estimated loss in Corydon due to Highway Transportation Incident:

| Maximum Population and Building Exposure Highway Transportation Incident | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 270 | 16,188,461 | 636 | 62 | 2,684,508 | -- | 11 | 475,053 | --- |

The county has three state highways that are identified in the county. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. The City of Corydon has two major highways that pass through the center of the city. Highway 2 passes on the south side of the Wayne County Courthouse and on the community’s business square district. Iowa State highway 14 offers travel north from Corydon and into Lucas County. This highway spurs off the north side of the business square. The combination of the two highways in the city of Corydon places approximately 85% of businesses and 45% of private residential structures at risk. Also, More than 23% of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|-------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Library | 112 S Franklin St | | | X | | | | \$872,945 | | |
| fire Station(old) | 213 S | X | | | | | | \$162,260 | | |

| | | | | | | | | | | |
|---------------------------------|---------------------|---|---|---|---|---|--|-----------|--|--|
| | Washington | | | | | | | | | |
| Fire Station(new) | 213 S Washington St | X | | | | | | \$481,538 | | |
| Prairie Trail Museum | 515 E Jefferson | | | X | | X | | | | |
| Wayne Co Community School HS/MS | 102 N Dekalb | | X | X | X | | | | | |
| Community Center | 100 E Jefferson | | | | X | | | | | |
| Corydon Nursing & Rehab Center | 745 E South St | | X | X | | | | | | |
| Wayne Co Sheriff's Office/Jail | 207 N Lafayette St | X | X | X | X | | | | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | | |
| HyVee Food Store | 303 E Jefferson | | | X | X | | | | | |
| Casey's | 220 W Washington | | | X | X | | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | | |
| . | | | | | | | | | | |

Corydon – Transportation of Hazardous Materials Estimated loss in Corydon due to Transportation of Hazardous Materials:

| Maximum Population and Building Exposure Transportation of Hazardous Materials | | | | | | | | | |
|---|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 270 | 16,188,461 | 636 | 62 | 2,684,508 | -- | 11 | 475,053 | --- |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP also controls the rail line through the city of Corydon and extends north through Millerton.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Library | 112 S Franklin St | | | X | | | | \$872,945 | | |
| fire Station(old) | 213 S Washington | X | | | | | | \$162,260 | | |
| Fire Station(new) | 213 S Washington St | X | | | | | | \$481,538 | | |
| Prairie Trail Museum | 515 E Jefferson | | | X | | X | | | | |
| Wayne Co Community School HS/MS | 102 N Dekalb | | X | X | X | | | | | |
| Community Center | 100 E Jefferson | | | | X | | | | | X |
| Corydon Nursing & Rehab Center | 745 E South St | | X | X | | | | | | |
| Wayne Co Sheriff's Office/Jail | 207 N Lafayette St | X | X | X | X | | | | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | | |
| HyVee Food Store | 303 E Jefferson | | | X | X | | | | | |
| Casey's | 220 W Washington | | | X | X | | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | | X |

Corydon – Transportation of Radiological Materials Estimated loss in Corydon due to Transportation of Radiological Materials:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 169 | 10,117,789 | 398 | 39 | 1,677,817 | -- | 7 | 296,908 | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP also controls the rail line through the city of Corydon and extends north through Millerton.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Library | 112 S Franklin St | | | X | | | | \$872,945 | | |
| fire Station(old) | 213 S Washington | X | | | | | | \$162,260 | | |
| Fire Station(new) | 213 S Washington St | X | | | | | | \$481,538 | | |
| Prairie Trail Museum | 515 E Jefferson | | | X | | X | | | | |
| Wayne Co Community School HS/MS | 102 N Dekalb | | X | X | X | | | | | |
| Community Center | 100 E Jefferson | | | | X | | | | | |
| Corydon Nursing & Rehab Center | 745 E South St | | X | X | | | | | | |
| Wayne Co Sheriff's Office/Jail | 207 N Lafayette St | X | X | X | X | | | | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | | |
| HyVee Food Store | 303 E Jefferson | | | X | X | | | | | |

| | | | | | | | | | |
|---------------------|-----------------------|---|--|---|---|--|--|--|--|
| Casey's | 220 W Washington | | | X | X | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | |

Corydon – Fixed Hazardous Materials Estimated loss in Corydon due to Fixed Hazardous Materials:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|------------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 249 | 14,974,327 | 589 | 7 | 268,451 | -- | NA | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff's Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. There are 7 gas stations or repair centers within the city limits of Corydon.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Casey's | 220 W Washington | | | X | X | | | | | |
| Ziggy's Automotive | 2560 Euclid Rd | | | | X | | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | | |
| . | | | | | | | | | | |

Corydon – Structural Failure Estimated loss in Corydon due to Structural Failure:

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 303 | 18,212,020 | 716 | 70 | 3,020,071 | -- | 12 | 534,435 | -- |

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------|--------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Library | 112 S Franklin St | | | X | | | | \$872,945 | | |
| fire Station(old) | 213 S Washington | X | | | | | | \$162,260 | | |
| .Bath House | 100 McKinley St | | | X | X | | | \$243,794 | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | | |
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | | |
| Rod’s Auto | 101 E Jackson | | | | X | | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | | |
| . | | | | | | | | | | |

There are many buildings in the County that are very old (over 45% of homes built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Corydon – Structural Fire Estimated loss in Corydon due to Structural Fire:

| Maximum Population and Building Exposure | | | | | | | | | |
|--|-------------|------------|--------|------------|-----------|--------|------------|---------|--------|
| Structural Fire | | | | | | | | | |
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 303 | 18,212,020 | 716 | 70 | 3,020,071 | -- | 12 | 534,435 | -- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 74% of homes in Wayne County were built prior to 1970 and 38% of homes were built prior to 1939 when this community flourished in the early 1900's.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------|-------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall | 501 S East St | X | | | X | | | \$215,744 | | |
| city shop | 511 Maple | | | | | X | | \$288,217 | | |
| Post Office | | X | | | X | | | | | |
| Community Bldg | 501 S East st | | | | X | | | \$264,017 | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Library | 112 S Franklin St | | | X | | | | \$872,945 | | |
| fire Station(old) | 213 S Washington | X | | | | | | \$162,260 | | |
| .Bath House | 100 McKinley St | | | X | X | | | \$243,794 | | |
| Wayne Co Courthouse | 100 S Franklin St | X | | X | X | X | | | | |
| HyVee Food Store | 303 E Jefferson | | | X | X | | | | | |
| Casey's | 220 W Washington | | | X | X | | | | | |
| Ziggy's Automotive | 2560 Euclid Rd | | | | X | | | | | |

| | | | | | | | | | |
|---------------------|--------------------|---|--|--|---|--|--|--|--|
| Southern Iowa Oil | 214 W Jefferson | | | | X | | | | |
| MFA | 2184 Hwy 2 | | | | X | | | | |
| Rod's Auto | 101 E Jackson | | | | X | | | | |
| Amoco | 107 S Lafayette St | | | | X | | | | |
| Corydon City office | 205 S East St | X | | | X | | | | |
| . | | | | | | | | | |

Corydon – Grass or Wildfire Estimated loss in Corydon due to Grass or Wildfire Hazard:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|--------------|--------|------------|-------------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 169 | \$10,117,789 | 398 | 39 | \$1,677,817 | -- | 7 | \$296,908 | -- |

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------------|-----------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Sewer Lagoon | South st | X | | | | | | | | |
| Bath House | 100 McKinley St | | | X | X | | | \$243,794 | | |
| Prairie Trail Museum | 515 E Jefferson | | | X | | X | | | | |
| Lecompte Memorial Library | 110 S Frankling | | | X | | | | | | |
| Community Center | 100 E Jefferson | | | | X | | | | | |
| Corydon Nursing & Rehab Center | 745 E South St | | X | X | | | | | | |
| Wayne County Hosp | 417 S East St | X | X | X | X | | | | | |
| . | | | | | | | | | | |

Corydon – Air Transportation Incident Estimated loss in Corydon due to a Air Transportation Incident:

| Maximum Population and Building Exposure Air Transportation Incident | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 34 | \$2,023,558 | 80 | 8 | \$335,563 | -- | 1 | \$59,382 | |
| | | | | | | | | | |

There is not a “Basic Service Airport” nor “General Service Airport” as acknowledged by the National Plan of Integrated Airport System (NPIAS). There are approximately 4 privately owned airports throughout the Wayne County Region. One is northeast of Millerton about 3 miles, one is on the northeast edge of Corydon’s city limits, another is 7 miles east of Corydon along side Iowa State Highway 2, and the last one is located between Corydon and Allerton (approximately 1.5 miles northeast of Allerton). Wayne County Memorial Hospital also offers emergency flight service with the location of a helipad on grounds of the hospital at the southeast edge of Corydon. It is estimated 3% of the population could be affected in the county when a 3 mile radius is considered around each airport location.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------------|----------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Corydon Nursing & Rehab Center | 745 E South St | | X | X | | | | | | |
| Wayne County Hosp | 417 S East St | X | X | X | X | | | | | |
| | | | | | | | | | | |

Corydon – Pipeline Incident Estimated loss in Corydon due to a Pipeline Incident:

| Maximum Population and Building Exposure Pipeline Incident | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 34 | \$2,023,558 | 80 | 8 | \$335,563 | -- | 2 | \$59,382 | -- |

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

Corydon Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------|-----------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Prairie Trail Museum | 515 E Jefferson | | | X | | X | | | | |
| . | | | | | | | | | | |

Corydon – Dam Failure Estimated loss in Corydon due to a Dam Failure:

| Maximum Population and Building Exposure Dam Failure | | | | | | | | | |
|---|-------------|-----------|--------|------------|-------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Corydon | 13 | \$809,423 | 32 | 0 | -- | -- | -- | -- | -- |

The 2007 State of Iowa Hazard Mitigation Plan indicates that there are four “Significant Hazard Dams” in Wayne County. A “Significant Hazard Dam” in the State of Iowa Mitigation plan is determined if it’s located in an area where failure may dam failure may damage isolated homes or cabins, industrial/commercial buildings, moderately traveled roads or railroads, interrupts major utility services, but without substantial risk of loss of human life. In addition, structures where the dam and its impoundment are of themselves of public importance, such as dams associated with public water supply systems, public recreation, etc. The most direct impact of a dam failure of Bobwhite Lake on Bobwhite State Park grounds would be one a section of the unincorporated region of Wayne County. The topography of the area the lake would dissipate the water. The only major structure at risk of damage would be a rural bridge located downstream. Other “significant” Hazard Dams include City of Corydon Lake, Lakeside Park near Humeston, and Medicine Creek Wildlife Area (located 5 miles east of Lineville). There would be limited significant damage from each of these sources as the drainage would occur in the rural region waterway. Primary damage would be to secondary roads and agricultural land. Limited damage would occur to roads and properties in the failure of Corydon Lake dam.

Millerton – Structural Failure Estimated loss in Millerton due to Structural Failure:

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|---------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Millerton | 11 | 321,229 | 22 | 4 | 43,046 | -- | 0 | 0 | -- |

There are many buildings in the County that are very old (over 45% of homes built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results.

Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Millerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Post Office | 313 N Main | X | | | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| | | | | | | | | | | |

Millerton – Structural Fire Estimated loss in Millerton due to Structural Fire:

| Maximum Population and Building Exposure | | | | | | | | | |
|--|-------------|---------|--------|------------|--------|--------|------------|-------|--------|
| Structural Fire | | | | | | | | | |
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Millerton | 11 | 321,229 | 22 | 4 | 43,046 | -- | 0 | 0 | -- |

Millerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Post Office | 313 N Main | X | | | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| | | | | | | | | | | |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 74% of homes in Corydon were built prior to 1970 and 38% of homes were built prior to 1939 when this community flourished in the early 1900's.

Millerton – Radon/Lead Estimated loss in Millerton due to Radon and/or Lead:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|-----------|--------|------------|----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Millerton(86%) | 22 | \$613,905 | 41 | 9 | \$82,266 | -- | 0 | -- | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 86% of the residence in Millerton date prior to 1978 and this places them at a higher risk of containing Lead.

Millerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Post Office | 313 N Main | X | | | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| | | | | | | | | | | |

Millerton – Transportation of Hazardous Materials Estimated loss in Millerton due to Transportation of Hazardous Materials:

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton.

Millerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Post Office | 313 N Main | X | | | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| | | | | | | | | | | |

Millerton – Transportation of Radiological Materials

Estimated loss in Millerton due to Transportation of Radiological Materials:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|---------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Millerton | 6 | 178,461 | 12 | 2 | 23,915 | -- | -- | -- | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton.

Millerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| Post Office | 313 N Main | X | | | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| | | | | | | | | | | |

Promise City – Sink Holes

Estimated loss in Promise City due to Sink Holes:

| Maximum Population and Building Exposure Sink Holes | | | | | | | | | |
|--|-------------|-----------|--------|------------|----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 15 | \$487,891 | 26 | 3 | \$55,632 | -- | 0 | -- | -- |

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

Due to poorly mapped conditions, we can only estimate the locations of the abandon mines. The participating jurisdictions know of estimated shafts but do not have precise mapped locations. This plan includes proposed mitigation actions to include research and improved mapping locations.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| Post Office | 1 st & Main St | X | | | X | | | \$19,000 | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Grass or Wildfire Estimated loss in Millerton due to Grass or Wildfire Incident:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|-----------|--------|------------|----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 15 | \$487,891 | 26 | 3 | \$55,632 | -- | -- | -- | -- |

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| Post Office | 1 st & Main St | X | | | X | | | \$19,000 | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Radon/Lead Estimated loss in Promise City due to Radon/Lead:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City(94%) | 56 | \$1,834,470 | 99 | 10 | \$209,174 | -- | 0 | -- | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 94% of the residence in the rural region of Wayne County date prior to 1978 and this places them at a higher risk of containing Lead.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| Post Office | 1 st & Main St | X | | | X | | | \$19,000 | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Highway Transportation Incident Estimated loss in Promise City due to Highway Transportation Incident:

| Maximum Population and Building Exposure Highway Transportation Incident | | | | | | | | | |
|---|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 30 | 975,782 | 52 | 6 | 111,263 | -- | 0 | 0 | -- |

The county has three state highways that are identified in the county. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. Highway 2 intersects the center of Promise City and places 50% of homes and businesses at risk.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| | | | | | | | | \$19,000 | | |
| Post Office | 1 st & Main St | X | | | X | | | | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Transportation of Hazardous Materials Estimated loss in Promise City due to Transportation of Hazardous Materials:

| Maximum Population and Building Exposure Transportation of Hazardous Materials | | | | | | | | | |
|---|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 30 | 975,782 | 52 | 6 | 111,263 | -- | 0 | 0 | -- |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| | | | | | | | | \$19,000 | | |
| Post Office | 1 st & Main St | X | | | X | | | | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Transportation of Radiological Materials Estimated loss in Promise City due to Transportation of Radiological Materials Incident:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|---------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 15 | 487,891 | 26 | 3 | 55,632 | -- | 0 | -- | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| | | | | | | | | \$19,000 | | |
| Post Office | 1 st & Main St | X | | | X | | | | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Structural Failure Estimated loss in Promise City due to Structural Failure:

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 27 | 878,204 | 47 | 5 | 100,137 | -- | 0 | 0 | -- |

There are many buildings in the County that are very old (built prior to 1940) and may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather

leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800’s. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, “Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| Post Office | 1 st & Main St | X | | | X | | | | | |
| Sewer Lagoon | South of town | X | | | | | | \$500,000 | | |
| | | | | | | | | | | |

Promise City – Structural Fire Estimated loss in Promise City due to Structural Fire:

| Maximum Population and Building Exposure Structural Fire | | | | | | | | | |
|---|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 27 | 878,204 | 47 | 5 | 100,137 | -- | 0 | 0 | -- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 94% of homes in Promise City were built prior to 1970 and 70% of homes were built prior to 1939 when this community flourished in the early 1900’s.

Promise City Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | North edge of town | X | | | | | | \$175,000 | | |
| City Hall/community center | 112 Main St | X | | | X | | | \$200,000 | \$30,000 | |
| Post Office | 1 st & Main St | X | | | X | | | \$19,000 | | |

Promise City – Fixed Hazardous Materials Estimated loss in Promise City due to Fixed Hazardous Materials:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|---------|--------|------------|-------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Promise City | 22 | 722,079 | 39 | 0 | 0 | -- | 0 | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff's Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. There is approximately 2 businesses in Promise City that could have fixed hazardous materials.

Seymour – Flash Flooding Estimated loss in Seymour due to Flash Flooding:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 331 | 83 | 25% | \$11,664,646 | \$2,916,162 | 25% | | | 100% |
| Commercial | 80 | 20 | 25% | \$1,961,280 | \$490,320 | 25% | | | 100% |
| Industrial | 5 | 0 | - | \$483,326 | 0 | - | - | - | - |
| Agricultural | 6 | 0 | - | \$1,142,762 | 0 | - | - | - | - |
| Religious / Non-profit | | | | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

As flash floods can happen anywhere at any time (FEMA), the entire county could be considered a hazard area. However, properties located in floodplains are at higher risk than those on high ground. The major low areas in Wayne County predominately lie in the rural region. The

communities of Seymour and Humeston have all had limited experiences with flash flooding. The eastern portion of Seymour has had flash flooding incidents due to poor drainage. The City does intent to apply for state assistance in the next year to repair the storm/sewer drainage system. Humeston also has past experience of flash flooding due to storm drainage issues that affected the school building and MFA (MISSOURI FARMER’S ASSOCIATION).

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| S Lift Station | Southlawn Cemetary | X | | | | | | 100,000 | 1,000 | |
| Lagoon | J46 | X | | | | | | 130,000 | 2500 | |
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Sink Holes Estimated loss in Seymour due to Sink Holes:

| Maximum Population and Building Exposure Sink Holes | | | | | | | | | |
|--|-------------|-------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 166 | \$5,832,323 | 405 | 40 | \$980,640 | -- | 2 | \$241,663 | -- |
| | | | | | | | | | |

Due to poorly mapped conditions, we can only estimate the locations of the abandon mines. The participating jurisdictions know of estimated shafts but do not have precise mapped locations. This plan includes proposed mitigation actions to include research and improved mapping locations

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| N. Lift station | 625 N 5th | X | | | | | | 120,000 | 1,000 | |
| S Lift Station | Southlawn Cemetary | X | | | | | | 100,000 | 1,000 | |
| Lagoon | J46 | X | | | | | | 130,000 | 2500 | |
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| Casey's | 500 W Main | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Radon/Lead Estimated loss in Seymour due to Radon/Lead:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|--------------|--------|------------|-------------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour(91%) | 301 | \$10,614,828 | 737 | 73 | \$1,784,765 | -- | 4 | \$449,493 | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 91% of the residence in the rural region of Wayne County date prior to 1978 and this places them at a higher risk of containing Lead.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Rail Transportation Incident Estimated loss in Seymour due to Rail Transportation Incident:

| Maximum Population and Building Exposure Rail Transportation Incident | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 83 | 2,916,162 | 202 | 20 | 490,320 | -- | 1 | 120,831 | -- |

Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are shown in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. There are numerous crossings present the opportunity for train-vehicle or pedestrian accidents. Derailments are also possible, while major derailments are less likely.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------------------|----------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| No critical facilities affected | | | | | | | | | | |

Seymour – Transportation of Hazardous Materials Estimated loss in Seymour due to Transportation of Hazardous Materials:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 331 | 331 | 100% | \$11,664,646 | \$11,664,646 | 100% | | | 100% |
| Commercial | 80 | 80 | 100% | \$1,961,280 | \$1,961,280 | 100% | | | 100% |
| Industrial | 5 | 5 | - | \$483,326 | \$483,326 | - | - | - | - |
| Agricultural | 6 | 6 | - | \$1,142,762 | \$1,142,762 | - | - | - | - |
| Religious / Non-profit | | | | | | | | | |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| Casey's | 500 W Main | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Grass or Wildfire Estimated loss in Seymour due to Grass or Wildfire Incident:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 83 | \$2,916,162 | 203 | 20 | \$490,320 | -- | 1 | \$120,832 | -- |

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------|--------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| N. Lift station | 625 N 5th | X | | | | | | 120,000 | 1,000 | |
| S Lift Station | Southlawn Cemetary | X | | | | | | 100,000 | 1,000 | |
| Lagoon | J46 | X | | | | | | 130,000 | 2500 | |
| | | | | | | | | | | |

Seymour – Transportation of Radiological Materials Estimated loss in Seymour due to Transportation of Radiological Materials:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 83 | 2,916,162 | 202 | 20 | 490,320 | -- | 1 | 120,831 | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| Casey's | 500 W Main | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Structural Failure Estimated loss in Seymour due to Structural Failure:

| Maximum Population and Building Exposure | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|---------|--------|
| Structural Failure | | | | | | | | | |
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 149 | 5,249,091 | 365 | 36 | 882,576 | -- | 2 | 217,497 | -- |

There are many buildings in the County that are very old (built prior to 1940) which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Fixed Hazardous Materials Estimated loss in Seymour due to Fixed Hazardous Materials:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|-----------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 122 | 4,315,919 | 300 | 1 | 19,613 | -- | NA | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff's Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. Seymour 4 gas stations or businesses in the city limits that could have Fixed Hazardous Materials.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------|---------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| Casey's | 500 W Main | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Structural Fire Estimated loss in Seymour due to Structural Fire:

| Maximum Population and Building Exposure Structural Fire | | | | | | | | | |
|---|-------------|-----------|--------|------------|---------|--------|------------|---------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 149 | 5,249,091 | 365 | 36 | 882,576 | -- | 2 | 217,497 | -- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 81% of homes in Seymour were built prior to 1970 and 55% of homes were built prior to 1939 when this community flourished in the early 1900's.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--------------------------|-----------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| N. Lift station | 625 N 5th | X | | | | | | 120,000 | 1,000 | |
| S Lift Station | Southlawn Cemetary | X | | | | | | 100,000 | 1,000 | |
| Lagoon | J46 | X | | | | | | 130,000 | 2500 | |
| Community center | 135 N 5th | | | | X | | | \$218,570 | 42,000 | |
| Library/ City Hall | 121 N 5th | X | | | X | | | \$764,996 | 223,500 | |
| Street Maint Bldg | 522 West Wall | | | | X | | | 91,071 | 122,877 | |
| Water Plant | 118 N 6 th | X | | | | | | 218,570 | 53,905 | |
| Fire Dept | 105 N 5 th | X | | | | | | 182,142 | 402,785 | |
| Seymour Community School | 100 S Park Ave | | X | X | X | | | | | |
| Continental Care Center | 400 E South St | | X | X | X | | | | | |
| Seymour Medical Clinic | 515 W Wall St | X | | X | | X | | | | |
| Mikes Food Mart | 400 W Main St | | | X | | | | | | |
| Casey's | 500 W Main | | | X | | | | | | |
| | | | | | | | | | | |

Seymour – Dam Failure Estimated loss in Seymour due to Dam Failure:

| Maximum Population and Building Exposure Dam Failure | | | | | | | | | |
|---|-------------|-----------|--------|------------|-------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Seymour | 6 | \$233,293 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |

The 2007 State of Iowa Hazard Mitigation Plan indicates that there are four “Significant Hazard Dams” in Wayne County. A “Significant Hazard Dam” in the State of Iowa Mitigation plan is determined if it’s located in an area where failure may dam failure may damage isolated homes or cabins, industrial/commercial buildings, moderately traveled roads or railroads, interrupts major utility services, but without substantial risk of loss of human life. In addition, structures where the dam and its impoundment are of themselves of public importance, such as dams associated with public water supply systems, public recreation, etc. There are 45 low hazard dams identified throughout the county, but primary damage would occur to the unincorporated region of the county. A Low Hazard dam is defined if it is located in an area where damages from a failure would be limited to loss of the dam, loss of livestock, damages to farm outbuildings, agricultural lands and lesser used roads and where loss of human life is considered unlikely. Maximum risk would be to the roadways and bridges throughout the county. For example, a breach of Seymour Lake would release water to a rural region of the county. A larger concern would be the impact that could occur to highway S60, a few rural homes and a possibly a couple homes on the edge of the city limits.

Seymour Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------------------|----------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| No Critical facilities affected | | | | | | | | | | |
| | | | | | | | | | | |

Allerton – Radon/Lead Estimated loss in Allerton:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton(94%) | 218 | \$6,736,403 | 525 | 38 | \$877,988 | -- | 0 | -- | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 94% of the residence in Allerton date prior to 1978 and this places them at a higher risk of containing Lead.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Allerton – Rail Transportation Incident Estimated loss in Allerton:

| Maximum Population and Building Exposure Rail Transportation Incident | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 58 | 1,791,597 | 140 | 10 | 233,508 | -- | -- | -- | -- |

Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. There are numerous crossings present the opportunity for train-vehicle or pedestrian accidents.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| Nelson's Round Barn | | | | X | | X | | | | |
| Allerton Head Start | 204 W Oak | | X | X | X | | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Allerton – Pipeline Incident Estimated loss in Allerton:

| Maximum Population and Building Exposure Pipeline Incident | | | | | | | | | |
|---|-------------|-----------|--------|------------|----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 12 | \$358,319 | 28 | 2 | \$46,702 | -- | 0 | -- | -- |

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| Nelson's Round Barn | | | | X | | X | | | | |

| | | | | | | | | | |
|---------------------|--------------|---|---|---|---|--|--|--|--|
| Allerton Head Start | 204 W Oak | | X | X | X | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | |
| | | | | | | | | | |

Allerton – Transportation of Hazardous Materials Estimated loss in Allerton:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 232 | 232 | 100% | \$7,166,386 | \$7,166,386 | 100% | | | 100% |
| Commercial | 40 | 40 | 100% | \$934,030 | \$934,030 | 100% | | | 100% |
| Industrial | 23 | 23 | - | \$3,541,259 | \$3,541,259 | - | - | - | - |
| Agricultural | 4 | 4 | - | \$375,723 | \$375,723 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | 100% | | | 100% | | | 100% |
| Education | | | 100% | | | 100% | | | 100% |
| Utilities | - | - | - | - | - | - | - | - | - |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| Nelson’s Round Barn | | | | X | | X | | | | |
| Allerton Head Start | 204 W Oak | | X | X | X | | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Allerton – Transportation of Radiological Materials Estimated loss in Allerton:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 58 | 1,791,597 | 140 | 10 | 233,508 | -- | -- | -- | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| Nelson’s Round Barn | | | | X | | X | | | | |
| Allerton Head Start | 204 W Oak | | X | X | X | | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Allerton – Fixed Hazardous Materials Estimated loss in Allerton:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|-----------|--------|------------|-------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 86 | 2,651,563 | 207 | 1 | 9,340 | -- | NA | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff's Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. There is only one location that is identified as having Fixed Hazardous Materials in Allerton.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------|--------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Allerton – Structural Failure Estimated loss in Allerton:

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 104 | 3,224,874 | 252 | 18 | 420,313 | -- | 10 | 1,593,567 | --- |

There are many buildings in the County that are very old (built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Nelson's Round Barn | | | | X | | X | | | | |
| Allerton Head Start | 204 W Oak | | X | X | X | | | | | |
| | | | | | | | | | | |

Allerton – Structural Fire Estimated loss in Allerton:

| Maximum Population and Building Exposure Structural Fire | | | | | | | | | |
|---|-------------|-----------|--------|------------|---------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 104 | 3,224,874 | 252 | 18 | 420,313 | -- | 10 | 1,593,567 | --- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 94% of homes in Wayne County were built prior to 1970 and 48% of homes were built prior to 1939 when this community flourished in the early 1900's.

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Nelson's Round Barn | | | | X | | X | | | | |
| Allerton Head Start | 204 W Oak | | X | X | X | | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Allerton – Grass or Wildfire Estimated loss in Allerton:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-----------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Allerton | 58 | \$1,791,597 | 140 | 10 | \$233,508 | -- | 6 | \$885,315 | -- |

Allerton Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | | X | | | | | | | | |
| City Hall/community center | Central Ave | X | | X | X | | | | | |
| Ambulance garage/city shop | | X | | | X | | | | | |
| Post Office | 108 N Central | X | | X | | | | | | |
| Gas Station | 2716 Hwy S26 | | | X | X | | | | | |
| Sewer Lagoon | | X | | | | | | | | |
| Nelson’s Round Barn | | | | X | | X | | | | |
| Allerton Head Start | 204 W Oak | | X | X | X | | | | | |
| Fast Stop | 2716 Hwy S26 | X | | X | | | | | | |
| | | | | | | | | | | |

Clio – Fixed Hazardous Material Estimated loss in Clio:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|---------|--------|------------|-------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 15 | 356,997 | 34 | 1 | 7,238 | -- | 0 | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff’s Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. It is estimated that there are 2 locations in Clio that could have Fixed Hazardous Materials.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|--------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Structural Failure Estimated loss in Clio :

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 18 | 434,186 | 41 | 16 | 162,853 | -- | 0 | 0 | -- |

There are many buildings in the County that are very old (built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Structural Fire Estimated loss in Clio:

| Maximum Population and Building Exposure | | | | | | | | | |
|--|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Structural Fire | | | | | | | | | |
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 18 | 434,186 | 41 | 16 | 162,853 | -- | 0 | 0 | -- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 94% of homes in Wayne County were built prior to 1970 and 78% of homes were built prior to 1939 when this community flourished in the early 1900's.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Radon/Lead Estimated loss in Clio:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio(94%) | 38 | \$906,965 | 86 | 34 | \$340,182 | -- | 0 | -- | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 94% of the residence in Clio date prior to 1978 and this places them at a higher risk of containing Lead.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etprs | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Rail Transportation Incident Estimated loss in Clio:

| Maximum Population and Building Exposure Rail Transportation Incident | | | | | | | | | |
|--|-------------|---------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 10 | 241,214 | 23 | 9 | 90,474 | -- | -- | -- | -- |

Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. Business along the rail line that could potentially affected are listed below.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Transportation of Hazardous Materials Estimated loss in Clio:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|------------------|------------------|---------------------|-------------------|------------------|------------------|------------------|------------------|
| | # in City | # in Hazard Area | % in Hazard Area | \$ in City | \$ in Hazard Area | % in Hazard Area | # in City | # in Hazard Area | % in Hazard Area |
| Residential | 40 | | 100% | \$964,857 | \$964,857 | 100% | | | 100% |
| Commercial | 36 | | 100% | \$361,896 | \$361,896 | 100% | | | 100% |
| Industrial | 0 | | - | \$0 | \$0 | - | - | - | - |
| Agricultural | 3 | | - | \$346,881 | \$346,881 | - | - | - | - |
| Religious / Non-profit | | | 100% | | | | | | |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | - | - | - | - | - | - |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Grass or Wildfire Estimated loss in Clio:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|----------|--------|------------|----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 10 | \$90,474 | 23 | 9 | \$90,474 | -- | 0 | -- | -- |

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Transportation of Radiological Materials Estimated loss in Clio:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|---------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 10 | 241,214 | 23 | 9 | 90,474 | -- | -- | -- | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Clio – Pipeline Incident Estimated loss in Clio:

| Maximum Population and Building Exposure Pipeline Incident | | | | | | | | | |
|---|-------------|---------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Clio | 4 | \$96485 | 9 | 4 | \$36189 | -- | 0 | -- | -- |

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

Clio Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------|---------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| City Hall | 414 Main St | X | | X | | | | \$20,000 | \$6,000 | |
| Motor Grader shed | 414 Main st | | | | X | | | \$20,000 | \$10,000 | |
| Clio Gym | 800 school st | | | | X | | | | | |
| Clio Hardware | 411 Main St | X | | X | | | | | | |
| Ewing Etrps | 605 Depot St | | | X | X | | | | | |
| Jackson Mobil | 602 Central | | | X | X | | | | | |
| First Stop | 400 Central | X | | X | X | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Lineville – Fixed Hazardous Materials Estimated loss in Lineville:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 47 | 1,770,621 | 101 | 3 | 113,939 | -- | 0 | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff's Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. There are 3 possible locations that could experience a Fixed Hazardous Materials event.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---------------------|----------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Structural Failure Estimated loss in Lineville:

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 58 | 2,153,458 | 123 | 11 | 427,272 | -- | 0 | 0 | -- |

There are many buildings in the County that are very old (built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Water Pump house | Washington St | X | | | | | | \$100,000 | \$50,000 | |
| Water tower | Brimm St | X | | | | | | \$200,000 | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |

Lineville – Structural Fire Estimated loss in Lineville:

| Maximum Population and Building Exposure Structural Fire | | | | | | | | | |
|---|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 58 | 2,153,458 | 123 | 11 | 427,272 | -- | 0 | 0 | -- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 86% of homes in Lineville were built prior to 1970 and 38% of homes were built prior to 1939 when this community flourished in the early 1900's.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Water Pump house | Washington St | X | | | | | | \$100,000 | \$50,000 | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Radon/lead Estimated loss in Lineville:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville(86%) | 110 | \$4,115,598 | 235 | 22 | \$816,564 | -- | 0 | -- | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 86% of the residence in Lineville date prior to 1978 and this places them at a higher risk of containing Lead.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|------------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/com-munity center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Water Pump house | Washington St | X | | | | | | \$100,000 | \$50,000 | |
| Water tower | Brimm St | X | | | | | | \$200,000 | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Rail Transportation Incident Estimated loss in Lineville:

| Maximum Population and Building Exposure Rail Transportation Incident | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 32 | 1,196,366 | 68 | 6 | 237,373 | -- | -- | -- | -- |

Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|-------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/com-munity center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown | X | | | X | | | | | |

| | | | | | | | | | |
|--------------------------|------------------------|---|---|---|---|---|--|-----------|----------|
| | St | | | | | | | | |
| Water Pump house | Washington St | X | | | | | | \$100,000 | \$50,000 |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | |
| Pleasant Hill School | | | | X | | X | | | |
| Senior Center | 213 Main St | | X | X | X | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | |

Lineville – Pipeline Incident Estimated loss in Lineville:

| Maximum Population and Building Exposure Pipeline Incident | | | | | | | | | |
|---|-------------|----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 13 | \$478546 | 27 | 3 | \$94949 | -- | 0 | -- | -- |

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/com-munity center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Highway Transportation Incident Estimated loss in Lineville:

| Maximum Population and Building Exposure Highway Transportation Incident | | | | | | | | | |
|---|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 51 | 1,914,185 | 109 | 10 | 1,044,670 | -- | 0 | 0 | -- |

The county has three state highways that are identified in the county. Highway 65 transports traffic north and south and goes through the communities of Lineville and Humeston. This places approximately 95% of business buildings and 50% residential structures in Lineville. Also, More than 23% of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/com-munity center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian’s Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Transportation of Hazardous Materials Estimated loss in Lineville:

| Maximum Population and Building Exposure Transportation of Hazardous Materials | | | | | | | | | |
|---|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 51 | 1,914,185 | 109 | 10 | 1,044,670 | -- | 0 | 0 | -- |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the

communities of Lineville and Humeston. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line.

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Transportation of Radiological Materials Estimated loss in Lineville:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 32 | 1,196,366 | 68 | 6 | 237,373 | -- | -- | -- | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|-------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |

| | | | | | | | | | | |
|----------------------------|------------------------|---|---|---|---|---|--|----------|----------|--|
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Lineville – Grass or Wildfire Estimated loss in Lineville:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Lineville | 32 | \$1,196,616 | 68 | 6 | \$237,374 | -- | 0 | -- | -- |

Lineville Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|-------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------------|---------------|-----------------------|
| Lift station | West 3 rd St | X | | | | | | \$45,000 (with Content) | | |
| City Hall/com-munity center | 111 Main St | X | | | X | | | \$118,967 | \$17,000 | |
| Ambulance garage/Fire Dept | 207 Main St | X | | | | | | \$50,246 | \$25,000 | |
| Post Office | 220 Brown St | X | | | X | | | | | |
| Sewer Lagoon | East Line St | X | | | | | | \$500,000 | \$2,000 | |
| Water Pump house | Washington St | X | | | | | | \$100,000 | \$50,000 | |
| Water tower | Brimm St | X | | | | | | \$200,000 | | |
| Lineville-Clio School | 6 th Street | | X | X | X | | | | | |
| Pleasant Hill School | | | | X | | X | | | | |
| Senior Center | 213 Main St | | X | X | X | | | | | |
| Lineville Medical Clinic | 101 Main St | X | | X | | | | | | |
| MFA | Hwy 65 N | | | X | X | | | | | |
| Brian's Farm Supply | 700 Washington | | | X | X | | | | | |
| Ag Storage Building | Hwy 65 | | | X | X | | | | | |

Humeston – Radon/Lead Estimated loss in Humeston:

| Maximum Population and Building Exposure Radon or Lead | | | | | | | | | |
|---|-------------|--------------|--------|------------|-------------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston(91%) | 220 | \$10,805,563 | 494 | 118 | \$2,376,625 | -- | 0 | -- | -- |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 90% of the residence in Humeston date prior to 1978 and this places them at a higher risk of containing Lead.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

**Blanket Insurance for \$1,988,023

Humeston – Pipeline Incident Estimated loss in Humeston:

| Maximum Population and Building Exposure Pipeline Incident | | | | | | | | | |
|---|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 12 | \$593,713 | 27 | 7 | \$130,584 | -- | 0 | -- | -- |

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable | Economic Asset | Special Consideration | Historic / Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|------------|----------------|-----------------------|------------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

**Blanket Insurance for \$1,988,023

Humeston – Highway Transportation Incident Estimated loss in Humeston:

| Maximum Population and Building Exposure Highway Transportation Incident | | | | | | | | | |
|---|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 97 | 4,749,698 | 217 | 52 | 379,798 | -- | 0 | 0 | -- |

The county has three state highways that are identified in the county. Highway 65 transports traffic north and south and goes through the communities of Lineville and Humeston. Humeston would have approximately 50% of businesses and 30% of residential homes in each community at risk of being in a Highway Transportation Incident because they are within 100 yards of the roadway. . Also, More than 23% of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Transportation of Hazardous Materials Estimated loss in Humeston:

| Maximum Population and Building Exposure Transportation of Hazardous Materials | | | | | | | | | |
|---|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 97 | 4,749,698 | 217 | 52 | 379,798 | -- | 0 | 0 | -- |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Grass or Wildfire Estimated loss in Humeston:

| Maximum Population and Building Exposure Grass or Wildfire | | | | | | | | | |
|---|-------------|-------------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 61 | \$2,968,562 | 136 | 33 | \$652,919 | -- | 0 | -- | -- |

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|---------------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| Lift station | 6 th & Blevens | X | | | | | | | | |
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Sewer Lagoon | North of town | X | | | | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Transportation of Radiological Materials Estimated loss in Humeston:

| Maximum Population and Building Exposure Transportation of Radiological Materials | | | | | | | | | |
|--|-------------|-----------|--------|------------|---------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 61 | 2,968,562 | 136 | 33 | 652,919 | -- | 0 | -- | -- |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Structural Failure Estimated loss in Humeston:

| Maximum Population and Building Exposure Structural Failure | | | | | | | | | |
|--|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 109 | 5,343,411 | 244 | 59 | 1,175,254 | -- | 0 | 0 | -- |

There are many buildings in the County that are very old (built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad St | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Flash Flooding Estimated loss in Humeston:

| Maximum Population and Building Exposure Flash Flooding | | | | | | | | | |
|--|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 12 | \$593,713 | 27 | 7 | \$130,584 | -- | 0 | -- | -- |

As flash floods can happen anywhere at any time (FEMA), the entire county could be considered a hazard area. However, properties located in floodplains are at higher risk than those on high ground. The major low areas in Wayne County predominately lie in the rural region. The communities of Seymour and Humeston have all had limited experiences with flash flooding. Humeston also has past experience of flash flooding due to storm drainage issues that affected the school building and MFA (MISSOURI FARMER'S ASSOCIATION).

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Fixed Hazardous Materials Estimated loss in Humeston:

| Maximum Population and Building Exposure Fixed Hazardous Materials | | | | | | | | | |
|---|-------------|-----------|--------|------------|--------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 90 | 4,393,471 | 201 | 3 | 52,234 | -- | 0 | -- | -- |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff’s Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County. There are 3 gas stations or businesses in the city limits of Humeston that could experience a Fixed Hazardous Materials event.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---|----------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| No Critical Facilities identified at risk | | | | | | | | | | |

****Blanket Insurance for \$1,988,023**

Humeston – Structural Fire Estimated loss in Humeston:

| Maximum Population and Building Exposure Structural Fire | | | | | | | | | |
|---|-------------|-----------|--------|------------|-----------|--------|------------|-------|--------|
| Community | Residential | | | Commercial | | | Industrial | | |
| | Structures | | People | Structures | | People | Structures | | People |
| | Number | Value | Number | Number | Value | Number | Number | Value | Number |
| Humeston | 109 | 5,343,411 | 244 | 59 | 1,175,254 | -- | 0 | 0 | -- |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 90% of homes in Humeston were built prior to 1970 and 41% of homes were built prior to 1939 when this community flourished in the early 1900’s.

Humeston Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|----------------------------|------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| City Hall/community center | 422 N Eaton Ave. | X | | | X | | | | | |
| Fire & First Responders | 228 Broad | X | | | X | | | | | |

| | | | | | | | | | |
|--------|-----------------|--|--|--|--|---|--|--|--|
| | St | | | | | | | | |
| Museum | 422 N Eaton Ave | | | | | X | | | |

****Blanket Insurance for \$1,988,023**

UNINCORPORATED COUNTY AREA – Flash Flooding Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 128 | 10% | \$111,122,335 | \$11,112,233 | 10% | 2710 | 271 | 10% |
| Commercial | 575 | 58 | 10% | \$16,408,064 | \$1,640,806 | 10% | -- | -- | -- |
| Industrial | 69 | 7 | 10% | \$8,899,415 | \$889,941 | 10% | -- | -- | -- |
| Agricultural | 844 | 84 | 10% | \$236,256,140 | \$23,225,614 | 10% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | 10% | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

As flash floods can happen anywhere at any time (FEMA), the entire county could be considered a hazard area. However, properties located in floodplains are at higher risk than those on high ground. The major low areas in Wayne County predominately lie in the rural region. There are two locations (180th & 200th roads) near the Chariton River that are more susceptible and damage has occurred to the secondary roadways. One additional rural area just east of Promise City has an area that experiences flash flooding. This area suffers from poor drainage due to the small drainage tube. Past experiences have seen water flooding over Highway 2. The communities of Seymour and Humeston have all had limited experiences with flash flooding. The eastern portion of Seymour has had flash flooding incidents due to poor drainage. The City does intent to apply for state assistance in the next year to repair the storm/sewer drainage system. Humeston also has past experience of flash flooding due to storm drainage issues that affected the school building and MFA (MISSOURI FARMER’S ASSOCIATION).

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations | Scattered | X | | | X | | | | | |

| | | | | | | | | | |
|------------------------|-----------------|---|--|--|---|--|--|--|--|
| (3) | sites | | | | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | |
| | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Sink Holes Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 193 | 15% | \$111,122,335 | \$16,668,350 | 15% | 2710 | 407 | % |
| Commercial | 575 | 6 | 15% | \$16,408,064 | \$164,081 | 15% | -- | -- | -- |
| Industrial | 69 | 0 | 15% | \$8,899,415 | 0 | 15% | -- | -- | -- |
| Agricultural | 844 | 127 | 15% | \$236,256,140 | 34,838,421 | 15% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | 15% | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

Due to poorly mapped conditions, we can only estimate the locations of the abandon mines. The participating jurisdictions know of estimated shafts but do not have precise mapped locations. This plan includes proposed mitigation actions to include research and improved mapping locations

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Radon Lead Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 767 | 60% | \$111,122,335 | \$66,673,401 | 60% | 2710 | 1626 | 60% |
| Commercial | 575 | 345 | 60% | \$16,408,064 | \$9,844,838 | 60% | -- | -- | -- |
| Industrial | 69 | 41 | 60% | \$8,899,415 | \$5,339,649 | 60% | -- | -- | -- |
| Agricultural | 844 | 506 | 60% | \$236,256,140 | \$141,753,684 | 60% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

It is estimated that up to 15% to 20% of homes in Wayne County have elevated levels of Radon. Approximately 767 (60%) of the residence in the rural region of Wayne County date prior to 1978 and this places them at a higher risk of containing Lead.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Rail Transportation Incident Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|-------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 321 | 25% | \$111,122,335 | \$27,780,584 | 25% | 2710 | 678 | 25% |
| Commercial | 575 | 144 | 25% | \$16,408,064 | \$4,102,016 | 25% | -- | -- | -- |
| Industrial | 69 | 17 | 25% | \$8,899,415 | \$2,224,854 | 25% | -- | -- | -- |
| Agricultural | 844 | 211 | 25% | \$236,256,140 | \$59,064,035 | 25% | -- | -- | -- |

| | | | | | | | | | |
|------------------------|---|---|---|--------------|--|--|----|----|----|
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | | - | - | - |

Multiple rail lines in the unincorporated region of Wayne County place many at risk in the event of a rail transportation incident and the maximum population and building exposures are show in the table below. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. There are numerous crossings present the opportunity for train-vehicle or pedestrian accidents. Derailments are also possible, while major derailments are less likely.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Pipeline Incident Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 84 | 6% | \$111,122,335 | \$6,667,340 | 6% | 2710 | 163 | |
| Commercial | 575 | 35 | 6% | \$16,408,064 | \$984,484 | 6% | -- | -- | -- |
| Industrial | 69 | 8 | 6% | \$8,899,415 | \$533,965 | 6% | -- | -- | -- |
| Agricultural | 844 | 51 | 6% | \$236,256,140 | \$14,175,368 | 6% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |

The largest threat of an event would be the booster station located near Lineville. This natural gas station has the potential to create a large disaster should an explosion occur. This pipeline does continue at a northeast angle to the edge of the communities of Clio, Allerton and Corydon.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Highway Transportation Incident

Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 64 | 5% | \$111,122,335 | \$5,556,117 | 5% | 2710 | 136 | 5% |
| Commercial | 575 | 29 | 5% | \$16,408,064 | \$820,403 | 5% | -- | -- | -- |
| Industrial | 69 | 3 | 5% | \$8,899,415 | \$444,971 | 5% | -- | -- | -- |
| Agricultural | 844 | 42 | 5% | \$236,256,140 | \$11,812,807 | 5% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

The county has three state highways that are identified in the county. Highway 65 transports traffic north and south and goes through the communities of Lineville and Humeston. This places approximately 95% of business buildings and 50% residential structures in Lineville. Humeston would have approximately 50% of businesses and 30% of residential homes in each community at risk of being in a Highway Transportation Incident because they are within 100 yards of the roadway. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. Highway 2 intersects the center of Promise City and places 50% of homes and businesses at risk. The City of Corydon has two major highways that pass through the center of the city. Highway 2 passes on the south side of the Wayne County Courthouse and on the community’s business square district. Iowa State highway 14 offers travel north from Corydon and into Lucas County. This highway spurs off the north side of the business square. The combination of the two highways in the city of Corydon places approximately 85% of businesses and 45% of private residential structures at risk. Also, More than 23%

of the serious accidents in Wayne County have occurred at intersections between 2004 and 2008. During that time, 28% of the accidents had be speed related.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Transportation of Hazardous Materials

Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 578 | 45% | \$111,122,335 | \$50,005,051 | 45% | 2710 | 1220 | 45% |
| Commercial | 575 | 259 | 45% | \$16,408,064 | \$7,383,629 | 45% | -- | -- | -- |
| Industrial | 69 | 31 | 45% | \$8,899,415 | \$4,004,737 | 45% | -- | -- | -- |
| Agricultural | 844 | 380 | 45% | \$236,256,140 | \$106,315,263 | 45% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

The transportation of Hazardous Materials is common in a rural area due to critical farming chemicals. This creates the potential of an incident of hazardous materials in transportation on any state highway or gravel road. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through

the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Transportation of Radiological Materials

Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 321 | 25% | \$111,122,335 | \$27,780,584 | 25% | 2710 | 678 | 25% |
| Commercial | 575 | 144 | 25% | \$16,408,064 | \$4,102,016 | 25% | -- | -- | |
| Industrial | 69 | 17 | 25% | \$8,899,415 | \$2,224,854 | 25% | -- | -- | |
| Agricultural | 844 | 211 | 25% | \$236,256,140 | \$59,064,035 | 25% | -- | -- | |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

Radiological materials could be transported by rail line or state highways in Wayne County. The county has three state highways that are identified in the county. Highway 65 transports traffic north and south across the county and go through the communities of Lineville and Humeston. Highway 2 extends east and west through Wayne County and enters the city limits of Corydon and Promise City. State highway 14 offers travel north from Corydon and into Lucas County. Additional risks of transportation of radiological material can occur along the rail lines in Wayne County. There are three railroad companies that operate lines in Wayne County: CRIP, UP, AND ICE. The CRIP rail line offers

service on two lines that extend out of Allerton to the east and the other to the north. UP has the connecting rail lines that continue service south through the communities of Clio and Lineville at the Iowa/Missouri state line. UP also controls the rail line through the city of Corydon and extends north through Millerton. ICE railroad operates a rail line that continues from Appanoose County into the southeast corner Wayne County. This line dissects the community of Seymour and continues into Missouri southwest of this city. It is estimated that only the north half of each location (that closest the roadway) would be affected.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Fixed Hazardous Materials Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 128 | 10% | \$111,122,335 | \$11,112,233 | 10% | 2710 | 271 | 10% |
| Commercial | 575 | 58 | 10% | \$16,408,064 | \$1,640,806 | 10% | -- | -- | -- |
| Industrial | 69 | 7 | 10% | \$8,899,415 | \$889,941 | 10% | -- | -- | -- |
| Agricultural | 844 | 84 | 10% | \$236,256,140 | \$23,225,614 | 10% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

There has been 6 meth lab discoveries in Wayne County in the last two years according to the Wayne County Sheriff’s Office. The manufacturing plants, automobile repair, and gas stations are potential sites for hazardous materials incidents in Wayne County.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/ Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|-----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Structural Failure Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 578 | 45% | \$111,122,335 | \$50,005,051 | 45% | 2710 | 1220 | 45% |
| Commercial | 575 | 259 | 45% | \$16,408,064 | \$7,383,629 | 45% | -- | -- | -- |
| Industrial | 69 | 31 | 45% | \$8,899,415 | \$4,004,737 | 45% | -- | -- | -- |
| Agricultural | 844 | 380 | 45% | \$236,256,140 | \$106,315,263 | 45% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

There are many buildings in the County that are very old (built prior to 1940) or which may become hazardous in the event of an earthquake, fire, high winds, or other natural events. All bridges are vulnerable to the effects of the elements and the deterioration that results. Increases in the amount and weight of traffic they are expected to support increase their vulnerability to failure. When secondary roads are compromised by weather events (especially significant wet weather leaving gravel roads too soft to carry traffic), farm machinery use other routes which may include bridges not sufficiently capable of carrying the loads.

All participating jurisdictions used vitrified clay tile to construct waste water and storm sewer drains when the communities were developed in the mid to late 1800's. Many of these drainage systems in this area are deteriorating and crumbling and leaving communities in desperation.

According to the temporary Wayne County Engineer, "Wayne County has 153 bridges that we inspect (20 feet span or longer). Our bridge inspection consultant also rates our bridges for projected remaining life. They indicate we have 48 that have a sufficiency rating of 50 or less and that can indicate 5 or less years remaining life.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Structural Fire Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 321 | 25% | \$111,122,335 | \$27,780,584 | 25% | 2710 | 678 | 25% |
| Commercial | 575 | 144 | 25% | \$16,408,064 | \$4,102,016 | 25% | -- | -- | -- |
| Industrial | 69 | 17 | 25% | \$8,899,415 | \$2,224,854 | 25% | -- | -- | -- |
| Agricultural | 844 | 211 | 25% | \$236,256,140 | \$59,064,035 | 25% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | | - | - | - |

The age of structures in the City may make them at more risk of fires due to faulty or substandard wiring and obsolete building methods. Older structures with outdated electrical systems not built to current fire codes are particularly vulnerable to fire. Approximately 74% of homes in Wayne County were built prior to 1970 and 48% of homes were built prior to 1939 when this community flourished in the early 1900's.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |

UNINCORPORATED COUNTY AREA – Grass/Wildfire Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 642 | 50% | \$111,122,335 | \$55,561,168 | 50% | 2710 | 1355 | 50% |
| Commercial | 575 | 288 | 50% | \$16,408,064 | \$8,204,032 | 50% | -- | -- | -- |
| Industrial | 69 | 35 | 50% | \$8,899,415 | \$4,447,708 | 50% | -- | -- | -- |
| Agricultural | 844 | 422 | 50% | \$236,256,140 | \$118,128,070 | 50% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | - | - | - | - |

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|-----------------------------|---------------------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| IDOT Buildings | Hwy 2 & 65 junction | X | | | X | | | | | |
| Electrical Sub-stations (3) | Scattered sites | X | | | X | | | | | |
| Rural Water Towers (5) | Scattered sites | X | | | X | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – River Flooding Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|-------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 64 | 5% | \$111,122,335 | \$5,556,116 | 5% | 2710 | 136 | 5% |
| Commercial | 575 | 29 | 5% | \$16,408,064 | \$820,403 | 5% | -- | -- | -- |
| Industrial | 69 | 3 | 5% | \$8,899,415 | \$444,770 | 5% | -- | -- | -- |
| Agricultural | 844 | 42 | 5% | \$236,256,140 | \$11,812,807 | 5% | -- | -- | -- |

| | | | | | | | | | |
|------------------------|---|---|---|--------------|--|--|----|----|----|
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | | - | - | - |

In river flooding events, the flood plains and flood zones are at the most risk, but this is not necessarily the case for flash floods as detailed previously. Seymour is the only one community in the county has a flood plain map and the flood zone boundary on each are only approximate as of when they were created. Additionally, several unincorporated communities are located close to or in low-lying areas around rivers or streams. Because boundaries of the unincorporated communities are not readily available, approximate area of these communities is not given. There are eight rivers and/or creeks that pass through the county that can create a situation of flooding.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---|----------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| No critical facilities identified at risk | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Dam Failure Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp Area | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 128 | 10% | \$111,122,335 | \$11,112,233 | 10% | 2710 | 271 | 10% |
| Commercial | 575 | 58 | 10% | \$16,408,064 | \$1,640,806 | 10% | -- | -- | -- |
| Industrial | 69 | 7 | 10% | \$8,899,415 | \$889,941 | 10% | -- | -- | -- |
| Agricultural | 844 | 84 | 10% | \$236,256,140 | \$23,225,614 | 10% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | | - | - | - |

The 2007 State of Iowa Hazard Mitigation Plan indicates that there are four “Significant Hazard Dams” in Wayne County. A “Significant Hazard Dam” in the State of Iowa Mitigation plan is determined if it’s located in an area where failure may dam failure may damage isolated homes or cabins, industrial/commercial buildings, moderately traveled roads or railroads, interrupts major utility services, but without substantial risk of loss of human life. In addition, structures where the dam and its impoundment are of themselves of public importance, such as dams associated with

public water supply systems, public recreation, etc. The most direct impact of a dam failure of Bobwhite Lake on Bobwhite State Park grounds would be one a section of the unincorporated region of Wayne County. The topography of the area the lake would dissipate the water. The only major structure at risk of damage would be a rural bridge located downstream. Other “significant” Hazard Dams include City of Corydon Lake, Lakeside Park near Humeston, and Medicine Creek Wildlife Area (located 5 miles east of Lineville). There would be limited significant damage from each of these sources as the drainage would occur in the rural region waterway. Primary damage would be to secondary roads and agricultural land. Limited damage would occur to roads and properties in the failure of Corydon Lake dam. Lakeside Park is located in the Unincorporated region near Humeston and would affect secondary roads and agriculture crops. Medicine Creek Wildlife area is a wetland east of Lineville that contains water as flood mitigations for that region. Should the dam systems fail around Medicine Creek agricultural fields would be inundated.

There are 45 low hazard dams identified throughout the county, but primary damage would occur to the unincorporated region of the county. A Low Hazard dam is defined if it is located in an area where damages from a failure would be limited to loss of the dam, loss of livestock, damages to farm outbuildings, agricultural lands and lesser used roads and where loss of human life is considered unlikely. Maximum risk would be to the roadways and bridges throughout the county. For example, a breach of Seymour Lake would release water to a rural region of the county. A larger concern would be the impact that could occur to highway S60, a few rural homes and a possibly a couple homes on the edge of the city limits.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|--|----------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| No critical facilities identified at risk – only rural roads & bridges | | | | | | | | | | |
| | | | | | | | | | | |

UNINCORPORATED COUNTY AREA – Air Transportation Incident Estimated loss in unincorporated area:

| Type of Structure | Number of Structures | | | Value of Structures | | | Number of People | | |
|-------------------|----------------------|--------------------|--------------------|---------------------|---------------------|--------------------|------------------|--------------------|--------------------|
| | # in Unincorp | # in Planning Area | % in Planning Area | \$ in Unincorp area | \$ in Planning Area | % in Planning Area | # in Unincorp | # in Planning Area | % in Planning Area |
| Residential | 1284 | 39 | 3% | \$111,122,335 | \$3,333,670 | 3% | 2710 | 81 | 3% |
| Commercial | 575 | 17 | 3% | \$16,408,064 | \$492,242 | 3% | -- | -- | -- |

| | | | | | | | | | |
|------------------------|-----|----|----|---------------|-------------|----|----|----|----|
| Industrial | 69 | 0 | 3% | \$8,899,415 | \$0 | 3% | -- | -- | -- |
| Agricultural | 844 | 25 | 3% | \$236,256,140 | \$7,087,684 | 3% | -- | -- | -- |
| Religious / Non-profit | | | | \$4,125,623 | | | -- | -- | -- |
| Government | | | | | | | | | |
| Education | | | | | | | | | |
| Utilities | - | - | - | \$32,978,172 | | | - | - | - |

There is not a “Basic Service Airport” nor “General Service Airport” as acknowledged by the National Plan of Integrated Airport System (NPIAS). There are approximately 4 privately owned airports throughout the Wayne County Region. One is northeast of Millerton about 3 miles, one is on the northeast edge of Corydon’s city limits, another is 7 miles east of Corydon along side Iowa State Highway 2, and the last one is located between Corydon and Allerton (approximately 1.5 miles northeast of Allerton). Wayne County Memorial Hospital also offers emergency flight service with the location of a helipad on grounds of the hospital at the southeast edge of Corydon. It is estimated 3% of the population could be affected in the county when a 3 mile radius is considered around each airport location.

Unincorporated Structural Inventory at Risk

| Name of Asset | Location | Critical Facility | Vulnerable population | Economic Asset | Special Consideration | Historic/Other | Size of Bldg | Replacement Value | Content Value | Occupancy or capacity |
|---|----------|-------------------|-----------------------|----------------|-----------------------|----------------|--------------|-------------------|---------------|-----------------------|
| No Critical facilities identified at risk other than the airport facility itself. | | | | | | | | | | |

8. Goals and Objectives

Once the Planning Committee had a sense for what threats face their jurisdictions based on research and prioritized hazards, the Committee considered what should be done. Three broad goals were decided on and then detailed with more specific objectives which can be measured by actions and projects designed to address them. Specific actions and projects are discussed in the next chapter along with alternatives discussed but set aside due to feasibility of completing them.

Goal 1: Protect critical facilities, infrastructure, and other community assets from the impacts of hazards

Objective 1.1 Seek mitigation projects that provide the highest degree of hazard protection at the least cost.

Objective 1.2 Strengthen partnerships and collaboration of jurisdictions, as well as, invite corporate partners, education systems, agencies and faith based representatives to participate in emergency planning and recovery.

Objective 1.3 Utilize public funds/grant opportunities to protect critical facilities, public services & transportation entities.

Goal 2: Protect the health, safety & quality of life for Wayne County residents by minimizing the vulnerability of people and property in Wayne County.

Objective 2.1 Ensure that property owners can maintain & improve their properties.

Objective 2.2 Ensure that disaster recovery can proceed promptly following a disaster.

Objective 2.3 Provide back-up energy supplies in all vital assets identified in this plan.

Objective 2.4 Promote improving zoning codes, building codes, nuisance abatement, and health codes, especially in relation to areas with older buildings.

Objective 2.5 Continued participation in NFIP

Objective 2.6 Review the protocol, education & necessary medications/interventions to deal with airborne & human transmitted hazards that directly deal with impact of health & life.

Goal 3: Reduce losses due to natural and man-made hazards.

Objective 3.1 Educate members of the county about hazards, how to be prepared, & shelter locations.

Objective 3.2 Review & upgrade warning systems and communications for sufficient coverage

Objective 3.3 Provide certified shelters/safe rooms

Objective 3.4 Provide adequate training, equipment and exercises to train responding emergency personnel.

Objective 3.5 Maintain current & create new planning and exercises related to any terrorism event.

Objective 3.6 Identify and map locations of accidents in an annual public report in order to determine locations where improvements are necessary.

9. ANALYSIS OF MITIGATION ACTIVITIES

Once a comprehensive and quantitative analysis of the hazards that actually do or may affect residents in Wayne County was completed, mitigation decision making becomes possible. This section takes the analysis of the hazards to address current activities that address hazard events, most of this is through emergency response, and then addresses options discussed by the planning committee to address hazards in other ways.

A. Current Mitigation Activities

Un-incorporated County

- Law Center (in Centerville) provides service to entire county
- Mobile communication trailer(s) located at Law Center; about 5-6 hours are needed to mobilize
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management; a copy of the plan is present in the Wayne County Supervisors' office.
- Tree trimming or management is currently handled by utility services provided throughout the county.
- Neighboring community of Centerville can provide emergency personnel that are certified in waterway rescue.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Corydon

- Fire Station has a storm warning system
- Law Center for City & county police in the city limits
- Sand or blade trucks are / can be used to clear paths for first responders in the event of road blockage (debris or heavy snow)
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.

- County-wide Emergency Operations Plan (EOP) is in place and maintained by ADLM Emergency Management; a copy of the plan is present in the Appanoose County Supervisors' office.
- Tree trimming or management is currently handled by utility services
- Fire fighters & emergency personnel have hand held radio.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Promise City

- Mobile communication trailer(s) located at Law Center; about 5-6 hours are needed to mobilize
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management; a copy of the plan is present in the Wayne County Supervisors' office.
- Tree trimming or management is currently handled to an extent by utility services
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Seymour

- Fire Station has a storm warning system
- Law Center for City & county police in the city limits
- Mobile communication trailer(s) located at Appanoose County Law Center; about 5-6 hours are needed to mobilize for neighboring counties.

- Sand or blade trucks are / can be used to clear paths for first responders in the event of road blockage (debris or heavy snow)
- Designated Red Cross shelters at the Community Center and Care Center (both have generators).
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management
- Weather radios were given to households in 2003
- The City participates in the National Flood Insurance Program (NFIP) with a Flood Insurance Rate Map dated 7/1/1987
- City ordinance requiring manufactured home tie-downs.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Allerton

- Fire Station has a storm warning system
- Mobile communication trailer(s) located at Law Center; about 5-6 hours are needed to mobilize
- Sand or blade trucks are / can be used to clear paths for first responders in the event of road blockage (debris or heavy snow)
- Designated Red cross shelters at the Civic Center.
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management; a copy of the plan is present in the Wayne County Supervisors' office.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators

- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Clio

- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management; a copy of the plan is present in the Wayne County Supervisors' office.
- Tree trimming or management is currently handled to an extent by utility services.
- Some residents have private weather radios.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Lineville

- Wayne County Law Enforcement Center has contact information for local fire fighters
- Sand or blade trucks are / can be used to clear paths for first responders in the event of road blockage (debris or heavy snow)
- Designated Red cross shelters at the Civic Center (No generator).
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management; a copy of the plan is present in the Wayne County Supervisors' office.
- Some citizens have weather radios and/or handheld radios.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.

- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Humeston

- Fire Station has a storm warning system active by members
- Law Center has contact information for firefighters
- Mobile communication trailer(s) located at the Law Center; about 5-6 hours are needed to mobilize for neighboring counties
- Sand or blade trucks are / can be used to clear paths for first responders in the event of road blockage (debris or heavy snow)
- In event of disaster, community meeting site is at community center and if it damaged to meet at the school.
- County-wide Emergency Operations Plan (EOP) is in place and maintained by Wayne County Emergency Management; a copy of the plan is present in the Wayne County Supervisors' office.
- EMT personnel & Fire Department have some water rescue equipment
- Fire Dept has trained storm spotters and equipment to assist with that
- Fire department members have handheld radios
- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- Enhanced 9-1-1 emergency calling system exists
- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Millerton

- 28E agreements in place with surrounding jurisdictions for fire protection and hazardous materials containment.
- Enhanced 9-1-1 emergency calling system exists

- NOAA Weather radios were provided to communities through a grant 10 years ago. Some are working, but beginning to fail.
- Emergency Alert notices are posted through the local cable company, National Weather Service posts on weather radio when notified, and pager systems disperse notices.
- Emergency Shelters are established and currently have back up generators
- Driver's Education is offered through local school system.
- Have a Debris Management Plan for the county.
- County has a Mass Casualty Preparation Plan.
- County has 100 foot mobile generator that can provide back up power to critical facilities if necessary.

Wayne County Community School

- Has an Emergency Procedure Guide actively implemented.
- Guide provides direction to handle Hazardous Materials incident, Fire incident, Assaults/fights, Weapon's possession, Lock-Down Procedures, Bomb Threat, Serious Injury/Death, Tornado Incident, and Intruder or Hostage Situation.

Wayne County Hospital

- Severe Weather and Tornado Plan revised June 2010
Revised procedure (January 2010) to handle Bomb Threats
- Emergency Evacuation Disaster Plan for internal or external disasters (including Bomb Threat, Fire/explosion within the facility, Extensive gas leak, power outage, extensive destruction to facility (i.e. post tornado), and exposure to hazardous conditions.
- Utility Management Disaster Plan includes coping with situations of Water Contamination, Electrical Outage, and Telephone Outage.
- External Disaster Plan is currently in place to handle notify personnel of disasters and each department, an established calling tree, personnel responsibilities, and handling mass casualties.

B. Mitigation Actions

The Planning Committee focused mitigation strategies on the high-risk hazards where investments of time and other resources would be expected to make the greatest impact on protecting each jurisdiction. Some strategies are applicable to more than one hazard and may be applicable to the moderate- and acceptable-risk hazards as well. Mitigation alternatives began in a brainstorming activity during a meeting and then further supplemented by discussing alternatives listed in the FEMA publication *Mitigation Ideas: Possible Mitigation Measures by Hazard Type, FEMA-R5, 9/02*. This document was briefly presented in an early meeting and also left at City Hall for review by committee members and the public.

Select ideas from the FEMA document were proposed to the committee for mitigation selection, excluding actions that would require large changes to local culture (such as developing a zoning ordinance, development rights, or taxes/fees, among others) or would be particularly costly and not fit with smaller cities.

See *Appendix N: Meeting minutes* for more details on the alternatives considered and the relationship between actions, goals, objectives, and the hazards.

Each of the identified mitigation alternatives were considered and evaluated through the FEMA tool, STAPLEE. This acronym indicates the various factors that should be considered in planning decisions standing for Social, Technical, Administrative, Political, Legal, Economic, and Environmental elements. Each mitigation alternative was evaluated simply with plus signs, minus signs, or left blank during committee meetings. Plus signs indicate no adverse impact or positive impacts anticipated, minus signs indicate the anticipation of resistance, high cost, or conflict, and blank elements are not anticipated to have either positive or negative impacts or may be unknown.

These ratings, once compiled, were then quantified with 1 for a plus sign, 0 for a blank or neutral score and a -1 for a minus sign and then the elements of each action were summed up for a numerical rating. See *Appendix H: STAPLEE Worksheet* for a summary of the STAPLEE ratings.

Explanation of STAPLEE

Social: Mitigation Actions are acceptable to the community if they do not adversely affect a 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.

Technical: Mitigation actions are technically most effective if they provide long-term reduction of losses and have minimal secondary adverse impacts.

Administrative: Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.

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 of the action.

Legal: It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.

Economical: Budget constraints can significantly deter the implementation of mitigations actions. Hence, it is important to evaluate whether an action is cost effective, as determined by a cost-benefit review, and possible to fund.

Environmental: Sustainable mitigation actions that do not have an adverse effect on the environment, that comply with Federal, State, and local environmental regulations, and that are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound.

C. Mitigation Strategies and Implementation

During the meeting where actions were being evaluated, two alternatives were excluded and not rated; Tree management / trimming – the committee determined that as an ordinance, the City would be unable to enforce this strategy but that the utility company already undertakes some tree management where power supply impacts are anticipated. There were also discussions involving elements that could be included in a disaster recovery plan but not deemed as a mitigation strategy for the purpose of this document. One such example would be the importance of city and city departments work to develop procedures of what do when hazards occur including who has keys to shelters, contact list for city and emergency response personnel, priorities for what facilities to restore following disasters, and how to direct Wayne County residents to minimize injuries. Another example would be the importance that building and planning of roadway system needs to occur for traffic control during disasters, there are various construction and placement factors to consider when constructing roads. To maintain dry access, roads should be elevated about the base flood elevation. However, if a road creates a barrier it can cause water to pond. Where ponding is problematic, drainage and flow may be addressed by making changes to culvert size and placement. In situations where flood waters tend to wash roads out, construction, reconstruction, or repair can include not only attention to drainage but also stabilization or armoring of vulnerable shoulders or embankments.

The remaining mitigation actions were then prioritized based on several criteria, whether or not they address a high risk hazard, how many hazards they address, how many objectives they address, the estimated timeline, the estimated cost, and the STAPLEE rating. The logic of this was much like ranking the hazards, the actions with the broadest positive impact would be naturally raised to the top of the list while those that would be costly or be limited in impact would naturally fall to the bottom.

This would mean that the actions toward the top of the list should be where the County's mitigation efforts should be directed, however where opportunities to pursue lower ranked actions arise, they should be taken so long as they do not preclude taking an action with a more broad positive impact is possible. For example, if grant funds for a project are available that would address an action ranked near the middle of the spectrum then the County or any jurisdiction should pursue the grant opportunity. If such a grant opportunity is presented and it could be used for two or more identified actions, then it should be directed toward the highest ranked of the potential projects where practicable.

Each action is profiled along similar lines as the hazards. Each action profile contains a description of the action, estimated cost with either an approximate dollar amount or listed as voluntary, minimal, moderate, or high. These categories are loosely defined as follows;

- Voluntary – reliant on donated time or resources
- Minimal – little or no cost, may be a nominal increase in day-to-day activities
- Moderate – would likely require outside funds potentially from multiple sources or potential tax / fee increases

- High – would require outside funds such as in the form of grant programs through State or Federal agencies

The timeframe in which mitigation actions are to be pursued have not been detailed in depth, however based on their relative complexity, cost, and whether or not they are dependent on outside funds, estimated timelines were suggested. These estimated timeframes are listed as follows;

- Ongoing – activities that are currently in practice or that have been implemented previously
- Short Term – relatively low cost, low complexity activities that may be implemented in the next year
- Medium Term – low to modest cost activities that may require more effort and / or time to properly implement such as review of regulatory measures for effectiveness or development of new regulations or programs, implementable within a period of 5 years and likely within 2-3 years
- Long Term – high cost and time-intensive activities that require outside funds, significant administrative investment (temporary or permanent), and generally involve construction, anticipated to take 5 years or more from time of initial planning to securing funding to completion of activity

Mitigation Actions can be grouped into six different categories as indicated in the State Plan and in FEMA guidance;

Prevention: Government administrative or regulatory measures or processes that influence the way land and buildings are developed and built. These measures also include public actions to reduce hazard losses to property and human health impacts. Examples include:

- Hazard mapping
- Studies/data collection and analysis to support prevention measures
- Floodplain regulations
- Multi-jurisdictional agreements that reduce hazard risks
- Other regulatory measures or processes that reduce hazard risks

Property Protection: Measures that involve modifying existing buildings or structures to protect them from a hazard, or removing buildings or structures from the hazard area, or providing insurance to cover potential losses. Examples include:

- Acquisition, elevation, or relocation of hazard-prone property
- Safe room/storm shelter retrofits
- Critical facility protection
- Risk reduction retrofits (modifications) to hazard prone properties
- Studies/data collection and analysis to develop property protection measures
- Continued National Flood Insurance Program (NFIP) participation

Public Education and Awareness: Measures to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples include:

- Programs to improve awareness of hazard risk
- Programs to improve awareness of hazard risk prevention and reduction
- Education programs directed toward specialized audience, i.e. buildings, developers, and hazard prone neighborhoods

Natural Resource Protection: Measures that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. Examples include:

- Sensitive areas ordinance (development restrictions)
- Stream corridor restoration, watershed management
- Forest and vegetation management
- Wetland restoration and preservation

Emergency Services: Measures taken before, during and after a hazard event to protect people, and property; although these measures are not typically considered “mitigation, they significantly minimize the events impact and preserve the community’s health and safety. Examples include:

- Emergency response facilities and personnel
- Hazard warning systems and equipment
- Health, safety, environmental risk prevention or reduction
- Emergency response infrastructure, equipment, planning, or training
- Emergency response services studies and data collection
- Emergency response communication systems

Structural Projects: These are measures that involve the construction and maintenance of structures and infrastructure that will reduce the impact of a hazard or redirect the impact away from people and property. Examples include:

- Channel modification/maintenance
- Dam and reservoir construction/maintenance
- Levee and floodwall construction and maintenance
- Safe room or storm shelter construction
- Infrastructure construction and maintenance
- Studies and data collection to develop structural projects

Prioritized Mitigation Activities

Mitigation actions were evaluated by various factors as previously mentioned; each of the factors was assigned a numerical value to aid in ranking the actions according to their anticipated positive impacts and drawbacks. The numerical values that were substituted in for estimated cost and timelines are as follows;

Cost:

- Voluntary – 1
- Minimal – 0
- Moderate – minus one (-1)
- High – minus two (-2)

Timeline:

- Ongoing – 1
- Short Term – 0
- Medium Term – minus one (-1)
- Long Term – minus two (-2)

Where a cost or timeline spanned between two different ratings, the average of the two scores was used. For example an action that has a moderate to high cost and a medium to long term timeline would have -1.5 inserted for both categories. This ranking system is crude, but it helps to organize the actions in a way that begins to show a prioritization of what can provide the biggest positive impact for the effort required to implement them. A more sophisticated ranking system may include weighting for various factors depending on community priorities and concerns. A limited degree of weighting is present for cost as cost is one of the STAPLEE elements however.

The full chart containing the various elements used to rank the mitigation actions may be found on the composite ranking of mitigation action scores below.

The composite ranking of mitigation actions is as follows:

| | | |
|--|------|--|
| 1. Continuity of Operations Planning | 70 | |
| 2. Community Emergency Response Team | 66 | |
| 3. Weather Radios | 63 | |
| 4. Personal Preparation | 58 | |
| 5. Vulnerable Population Contact Plan | 55 | |
| 6. Public Education & Outreach | 52 | |
| 7. Hazard occurrence data collection | 50 | |
| 8. Evacuation Plans | 48.5 | |
| 9. Generators | 38 | |
| 10. Training for first responders & Fire Departments | 37.5 | |
| 11. Water Storage or saving plans | 37 | |
| 12. Early warning System | 35.5 | |
| 13. Hazardous Materials Disposal | 34.5 | |
| 14. GIS mapping | 34 | |
| 15. Safe Room | 34 | |
| 16. Address vacant structures/collapsed buildings | 31 | |
| 17. Vital Information Management | 30 | |
| 18. Digging hotline/pipeline safety regulations of pipelines | 28.5 | |

| | | |
|---|------|--|
| 19. Law Enforcement Training | 28 | |
| 20. NFIP participation | 25 | |
| 21. Expanded hazard area mapping/mine evaluation | 24.5 | |
| 22. Waste disposal enforcement | 24.5 | |
| 23. New Storm Shelter - heating/cooling center | 23.5 | |
| 24. Manufactured home tie downs | 23 | |
| 25. Locate, maintain, or replace septic tanks | 23 | |
| 26. Public Awareness/Worker Ed for chemical emergencies | 23 | |
| 27. Surge Protectors/Lightning protection | 22 | |
| 28. Critical Infrastructure protection from terrorism | 22 | |
| 29. Water & Sewer System Management | 21 | |
| 30. Enhanced Public Health Systems | 19 | |
| 31. Assessment Risk for Terrorism | 18 | |
| 32. Evaluate/maintain/repair area dams | 16.5 | |
| 33. Monitor Accident Locations | 15 | |
| 34. Emergency & Security provisions in facility design | 15 | |
| 35. Smoke/Fire/CO Detectors/Sprinkler Systems | 14 | |
| 36. Drug Prevention, Identification & Law Enforcement | 14 | |
| 37. Bridge Strengthening | 14 | |
| 38. Radon Mitigation | 12 | |
| 39. Immunization | 12 | |
| | | |

D. Mitigation Strategies and Implementation

After the alternatives were discussed, the committee selected on highest impact STAPLEE actions for each jurisdiction. Priority strategies were the most feasible based on local considerations and resources. The selected alternatives are detailed in the following action profiles;

i. All Hazards / General strategies

D. Mitigation Strategies & Implementation

After the alternatives were discussed, the committee selected the following Mitigation strategies that could be addressed throughout Wayne County by giving priority to the highest impact STAPLEE action and composite ranking. Individual jurisdictions were provided with the opportunity to select the strategies that would be most beneficial for their community. A representative from each jurisdiction was allowed to review the Wayne County Hazard Mitigation draft Plan to confirm data and recommend the strategy the City Council chose to make a priority.

The strategies considered and prioritized by the most feasible based on local considerations and resources. The selected alternatives are detailed in the following action profiles;

i. All Hazards / General strategies

| Generators | |
|-----------------------------|---|
| Program/Project Description | Acquisition of mobile and / or fixed generators for use at community buildings used for temporary storm shelters and / or for public facilities |
| Anticipated Cost | Moderate |
| Timeline/Schedule | Medium term |
| Responsible Entity | Local Fire Chief, City Mayor, emergency manager & critical facility property owners |
| Mitigation Category | Emergency services, Prevention, Property Protection |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 2.6, 3.1, 3.3, 3.4 |
| Related Hazard(s) | Flash Flood, Thunderstorm/Lightning, Communication failure, Severe winter storm, Energy Failure, Rail Transportation incident, Windstorms/High Wind events, River flooding, Tornado, Hailstorm, Extreme heat, Human disease incident, drought |
| Affected Jurisdiction | Humeston |
| Staplee Rating | 9 |

| New Storm Shelter/ cooling or heating shelter | |
|--|---|
| Program/Project Description | Construction of storm shelter to Tornado Safe Room standards to serve as a temporary shelter for multiple hazards for local campgrounds. |
| Anticipated Cost | Moderate to high – grant dependent |
| Timeline/Schedule | Long term |
| Responsible Entity | City Mayor, emergency manager |
| Mitigation Category | Structural project |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 3.1, 3.3 |
| Related Hazard(s) | Flash flood, thunderstorm / lightning, structural failure, severe winter storm, transportation of hazardous materials, energy failure, windstorm / high wind event, tornado, hailstorm, sink hole, earthquake |
| Affected Jurisdiction | Allerton, Corydon, Humeston, Lineville, Seymour, Unincorporated County |
| Staplee Rating | 3 |

Note: new storm shelter should be located outside of hazard areas to maximize potential as a safe location and should include hazardous materials protection measures, independent power source (generator, solar system with battery storage, multiple sources, etc.), accessible to disabled people, and located close to where most people may be clustered to reduce time and distance residents would need to travel for safety.

| Continuity of Operations Planning | |
|--|---|
| Program/Project Description | Off-site backups for critical City documents and files |
| Anticipated Cost | Minimal |
| Timeline/Schedule | Medium term |
| Responsible Entity | Emergency manager, County Board of Supervisor's |
| Mitigation Category | Property protection |
| Related Goals/Objectives | 1.1, 1.2, 2.2, 2.3, 2.4, 3.2, 3.4, 3.5 |
| Related Hazard(s) | Flash flood, thunderstorm / lightning, communication failure, structural failure, severe winter storm, transportation of hazardous materials incident, energy failure, rail transportation incident, highway transportation incident, structural fire, windstorm / high wind event, fixed hazardous materials incident, river flooding, tornado, hailstorm, air transportation incident, dam failure, sink hole, human disease incident, earthquake |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| Staplee Rating | 15 |

| Safe Rooms | |
|-----------------------------|---|
| Program/Project Description | Construction concrete safe rooms in schools or local camping facilities. |
| Anticipated Cost | Moderate to high – grant dependent |
| Timeline/Schedule | Long term |
| Responsible Entity | Wayne Community School Superintendent & School Board, City Mayor of Lineville & Clio, emergency manager, County Board of Supervisor's |
| Mitigation Category | Structural project |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 3.1, 3.3 |
| Related Hazard(s) | Flash flood, thunderstorm / lightning, structural failure, severe winter storm, transportation of hazardous materials, energy failure, windstorm / high wind event, tornado, hailstorm, sink hole, earthquake |
| Affected Jurisdiction | Wayne Community Schools, Lineville, Clio, Unincorporated county (particularly near camping grounds at lakes) |
| Staplee Rating | 6 |

| Public Education and Outreach | |
|--------------------------------------|--|
| Description | Develop hazard education and outreach program to help residents understand meaning of hazard warnings and self-protection measures |
| Estimated Cost | Minimal |
| Timeline/Schedule | Medium Term |
| Responsible Entity | City mayor or councils, emergency managers, LEPC members, Environmental Health Manager |

| | |
|------------------------------|--|
| Hazards Addressed | All |
| Mitigation Category | Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Wayne County Hospital, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 14 |

| Community Emergency Response Team | |
|--|--|
| Description | Encourage and support development of volunteer community emergency response team of residents who have access to equipment and training to respond if emergency services are unable to meet all of the immediate needs following disasters as well as checking in on elderly or disabled residents to ensure their safety |
| Estimated Cost | Volunteer |
| Timeline/Schedule | Short Term |
| Responsible Entity | City Council or mayor, Fire Department, emergency manager, and Residents, Post-disaster Risk Assessment Team |
| Hazards Addressed | Flash flood, thunderstorm / lightning, communication failure, structural failure, severe winter storm, transportation of hazardous materials incident, energy failure, rail transportation incident, highway transportation incident, structural fire, windstorm / high wind event, grass / wildfire, fixed hazardous materials incident, river flooding, tornado, hailstorm, air transportation incident, dam failure, sink hole, extreme heat, human disease incident, earthquake, drought |
| Mitigation Category | Public Education and Awareness, Emergency Services |
| Related Goals/Objectives | 1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.4, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 16 |

| Early Warning System | |
|-----------------------------|--|
| Description | Acquisition and installation of community early warning system to compliment system at fire station. A complete inventory of functioning systems will be developed in order to identify those in need of repair. |
| Estimated Cost | Moderate to high |
| Timeline/Schedule | Long Term |
| Responsible Entity | City clerks, fire departments, emergency managers |
| Hazards Addressed | Flash flood, thunderstorm / lightning, severe winter storm, |

| | |
|------------------------------|---|
| | windstorm / high wind event, river flooding, tornado, hailstorm, may address other hazards as well |
| Mitigation Category | Structural Project |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 2.3, 3.2 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 10 |

| Address Vacant Structures/collapsed buildings | |
|--|---|
| Description | Leverage funds for property owners or cities that are unable to afford to remove/repair/demolish dilapidated structures. |
| Estimated Cost | Moderate-high |
| Timeline/Schedule | Ongoing |
| Responsible Entity | City Mayor, Property Owners, Environmental Health Manager |
| Hazards Addressed | Thunderstorm / Lightning,, Structural Failure, Structural Fire, Windstorm / High Wind Events, Fixed Hazardous Materials (especially lead paint), Tornado, Hailstorm, Human Disease Incident (especially mold related), Earthquake, Radon/Lead |
| Mitigation Category | Property Protection, Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.3, 2.1, 2.4, 2.6, |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Seymour, Promise City, Allerton |
| STAPLEE Rating | 8 |

| Weather Radios | |
|------------------------------|--|
| Description | Encouragement of residents and businesses to obtain NOAA weather radios by making them available from the county at a discounted rate. |
| Estimated Cost | Voluntary program; approximately \$30 per radio |
| Timeline/Schedule | Short Term |
| Responsible Entity | Fire Departments, emergency manager, and city residents |
| Hazards Addressed | Flash flood, thunderstorm / lightning, severe winter storm, windstorm / high wind event, river flooding, tornado, hailstorm, extreme heat, may address other hazards as well |
| Mitigation Category | Prevention and Public Awareness |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 3.1, 3.2, 3.3, 3.4 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 18 |

| Bridge Strengthening | |
|------------------------------|--|
| Description | Inspect city/county-owned bridges annually to determine their susceptibility to collapse and prioritize funding options for repair. When funding options are limited a local plan to create funds may need to be established. |
| Estimated Cost | High |
| Timeline/Schedule | On going |
| Responsible Entity | County Engineer, Dept of Roads/Streets, Board of Supervisors |
| Hazards Addressed | Flash Flooding, River Flooding, Highway Transportation Incident, Tornado, Earthquake, Transportation of Radiological Material, Transportation of Hazardous Material, Rail Transportation Incident, Structural Failure, Expansive Soils |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County |
| STAPLEE Rating | 3 |

| GIS Mapping | |
|------------------------------|---|
| Description | GIS mapping of vegetative coverage can facilitate analysis and planning decisions through comparison with topography, zoning, developments, infrastructure, or other markers. |
| Estimated Cost | Minimal to moderate |
| Timeline/Schedule | Medium Term |
| Responsible Entity | County Board of Supervisor's, County Engineer |
| Hazards Addressed | Flash flooding, River Flooding, Grass/Wildfire, Animal/Plant/Crop disease, Dam failure, Sinkholes, Expansive Soils, Pipeline, Waterway Incident |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 2.4, 2.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Seymour |
| STAPLEE Rating | 6 |

| Personal Preparation | |
|-----------------------------|--|
| Description | Citizens can install and maintain fire extinguishers and smoke detectors. Everyone in a household or workplace can be taught how to use a fire extinguisher. Residential standards established by the National Fire Protection Association (NFPA) require a smoke detector in each bedroom, or adjacent to all sleeping areas. All equipment should be tested and/or inspected regularly, and smoke detector batteries should be changed twice a year. Installing a sprinkler system is another valuable |

| | |
|------------------------------|--|
| | mitigation measure. Also, fire emergency telephone numbers should be posted at every telephone, and residents or building occupants should plan an escape route and assembly points away from their homes or workplaces. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short term/ongoing |
| Responsible Entity | Private citizens & business owners |
| Hazards Addressed | All |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.3 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 8 |

Drug Prevention, Identification, & Law Enforcement

| | |
|------------------------------|---|
| Description | Public awareness and education needs to be provided to communities to assist in the prevention of drug addictions. Citizens need to be aware of signs and materials used to identify locations that may contain hazardous materials. This identification can notify law enforcement, who need to have trained personnel to respond and properly handle potentially hazardous situations. All efforts can reduce the risk for fire or explosions in communities. |
| Estimated Cost | Minimal to Moderate |
| Timeline/Schedule | Ongoing |
| Responsible Entity | County Sherriff's office, city police, emergency manager, Fire Departments |
| Hazards Addressed | Fixed Hazardous Materials, Structural Fire, Transportation of Hazardous Materials, Human Disease Incident, |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 2.6, 3.4 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 5 |

Water & Sewer System Management

| | |
|----------------|---|
| Description | Develop a storm water management ordinance to minimize impacts on storm water system and to minimize flash flooding impacts; may include artificial erosion control, creek bank stabilization, erosion resistant planting on steep slopes (deep root plants) to slow and help infiltrate storm water, terracing hillsides, grading techniques |
| Estimated Cost | Minimal |

| | |
|------------------------------|---|
| Timeline/Schedule | Medium Term |
| Responsible Entity | City Mayor, Board of Public Works |
| Hazards Addressed | Flash Flood, Thunderstorm / Lightning, Severe Winter Storm, River Flooding, Sink Holes |
| Mitigation Category | Prevention, Natural Resource Protection |
| Related Goals/Objectives | 1.1, 2.2, 2.3, 2.4, 2.5, 3.1 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 8 |

| Public Awareness/Worker Education for Chemical Emergencies | |
|---|---|
| Description | The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, provides an infrastructure at the state and local levels to plan for chemical emergencies. Facilities that store, use or release certain chemicals may be subject to reporting requirements. Reported information is publicly available so that interested parties may become informed about potentially dangerous chemicals in their communities. Employers must also communicate the hazards of workplace chemicals and ensure that workers receive education and training. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Ongoing |
| Responsible Entity | Emergency Managers, Environmental Health Manager |
| Hazards Addressed | Fixed Hazardous Materials, Structural Fire, Transportation of Hazardous Materials, Animal/plant/crop disease, Transportation of Radiological Materials |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.4, 3.1, 3.4, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 6 |

| Surge Protection / Lightning Protection | |
|--|--|
| Description | Encourage property owners to use surge protectors to protect computers and other sensitive electrical appliances from lightning strikes and power surges by hosting bi-annually public service announcements and/or provide educational handouts at local presentations; purchase, use, and maintenance of surge protectors for City facilities as needed. |
| Estimated Cost | Minimal , Voluntary |

| | |
|------------------------------|--|
| Timeline/Schedule | Ongoing / Short Term |
| Responsible Entity | Fire departments, emergency manager |
| Hazards Addressed | Thunderstorm / Lightning, Communications Failure, Energy Failure |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County |
| STAPLEE Rating | 18 |

| Monitor Accident Locations | |
|-----------------------------------|--|
| Description | Monitor motor vehicle accident locations to consider improving design, routing, and traffic control at problem roadway areas. |
| Estimated Cost | Moderate to High |
| Timeline/Schedule | Long term |
| Responsible Entity | County Engineer, County Board of Supervisors |
| Hazards Addressed | Highway Transportation Incident, Transportation of Hazardous Materials, Transportation of Radiological Materials, Structural failure |
| Mitigation Category | Prevention, Structural Improvement |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.5, 2.6, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 3 |

| Vulnerable Population Contact Plan | |
|---|--|
| Description | Communities can develop programs/networks for contacting and assisting elderly or homebound persons during periods of infrastructure failure, disaster or time of emergency. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short term |
| Responsible Entity | Emergency Manager, Public Health Dept, Healthcare Providers, Hospice workers |
| Hazards Addressed | Severe Winter storms, Windstorms/High Wind Events, Extreme Heat, Flash Flood, Tornado, Hailstorm, Thunderstorm/lightning, Communication Failure, Highway Transportation Incident, Radon/Lead, Energy Failure, Fixed Hazardous Materials, River Flooding, Drought, Rail Transportation Incident, Structural Failure, Structural Fire, Transportation of Hazardous Materials, Transportation of Radiological Materials, Human Disease Incident/Pandemic, Air Transportation Incident, Expansive Soils, Grass/Wildfire, Pipeline Incident, Animal/plant/crop Disease, |

| | |
|------------------------------|---|
| | Waterway Incident, Dam Failure, Public Disorder, Enemy Attack, Sinkholes & all forms of Terrorism |
| Mitigation Category | Emergency Services |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour Wayne County Hospital |
| STAPLEE Rating | 7 |

| Law Enforcement Training | |
|---------------------------------|---|
| Description | Local and state governments can provide law enforcement agencies with training, staffing and resources to best handle Public Disorder situations, drug enforcement & clean up/disposal, transportation incidents, and emergency situations. |
| Estimated Cost | Moderate |
| Timeline/Schedule | Ongoing |
| Responsible Entity | County Board of Supervisors, County Sheriff Office, local City Police Dept |
| Hazards Addressed | Rail Transportation incident, Highway Transportation incidents, Transportation of Hazardous materials, Transportation of Radiological Materials, Rail Transportation Incident, Communication Failure, Energy Failure, |
| Mitigation Category | Prevention, Emergency Services |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 3.1, 3.4, 3.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Corydon, Seymour, |
| STAPLEE Rating | 4 |

| Expanded Hazard Area Mapping and Mine Evaluation | |
|---|---|
| Description | Record areas where hazards occur to aid in hazard mapping, encourage detailed evaluation of the structural integrity of mines under each community, encourage detailed floodplain mapping, seek funds to develop more detailed multi-hazard area maps |
| Estimated Cost | Minimal to moderate |
| Timeline/Schedule | Short Term (hazard recording) to Long Term (mine evaluation) |
| Responsible Entity | Emergency manager, First Responders, Fire Departments, Historical Society |
| Hazards Addressed | Flash Flood, Transportation of Hazardous Materials Incident, Rail Transportation Incident, Highway Transportation Incident, Grass / Wildfires, Fixed Hazardous Materials Incident, River Flooding, Dam Failure, Sink Holes, Expansive Soils |
| Mitigation Category | Prevention |

| | |
|------------------------------|--|
| Related Goals/Objectives | 1.1, 1.2, 2.2, 2.3, 2.4, 2.5, 3.1, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Seymour |
| STAPLEE Rating | 7 |

| Water Storage or Saving Plans | |
|--------------------------------------|---|
| Description | Develop plan for water storage for back-up and to supplement Rathbun Rural Water, develop policy or program for helping residents reduce water demand using measures such as low-flow toilets and showerheads and landscaping |
| Estimated Cost | Minimal |
| Timeline/Schedule | Medium Term |
| Responsible Entity | Fire Departments, Water Departments, Environmental Health Manager |
| Hazards Addressed | Structural Fire, Grass / Wildfire, Drought |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 2.6, 3.1, 3.3, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 7 |

| Evaluate/maintain/repair area dams | |
|---|--|
| Description | Establish an inspection, maintenance & enforcement program to help continue structural integrity of Wayne County Dams and levees. Plan would also include emergency plans to develop access roads, pumping, etc. |
| Estimated Cost | Moderate to High |
| Timeline/Schedule | Medium Term |
| Responsible Entity | City Mayor, County Board of Supervisors, County Engineer, Natural Resources Department |
| Hazards Addressed | Flash Flood, Structural Failure, River Flooding, Dam Failure |
| Mitigation Category | Prevention, Natural Resource Protection, Structural Project |
| Related Goals/Objectives | 1.1, 1.3, 2.1, 2.4, 2.6, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Seymour |
| STAPLEE Rating | 3 |

| Emergency & Security provisions in facility design | |
|---|---|
| Description | The potential of public disorder and resulting problems can possibly be reduced with strategic planning of structure layouts. Emergency and security provisions can be included in design requirements for schools, factories, office buildings, shopping |

| | |
|------------------------------|--|
| | malls, hospitals, correctional facilities, stadiums, recreation centers, and other similar facilities. This may require researching the need to implement zoning changes in the county and/or jurisdictions. |
| Estimated Cost | Moderate to High |
| Timeline/Schedule | Long term |
| Responsible Entity | County Board of Supervisors, City Mayor, private business owners, |
| Hazards Addressed | Public disorder, Communication Failure, Energy failure, Fixed Hazardous Materials, Earthquake, Enemy Attack, & all terrorisms |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 3.1, 3.3, 3.4, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | -7 |

| Smoke / Fire / Carbon Monoxide Detector and Sprinkler Systems | |
|--|---|
| Description | Encourage use and maintenance of smoke / fire / carbon monoxide detectors and fire suppression (aka sprinkler) systems in private buildings by making equipment available through the county at a reduced rate & educating residents via public service announcements via grant opportunities; use and maintain smoke / fire / carbon monoxide detectors in City-owned buildings and install sprinkler systems as funds are available and as needed |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short Term |
| Responsible Entity | Fire Departments, Emergency Management, Environmental Health Manager and Property Owners |
| Hazards Addressed | Structural Failure, Structural Fire, Grass / Wildfire |
| Mitigation Category | Prevention, Property Protection |
| Related Goals/Objectives | 1.1, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton |
| STAPLEE Rating | 16 |

| Evacuation Plans | |
|-------------------------|--|
| Description | Develop evacuation plans for school, community buildings, and for town |
| Estimated Cost | Minimal to moderate |
| Timeline/Schedule | Medium Term |
| Responsible Entity | City Mayor/Council, school boards, hospital board of director and Emergency Management |
| Hazards Addressed | Flash Flood, Communications Failure, Structural Failure, Transportation Hazardous Materials Incident, Energy Failure, Rail |

| | |
|------------------------------|---|
| | Transportation Incident, Structural Fire, Grass / Wildfire, River Flooding, Fixed Hazardous Materials, Air Transportation Incident, Dam Failure, Sink Holes |
| Mitigation Category | Prevention, Emergency Services |
| Related Goals/Objectives | 1.1, 1.2, 2.1, 2.2, 2.3, 2.5, 3.1, 3.2, 3.4, 3.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Wayne County Hospital |
| STAPLEE Rating | 5 |

| Enhance Public Health Systems | |
|--------------------------------------|--|
| Description | Communities can maintain or enhance public health systems with sufficient disease monitoring and surveillance capabilities to protect the population from large-scale outbreaks; they can also support free or reduced-cost clinics and school health services. Public awareness campaigns can emphasize the causes, symptoms, and protective actions for disease outbreaks or other potential public emergencies. |
| Estimated Cost | Moderate |
| Timeline/Schedule | Ongoing |
| Responsible Entity | Public Health Dept, Wayne County Hospital, Hospice |
| Hazards Addressed | Human disease pandemic, Human disease Incident, Radon/Lead, Animal/plant/crop disease, Earthquake |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 2.4, 2.6, 3.1, 3.3, 3.4, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour, Wayne County Hospital |
| STAPLEE Rating | 2 |

| Locate, maintain, or replace septic tanks | |
|--|--|
| Description | Septic tanks need to be properly located, installed, cleaned, monitored, maintained or removed. |
| Estimated Cost | Minimal to Moderate |
| Timeline/Schedule | Ongoing |
| Responsible Entity | Private owners, Environmental Health Management |
| Hazards Addressed | Human disease pandemic, Human disease Incident, Radon/Lead, Animal/plant/crop disease, |
| Mitigation Category | Prevention, Natural Resource Protection, |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 2.4, 2.6, 3.1, 3.3, 3.4, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour, |
| STAPLEE Rating | 11 |

| Hazardous Material Disposal | |
|------------------------------------|---|
| Description | Develop hazardous materials disposal program incorporating public education, community clean-up days, and household hazardous waste exchange that would be held annually. |
| Estimated Cost | Minimal to moderate |
| Timeline/Schedule | Medium Term |
| Responsible Entity | City Mayor/council, Fire Department, Environmental Health Manager |
| Hazards Addressed | Transportation of Hazardous Materials Incident, Fixed Hazardous Materials Incident, Structural Fire, Fixed Hazardous Materials Incident, Human Disease Incident |
| Mitigation Category | Prevention, Natural Resource Protection, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 2.3, 2.4 2.6, 3.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County |
| STAPLEE Rating | 11 |

Note: Household hazardous waste exchange may be available through recycling center in Corydon likewise community clean-up days are currently in place. Household hazardous waste exchanges allow community residents to drop off and pick up common household cleaners, paints, and stains rather than disposing of them properly or improperly.

| Training for First Responders & Fire Departments | |
|---|---|
| Description | Training Firefighters and other local emergency responders in best practices in search and rescue operations. All Fire Departments should also be deployed, equipped and trained per NFPA standards and ISO recommendations. Additional training should be given to law enforcement /emergency responders to plan and prepare for terrorist/sabotage/WMD attacks. |
| Estimated Cost | Minimal to moderate |
| Timeline/Schedule | Medium Term |
| Responsible Entity | Fire Department, EMS Council, |
| Hazards Addressed | Flash Flood, Structural Failure, Severe Winter Storm, Transportation of Hazardous Materials Incident, Rail Transportation Incident, Structural Fire, Grass / Wildfire, Fixed Hazardous Materials Incident, River Flooding, Tornado, Windstorm / High Wind Events, Air Transportation Incident, Dam Failure, Sink Holes, Earthquake, |
| Mitigation Category | Emergency Services |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.3, 3.1, 3.4, 3.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour, |
| STAPLEE Rating | 6 |

| Immunization | |
|---------------------|---|
| Description | Encourage periodic immunizations or clinics, especially for |

| | |
|------------------------------|--|
| | children and elderly residents, review mass immunization plan with school for emergency immunizations in a disaster situation. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short Term |
| Responsible Entity | School nurse, County Public Health Department, Emergency Management |
| Hazards Addressed | Human Disease Incident |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 2.2, 2.3, 2.6, 3.1, 3.5 |
| Addresses High Risk Hazards? | No |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 5 |

| Waste Disposal Enforcement | |
|-----------------------------------|---|
| Description | Develop or update waste disposal policies and enforce, review for effectiveness |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short to Medium Term |
| Responsible Entity | City Council/Mayor, Environmental Health Manager |
| Hazards Addressed | Windstorm / High Wind Events, Fixed Hazardous Materials Incident, Tornado, Human Disease Incident |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.3, 2.1, 2.2, 2.3, 2.4, 3.1, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | -3 |

| Radon Mitigation | |
|------------------------------|---|
| Description | Encourage property owner radon testing and mitigation, explore feasibility of Cities leveraging funds to help property owners test and / or mitigation unsafe radon levels by making radon tests available. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short Term |
| Responsible Entity | Property Owners, Environmental Management |
| Hazards Addressed | Human Disease Incident, Radon |
| Mitigation Category | Public Education and Awareness, Prevention |
| Related Goals/Objectives | 1.1, 1.3, 2.6, 3.5 |
| Addresses High Risk Hazards? | No |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |

| | |
|----------------|----|
| STAPLEE Rating | 15 |
|----------------|----|

| Hazard Occurrence Data Collection | |
|--|---|
| Description | Record occurrences of hazards, loss estimates, populations impacted, amount of area impacted, and other relevant information for updates to this plan and for improved emergency response information |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short Term |
| Responsible Entity | City, First Responders, Emergency manager, County Public Health Department, Environmental Health Manager |
| Hazards Addressed | All |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.5, 3.6 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour |
| STAPLEE Rating | 12 |

| Vital Information Management | |
|-------------------------------------|---|
| Description | Encourage property owners to inventory and protect critical information for improved disaster recovery and minimize disruptions to lives following disaster events; critical information includes titles to property, bank information, insurance documents, wills, copies of prescription medications, family contact information, social security cards, passports, marriage licenses, birth certificates, and other forms of information that may be difficult to replace or needed to document eligibility for disaster aid |
| Estimated Cost | Voluntary |
| Timeline/Schedule | Short Term |
| Responsible Entity | Emergency manager, fire departments, board of supervisors |
| Hazards Addressed | Flash Flood, Thunderstorm / Lightning, Communications Failure, Structural Failure, Severe Winter Storm, Transportation of Hazardous Materials Incident, Energy Failure, Rail Transportation Incident, Highway Transportation Incident, Structural Fire, Windstorm / High Wind events, Grass / Wildfire, Fixed Hazardous Materials Incident, River Flooding, Tornado, Hailstorm, Air Transportation Incident, Dam Failure, Sink Hole, Extreme Heat, Human Disease Incident, Earthquake, |
| Mitigation Category | Public Education and Awareness |
| Related Goals/Objectives | 1.1, 3.1, 3.5, 3.6 |
| Addresses High Risk | Yes |

| | |
|-----------------------|--|
| Hazards? | |
| Affected Jurisdiction | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour, |
| STAPLEE Rating | 17 |

| Digging hotline/pipeline safety regulations of pipelines | |
|---|--|
| Description | Communities must insure that they are in compliance with industry safety regulations and standards. One component that is to be well advertised is the digging hotline for residents to call before digging on their property. The emergency responders will meet twice annually with pipeline companies for Safety & Training response. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short Term |
| Responsible Entity | County Board of Supervisors, emergency manager, private pipeline owners, environmental health manager |
| Hazards Addressed | Flash flood, tornado, grass/wildfire, sinkholes, pipeline, |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.2, 2.1, 2.2, 2.4, 3.4 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdiction | Unincorporated County |
| STAPLEE Rating | 12 |

| Manufactured Home Tie-Downs | |
|------------------------------------|---|
| Description | Encourage incorporated and rural manufactured homes to be secured by tie-downs to the ground. This anchoring can prevent damage and injuries. |
| Estimated Cost | Minimal |
| Timeline/Schedule | Short Term |
| Responsible Entity | City Council/mayor (ordinances), property owners, County Board of Supervisors |
| Hazards Addressed | Communications failure, river flooding, tornado, windstorms/high wind events, |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 11, 1.3, 2.1, 2.4, 2.5, 3.1 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdictions | Unincorporated County |
| STAPLEE Rating | 12 |

| Critical Infrastructure Protection (CIP) from terrorism | |
|--|--|
| Description | Critical Infrastructure Protection will be a prominent part of a community risk assessment & threat assessment. It will identify |

| | |
|------------------------------|--|
| | vulnerabilities and possible targets for terroristic actions. The CIP insures that critical services such as water, electricity, telephones, roads, bridges, etc. in the event of an act of terrorism. |
| Estimated Cost | Moderate |
| Timeline/Schedule | Long Term |
| Responsible Entity | City Council/mayor, First Responders, Emergency manager |
| Hazards Addressed | Cyber terrorism, Agro-terrorism, Biological terrorism, Chemical terrorism, Conventional terrorism, Radiological terrorism |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 1.2, 1.3, 2.2, 2.5, 3.1, 3.2, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdictions | Unincorporated County, Allerton, Clio, Corydon, Humeston, Lineville, Millerton, Promise City, Seymour, |
| STAPLEE Rating | 12 |

| Assessment Risk for Terrorism | |
|--------------------------------------|---|
| Description | Local jurisdictions will develop a through risk and threat assessment that identifies potential vulnerabilities and potential targets for a terroristic attack. |
| Estimated Cost | Moderate |
| Timeline/Schedule | Long Term |
| Responsible Entity | City council, First Responders, emergency manager |
| Hazards Addressed | Cyber terrorism, Agro-terrorism, Biological terrorism, Chemical terrorism, Conventional terrorism, Radiological terrorism |
| Mitigation Category | Prevention, Public Education and Awareness |
| Related Goals/Objectives | 1.1, 2.2, 2.3, 3.1, 3.4, 3.5 |
| Addresses High Risk Hazards? | Yes |
| Affected Jurisdictions | County |
| STAPLEE Rating | 12 |

| NFIP Participation | |
|------------------------------|---|
| Program/Project Description | Communities will consider or continue participating with the National Flood Insurance Program (NFIP). |
| Estimated Cost | Minimal |
| Timeline/Schedule | Ongoing |
| Responsible Entity | City Council/Mayor |
| Hazards Addressed | Flash flooding, Thunderstorm/Lightning, Severe Winter Storm, River Flooding |
| Mitigation Category | Prevention |
| Related Goals/Objectives | 1.1, 1.3, 2.2, 2.3, 2.4, |
| Addresses High Risk Hazards? | Yes |

| | |
|-----------------------|---------|
| Affected Jurisdiction | Seymour |
| STAPLEE Rating | 12 |

10. Plan Maintenance

Plan Maintenance and Updates

This plan is, as all plans are, intended to be a living document to be used in decision making and in new projects within the community. This first draft cannot anticipate all things that might happen eventually and so it will be necessary for the plan to be updated periodically. Updates to this plan shall be made no fewer than once every five years as is required by FEMA.

Much of the background data for the jurisdictions in Wayne County is from the 2000 Decennial Census and thus is out of date. Upon release of 2010 Decennial Census data, the newer data shall replace what is in this plan, then in the respective community profile within that document. This may take place at the full update point or be integrated by amendment at review points.

A. Update and Review Cycle

In the suggested timeline below, the start and end times are given in number of months after the adoption date of this document. Annual reviews should include a narrative covering the tasks listed in Evaluating Mitigation Actions and Goals and any disasters that have occurred in the past year. If no action has progressed or there have been no disasters during this time, the narrative should still describe how the review took place and the fact that there have been no notable events or actions completed. The purpose of this is to maintain a record to aid in future updates and to aid in updating and revising the plan as needed.

Since it may not be reasonable to assume that the planning team will remain the same from year to year, it should consist of at least one city representative (mayor, elected official, or city clerk), at least one emergency responder, at least one representative of the school district, and anyone else that is interested in participating. Wayne County Emergency Management coordinator will be responsible for reconvening the planning team for each required review.

Suggested monitoring timeline;

| | Start | End | Action |
|------------------|-----------|-----------|--|
| Annual Review #1 | 11 months | 12 months | Addendum added to Plan |
| Annual Review #2 | 23 months | 24 months | Addendum added to Plan |
| Annual Review #3 | 35 months | 36 months | Addendum added to Plan |
| Annual Review #4 | 47 months | 48 months | Addendum added to Plan |
| Plan Update | 52 months | 57 months | Submit updated plan to State and FEMA for approval and Adopt plan as revised (adoption must take place by the end of the 60 th month to remain in compliance) |

B. Plan Monitoring & Evaluation

For updates to this plan, the following tasks will need to be addressed by Wayne County Emergency Management coordinator, charged with implementing actions in conjunction with the planning team;

Procedures and Techniques

Task A. Evaluate the effectiveness of the planning process.

1. Reconvene the Planning Team.
2. Review your Planning Process.
Items to Discuss:
 - a. Building the Planning Team
 - b. Engaging the Public
 - c. Data Gathering and Analysis
 - d. Coordinating with other Agencies

Task B. Evaluate the effectiveness of your actions.

1. What were the results of the implemented action? Did the results achieve the goals/objectives outlined in the plan? Did the actions have the intended results?
2. Were the actions cost-effective? Did (or would) the project result in the reduction of potential losses?
3. Document actions which were slow to get started or not implemented.

Task C. Determine why the actions worked (or did not work).

1. Lack of available resources
2. The political or popular support for or against the action.
3. The availability of funds
4. The workloads of the responsible parties
5. The actual time necessary to implement the actions.

11. Incorporation into Existing and Future Planning Mechanisms

The hazard mitigation planning team was created to develop the mitigation plan and guide the plan preparer in its writing. The planning team should not formally end with the approval of the plan. The planning team can evolve into one of a watch dog over the practices of land developers and public officials. Members can help remind public officials of that particular year’s mitigation strategy and possible funding options and can volunteer in the implementation process for certain actions. The team and local governments may participate in the process and engage regional organizations, state agencies, state universities, schools and church via memorandums of agreement.

Finally, the planning team is partly responsible to ensure that the public officials are incorporating mitigation actions into relevant plans and planning mechanisms, such as zoning, annexation plans, and bonding proposals. Communities should also include mitigation initiatives as regular line items in community capital or operational budgets to ensure ongoing funding for hazard mitigation initiatives. The following matrix shows the types of planning mechanisms available and how the plan should be incorporated into them.

| Current Mechanisms | Planning | Jurisdictions Currently in Place | Method of Incorporation | Who Responsible or Lead |
|-------------------------------|----------|----------------------------------|--|--|
| Comprehensive Land Use plan | | Rural county, Seymour | Review Each, develop in other jurisdictions | Zoning Commissions & staff, BOS |
| Capital improvement plan | | Humeston | Modernize each, develop plans if they are outdated | City councils |
| Economic Development plan | | Corydon, Regional plan | Add a mitigation section to annual regional plan | CVPD, City of Corydon, Wayne County Economic Dev |
| Open space/ conservation plan | | Rural County | Incorporate mitigation projects affecting open spaces into plans | Conservation board/staff, city parks |
| Watershed Protection plan | | Limited at best | Address mitigation actions in watershed areas | Emergency management Coordinator |
| Zoning Ordinance | | Corydon | Review zoning code concerning applicable hazards | Zoning commissions & staff, BOS |
| Building Codes | | Limited, Humeston | Update building codes for fire & wind standards | City councils, BOS |
| Tree Maintenance Codes | | Limited in all areas, | Consult with utilities | City of Corydon Utilities Dept, County Maintenance |

| | | | |
|---|---|--|--|
| | Corydon | | Dept |
| Soil erosion/ water control ordinance | Limited in all areas | Consult with RRWA | Emergency management coordinator |
| Solid/hazardous waste regulations | Limited | Review regulations as to what can be landfilled, add hazard maps | Emergency Management Coordinator |
| Public Health Regulations | All of county is covered through Public Health Dept | Collaborate with PH agencies to incorporate new protocols | Emergency Management Coordinator, Public Health Board, & staff |
| Historic District Programs | None | Provide data to assist in protecting properties | Development of groups with state IDED assistance |
| Long-Range Transportation Plan | Regional plan for entire county | Incorporate hazard maps & transportation improvement ideas | County engineer, CVTPA, IDOT, BOS |
| Water source plan | All county through inter-government agreement | Include mitigation actions related to relevant hazards | RRWA |
| Storm water Management program | Corydon | Include mitigation actions related to flash flooding | City Councils, Emergency Management coord, |
| Housing & Special Needs plan | Corydon, limited | Consider mitigation recommendations in housing plans & funding requests for improvements | City Councils, CVPD, hospitals, Emergency Management Coord |
| Administrative Operations processes- departments & boards | All jurisdictions | Convene meetings where possible, realignment of tasks, new or improved tasks & processes, & board goals are updated. | Emergency Management Coord, elected officials, clerks & board chairs |
| | | | |

At this time, it is not recommended that any jurisdiction adopt a formal policy that requires each jurisdiction to include relevant parts of the plan in each planning mechanism. However, it is strongly recommended that staff and elected/appointed officials become aware of the mitigation strategy’s practical applications. An annual review of the local planning mechanisms is warranted, simply to give the local leaders the opportunity to think about how mitigation actions affect the local planning mechanisms and to ensure local plans are current.

12. Continued Public Involvement

Obtaining public participation for planning can be difficult in both rural areas and in larger urban areas, sometimes there is significant interest, but this is not always the case. Public participation for planning exercises is particularly difficult when the public is not interested in the plan or is not clear on what the plan means to them. An advantage in small communities though, is the capacity for word-of-mouth and informal discussion, especially with the community's elected officials. We are hopeful that Wayne County will have a standing mitigation committee (comprised primarily of LEPC members) to answer community questions, reach out to the community, or to review proposed projects. The public shall be presented the opportunity to take part in plan reviews and updates.

The opportunity for the public to take part in updates and reviews of this plan will comply with Iowa's Open Meeting Law (Iowa Code, Chapter 21). For each plan update (the five year period), the plan will be presented to the public for a 30 day comment and review period prior to being submitted to the State and FEMA. For each annual review, public notices should be announced as all city council meetings are in order to permit members of the public to attend planning team meetings. This document shall be available through City Halls and/or Chamber of Commerce offices to any party who requests to see it where and when practicable. However portions intended for internal use may be withheld for confidentiality purposes (such as where private individual information is disclosed) or where legitimate safety concerns are present (such as the exact location and contents of sensitive facilities, hazardous chemical storage and composition, or mine entrances are identified).

13. Appendices

Appendix A: Resolutions Adopting Wayne County Multi-Jurisdictional Hazard Mitigation Plan

RESOLUTION # 03-05-2012

Purpose: A Resolution to approve and adopt the Wayne County Multi-Jurisdictional Hazard Mitigation Plan.

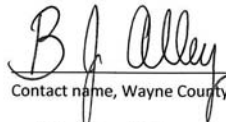
WHEREAS, Wayne County Multi-Jurisdictional Hazard Mitigation Plan was presented to the Wayne County Board of Supervisor's on March 26, 2012; and

WHEREAS, Wayne County Multi-Jurisdictional Hazard Mitigation Plan was prepared in compliance with the Hazard Mitigation Planning Requirements of the Disaster Mitigation Act of 2000 provided by the Iowa Homeland Security and Emergency Management Division; and

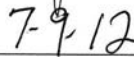
WHEREAS, Wayne County Multi-Jurisdictional Hazard Mitigation Plan identifies the county and all jurisdiction's potential hazards; and

WHEREAS, Wayne County Multi-Jurisdictional Hazard Mitigation Plan includes a profile of hazard events, vulnerability assessment, evaluation of mitigation goals and a plan maintenance process.

NOW THEREFORE BE IT RESOLVED that Wayne County Board of Supervisor's does hereby approve and adopt the Wayne County Multi-Jurisdictional Hazard Mitigation Plan this 26th day of March, 2012.



Contact name, Wayne County Board of Supervisor's



Date of Signature

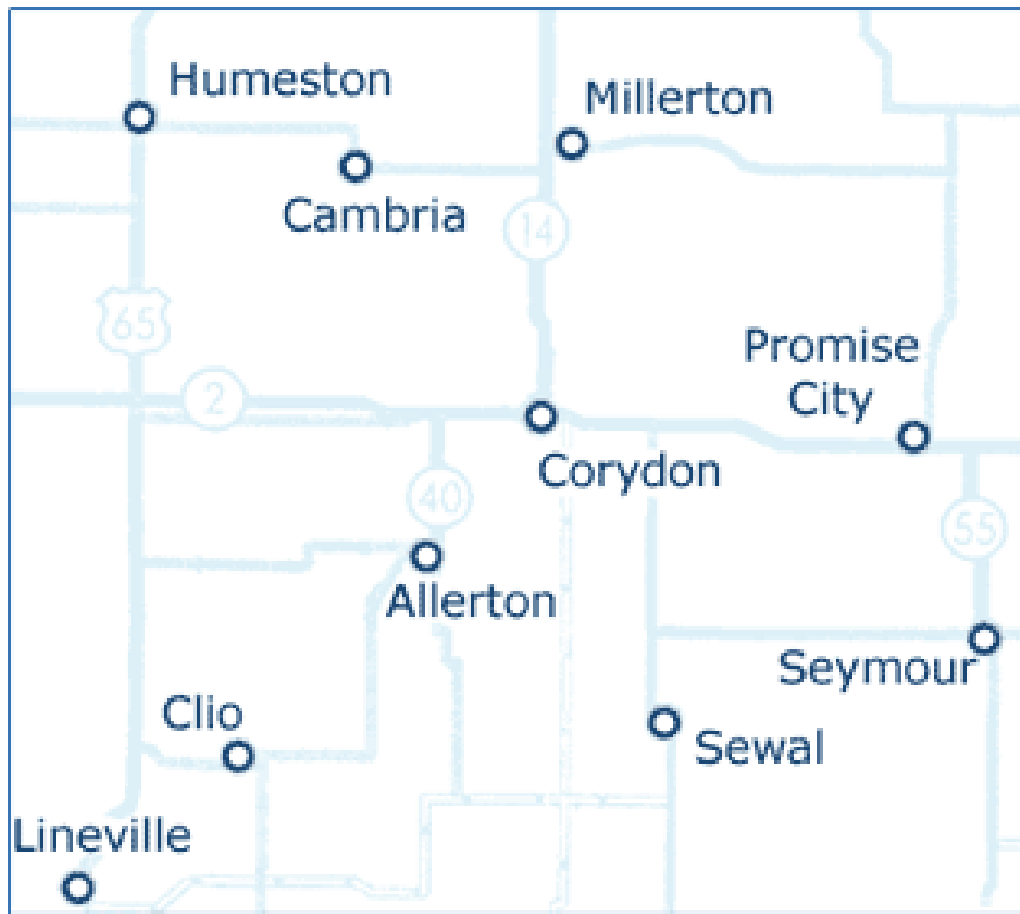


Attest:



Date of Signature

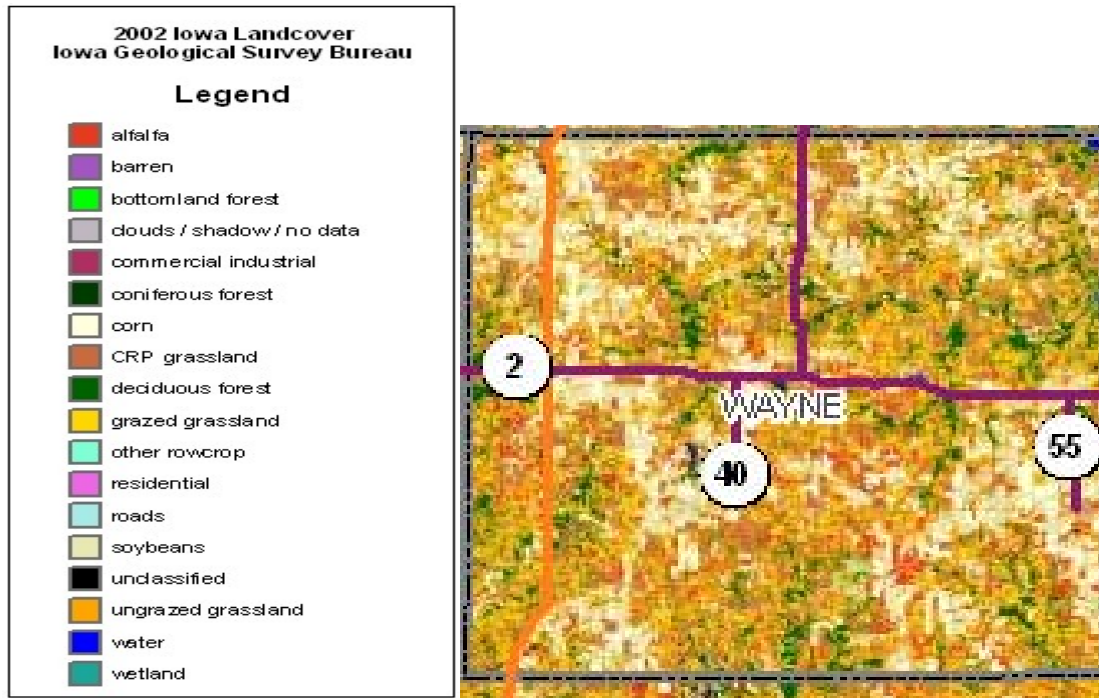
Appendix B: Communities of Wayne County



There are eleven incorporated and unincorporated cities in Wayne County. These communities reflect the entire body of Census-recognized named places in the county, though there may be others that are locally recognized such as named subdivisions in the unincorporated county.

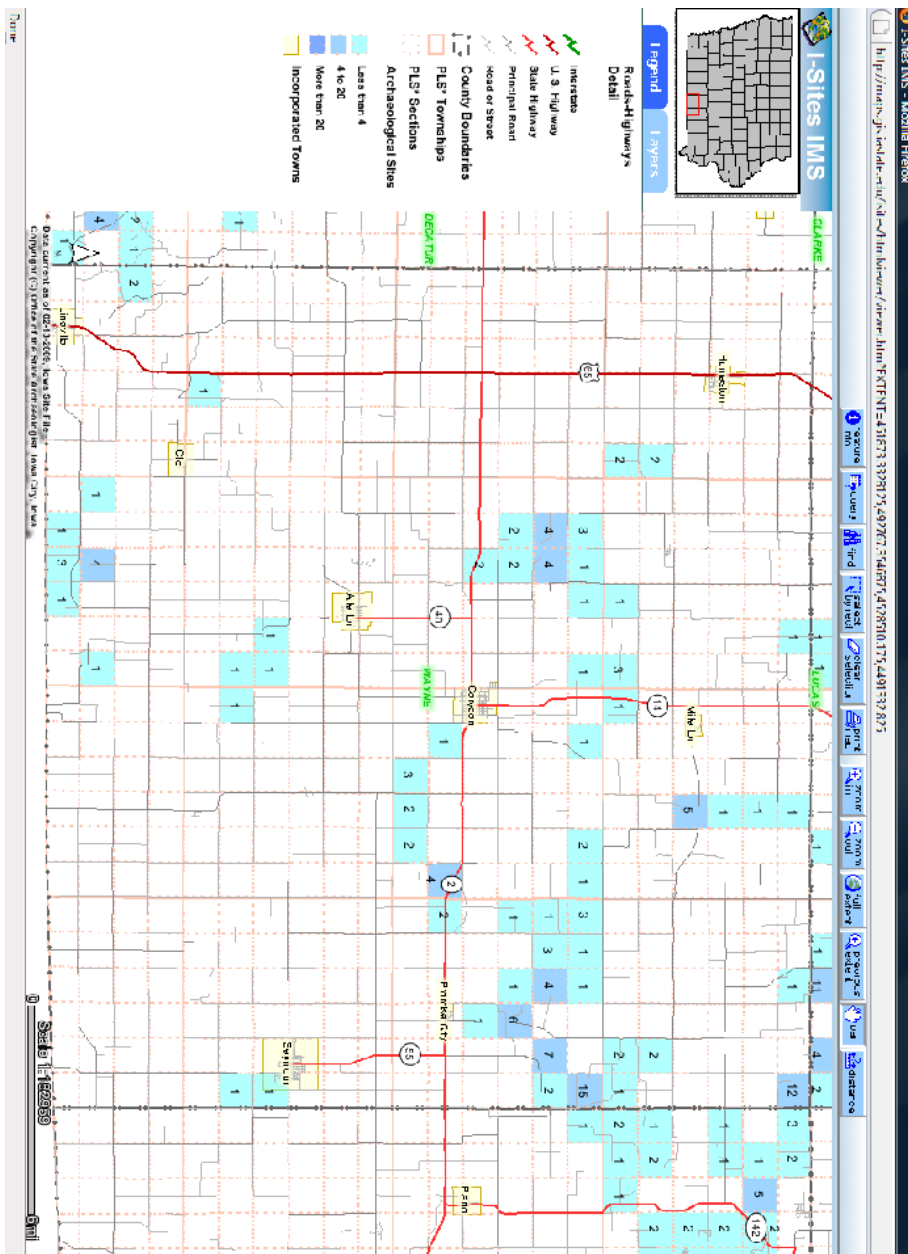
Source: IA DNR GIS data compiled by Chariton Valley Planning and Development

Appendix C: Change in Vegetative Cover



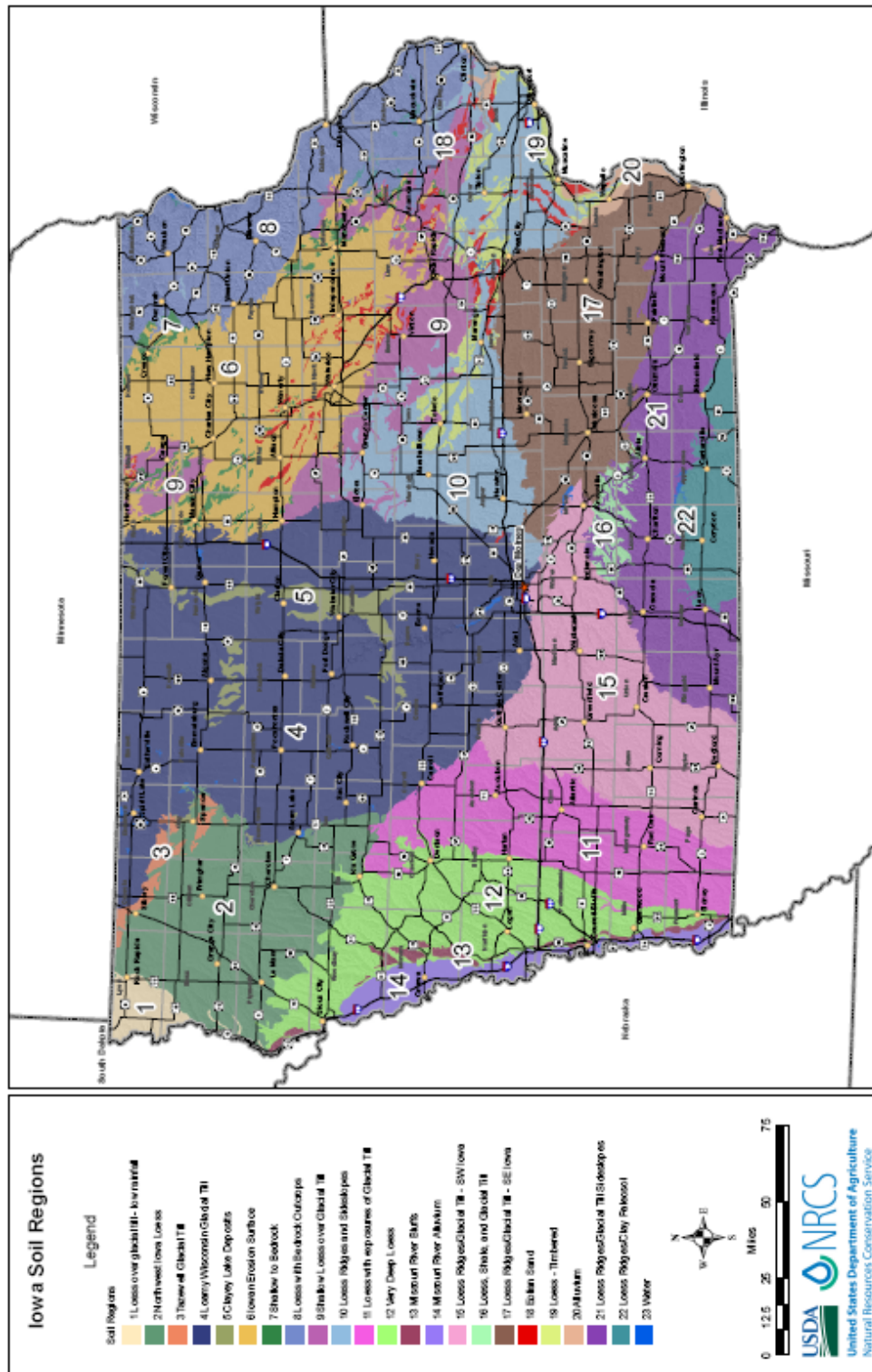
These two comparison maps show some dramatic changes have occurred in Wayne County since the county was formed. Initially the county was predominantly forest and prairie land. This land cover has been transformed into various cropland uses over the last one hundred and fifty years. Substantial stands of deciduous forest remained despite the vast changes, more-so than may be found elsewhere in Iowa. The interactive mapping site where this image can be generated and manipulated can be found on the ISU GIS Facility Iowa Geographic Map Server website; <http://ortho.gis.iastate.edu/map.html> (1800s Historic Vegetation and 2002 Landcover).

Appendix D: Archeological Sites in Wayne County



This map from the State Archeologist at the University of Iowa shows the number of historic sites per Public Land Survey section in Wayne County. The online interactive mapping tool can be found at the following website; <http://www2.uiowa.edu/i-sites/public.htm>.

Appendix E: NRCS Iowa Soil Regions map



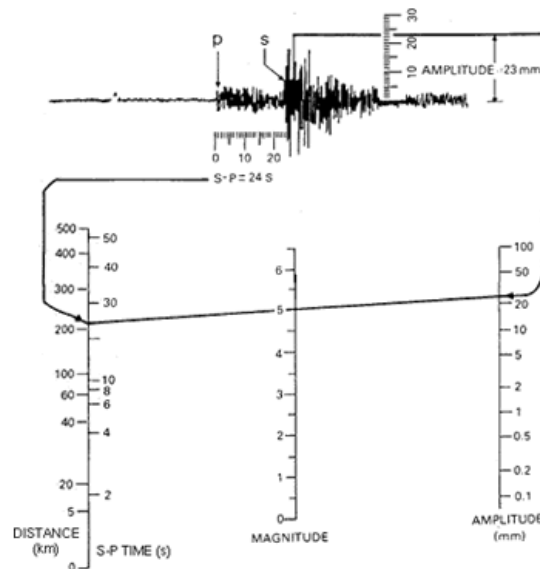
Source: NRCS, [ftp://ftp-fc.sc.egov.usda.gov/IA/technical/soilregionsmap.pdf](http://ftp-fc.sc.egov.usda.gov/IA/technical/soilregionsmap.pdf)

Appendix F: Richter Scale

The Richter Scale is a mathematical model for evaluating earthquake magnitudes on a logarithmic scale. This means that for each one point step upward, the magnitude is ten times stronger.

| Richter Magnitude | Description | Earthquake Effects | Frequency (global average) |
|-------------------|-------------|--|----------------------------|
| Less than 2.0 | Micro | Microearthquakes, not felt | About 8,000 per day |
| 2.0 – 2.9 | Minor | Generally not felt, but recorded | About 1,000 per day |
| 3.0 – 3.9 | | Often felt, but rarely causes damage | About 49,000 per yr. |
| 4.0 – 4.9 | Light | Noticeable shaking of indoor items, rattling noises. Significant damage unlikely | About 6,200 per yr. |
| 5.0 – 5.9 | Moderate | Can cause major damage to poorly constructed buildings over small regions. At most, slight damage to well-designed buildings | 800 per year |
| 6.0 – 6.9 | Strong | Can be destructive in areas up to about 100 miles across in populated areas | 120 per year |
| 7.0 – 7.9 | Major | Can cause serious damage over large areas | 18 per year |
| 8.0 – 8.9 | Great | Can cause serious damage in areas several hundred miles across | 1 per year |
| 9.0 – 9.9 | | Devastating in areas several thousand miles across | 1 per 20 years |
| 10.0 + | Epic | Never recorded | unknown |

Source: Wikipedia http://en.wikipedia.org/wiki/Richter_magnitude_scale



USGS <http://earthquake.usgs.gov/learning/glossary.php?termID=149>

Appendix G: Community Assets & Critical Facilities

MUSEUMS/HISTORICAL

PRAIRIE TRAIL MUSEUM

515 EAST JEFFERSON ST, CORYDON, IA 50060

NELSON ROUND BARN

ALLERTON, IA

PLEASANT HILL SCHOOL

LINEVILLE, IA

CORYDON PUBLIC LIBRARY

NORTH DEKALB ST, CORYDON, IA

SCHOOLS

MORMON TRAIL COMMUNITY SCHOOL DISTRICT

403 SOUTH FRONT ST, HUMESTON, IA 50123

ALLERTON HEAD START

204 WEST OAK ST, ALLERTON, IA 5008

SEYMOUR COMMUNITY SCHOOL DISTRICT

100 SOUTH PARK AVE, SEYMOUR, IA 52590

WAYNE COMMUNITY SCHOOL DISTRICT

102 NORTH DEKALB ST, CORYDON, IA 50060

CORYDON ELEMENTARY SCHOOL

607 SOUTH WEST ST, CORYDON, IA 50060

MAGICAL BEGINNINGS PRE-SCHOOL

701 EAST MARION ST, CORYDON, IA 50060

SEYMOUR HEAD START

112 E MAIN ST, SEYMOUR, IA 52590

LINEVILLE-CLIO SCHOOL

6TH STREET, LINEVILLE, IA

LIBRARIES**LECOMPTE MEMORIAL LIBRARY****110 SOUTH FRANKLIN ST, CORYDON, IA 50060****SEYMOUR COMMUNITY PUBLIC LIBRARY****109 N 5TH ST, SEYMOUR, IA 52590**

COMMUNITY CENTERS**WAYNE COUNTY COMMUNITY CENTER****100 EAST JEFFERSON ST, CORYDON, IA 50060****SEYMOUR COMMUNITY CENTER****135 N 5TH ST, SEYMOUR, IA 52590****SEYMOUR FAMILY RESOURCE CENTER****515 W WALL ST, SEYMOUR, IA 52590**

PLACES OF WORSHIP #’s**CORYDON 5****MILLERTON 0****PROMISE CITY 1****SEYMOUR 5****ALLERTON 2****CLIO 1****LINEVILLE 2****HUMESTON 2**

**NURSING/RETIREMENT HOMES – VULNERABLE
POPULATIONS****CONTINENTAL CARE CENTER****400 E 4TH ST, SEYMOUR, IA 52590****CORYDON NURSING & REHAB CENTER****745 EAST SOUTH ST, CORYDON, IA 50060****SENIOR CENTER SENECA AAA**

SENIOR CITIZENS

213 MAIN STREET, LINEVILLE, IA

HOSPITALS & MEDICAL CENTERS

WAYNE COUNTY HOSPITAL

417 SOUTH EAST STREET, CORYDON, IA 50060

SEYMOUR MEDICAL CLINIC

515 W WALL ST, SEYMOUR, IA 52590

LINEVILLE MEDICAL CLINIC

101 MAIN ST, LINEVILLE, IA

AMBULANCE SERVICES

WAYNE COUNTY AMBULANCE

417 SOUTH EAST ST, CORYDON, IA 50060

POLICE/LAW ENFORCEMENT CENTERS AND FIRE STATIONS

CORYDON FIRE DEPARTMENT

205 SOUTH EAST ST, CORYDON, IA 50060

SEYMOUR VOLUNTEER FIRE DEPT/1ST RESPONDERS

105 N 5TH ST, SEYMOUR, IA 52590

WAYNE COUNTY SHERIFF'S OFFICE

207 N LAFAYETTE ST, CORYDON, IA 50060

COURTHOUSE

WAYNE COUNTY COURTHOUSE

100 SOUTH FRANKLIN ST, CORYDON, IA 50060

GROCERY STORES

HY-VEE FOOD STORE CORYDON
303 EAST JEFFERSON ST, CORYDON, IA 50060

BYLER'S COUNTY LANE STORE

3194 DAVIS RD, SEYMOUR, IA 52590

MIKE'S FOOD MARKET

400 W MAIN ST, SEYMOUR, IA 52590

COMMUNICATIONS

LUCAS COUNTY SHERRIFF'S OFFICE

CHARITON, IA

**GAS STATIONS & OTHER SITES WITH POSSIBLE
HAZARDOUS MATERIALS**

CASEY'S GENERAL STORE

500 W MAIN ST, SEYMOUR, IA 52590

MFA (MISSOURI FARMER'S ASSOCIATION)

HWY 65 NORTH, LINEVILLE, IA

BRIAN'S FARM SUPPLY

700 WASHINGTON ST, LINEVILLE, IA

AG STORAGE BUILDING

HWY 65, LINEVILLE, IA

CASEY'S GENERAL STORE

220 N. WASHINGTON ST, CORYDON, IA

ZIGGY'S AUTOMOTIVE

2560 EUCLID RD, CORYDON, IA

GALBREATH AUTOMOTIVE SUPPLY

2559 SEWAL CIRCLE DR, CORYDON, IA

RAE'S AUTO REPAIR

1004 N FRONT ST, HUMESTON, IA

CASEY'S GENERAL STORE

207 S FRONT STREET, HUMESTON, IA

MFA (MISSOURI FARMER'S ASSOCIATION)

1009 N FRONT STREET, HUMESTON, IA

JACKSON MOBIL

602 CENTRAL AVE, CLIO, IA

FAST STOP

2716 HWY S26, ALLERTON, IA

FIRST STOP

400 CENTRAL AVE, CLIO, IA

SOUTHERN IOWA OIL

214 W JEFFERSON ST, CORYDON, IA

MFA (MISSOURI FARMER'S ASSOCIATION)

2184 HWY 2, CORYDON, IA

ROD'S AUTO INC

101 E JACKSON ST, CORYDON, IA

AMOCO

107 S LAFAYETTE ST, CORYDON, IA

CRITICAL BRIDGES & OVERPASSES

BRIDGE ON US HWY 65 CROSSING A SMALL NATURAL STREAM

BRIDGE CROSSING SOUTH CALEB CREEK ON US HWY 65

BRIDGE CROSSING NORTH CALEB CREEK ON US HWY 65

BRIDGE ON US HWY 65 CROSSING A SMALL NATURAL STREAM

BRIDGE CROSSING A DRAINAGE DITCH ON US HWY 65

BRIDGE ON IOWA HWY 2 CROSSING STEELE CREEK

BRIDGE ON IOWA HWY 2 CROSSING SOUTH CHARITON RIVER

BRIDGE CROSSING A SMALL NATURAL STREAM ON IOWA HWY 2

BRIDGE ON IOWA HWY 2 CROSSING OVER JACKSON CREEK

BRIDGE CROSSING WILDCAT CREEK ON IOWA HWY 14

BRIDGE ON IOWA HWY 14 CROSSING SO FRK CHARITON RIVER

**RR OVERPASS OF HWY 14 ON THE NORTH EDGE OF CORYDON
CITY LIMITS**

CITY OFFICES

CITY OF CORYDON, 205 S EAST ST

CORYDON, IA

CITY OF SEYMOUR, 109 N 5TH ST

SEYMOUR, IA

CITY OF LINEVILLE, 111 MAIN ST

LINEVILLE, IA

CITY OF CLIO

CLIO, IA

CITY OF PROMISE CITY

PROMISE CITY, IA

CITY OF HUMESTON

HUMESTON, IA

CITY OF ALLERTON, CENTRAL AVE

ALLERTON, IA

Appendix I: Alternate Facilities Valuation Estimate Tools

Average Building Replacement Value per Square Foot

| Occupancy Class | Total \$/sq. ft. |
|-----------------------------|------------------|
| Single Family Dwelling | 77 |
| Mobile Home | 52 |
| Multi-family Dwelling | 98 |
| Temporary Lodging | 102 |
| Institutional Dormitory | 98 |
| Nursing Home | 89 |
| Retail Trade | 67 |
| Wholesale Trade | 53 |
| Personal/Repair Services | 92 |
| Professional/Tech. Services | 87 |
| Banks | 151 |
| Hospital | 145 |
| Medical Office/Clinic | 112 |
| Entertainment & Recreation | 131 |
| Theaters | 98 |
| Parking | 30 |
| Heavy Industrial | 69 |
| Light Industrial | 69 |
| Food/Drugs/Chemicals | 69 |
| Metals/Minerals Processing | 69 |
| High Technology | 69 |
| Construction | 69 |
| Agriculture | 26 |
| Church/Non-Profit Offices | 113 |
| General Services | 88 |
| Emergency Response | 130 |
| Schools | 91 |
| Colleges/Universities | 115 |

Source: HAZUS

Contents Value as Percentage of Building Replacement Value

| Occupancy Class | Contents Value (%) |
|---|--------------------|
| Residential (including temporary lodging, dormitory, and nursing homes) | 50 |
| Commercial (including retail, wholesale, professional, services, financial, entertainment & recreation) | 100 |
| Commercial (including hospital and medical office/clinic) | 150 |
| Commercial Parking | 50 |
| Industrial (including heavy, light, technology) | 150 |
| Industrial Construction | 100 |
| Agriculture | 100 |
| Religion/Non-Profit | 100 |
| Government Emergency Response | 150 |
| Government General Services | 100 |
| Education Schools/Libraries | 100 |
| Education Colleges/Universities | 150 |

Source: HAZUS

Example 1

To find the annual sales from a 15,000 square foot grocery store, you would multiply the structure size by \$30 per square foot (from the table at right).

$$15,000 \times \$30$$

The annual sales would be \$450,000.

Example 2

If a public library will be lost for three months due to damage from a 100-year flood, you could determine the damages from the loss of function by multiplying the monthly budget of the library (overhead, rent, staff salaries, etc.) by three months.



Annual Gross Sales or Production (Dollars per Square Foot)

| Occupancy Class | Annual Sales (\$ / ft ²) |
|----------------------------|--------------------------------------|
| Commercial | |
| Retail Trade | 30 |
| Wholesale Trade | 43 |
| Industrial | |
| Heavy | 400 |
| Light | 127 |
| Food/Drugs/Chemicals | 391 |
| Metals/Minerals Processing | 368 |
| High Technology | 245 |
| Construction | 431 |
| Agriculture | |
| Agriculture | 83 |

Source: HAZUS

Appendix J: History of Iowa Earthquakes

IOWA EARTHQUAKES
HISTORIC EARTHQUAKES WITH EPICENTERS IN IOWA



| Number | Date | Nearest Town | Mercalli Intensity |
|-----------|----------------------|--|--------------------|
| 1. | Apr. 28, 1867 | Sidney (IA) / Nebraska City (NE) | IV |
| 2. | Dec. 09, 1875 | Sidney (IA) / Nebraska City (NE) | III |
| 3. | April 13, 1905 ** | Wayland (MO) / Keokuk (IA) | IV-V |
| 4. | Jan. 26, 1925 | Waterloo (IA) | II |
| 5. | Nov. 12, 1934 | Davenport (IA) / Rock Island (IL) | VI |
| 6. | Jan. 05, 1935 ** | Rock Island (IL) / Davenport (IA) | IV |
| 7. | Jan. 05, 1935 ** | Rock Island (IL) / Davenport (IA) | III |
| 8. | Feb. 26, 1935 | Burlington (IA) | III |
| 9. | Oct. 11, 1938 | Inwood (IA) | V |
| 10. | Nov. 08, 1938 | Dubuque (IA) * | ~II |
| 11. | Nov. 24, 1939 | Davenport (IA) / Rock Island (IL) | II-III |
| 12. | Apr. 20, 1948 | Oxford (IA) | IV |
| 13. | July 16, 2004 | Shenandoah (IA) | III |

Red identifies Iowa's largest earthquake

* Dubuque experienced three shocks

** Epicenter probably just outside Iowa

Appendix K: TORRO Hailstorm Intensity Scale

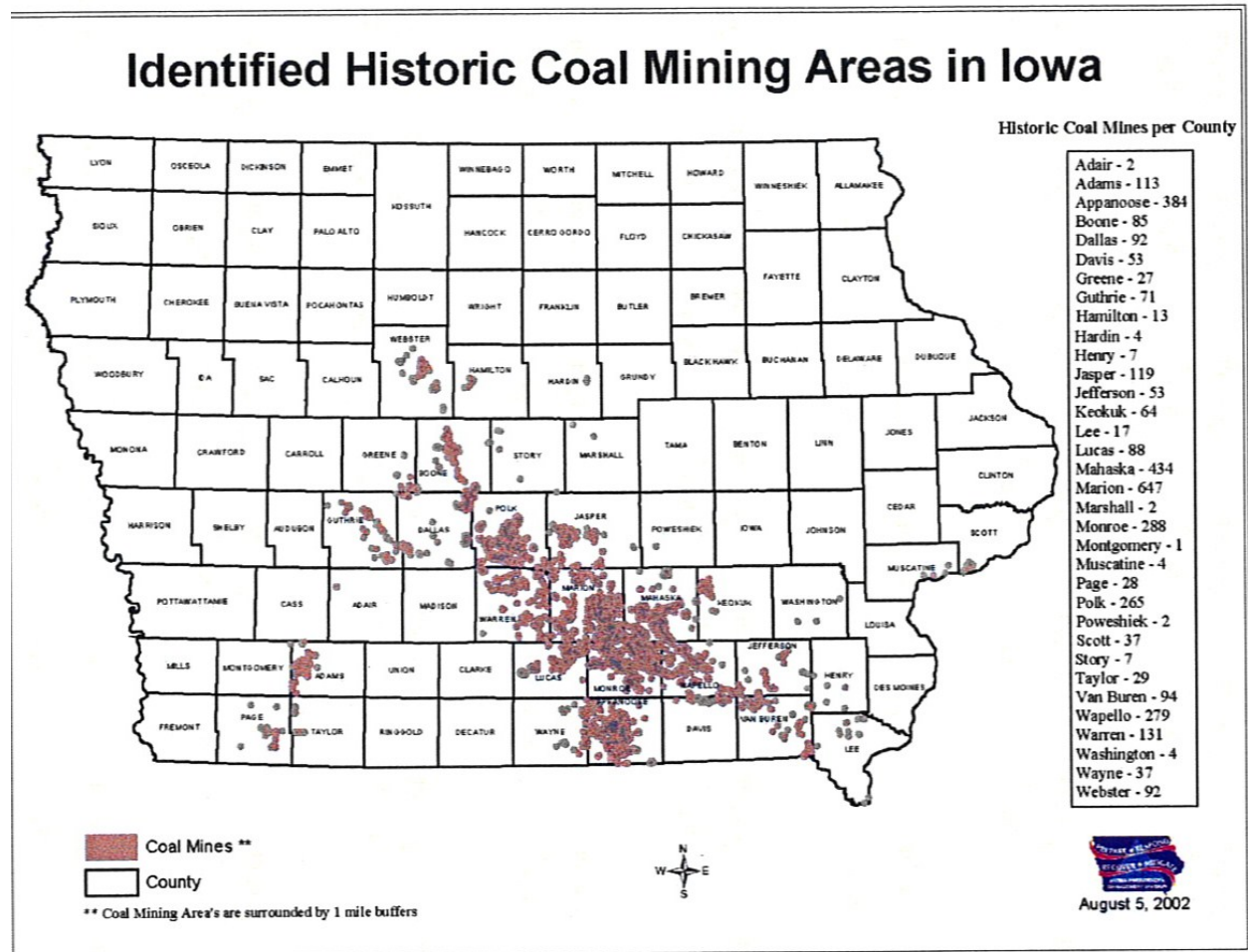
| | Intensity Category | Typical Hail Diameter (mm)* | Probable Kinetic Energy, J-m ² | Typical Damage Impacts |
|-----|----------------------|-----------------------------|---|--|
| H0 | Hard Hail | 5 | 0-20 | No damage |
| H1 | Potentially Damaging | 10-15 | >20 | Slight general damage to plants, crops |
| H2 | Significant | 10-20 | >100 | Significant damage to fruit, crops, vegetation |
| H3 | Severe | 20-30 | >300 | Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored |
| H4 | Severe | 25-40 | >500 | Widespread glass damage, vehicle bodywork damage |
| H5 | Destructive | 30-50 | >800 | Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries |
| H6 | Destructive | 40-60 | | Bodywork of grounded aircraft dented, brick walls pitted |
| H7 | Destructive | 50-75 | | Severe roof damage, risk of serious injuries |
| H8 | Destructive | 60-90 | | (Severest recorded in the British Isles) Severe damage to aircraft bodywork |
| H9 | Super Hailstorms | 75-100 | | Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open |
| H10 | Super Hailstorms | >100 | | Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open |

* Approximate range (typical maximum size in bold), since other factors (e.g. number and density of hailstones, hail fall speed and surface wind speeds) affect severity.

| Maximum Diameter (mm) | Description |
|-----------------------|----------------------------|
| 5-9 | Pea |
| 10-15 | Mothball |
| 16-20 | Marble, grape |
| 21-30 | Walnut |
| 31-40 | Pigeon's egg > squash ball |
| 41-50 | Golf ball > Pullet's egg |
| 51-60 | Hen's egg |
| 61-75 | Tennis ball > cricket ball |
| 76-90 | Large orange > Soft ball |
| 91-100 | Grapefruit |
| >100 | Melon |

Source: FEMA and Tornado and Storm Research Organization
(<http://www.torro.org.uk/TORRO/severeweather/hailscale.php>)

Appendix L: Coal Mining Locations









Appendix M: Enhanced Fujita Parameters and Damage Details

Source: Wikipedia, retrieved June 24, 2009 (www.wikipedia.org)

Parameters

The six categories for the EF Scale are listed below, in order of increasing intensity. Although the wind speeds and photographic damage examples are updated, the damage descriptions given are those from the Fujita scale, which are more or less still accurate. However, for the actual EF scale in practice, one must look up the damage indicator (the type of structure which has been damaged) and consult the degrees of damage associated for that particular indicator.

| Scale | Wind speed | | Relative frequency | Potential damage | |
|------------|------------|---------|--------------------|---|---|
| | mph | km/h | | | |
| EF0 | 65–85 | 105–137 | 53.5% | <p>Light damage.</p> <p>Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.</p> <p>Confirmed Tornadoes with no reported damage (i.e. those that remain in open fields) are always rated EF0.</p> |  |
| EF1 | 86–110 | 138–178 | 31.6% | <p>Moderate damage.</p> <p>Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.</p> |  |
| EF2 | 111–135 | 179–218 | 10.7% | <p>Considerable damage.</p> <p>Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.</p> |  |

| | | | | | |
|------------|-------------|-------------|-------|---|--|
| EF3 | 136– 165 | 219– 266 | 3.4% | <p>Severe damage.</p> <p>Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.</p> |  |
| EF4 | 166– 200 | 267– 322 | 0.7% | <p>Devastating damage.</p> <p>Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.</p> |  |
| EF5 | >200 | >322 | <0.1% | <p>Exploding damage.</p> <p>Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (300 ft); steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation; incredible phenomena will occur.</p> <p>So far there have been two EF5 Tornadoes recorded since the Enhanced Fujita Scale was introduced on February 1, 2007. The most recent one occurred in Parkersburg, Iowa on May 25, 2008 and leveled half the city.</p> |  |

Damage Indicators and Degrees of Damage

The EF Scale currently has 28 Damage Indicators (DI), or types of structures and vegetation, with a varying number of Degrees of Damage (DOD) for each.

| DI No. | Damage Indicator (DI) | Degrees of Damage (DOD) |
|--------|--|-------------------------|
| 1 | Small Barns or Farm Outbuildings (SBO) | <u>8</u> |
| 2 | One- or Two-Family Residences (FR12) | <u>10</u> |

| | | |
|----|---|---------------------------|
| 3 | Manufactured Home – Single Wide (MHSW) | <u>9</u> |
| 4 | Manufactured Home – Double Wide (MHDW) | <u>12</u> |
| 5 | Apartments, Condos, Townhouses [3 stories or less] (ACT) | <u>6</u> |
| 6 | Motel (M) | <u>10</u> |
| 7 | Masonry Apartment or Motel Building (MAM) | <u>7</u> |
| 8 | Small Retail Building [Fast Food Restaurants] (SRB) | <u>8</u> |
| 9 | Small Professional Building [Doctor’s Office, Branch Banks] (SPB) | <u>9</u> |
| 10 | Strip Mall (SM) | <u>9</u> |
| 11 | Large Shopping Mall (LSM) | <u>9</u> |
| 12 | Large, Isolated Retail Building [K-Mart, Wal-Mart] (LIRB) | <u>7</u> |
| 13 | Automobile Showroom (ASR) | <u>8</u> |
| 14 | Automobile Service Building (ASB) | <u>8</u> |
| 15 | Elementary School [Single Story; Interior or Exterior Hallways] (ES) | <u>10</u> |
| 16 | Junior or Senior High School (JHSH) | <u>11</u> |
| 17 | Low-Rise Building [1–4 Stories] (LRB) | <u>7</u> |
| 18 | Mid-Rise Building [5–20 Stories] (MRB) | <u>10</u> |
| 19 | High-Rise Building [More than 20 Stories] (HRB) | <u>10</u> |
| 20 | Institutional Building [Hospital, Government or University Building] (IB) | <u>11</u> |
| 21 | Metal Building System (MBS) | <u>8</u> |
| 22 | Service Station Canopy (SSC) | <u>6</u> |

| | | |
|----|---|-------------------|
| 23 | Warehouse Building [Tilt-up Walls or Heavy-Timber Construction] (WHB) | 7 |
| 24 | Electrical Transmission Lines (ETL) | 6 |
| 25 | Free-Standing Towers (FST) | 3 |
| 26 | Free-Standing Light Poles, Luminary Poles, Flag Poles (FSP) | 3 |
| 27 | Trees: Hardwood (TH) | 5 |
| 28 | Trees: Softwood (TS) | 5 |

Appendix N: Wayne County Hazard Mitigation Meeting Minutes



Historic Courthouse District
205 ½ N. 13th Street, Suite A, Centerville, IA 52544-1707

Meeting and managing change

Wayne County Hazard Mitigation Planning meeting
Thursday, January 14, 2010
Wayne county Courthouse at 5pm

- I. Introductions
 - a. CVPD staff of Nichole Moore & Julie Pribyl
 - b. Committee member introductions
 - i. Review the current roster that we have to confirm information accurate & complete.
 - ii. Need any additional members to attend or at least be listed as a contact/reference (school)
- II. Process of Hazard Mitigation Planning
 - a. Create community profiles that describes the unincorporated areas as well as every town
 - b. Identify the possible hazards you could experience here.
 - c. Gather data about the history of any events, probability of experiencing each one, what areas are at a particular risk of experiencing, etc. (examples – giving specifics from ice storm, noting buildings that may be in floodplains, noting where any bodies of water/dams may be in county, etc)
 - d. Score and rank each of the hazards you have identified. This will prioritize them.
 - e. We will select the overall goals & objectives of this plan
 - f. Begin to consider mitigation strategies. We will look as suggested mitigation strategies that would address each hazard. We also consider & list what already exists in each community? What would they like to have/do to improve safety in the event of a disaster?
 - g. Communities will select the top 3-4 mitigation strategies they would like to improve on first for that jurisdiction.
- III. Timeline of this project
 - a. A first draft document will hopefully be completed by 6/2011. The absolute deadline for the first draft to be submitted to Homeland Security is by January 2012. Very lengthy & time consuming process.
- IV. In Kind – match dollars
 - a. What is this?? How important is it to the grant? The amount for Wayne County is \$7,500. CVPD will work to get this amount with our assistance. We will do this by presenting at Rotary clubs, Kiwanis, clubs/meetings but need referrals & you can help.
- V. When should meetings be held? Continue with the joint meetings with LEPC?

NEXT MEETING

Bill will let us know

Wayne County Hazard Mitigation Planning Meeting
Thursday, January 14, 2010

Members present: Bill Yager, Sharon Rash, Bob Montimore, Keith Davis, Brian Shelley, Don Greenlee, Rodney Parham, and staff members Julie Pribyl & Nichole Moore

Pribyl & Moore introduced themselves as staff members from Chariton Valley Planning & Development, which is Wayne county's local Council of Governements. Moore explained that the COG is willing to support communities as they apply for grants, community improvements, etc. The current projects that CVPD is working on in this county are Seymour Housing Improvement Application, Promise City Sewer improvements, the Corydon Street Improvement project.

Pribyl explained the process of assembling the Hazard Mitigation Plan. She shared that it will take a lot of participation of community representatives for this to be personalized for Wayne County. This is to be a helpful utensil that can be implemented in the future to keep residents safe. She described examples of current grant funds that are available and will be accessible when the plan is approved. One such example is safe rooms in the school systems. A brief discussion was held on how communities were profiled, hazards identified and ranked, mitigation strategies to address each hazard, and goals & objectives selected.

It was described that the timeframe is normally about 18 months to complete the plan. During that time, staff will work to gather the local In Kind match amount of \$7500 with the assistance of community clubs & organizations. Committee members offered the following suggestions:

Committee members asked about including residents throughout the rural areas, including the Amish residents. Staff members remarked that was a very valid point that needs to be included in the process.

Staff members confirmed that this plan will be inclusive of all incorporated communities of Corydon, Millerton, Promise City, Seymour, Allerton, Clio, Lineville, and Humeston. This plan will also involve plans for the rural areas and unincorporated communities throughout Wayne county.

Committee members agreed that the HMGP meetings should coincide with the LEPC meetings. Bill will be in touch with our office to arrange the next meeting. Members were left with the list of potential hazards that they may begin considering until the next meeting.

Hazards to be Addressed

| Hazard | Yes | No | If "no", why |
|---|-----|----|--------------|
| Natural Hazards | | | |
| Flash Flood | | | |
| Tornado | | | |
| Windstorm / High Wind Event | | | |
| Extreme Heat | | | |
| Hailstorm | | | |
| Grass / Wildfire | | | |
| Sink Hole | | | |
| River Flooding | | | |
| Severe Winter Storm | | | |
| Drought | | | |
| Earthquake | | | |
| Landslide | | | |
| Dam Failure | | | |
| Levee Failure | | | |
| Expansive Soils | | | |
| Thunderstorm / Lightning | | | |
| Radon | | | |
| Human Caused and Combination Hazards | | | |
| Climate Change | | | |
| Air Transport Incident | | | |
| Rail Transport Incident | | | |
| Pipeline Incident | | | |
| Highway Transport Incident | | | |
| Transport Haz. Materials | | | |
| Transport Radiological Mat. | | | |
| Waterway Incident | | | |
| Human Disease Pandemic | | | |
| Human Disease Incident | | | |
| Animal / Plant / Crop Disease | | | |
| Agro-Terrorism | | | |
| Biological Terrorism | | | |
| Chemical Terrorism | | | |
| Conventional Terrorism | | | |
| Cyber Terrorism | | | |
| Radiological Terrorism | | | |
| Enemy Attack | | | |
| Fixed Radiological Incident | | | |
| Fixed Hazardous Materials | | | |
| Energy Failure | | | |
| Public Disorder | | | |
| Communications Failure | | | |
| Structural Failure | | | |
| Structural Fire | | | |

County Wayne

HAZARD MITIGATION PLANNING IN-KIND

DATE 11/14/2010 TIME 5:30 LOCATION Corydon Courthouse

| NAME | ADDRESS or EMAIL | Are you being paid to be here? | HRS VOLUNTEERED | SIGNATURE |
|-----------------------|--|--------------------------------|-----------------|----------------|
| Sharon Rash | srash@grm.vnet | Y X | 1 | SRash |
| Bob Montimore | 308 Central Avenue, Clco 8711 | N | 1 | Bob Montimore |
| Keith Davis / Sheriff | 207 N. Lafayette Corydon | NO NO | 1 | D. Keith Davis |
| Brian Shelley | 507 W. Madison Corydon, IA 50600 Shelleyb@grm.net | N | 1 | Brian Shelley |
| Don Greenlee | | N | 1 | Don Greenlee |
| Will Keager | wke05a@grm.net | Y X | 1 | Will Keager |
| RODNEY FAHMAN | 614 W Madison St Corydon IA 50600 rodscuto@grm.net | N | 1 | Rodney Fahman |

Total hrs 5 x \$25.31 = \$ 126.75



Historic Courthouse District
205 1/2 N. 13th Street, Suite A, Centerville, IA 52544-1707

Meeting and managing change

WAYNE COUNTY HAZARD MITIGATION COMMITTEE MEETING
Tuesday, May 18, 2010
7pm @ Wayne county Courthouse
Corydon, IA

- I. Review the purpose & importance of HMGP
- II. Goals of the plan.
 - a. Review purposed goals- alter/improve/adjust to reflect the desires of Wayne County
- III. Identify the hazards that need to be addressed in Wayne County.
 - a. Handout provided for discussion
- IV. Scoring of Hazards
 - a. See separate directions page, hazard profile page, and scoring chart.
- V. Community Representatives – major hazard concerns for each town
 - a. School participation is required if school considering applying for school safe room funding.
- VI. Community packets – Each community will be profiled and some of that information has already been gathered. Yet additional needs to be supplied the community. There are packets assembled for each jurisdiction to take and complete at their convenience of the next month or so. The directions are pretty specific but if you should have questions, please feel free to email (jpribyl@charitonvalleyplanning.com) or call me any time!

NEXT MEETING: We will work on selecting mitigation strategies for each of the hazards you have selected. We will also identify critical facilities and vulnerable building/population in your communities.

Hazard Concerns

Corydon - Wind storm, Winter storm, Rail Accident
Humeston - tornado, Winter storm, Chemical Storage
Clio - Tornado, wind, Thunderstorm, Rail line
Alexville - Tornado, T-Storm, Sv Winter, Pipeline, Chemical
Allerton -
Promise City - Tornado, Winter, T Storm Highway
Seymour -
Allerton - T Storm, Sv Winter storm, Pipeline, Tornado

Phone: 641.437.4359

Fax: 641.437.1161

Website: charitonvalleyplanning.com

WAYNE COUNTY HAZARD MITIGATION PLANNING MEETING

Tuesday, May 18, 2010

7pm-9pm, Corydon, IA @ Wayne County Courthouse

MEMBER PRESENT:

We began the meeting with brief introductions and it was noted that 90% of the Cities within Wayne County were represented. Pribyl provided a handout that discussed the purpose, the importance, and the process it will take to accomplish assembling the HMGP for Wayne County.

CVPD provided the committee with sample Goals & Objectives from neighboring Counties. The committee agreed to slightly modify wording from the Goals of one example and utilize it. It was agreed upon by all members.

A worksheet was given to each committee member that listed the Natural & Human-caused/Combination Hazards. The discussions regarding natural hazard centered upon excluding Landslides and Levee Failure. It was decided that the risk of Landslides is very low and not worth the attention it would take to address it compared to other hazards. The only levees that were mentioned that could be considered within the county are along the wetlands to control lowland flooding. It was discussed that even if there were a break it would only cause slight problems for some crop land. It was then decided to exclude it from our work. When reviewing Human Caused/Combination Hazards, members wish to emphasize pipeline incident due to several lines running throughout the county. It was a brief discussion why climate Change was under "Human caused" and that those conditions would be included under the Natural Hazards. All committee members voted to exclude Climate Change from the plan. It was also unanimous to exclude "fixed radiological" incident because there is not a site within the boundaries of the county. There was a brief discussion to include/exclude Public Disorder. Several members agreed that the potential does exist and particularly note difficult economic times that can provoke that. It was voted to keep Public Disorder in to be address in the HMGP.

Pribyl discussed the importance of the schools involvement with this plan and Bill will contact the school in regards to their participation and possible interest in the School Safe Room funds.

Each Community shared their concerns for which specific hazard could affect their community. The following was the information that each community representative stated & the Emergency Management director agreed:

Corydon – Windstorm/Thunderstorm, Winter Storms, & Rail incident

Humeston – Tornado, Winter storm, Fixed Hazardous materials

Clio – tornado, wind/thunderstorm, Rail Incident

Lineville – Tornado, Thunderstorms, Severe Winter Storms, Pipeline incident, & Fixed Hazardous Incident

Promise City – Tornado, Severe Winter storms, Highway Transpt Incident

Allerton – Thunderstorms, Severe Winter Storms, Pipeline Incident, Tornado

Millerton & Seymour not present.

Community packets were given to the representative for them to work with other City Representatives. They were given direction sheets and forms to fill out regarding the critical facilities within each City and critical asset businesses within their communities. They were also provided with envelopes for mailing the results.

Meeting was adjourned at 8:15pm and the next meeting will be scheduled by the Emergency Management Coordinator.

2010

LECP MEETING
MAY, 18 2010

| NAME | ORGANIZATION |
|-----------------------------|------------------------------------|
| 1. <u>Bob Mortimore</u> | <u>mayer - city of Clio</u> |
| 2. <u>John Harman</u> | <u></u> |
| 3. <u>Joyce A. Greenlee</u> | <u></u> |
| 4. <u>Don Brantley</u> | <u>Wa Co.</u> |
| 5. <u>ROD RICHMAN</u> | <u>Mayor Conroydon</u> |
| 6. <u>Mike Schroeder</u> | <u>Humerton Fire Dept</u> |
| 7. <u>Amy Sinclair</u> | <u></u> |
| 8. <u>Byrd Sinclair</u> | <u></u> |
| 9. <u>Brian Shelley</u> | <u>Four State Patrol Conroydon</u> |
| 10. <u>Carol Johnson</u> | <u>Wayne SAFE Coalition</u> |
| 11. <u>Edmund Johnson</u> | <u></u> |

- 12. Sharon Rash Wayne CPH
- 13. Duffy Kester WAYNE ONLY SUPERVISOR
- 14. Jerry O'Dell " " "
- 15. Tim Tometich Prinise City Council
- 16. Ron Schreck Allerton Fire
- 17. Brentt Snow Lineville Fire
- 18. Tim Ehrich Wayne County Eng'r
- 19. Keith Davis Wayne County Sheriff
- 20. Roger Carpenter Corydon Fire Dept
- 21. _____
- 21. _____
- 22. _____
- 23. _____
- 24. _____

Hazards to be Addressed

| Hazard | Yes | No | If "no", why |
|---|-----|----|---|
| Natural Hazards | | | |
| Flash Flood | | | |
| Tornado | | | |
| Windstorm / High Wind Event | | | |
| Extreme Heat | | | |
| Hailstorm | | | |
| Grass / Wildfire | | | |
| Sink Hole | | | |
| River Flooding | | | |
| Severe Winter Storm | | | |
| Drought | | | |
| Earthquake | | | |
| → Landslide | | | |
| → Dam Failure | | | |
| → Levee Failure | | | None that we know |
| Expansive Soils | | | |
| Thunderstorm / Lightning | | | |
| Radon Test | | | Assess Program |
| Human Caused and Combination Hazards | | | |
| → Climate Change | | | |
| Air Transport Incident | | | |
| Rail Transport Incident | | | |
| → Pipeline Incident | | | Natural Gas, Ruston Station by Pineville |
| Highway Transport Incident | | | |
| Transport Haz. Materials | | | |
| Transport Radiological Mat. | | | |
| Waterway Incident | | | |
| Human Disease Pandemic | | | |
| Human Disease Incident | | | |
| Animal / Plant / Crop Disease | | | |
| Agro-Terrorism | | | |
| Biological Terrorism | | | |
| Chemical Terrorism | | | |
| Conventional Terrorism | | | |
| Cyber Terrorism | | | |
| Radiological Terrorism | | | |
| ✗ Enemy Attack | | | include |
| → Fixed Radiological Incident | | | |
| Fixed Hazardous Materials | | | |
| Energy Failure | | | |
| ✗ Public Disorder | | | Several Community events - local or visiting groups |
| Communications Failure | | | |
| Structural Failure | | | |
| Structural Fire | | | |

Chain Link?
~~Struct~~



Historic Courthouse District
205 ½ N. 13th Street, Suite A, Centerville, IA 52544-1707

Meeting and managing change

WAYNE COUNTY HAZARD MITIGATION COMMITTEE MEETING

Thursday, May 5, 2011

6:30pm @ Wayne County Sheriff's Office
Corydon, IA

- I. Signatures of Attendance
- II. Review agenda & minutes from May 2010 meeting.
 - a. Ranking of hazards
 - b. Review of Goals approved
 - c. Hazard Analysis Summary chart
- III. Identify the hazards that could affect each city.
 - a. Handout provided for discussion and completion
 - b. Please give any specific locations, critical facilities, major businesses that may be affected by some of the hazards requested
- IV. Selection of Hazards Selection of Mitigation Strategies for entire county/all jurisdictions
 - a. See document "Mitigation Ideas: Possible Mitigation Measures by Hazard Type".
 - i. Each hazard needs to have corresponding Mitigation strategy that the county could work on to be better prepared in the event of that occurrence.
 1. The booklet provides only suggestions, please feel free to add your own (i.e. a 4 way stop intersection to address highway transportation)

NEXT MEETING: Score the Mitigation strategies identified for the area; communities select the priority mitigation strategies that they will begin working on; continue to brainstorm opportunities for the discussion of HMGP and the gathering of In kind signatures.

Wayne County Hazard Mitigation Planning Minutes
May 5, 2011
Wayne County Sheriff office

MEMBERS PRESENT: Amy Sinclair, BJ Alley, Duffy Kester, Caleb Housh, Bob Mortimore, Ron Marolf, Cody Babbitt, Denise Hook, Brenda Devore, Bill Yeager, Julie Pribyl (CVPD)

Beginning of meeting was dedicated to the reviewing the purpose of HMGP, decisions from the past meeting & the goals for this meeting. Pribyl reviewed minutes but discussing what decisions that was made the previous meeting and how that will be built on for today's meeting. All members accepted the minutes as they were presented.

Members reviewed the hazard rankings that were rated last time. There were brief discussions of how they rankings fell and what if they happened. Mortimore asked, "what if a lower rated event was to happen?" Pribyl explain that the ranking isn't extremely important to the state and recovery assistance would be provided because the hazard had been identified. The ranking is giving more of a priority to the region on where to focus efforts.

A handout was then provided that listed all hazards and asked for the committee to identify specific hazards and the likelihood of occurrence in specific jurisdictions. CVPD completed sections of large coverage area disasters affecting the entire county and all jurisdictions. Committee members completed the unique hazards to each jurisdiction. Greatest discussion revolved around if domestic violence was deemed as an element of "Public Disorder". It was consensus of the committee that it would be and, therefore, it could potentially happen anywhere so all jurisdictions were at risk. Fixed hazardous materials include gas stations and farmer's cooperatives (offering anhydrous ammonia) throughout the county were identified. Each jurisdiction was included with the exception of Millerton and Promise City. There are no major concerns of flash flooding or river flooding in any of the jurisdictions. The Unincorporated region of the county has suffered the most damage in recent flooding events and is the only jurisdiction that was identified currently at risk. Transportation of hazardous materials incident was discussed as potentially happening in any jurisdiction because all of them either have a rail line or a state highway through the community. A high pressure pipeline exists on the western portion of the county and places the unincorporated region, Humeston, Allerton, Clio and Lineville at risk of a pipeline incident. Discussion was held about natural gas service pipelines that enter into cities but that they are under a lower pressure rating. They were not included at this time and Pribyl will check to see if they should also be identified in the plan. There was also questions about the locations of abandon coal mines though out the county. Members discussed that is known of mines in Seymour and that there are many in the unincorporated regions of the east side of Wayne county (including around Promise City). Members chose to leave the jurisdictions at risk to be the unincorporated region and Seymour until further mapping could be found to dictate other locations. Pribyl discussed that if that mapping does not exist it may need to be mitigation action that communities/county needs to establish.

Committee members were provided with FEMA-R5, "Mitigation Ideas: Possible Mitigation Measures by Hazard Type" to guide them in selecting mitigation strategies. CVPD also provided examples of the strategies the surrounding counties selected. Yeager was able to identify some of the strategy that already exist and are actively implemented in the county. He shared them with the group and assured them of more and he would be providing CVPD with a document that states those. Many were identified through discussions and included: 28E Agreements, Enhanced 9-1-1 systems, Backup generators at shelter & critical facility locations, emergency shelter sites all located, fire departments of a search system/list of vulnerable population to check on in disasters, etc. A comprehensive list will later be submitted by Yeager/Marolf. As strategies were being discussed, there was a very realistic approach about if strategies could truly be accomplished in this region. Members were not interested in strategies like "burying power lines". Members were able to provide suggestions for each hazard and make quick decisions on acceptable strategies. The attached document shows the choices made by the committee & some of the notes of discussion. Pribyl reminded members that this is a preliminary selection and that it will be presented to them in

GOALS & OBJECTIVES

Goal 1: Protect critical facilities, infrastructure, and other community assets from the impacts of hazards

- Objective 1.1** Seek mitigation projects that provide the highest degree of hazard protection at the least cost.
- Objective 1.2** Strengthen partnerships and collaboration of jurisdictions, as well as, invite corporate partners, education systems, agencies and faith based representatives to participate in emergency planning and recovery.
- Objective 1.3** Utilize public funds/grant opportunities to protect critical facilities, public services & transportation entities.

Goal 2: Protect the health, safety & quality of life for Wayne County residents by minimizing the vulnerability of people and property in Wayne County.

- Objective 2.1** Ensure that property owners can maintain & improve their properties.
- Objective 2.2** Ensure that disaster recovery can proceed promptly following a disaster.
- Objective 2.3** Provide back-up energy supplies in all vital assets identified in this plan.
- Objective 2.4** Promote improving zoning codes, building codes, nuisance abatement, and health codes, especially in relation to areas with older buildings.
- Objective 2.5** Review the protocol, education & necessary medications/interventions to deal with airborne & human transmitted hazards that directly deal with impact of health & life.

Goal 3: Reduce losses due to natural and man-made hazards.

- Objective 3.1** Educate members of the county about hazards, how to be prepared, & shelter locations.
- Objective 3.2** Review & upgrade warning systems and communications for sufficient coverage
- Objective 3.3** Provide certified shelters/safe rooms
- Objective 3.4** Provide adequate training, equipment and exercises to train responding emergency personnel.
- Objective 3.5** Maintain current & create new planning and exercises related to any terrorism event.
- Objective 3.6** Identify and map locations of accidents in an annual public report in order to determine locations where improvements are necessary.

County Wayne Co

HAZARD MITIGATION PLANNING IN-KIND

DATE 5/5/11 TIME 6:30-8:30pm LOCATION Caydon, IA

| NAME | ADDRESS or EMAIL | Elected officials- Are you being paid to be here? | HRS VOLUNTEERED | SIGNATURE |
|---------------|----------------------|---|-----------------|----------------------|
| Amy Sinclair | Sinclair@qgm.net | NO | 2 | <i>Amy Sinclair</i> |
| B.J. Alley | | NO | 2 | <i>B.J. Alley</i> |
| Juffy Kester | kester@qgm.net | NO | 1 2 | <i>Juffy Kester</i> |
| Caleb Hush | cal@talktopia.com | NO | 2 | <i>Caleb Hush</i> |
| Bob Montimone | | No | 2 | <i>Bob Montimone</i> |
| Rex Maroff | rmaroff@wayne-so.org | no | 2 | <i>Rex Maroff</i> |

Total hrs 12 x \$27.60 = \$ 331.20

County Wayne

HAZARD MITIGATION PLANNING IN-KIND

DATE 5/5/11 TIME 6:30-8:30pm LOCATION Coydon, IA

| NAME | ADDRESS or EMAIL | Elected officials- Are you being paid to be here? | HRS VOLUNTEERED | SIGNATURE |
|---------------|--------------------------|---|-----------------|--------------------|
| Cody Bobbitt | cbobbitt@metnetworks.com | N | 2 | <i>[Signature]</i> |
| Denise Lock | dlock@metnetworks.com | N | 2 | <i>[Signature]</i> |
| Brenda DeVore | devogas@iowatelecom.net | N | 2 | <i>[Signature]</i> |
| Bill YENGER | wacosno@qps.net | N | 2 | <i>[Signature]</i> |
| | | | | |
| | | | | |
| | | | | |

Total hrs 8 x \$27.60 = \$ 220.80



Historic Courthouse District
205 ½ N. 13th Street, Suite A, Centerville, IA 52544-1707

Meeting and managing change

WAYNE COUNTY HAZARD MITIGATION COMMITTEE MEETING

Thursday, January 19, 2012
6:30pm @ Wayne County Sheriff's Office
Corydon, IA

I. Signatures of Attendance

II. Review agenda & minutes from May 2011 meeting.

- Sit near other members from your community

III. Communities review mitigation strategies & scores to prioritize by jurisdiction

IV. Committee members review the Vulnerability section of the plan to confirm or add information about vulnerable locations/buildings throughout the region.

- Turn packet back into me

V. Group work – break up into groups of 2-3 people to complete charts. Each group selects 10 hazards, the mitigation strategies associated with them and how they relate to the goals established.

- a. Chart of Hazards & Mitigation Strategies
- b. STAPLEE chart
- c. Mitigation strategies & Goals chart

VI. Committee approval to allow the addition of the Wayne County Community Schools and Wayne County Hospital as individual jurisdiction so that they can apply independently for grant funding in the future.

- a. Both have had a representatives throughout the process and provided critical input

VII. Need Inkind signatures for match commitment – does anybody have any presentation date requests?

*MFA
East Penn
Hospital* *Shivers
Davy Concepts*

NEXT MEETING: This should be the last meeting in regards to the Hazard Mitigation Plan. We will contact the committee about any further questions that Homeland Security may have and notify you when the plan is officially FEMA approved. At that point, it is critical for ALL COMMUNITIES to officially pass a resolution approving this document and then communities can apply for funding that's available. I will be in touch with Bill & send out notices to committee members when the plan is FEMA approved and sample resolutions to modify and adopt.

Phone: 641.437.4359

Fax: 641.437.1161

Website: charitonvalleyplanning.com

WAYNE COUNTY HAZARD MITIGATION COMMITTEE MEETING
Thursday, January 19, 2012

MEMBERS PRESENT: Bill Yeager, Tom Hamour, David Lewis, Roger Carpenter, Cody Babbitt, BJ Alley, Brentt Snow, Bill Byrns, Brenda DeVore, Brian Shelley, Alec Horton, Sharon Rash, Tracey Vandell, Rod Parham, Keith Davis, Dave Daughton, Dave Dennis, Duffy Kester.

The meeting began at 6:35pm with members signing in and reviewing meeting minutes from the previous meeting. There were no corrections to the minutes as presented.

Members broke into groups that were identified by each community. The groups then reviewed the respective community profile from the HMP plan to proofread and add additional information regarding community assets and/or community facilities. They then reviewed the selected mitigation strategies for the entire county and indicated which strategies would be a priority for their respective communities. Representatives also reviewed the vulnerability of their community to hazards and identify which assets are at risk under which hazard.

Discussion was then held to entertain the idea of allowing Wayne County Hospital and Wayne Community School to be profiled as each it's own jurisdiction in the plan. Pribyl indicates that participation is critical with a representative from each entity. The Hospital has been active throughout the process and viable as an independent jurisdiction. This would allow the hospital to apply directly for possible grant funding. The committee unanimously approved the addition of Wayne County Hospital to the Wayne County HMP. Pribyl will work with Cody and/or other hospital representatives to gather the necessary data for their profile.

Dave Daughton, Superintendent of Wayne County Community School, was present at the meeting. Dave had previously met with Wayne Emergency Management Coordinator to gather a clear understanding of the purposes of the Hazard Mitigation Plan. Mr. Daughton is indicating the school is interested in possible safe room funding for their facility. Pribyl has indicated it would be possible for the school to be added to this plan if the committee provides approval and Dave agrees to continued participation. The committee unanimously agreed to add Wayne Community Schools to this plan. Dave and CVPD will meet to review the document, the intent, and strategies to improve disaster prevention/preparedness. At that time, more information will be gathered to create a profile for the school as an individual jurisdiction.

Committee work continued as members reviewed the hazard & mitigation chart and the hazard/goal chart. Adjustments were made to the information that was presented. Basic information was provided on the charts based on handout of FEMA: Mitigation Ideas. While in groups the committee members continued to work on completing the STAPLEE. Pribyl presented the information and importance that the STAPLEE provides in prioritizing mitigation strategies in the County. All scores made by the committee will be made on the official documents for Wayne County HMP.

The last topic of the meeting was to discuss the remaining Inkind balance required by this grant. Committee members provided suggestions for contacts to offer presentations to gather volunteer hours. Approximately \$6,000 remains and Pribyl offered to make presentations as any organization that will host. Emergency Management Coordinator, Bill, also offered to assist by speaking with local fire departments.

The Wayne County HMP draft will be submitted to Iowa Homeland Security for first review in February. Pribyl explained that the review and approval process can be time consuming but is hoping for approval by August 2012.



the next meeting and adjustments can be made at any point in the planning process. Sinclair asked questions about the mitigation strategy of "Road Design" for the hazard of "Highway Transportation Incident". Pribyl was uncertain of the answers and offered to provide accident data reports for next meeting to help determine if that is a possible strategy they should consider.

Previous meetings had discussion of how to include the Amish population within the county to have them best prepared or what would be acceptable assistance following a disaster. Yeager had reached out to this community and attended a public meeting. The elders of the Amish community indicated that they do not want to be included in any of the plans or notifications of disasters. It is their belief that what occurs will be "God's will" and they will handle it within their community of Amish families.

Pribyl spent time speaking with Cody Babbitt about the important presence of the hospital in the development of the grant. Discussions were held about the intentions of the hospital and the possibility of applying for any grant opportunities and if they would like to be individually profiled as a "community" to make them eligible for that. Brenda took down the information and will provide it to the Hospital Board and follow up with CVPD to inform of the level of their participation.

Marolf agreed to make contact with the Wayne County Community Schools system about becoming more active in the committee so that they may be eligible for potential grants in the future. Other members agreed that the school should be present and that they know they will be willing to contribute.

An additional handout was provided to members. It was a document asking for specific structures that lie in close proximity to potential hazard sources: i.e., the rail line, rivers, highways, sinkholes, etc. Community members were asked to take home, complete and mail in to CVPD.

Wayne County HM 601

WAYNE COUNTY LEPC & E-911

Sign-In Sheet

Building Address: WAYNE COUNTY LAW CENTER
 Date: January 19, 2012

| | Name | Company or Purpose of Visit | Time-In | Time-Out |
|----|----------------|-----------------------------|---------|----------|
| 1 | Bill Yeager | DOC | 6:30 pm | 8:30 pm |
| 2 | Tom Harmon | Med med | | |
| 3 | David on Lewis | Seymour FD | | |
| 4 | Rose Carpenter | Corydon FD | | |
| 5 | Cody Bobbitt | Wayne Co Ambulance/Hospital | | |
| 6 | B.J. Alley | BOS | | |
| 7 | Brent Show | Klineville FD | | |
| 8 | Bill Byrnes | EMC | | |
| 9 | Brenda DeVore | Premise City Mayor | | |
| 10 | Brian Shelley | Iowa State Patrol Corydon | | |
| 11 | Alec Horton | Allerton Fire | | |
| 12 | Sharon Rash | Wayne County Public Health | | |
| 13 | Tracey Vandell | Homer Fire Dept | | |
| 14 | ROD FAHAM | Corydon Mayor | | |
| 15 | Keith Davis | Wayne Co Sheriff | | |
| 16 | Dave Doughton | Wayne Comm Schools | | |
| 17 | Dave Davis | Allerton | | |
| 18 | Judy Lester | WAYNE BOS | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |

18 people x 2hrs x \$2760/hr = \$99360



Wayne County Hazard Mitigation Planning Committee Meeting

Date: Thursday, January 14, 2010

Time: 5 PM

Location: Wayne County Courthouse, Corydon, IA

Primary Purpose:

Review planning process, identify local hazards, and InKind contributions

This is an open public meeting and all are welcome!



308 N 12th Street
Centerville IA 52544
Phone: 641-437-4359
Fax: 641-437-1161
E-mail:
jpribyl@charitonvalleyplanning.com



Wayne County Hazard Mitigation Planning Committee Meeting

Date: Tuesday, May 18, 2010

Time: 7 PM

Location: Wayne County courthouse, Corydon, IA

Primary Purpose:

The committee will identify hazard profiles, score those hazards, and select Goals for this plan .

This is an open public meeting and all are welcome!



205 1/2 N 13th Street
Centerville IA 52544
Phone: 641-437-4359
Fax: 641-437-1161
E-mail:
jdawson@charitonvalleyplanning.com



Wayne County Hazard Mitigation Planning Committee Meeting

Date: Thursday, May 5, 2011

Time: 6:30 PM

Location: Wayne County Sherriff's Office, Corydon, IA

Primary Purpose:

Specific community hazards and structures at risk, mitigation selections, and requirements of In Kind signatures.

This is an open public meeting and all are welcome!



308 N 12th Street
Centerville IA 52544

Phone: 641-437-4359

Fax: 641-437-1161

E-mail:

jpribyl@charitonvalleyplanning.com



Wayne County Hazard Mitigation Planning Committee Meeting

Date: Thursday, January 19, 2012

Time: 6:30 PM

Location: Wayne County Sherriff's Office, Corydon, IA

Primary Purpose:

Review and confirm mitigation strategies, scores and rankings. Collection of remaining community data before draft submittal in February.

This is an open public meeting and all are welcome!



308 N 12th Street
Centerville IA 52544
Phone: 641-437-4359
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jpribyl@charitonvalleyplanning.com

Appendix O: National Climatic Data Center Event Results

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-bin/w/wcgs.dll?w/event-storms>



NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)



National Climatic
Data Center
U.S. Department of Commerce



DOC > NOAA > NESDIS > NCDC Search Field:

Search NCDC

Query Results

322 event(s) were reported in Wayne County, Iowa between 01/01/1950 and 03/31/2009 (High Wind limited to speed greater than 0 knots).

Click on Location or County to display Details

Iowa

| Location or County | Date | Time | Type | Mag | Dth | Inj | PrD | CrD |
|--------------------|------------|------|-----------|----------|-----|-----|------|-----|
| <u>1 WAYNE</u> | 05/10/1953 | 1515 | Tornado | F4 | 0 | 0 | 25K | 0 |
| <u>2 WAYNE</u> | 05/20/1959 | 1900 | Tornado | F4 | 0 | 5 | 250K | 0 |
| <u>3 WAYNE</u> | 04/16/1960 | 1630 | Tornado | F2 | 0 | 0 | 25K | 0 |
| <u>4 WAYNE</u> | 04/23/1961 | 0837 | Tornado | F2 | 0 | 0 | 2.5M | 0 |
| <u>5 WAYNE</u> | 04/21/1963 | 2330 | Tstm Wind | 0 | 0 | 0 | 0 | 0 |
| <u>6 WAYNE</u> | 07/04/1968 | 1500 | Hail | 0.75 in. | 0 | 0 | 0 | 0 |
| <u>7 WAYNE</u> | 06/04/1969 | 1600 | Tstm Wind | 0 kts. | 0 | 0 | 0 | 0 |
| <u>8 WAYNE</u> | 07/12/1969 | 1900 | Tstm Wind | 0 kts. | 0 | 0 | 0 | 0 |
| <u>9 WAYNE</u> | 04/29/1970 | 1430 | Tornado | F2 | 0 | 0 | 2.5M | 0 |

| | | | | | | | | | |
|----------|------------|------|-----------|----------|---|---|-------|---|---|
| 10 WAYNE | 04/20/1971 | 1435 | Tsim Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 |
| 11 WAYNE | 06/06/1971 | 2230 | Tsim Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 |
| 12 WAYNE | 06/14/1974 | 1700 | Hail | 1.75 in. | 0 | 0 | 0 | 0 | 0 |
| 13 WAYNE | 08/21/1974 | 1630 | Tsim Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 |
| 14 WAYNE | 03/23/1975 | 1510 | Tornado | F0 | 0 | 0 | 3K | 0 | 0 |
| 15 WAYNE | 06/23/1975 | 1700 | Tsim Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 |
| 16 WAYNE | 06/23/1975 | 1705 | Tornado | F1 | 0 | 0 | 25K | 0 | 0 |
| 17 WAYNE | 11/29/1975 | 1815 | Tsim Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 |
| 18 WAYNE | 12/14/1975 | 0150 | Tsim Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 |
| 19 WAYNE | 06/02/1980 | 0630 | Tornado | F2 | 0 | 0 | 250K | 0 | 0 |
| 20 WAYNE | 06/02/1980 | 1545 | Tornado | F4 | 0 | 0 | 2.5M | 0 | 0 |
| 21 WAYNE | 04/03/1981 | 2010 | Tornado | F0 | 0 | 0 | 0K | 0 | 0 |
| 22 WAYNE | 06/07/1981 | 1825 | Hail | 1.75 in. | 0 | 0 | 0 | 0 | 0 |
| 23 WAYNE | 06/07/1981 | 1903 | Hail | 1.75 in. | 0 | 0 | 0 | 0 | 0 |
| 24 WAYNE | 06/07/1981 | 2030 | Tornado | F1 | 0 | 0 | 3K | 0 | 0 |
| 25 WAYNE | 04/02/1982 | 1535 | Hail | 1.75 in. | 0 | 0 | 0 | 0 | 0 |
| 26 WAYNE | 06/15/1982 | 0100 | Tornado | F1 | 0 | 0 | 25K | 0 | 0 |
| 27 WAYNE | 06/07/1984 | 1820 | Tornado | F4 | 0 | 0 | 25.0M | 0 | 0 |

| | | | | | | | | | | |
|----------|------------|------|----------|----------|---|---|------|---|---|---|
| 28 WAYNE | 06/07/1984 | 1900 | Tsm Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 WAYNE | 06/07/1984 | 2033 | Tornado | F1 | 0 | 0 | 25K | 0 | 0 | 0 |
| 30 WAYNE | 03/27/1985 | 2018 | Tsm Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 WAYNE | 05/11/1985 | 1512 | Tsm Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 WAYNE | 05/26/1985 | 1609 | Tsm Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 WAYNE | 08/12/1985 | 1805 | Tsm Wind | 0 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 WAYNE | 09/22/1985 | 2020 | Tornado | F2 | 0 | 0 | 2.5M | 0 | 0 | 0 |
| 35 WAYNE | 05/08/1986 | 1522 | Tsm Wind | 52 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 WAYNE | 07/13/1986 | 2335 | Hail | 1.50 in. | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 WAYNE | 07/14/1986 | 0005 | Hail | 1.75 in. | 0 | 0 | 0 | 0 | 0 | 0 |
| 38 WAYNE | 05/08/1988 | 1210 | Tornado | F1 | 0 | 0 | 250K | 0 | 0 | 0 |
| 39 WAYNE | 05/08/1988 | 1225 | Tornado | F2 | 0 | 0 | 250K | 0 | 0 | 0 |
| 40 WAYNE | 11/15/1988 | 1609 | Tornado | F0 | 0 | 0 | OK | 0 | 0 | 0 |
| 41 WAYNE | 05/24/1989 | 1932 | Tornado | F1 | 0 | 0 | 25K | 0 | 0 | 0 |
| 42 WAYNE | 08/31/1989 | 0500 | Tsm Wind | 50 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 WAYNE | 07/09/1990 | 1753 | Tsm Wind | 56 kts. | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 WAYNE | 07/09/1990 | 1815 | Tsm Wind | 50 kts. | 0 | 0 | 0 | 0 | 0 | 0 |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-bin/wc.cgi.dll?wvent-storms>

| | | | | | | | | | |
|---|------------|------|---------------|----------|---|---|------|---|---|
| 45 WAYNE | 07/09/1990 | 1815 | Tsm Wind | 50 kts. | 0 | 0 | 0 | 0 | 0 |
| 46 WAYNE | 07/19/1990 | 1629 | Tornado | F0 | 0 | 0 | 0K | 0 | 0 |
| 47 WAYNE | 04/26/1991 | 2210 | Tornado | F2 | 0 | 0 | 250K | 0 | 0 |
| 48 WAYNE | 04/26/1991 | 2210 | Tornado | F2 | 0 | 2 | 2.5M | 0 | 0 |
| 49 WAYNE | 05/14/1991 | 0915 | Hail | 0.75 in. | 0 | 0 | 0 | 0 | 0 |
| 50 WAYNE | 05/14/1991 | 0950 | Hail | 0.75 in. | 0 | 0 | 0 | 0 | 0 |
| 51 WAYNE | 11/29/1991 | 2035 | Tsm Wind | 61 kts. | 0 | 0 | 0 | 0 | 0 |
| 52 WAYNE | 04/10/1992 | 0540 | Hail | 0.75 in. | 0 | 0 | 0 | 0 | 0 |
| 53 WAYNE | 07/15/1992 | 1915 | Hail | 0.75 in. | 0 | 0 | 0 | 0 | 0 |
| 54 WAYNE | 07/15/1992 | 1930 | Tsm Wind | 50 kts. | 0 | 0 | 0 | 0 | 0 |
| 55 WAYNE | 07/15/1992 | 1935 | Tsm Wind | 61 kts. | 0 | 0 | 0 | 0 | 0 |
| 56 WAYNE | 07/15/1992 | 2000 | Tsm Wind | 54 kts. | 0 | 0 | 0 | 0 | 0 |
| 57 WAYNE | 07/29/1992 | 1745 | Hail | 0.75 in. | 0 | 0 | 0 | 0 | 0 |
| 58 IAZ002>011 - 013>054 - 056>064 -070>078 - 080>099 | 01/20/1993 | 0430 | Ice Storm | N/A | 0 | 0 | 50K | 0 | 0 |
| 59 IAZ002>011 - 013>054 - 056>064 -070>076 - | 02/08/1993 | 2230 | Freezing Rain | N/A | 0 | 0 | 1K | 0 | 0 |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-win/www.cgi.dll?wwwevent-storms>

| | | | | | | | | | | | | | | | | | | | |
|---|------------|------|---------------|-----------|---|---|-------|---|--|--|--|--|--|--|--|--|--|--|--|
| 080>086 - 090>096 | | | | | | | | | | | | | | | | | | | |
| 60 LAZ002>011 - 013>054 - 056>064 - 070>078 - 080>099 | 02/10/1993 | 2100 | Freezing Rain | N/A | 1 | 0 | 50K | 0 | | | | | | | | | | | |
| 61 LAZ056>064 - 070>078 - 080>099 | 02/20/1993 | 1400 | Freezing Rain | N/A | 0 | 0 | 5K | 0 | | | | | | | | | | | |
| 62 LAZ043>049 - 056>064 - 070>078 - 080>099 | 02/25/1993 | 0500 | Snow | N/A | 0 | 0 | 1K | 0 | | | | | | | | | | | |
| 63 LAZ026>030 - 035>042 - 045>054 - 056>064 - 070>079 - 080>099 | 03/02/1993 | 1200 | Flooding | N/A | 0 | 0 | 50K | 0 | | | | | | | | | | | |
| 64 LAZ002>009 - 013>019 - 022>028 - 031>039 - 043>051 - 056>063 - 070>076 - 081>087 - 093>099 - | 03/09/1993 | 2230 | High Winds | 0 kts. | 0 | 0 | 500K | 0 | | | | | | | | | | | |
| 65 LAZ002>011 - 013>054 - 056>064 - 070>079 - 080>099 | 03/22/1993 | 0600 | Major Flood | N/A | 0 | 0 | 50.0M | 0 | | | | | | | | | | | |
| 66 LAZ002>011 - 013>054 - 056>064 - 070>079 - 080>099 | 04/01/1993 | 0000 | Major Flood | N/A | 0 | 0 | 50.0M | 0 | | | | | | | | | | | |
| 67 LAZ002>011 - 013>054 - 058>064 | 04/20/1993 | 0600 | Major Flood | N/A | 0 | 0 | 5.0M | 0 | | | | | | | | | | | |

NCEM: Query Output

<http://www4.ncecm.noaa.gov/cgi-w/r/w/w.cgi.dll?wvent-storms>

| | | | | | | | | |
|--|------------|------|--------------------|-------------|---|---|------|------|
| 78 LAZ001>005 - 020>025 - 031>035 - 043>047 - 055>059 - 069>072 - 079>083 - 090>095 | 11/24/1993 | 0900 | Freezing Rain | N/A | 0 | 0 | 5K | 0 |
| 79 LAZ001 - 012 - 020 - 021 - 031 - 032 - 043>046 - 055>060 - 069>075 - 079>086 - 090>098 | 12/05/1993 | 1500 | High Winds | 0 kts. | 0 | 0 | 500K | 0 |
| 80 All Of Iowa | 01/14/1994 | 0300 | Extreme Cold | N/A | 1 | 0 | 500K | 0 |
| 81 All Of Iowa | 01/17/1994 | 0600 | Extreme Cold | N/A | 0 | 0 | 500K | 0 |
| 82 LAZ041 - 042 - 051>054 - 061>099 | 01/26/1994 | 1300 | Freezing Rain | N/A | 0 | 0 | 500K | 0 |
| 83 Northwest Two-thirds | 02/22/1994 | 1000 | Heavy Snow | N/A | 0 | 0 | 500K | 0 |
| 84 All Of Iowa | 02/24/1994 | 2200 | Ground Blizzard | N/A | 0 | 0 | 50K | 0 |
| 85 Much Of Iowa | 03/03/1994 | 1200 | Flooding | N/A | 0 | 0 | 500K | 0 |
| 86 All Of Iowa | 04/14/1994 | 2200 | High Winds | 0 kts. | 0 | 0 | 500K | 0 |
| 87 Most Of Iowa | 04/26/1994 | 0900 | High Winds | 0 kts. | 0 | 3 | 5.0M | 0 |
| 88 Clie | 06/11/1994 | 1630 | Hail | 1.75 in. | 0 | 0 | 50K | 50K |
| 89 LAZ001>099 | 06/22/1994 | 2330 | Flooding | N/A | 0 | 0 | 500K | 500K |
| 90 LAZ001>004 - 012>015 - 020>028 - 031>099 | 01/26/1995 | 2300 | Freezing Rain | N/A | 0 | 0 | 100K | 0 |

NCDRC: Query Output

<http://www4.ncdc.noaa.gov/cgi-win/www.cgi.dll?wwevent-storms>

| | | | | | | | | |
|---|------------|------|-------------------------|--------|---|---|------|-------|
| 91 All Of Iowa | 02/10/1995 | 0000 | High Winds | 0 kts. | 0 | 0 | 100K | 0 |
| 92 All Of Iowa | 02/10/1995 | 2200 | Extreme Wind Chill | N/A | 0 | 0 | 50K | 0 |
| 93 IAZ004>011 - 015>019 - 023>030 - 033>042 - 044>054 - 057>068 - 070>078 - 081>089 - 092>099 | 04/03/1995 | 1300 | High Winds | 0 kts. | 0 | 0 | 125K | 0 |
| 94 IAZ004>006 - 015 - 048>050 - 061>064 - 074>078 - 082>089 - 094>099 | 04/10/1995 | 0900 | Flooding | N/A | 0 | 0 | 10K | 0 |
| 95 IAZ004>011 - 015>019 - 023>030 - 033>042 - 044>054 - 057>068 - 070>078 - 081>089 - 092>099 | 04/18/1995 | 0700 | High Winds | 0 kts. | 0 | 0 | 500K | 0 |
| 96 IAZ004>011 - 015>019 - 023>030 - 033>042 - 044>054 - 057>068 - 070>078 - 081>089 - 092>099 | 05/01/1995 | 0000 | Cold And Wet Conditions | N/A | 0 | 0 | 0 | 66.0M |
| 97 IAZ033 - 034 - 045>052 - 057>068 - 070>078 - 081>089 - 092>099 | 05/07/1995 | 1200 | Flooding | N/A | 0 | 0 | 200K | 10K |
| 98 IAZ070>076 - 081>084 - 092>096 | 05/23/1995 | 0000 | Flooding | N/A | 0 | 0 | 50K | 0 |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-bin/www.cgi.dll?wwwvent-storms>

| | | | | | | | | |
|---|------------|------|----------------------|-----------|---|---|------|--------|
| 99 IAZ023>025 - 033>037 - 044>047 - 057>060 - 070>074 - 081>084 - 091>095 | 05/27/1995 | 2100 | Flooding | N/A | 0 | 0 | 100K | 10K |
| 100 IAZ004>011 - 015>019 - 023>030 - 033>042 - 044>054 - 057>068 - 070>078 - 081>089 - 092>099 | 06/01/1995 | 0000 | Excessive Wetness | N/A | 0 | 0 | 0 | 142.0M |
| 101 IAZ004>011 - 015>019 - 023>030 - 035>042 - 047>054 - 060>068 - 074>078 - 084>089 - 095>099 | 06/06/1995 | 2300 | Flood | N/A | 0 | 0 | 50K | 100K |
| 102 IAZ017>019 - 026>029 - 038>042 - 051>053 - 082>085 - 092>096 | 06/28/1995 | 0600 | Flood | N/A | 0 | 0 | 25K | 30K |
| 103 Central Into South | 07/04/1995 | 2100 | Flood | N/A | 0 | 0 | 25K | 10K |
| 104 All Of Iowa | 07/12/1995 | 1100 | Heat Wave | N/A | 3 | 0 | 3.8M | 0 |
| 105 All Of Iowa | 08/01/1995 | 0000 | Drought | N/A | 0 | 0 | 0 | 0.5B |
| 106 Much Of Iowa | 09/21/1995 | 2300 | Freeze | N/A | 0 | 0 | 0 | 0.2B |
| 107 Much Of Iowa | 10/23/1995 | 1300 | High Winds | 0 kts. | 0 | 0 | 100K | 0 |
| 108 Southern Iowa | 11/10/1995 | 1200 | Snow | N/A | 0 | 0 | 10K | 0 |
| 109 Much Of Iowa | 11/27/1995 | 0500 | Snow | N/A | 0 | 0 | 50K | 0 |
| 110 IAZ070 - 071 - 081>083 - 092>095 | 12/06/1995 | 0600 | Heavy Snow | N/A | 0 | 0 | 5K | 0 |

| | | | | | | | | |
|---|------------|----------|-----------------------|------------|---|---|------|---|
| 111 LAZ004>011 - 015>019 - 023>030 - 033>039 - 044>050>057 - 062 - 070>075 - 081>086 - 092>097 | 12/08/1995 | 0200 | Snow | N/A | 0 | 0 | 20K | 0 |
| 112 LAZ004>011 - 015>019 - 023>030 - 033>039 - 044>050>057 - 062 - 070>075 - 081>086 - 092>097 | 12/08/1995 | 1300 | Extreme Wind Chill | N/A | 0 | 0 | 0 | 0 |
| 113 LAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 01/17/1996 | 09:00 PM | High Wind | 55 kts. | 0 | 0 | 250K | 0 |
| 114 LAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>096 | 01/18/1996 | 02:00 AM | Extreme Windchill | N/A | 0 | 0 | 0 | 0 |
| 115 LAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 01/18/1996 | 09:00 AM | Blizzard | N/A | 1 | 0 | 0 | 0 |
| 116 LAZ007>011 - 016>019 - 024>029 - 033>039 - 044>050 - 057>062 - 070>075 - | 01/26/1996 | 12:00 AM | Heavy Snow | N/A | 2 | 0 | 600K | 0 |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-win/www.cgi.dll?wvent-storms>

| | | | | | | | | | | | | | | | | | | | |
|---|------------|----------|----------------------|------------|---|---|------|---|--|--|--|--|--|--|--|--|--|--|--|
| 081>086 - 092>097 | | | | | | | | | | | | | | | | | | | |
| 117 IAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 01/26/1996 | 12:00 PM | Blizzard | N/A | 0 | 0 | 50K | 0 | | | | | | | | | | | |
| 118 IAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 01/28/1996 | 08:00 PM | Blizzard | N/A | 0 | 0 | 50K | 0 | | | | | | | | | | | |
| 119 IAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 02/01/1996 | 04:00 PM | Extreme Windchill | N/A | 0 | 0 | 0 | 0 | | | | | | | | | | | |
| 120 IAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 02/10/1996 | 12:00 PM | High Wind | 56 kts. | 0 | 0 | 350K | 0 | | | | | | | | | | | |
| 121 IAZ004>011 - 015>019 - 023>029 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 03/24/1996 | 05:00 PM | High Wind | 54 kts. | 0 | 0 | 300K | 0 | | | | | | | | | | | |
| 122 IAZ004>011 - 015>019 - 023>029 - 033>039 - | 04/25/1996 | 09:30 AM | High Wind | 59 kts. | 0 | 0 | 750K | 0 | | | | | | | | | | | |

11 of 29

7/23/2009 10:22 AM

| | | | | | | | | |
|---|------------|----------|-------------------------|-----|---|---|-------|-------|
| 139 IAZ004>007 - 015>017 - 023>028 -033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 05/13/1997 | 12:00 AM | Frost/freeze | N/A | 0 | 0 | 1.0M | 100K |
| 140 Corydon | 07/24/1997 | 02:00 AM | Urban/sml Stream Fld | N/A | 0 | 0 | 25K | 15K |
| 141 IAZ047>050 - 057>062 - 070>075 - 081>086 - 092>095 | 10/26/1997 | 03:00 AM | Heavy Snow | N/A | 0 | 0 | 25.0M | 65.0M |
| 142 IAZ084>085 - 095>096 | 12/04/1997 | 07:00 AM | Heavy Snow | N/A | 0 | 0 | 10K | 0 |
| 143 IAZ023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 12/21/1997 | 02:00 PM | Ice Storm | N/A | 0 | 0 | 88K | 0 |
| 144 IAZ074>075 - 084>086 - 093>097 | 12/24/1997 | 09:00 AM | Heavy Snow | N/A | 0 | 0 | 56K | 0 |
| 145 IAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 01/04/1998 | 06:30 AM | Ice Storm | N/A | 0 | 0 | 1.0M | 0 |
| 146 IAZ070>072 - 081>086 - 092>097 | 01/14/1998 | 01:30 AM | Ice Storm | N/A | 0 | 0 | 30K | 0 |
| 147 IAZ024>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>085 | 03/07/1998 | 09:00 PM | Heavy Snow | N/A | 1 | 0 | 2.0M | 0 |

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|---|------------|----------|-----------|-------------|---|---|------|------|--|
| -092>096 | | | | | | | | | |
| 148 LAZ004>007 - 015>017 - 023>028 -033>039 - 044>050 - 057>062 -070>075 - 081>086 - 092>097 | 03/17/1998 | 02:00 AM | Ice Storm | N/A | 0 | 0 | 300K | 0 | |
| 149 LAZ075 - 083>086 - 094>097 | 03/30/1998 | 06:00 PM | Flood | N/A | 0 | 0 | 90K | 0 | |
| 150 LAZ004>007 - 015>017 - 023>028 -033>039 - 044>050 - 057>062 -070>075 - 081>086 - 092>097 | 04/12/1998 | 08:00 AM | High Wind | 54 kts. | 0 | 0 | 2.6M | 0 | |
| 151 LAZ061 - 074>075 - 083>084 -095>096 | 05/07/1998 | 01:00 AM | Flood | N/A | 0 | 0 | 175K | 70K | |
| 152 Humberston | 05/21/1998 | 10:30 PM | Tstm Wind | 56 kts. | 0 | 0 | 10K | 1K | |
| 153 Corydon | 05/21/1998 | 10:40 PM | Tstm Wind | 52 kts. | 0 | 0 | 5K | 0 | |
| 154 Promise City | 05/21/1998 | 10:43 PM | Tstm Wind | 52 kts. | 0 | 0 | 3K | 0 | |
| 155 Seymour | 05/21/1998 | 11:00 PM | Tstm Wind | 65 kts. | 0 | 0 | 70K | 10K | |
| 156 Corydon | 06/18/1998 | 07:00 AM | Tstm Wind | 56 kts. | 0 | 0 | 10K | 0 | |
| 157 Corydon | 06/29/1998 | 05:30 PM | Hail | 1.75 in. | 0 | 0 | 3K | 10K | |
| 158 LAZ034 - 037>038 - 045>046 | 07/06/1998 | 03:00 AM | Flood | N/A | 0 | 0 | 900K | 1.8M | |

| | | | | | | | | |
|--|------------|----------|--------------|-----|---|---|------|--------|
| 165 IAZ004>007 - 015>017 - 023>027 - 033>037 - 045>046 - 048>049 - 058>061 - 071>072 - 075 - 083>086 - 095 | 04/22/1999 | 06:00 AM | Flood | N/A | 0 | 0 | 370K | 0 |
| 166 IAZ004>006 - 016>017 - 023>028 - 035>039 - 045>046 - 048>049 - 058>061 - 072>075 - 083>085 - 095 | 05/16/1999 | 09:00 PM | Flood | N/A | 0 | 0 | 7.6M | 875K |
| 167 IAZ004>007 - 016>017 - 023>028 - 033>039 - 045>049 - 057>062 - 074>075 - 083>084 - 094>095 | 06/09/1999 | 06:00 AM | Flood | N/A | 0 | 0 | 1.8M | 2.7M |
| 168 IAZ057>062 - 070>075 - 081>086 - 092>097 | 07/20/1999 | 12:00 PM | Drought | N/A | 0 | 0 | 0 | 109.9M |
| 169 IAZ081>084 - 092>095 | 07/31/1999 | 06:00 AM | Flood | N/A | 0 | 0 | 200K | 80K |
| 170 IAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 09/21/1999 | 01:00 AM | Extreme Cold | N/A | 0 | 0 | 0 | 15.0M |
| 171 IAZ082>086 - 092>097 | 02/17/2000 | 08:00 PM | Ice Storm | N/A | 0 | 0 | 550K | 0 |

| | | | | | | | | |
|--|------------|----------|--------------|-------------|---|---|------|--------|
| 172 IAZ028 - 038>039 - 049>050 - 061>062 - 072>075 - 081>086 - 092>097 | 03/08/2000 | 11:00 AM | High Wind | 52 kts. | 0 | 0 | 230K | 0 |
| 173 Corydon | 06/23/2000 | 01:18 PM | Tornado | F0 | 0 | 0 | 1K | 0 |
| 174 Corydon | 06/23/2000 | 01:30 PM | Tstm Wind | 61 kts. | 0 | 0 | 20K | 2K |
| 175 Promise City | 06/23/2000 | 01:40 PM | Tstm Wind | 61 kts. | 0 | 0 | 20K | 2K |
| 176 IAZ026>027 - 038 - 061 - 074>075 - 083>086 - 094>095 - 097 | 06/24/2000 | 03:00 AM | Flood | N/A | 0 | 0 | 650K | 975K |
| 177 Corydon | 06/25/2000 | 05:49 PM | Tstm Wind | 52 kts. | 0 | 0 | 3K | 0 |
| 178 Corydon | 06/25/2000 | 05:57 PM | Tstm Wind | 52 kts. | 0 | 0 | 2K | 0 |
| 179 Countywide | 06/25/2000 | 07:00 PM | Flash Flood | N/A | 0 | 0 | 100K | 25K |
| 180 IAZ033 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 08/14/2000 | 12:00 AM | Drought | N/A | 0 | 0 | 0 | 150.1M |
| 181 IAZ033 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 09/01/2000 | 12:00 AM | Drought | N/A | 0 | 0 | 0 | 161.0M |
| 182 Millerton | 09/22/2000 | 04:19 PM | Hail | 1.75 in. | 0 | 0 | 10K | 10K |
| 183 IAZ004>007 - 015>017 - 023>028 - 033>039 - | 12/10/2000 | 09:00 PM | Winter Storm | N/A | 0 | 0 | 1.3M | 0 |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-win/www.cgi.dll?wwevent-storms>

| | | | | | | | | | | | | | | | | | | | |
|---|------------|----------|--------------|------------|---|---|------|---|--|--|--|--|--|--|--|--|--|--|--|
| 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | | | | | | | | | | | | | | | | | | | |
| 184 IAZ026>028 - 036>039 - 046>050 - 057>062 - 070>075 - 081>086 - 092>097 | 02/08/2001 | 04:00 PM | Ice Storm | N/A | 0 | 0 | 2.7M | 0 | | | | | | | | | | | |
| 185 IAZ026>028 - 036>039 - 046>050 - 057>062 - 070>075 - 081>086 - 092>097 | 02/08/2001 | 11:00 PM | Winter Storm | N/A | 0 | 0 | 1.8M | 0 | | | | | | | | | | | |
| 186 IAZ083>084 - 095>096 | 02/24/2001 | 12:00 PM | Flood | N/A | 0 | 0 | 30K | 0 | | | | | | | | | | | |
| 187 IAZ046>050 - 057>062 - 070>075 - 081>086 - 092>097 | 03/15/2001 | 03:00 PM | Flood | N/A | 0 | 0 | 260K | 0 | | | | | | | | | | | |
| 188 IAZ059>062 - 071>075 - 081>086 - 092>097 | 03/15/2001 | 03:00 PM | Heavy Snow | N/A | 0 | 0 | 650K | 0 | | | | | | | | | | | |
| 189 IAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 03/23/2001 | 06:00 PM | Flood | N/A | 0 | 0 | 383K | 0 | | | | | | | | | | | |
| 190 IAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 04/07/2001 | 04:00 AM | High Wind | 72 kts. | 0 | 4 | 3.2M | 0 | | | | | | | | | | | |

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|--|------------|----------|----------|----------|---|---|------|--------|
| 191 IAZ004>007 - 015>017 - 023>028 - 033>037 - 039 - 045>046 - 048>049 - 074>075 - 083>086 - 094>095 | 04/07/2001 | 09:00 PM | Flood | N/A | 0 | 0 | 4.7M | 0 |
| 192 Humeston | 04/08/2001 | 10:36 PM | Hail | 0.88 in. | 0 | 0 | 2K | 0 |
| 193 Millerton | 04/08/2001 | 10:56 PM | Hail | 1.75 in. | 0 | 0 | 5K | 0 |
| 194 IAZ074>075 - 083>086 - 094>095 | 05/11/2001 | 06:00 AM | Flood | N/A | 0 | 0 | 200K | 0 |
| 195 IAZ083>084 - 094>095 | 05/31/2001 | 03:00 PM | Flood | N/A | 0 | 0 | 10K | 0 |
| 196 Seymour | 06/04/2001 | 03:00 AM | Tsm Wind | 52 kts. | 0 | 0 | 7K | 0 |
| 197 IAZ083>084 - 094>095 | 06/05/2001 | 03:00 AM | Flood | N/A | 0 | 0 | 20K | 0 |
| 198 IAZ004>007 - 015>017 - 023>026 - 033>038 - 045>046 - 048>049 - 059>061 - 073>075 - 083>086 - 094>095 | 06/12/2001 | 03:00 PM | Flood | N/A | 0 | 0 | 825K | 1.7M |
| 199 Humeston | 06/14/2001 | 02:25 PM | Tsm Wind | 61 kts. | 0 | 0 | 10K | 0 |
| 200 IAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 08/01/2001 | 12:00 AM | Drought | N/A | 0 | 0 | 0 | 578.9M |

| | | | | | | | | | |
|---|------------|----------|----------------|----------|---|---|---|------|----|
| 201 LAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 08/05/2001 | 10:00 AM | Excessive Heat | N/A | 1 | 0 | 0 | 0 | 0 |
| 202 Seymour | 09/07/2001 | 09:30 PM | Tsm Wind | 61 kts. | 0 | 0 | 0 | 25K | 5K |
| 203 LAZ083>085 - 095>096 | 10/23/2001 | 03:00 AM | Flood | N/A | 0 | 0 | 0 | 25K | 0 |
| 204 LAZ075 - 083>086 - 093>097 | 01/30/2002 | 06:00 AM | Heavy Snow | N/A | 0 | 0 | 0 | 500K | 0 |
| 205 LAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 03/09/2002 | 06:00 AM | High Wind | 54 kts. | 0 | 0 | 0 | 2.6M | 0 |
| 206 LAZ023 - 033>035 - 045>046 - 074>075 - 083>084 - 094>095 | 05/11/2002 | 06:00 AM | Flood | N/A | 0 | 0 | 0 | 120K | 0 |
| 207 Humeston | 06/01/2002 | 09:58 PM | Hail | 1.75 in. | 0 | 0 | 0 | 20K | 5K |
| 208 Humeston | 06/01/2002 | 10:00 PM | Hail | 2.75 in. | 0 | 0 | 0 | 50K | 5K |
| 209 Allerton | 06/01/2002 | 10:45 PM | Hail | 2.50 in. | 0 | 0 | 0 | 50K | 5K |
| 210 LAZ023 - 033>035 - 044>050 - 057>062 - 070>075 - 081>086 - 093>097 | 02/14/2003 | 11:00 AM | Winter Storm | N/A | 0 | 0 | 0 | 170K | 0 |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-bin/www.cgi.dll?wwevent=storms>

| | | | | | | | | |
|---|------------|----------|-----------|----------|---|---|--------|-----|
| 211 <u>Millerton</u> | 04/30/2003 | 05:30 PM | Hail | 1.00 in. | 0 | 0 | 5K | 0 |
| 212 <u>Seymour</u> | 04/30/2003 | 06:55 PM | Hail | 1.00 in. | 0 | 0 | 5K | 0 |
| 213 <u>Promise City</u> | 05/08/2003 | 06:05 PM | Hail | 2.75 in. | 0 | 0 | 50K | 0 |
| 214 <u>Promise City</u> | 05/08/2003 | 06:07 PM | Hail | 1.75 in. | 0 | 0 | 25K | 0 |
| 215 <u>Humeston</u> | 07/05/2003 | 06:14 PM | Hail | 1.75 in. | 0 | 0 | 10K | 10K |
| 216 <u>Humeston</u> | 07/05/2003 | 06:14 PM | Tstm Wind | 50 kts. | 0 | 0 | 3K | 0 |
| 217 <u>Allerton</u> | 07/05/2003 | 07:04 PM | Tstm Wind | 61 kts. | 0 | 0 | 5K | 0 |
| 218 <u>Allerton</u> | 07/05/2003 | 07:06 PM | Tstm Wind | 61 kts. | 0 | 0 | 10K | 0 |
| 219 <u>Seymour</u> | 07/08/2003 | 05:29 PM | Hail | 1.00 in. | 0 | 0 | 5K | 10K |
| 220 1A/2004>007 - 015<017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 08/01/2003 | 12:00 AM | Drought | N/A | 0 | 0 | 645.2M | 0 |
| 221 <u>Corydon</u> | 08/05/2003 | 04:04 PM | Tstm Wind | 52 kts. | 0 | 0 | 10K | 0 |
| 222 <u>Humeston</u> | 08/20/2003 | 01:50 PM | Tstm Wind | 50 kts. | 0 | 0 | 5K | 0 |
| 223 <u>Corydon</u> | 08/27/2003 | 02:20 PM | Tstm Wind | 61 kts. | 0 | 0 | 5K | 50K |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-win/wv.cgi.dll?wvent-storms>

| | | | | | | | | | |
|---|------------|----------|------------|-------------|---|---|---|------|-------|
| 224 LAZ059>062 - 070>075 - 081>086 - 092>097 | 01/04/2004 | 05:00 AM | Heavy Snow | N/A | 0 | 0 | 0 | 110K | 0 |
| 225 LAZ033 - 044>046 - 057>061 - 070>074 - 081>085 - 092>097 | 02/05/2004 | 02:00 PM | Heavy Snow | N/A | 0 | 0 | 0 | 0 | 0 |
| 226 LAZ044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 03/15/2004 | 07:00 AM | Heavy Snow | N/A | 0 | 0 | 0 | 310K | 0 |
| 227 LAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>061 - 070>074 - 081>084 - 092>095 | 04/18/2004 | 03:10 PM | High Wind | 57 kts. | 0 | 0 | 0 | 3.6M | 0 |
| 228 LAZ005>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>085 - 092>095 | 04/27/2004 | 12:30 PM | High Wind | 56 kts. | 0 | 0 | 0 | 3.5M | 0 |
| 229 Lineville | 05/13/2004 | 03:15 AM | Hail | 0.88 in. | 0 | 0 | 0 | 1K | 3K |
| 230 LAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097 | 05/22/2004 | 06:00 PM | Flood | N/A | 0 | 0 | 0 | 5.1M | 15.2M |
| 231 Corydon | 05/24/2004 | 07:19 PM | Tsm Wind | 52 kts. | 0 | 0 | 0 | 2K | 0 |

NCDC: Query Output

<http://www4.mdc.moaa.gov/cgi-bin/wwcgi.dll?wwevent-storms>

| | | | | | | | | |
|--|------------|----------|-------------|----------|---|---|------|----|
| 232 <u>Sevynour</u> | 05/24/2004 | 07:47 PM | Tstm Wind | 52 kts. | 0 | 0 | 2K | 0 |
| 233 <u>Allerton</u> | 05/27/2004 | 11:26 AM | Hail | 0.88 in. | 0 | 0 | 1K | 5K |
| 234 <u>Promise City</u> | 05/27/2004 | 12:15 PM | Hail | 0.75 in. | 0 | 0 | 0 | 5K |
| 235 <u>Allerton</u> | 05/30/2004 | 12:00 AM | Tstm Wind | 52 kts. | 0 | 0 | 2K | 0 |
| 236 <u>Corydon</u> | 07/11/2004 | 05:00 PM | Flash Flood | N/A | 0 | 0 | 15K | 0 |
| 237 <u>Clio</u> | 08/03/2004 | 10:15 PM | Tstm Wind | 50 kts. | 0 | 0 | 2K | 0 |
| 238 <u>Corydon</u> | 08/03/2004 | 10:30 PM | Lightning | N/A | 0 | 0 | 50K | 0 |
| 239 <u>Humeston</u> | 08/18/2004 | 04:48 PM | Tstm Wind | 53 kts. | 0 | 0 | 3K | 0 |
| 240 <u>Humeston</u> | 08/26/2004 | 08:35 PM | Tstm Wind | 52 kts. | 0 | 0 | 5K | 0 |
| 241 <u>IAZ075 - 082>086 - 092>097</u> | 01/03/2005 | 01:00 AM | Ice Storm | N/A | 0 | 0 | 300K | 0 |
| 242 <u>IAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097</u> | 01/04/2005 | 05:00 PM | Heavy Snow | N/A | 0 | 0 | 510K | 0 |
| 243 <u>Allerton</u> | 03/06/2005 | 10:15 PM | Hail | 0.88 in. | 0 | 0 | 1K | 0 |
| 244 <u>Corydon</u> | 06/04/2005 | 07:45 PM | Tstm Wind | 52 kts. | 0 | 0 | 5K | 0 |
| 245 <u>Humeston</u> | 06/04/2005 | 08:15 PM | Hail | 1.00 in. | 0 | 0 | 5K | 5K |

| | | | | | | | | |
|--|------------|----------|-------------------|----------|---|---|------|----|
| 246 <u>Humeston</u> | 06/27/2005 | 08:50 PM | Hail | 0.88 in. | 0 | 0 | 2K | 5K |
| 247 <u>Corydon</u> | 06/27/2005 | 09:30 PM | Hail | 1.00 in. | 0 | 0 | 5K | 5K |
| 248 <u>Corydon</u> | 06/27/2005 | 11:30 PM | Flash Flood | N/A | 0 | 0 | 5K | 5K |
| 249 <u>Allerton</u> | 08/28/2005 | 03:30 AM | Hail | 0.88 in. | 0 | 0 | 1K | 5K |
| 250 <u>Humeston</u> | 11/27/2005 | 05:20 PM | Hail | 0.88 in. | 0 | 0 | 1K | 0 |
| 251 <u>Humeston</u> | 11/27/2005 | 05:22 PM | Hail | 0.88 in. | 0 | 0 | 1K | 0 |
| 252 <u>LAZ004>007 - 015>017 - 023>028 - 033>039 - 044>050 - 057>062 - 070>075 - 081>086 - 092>097</u> | 01/24/2006 | 09:30 AM | High Wind | 60 kts. | 0 | 2 | 550K | 0 |
| 253 <u>Lineville</u> | 03/08/2006 | 05:20 PM | Hail | 1.75 in. | 0 | 0 | 10K | 0 |
| 254 <u>Clio</u> | 03/08/2006 | 05:30 PM | Hail | 0.75 in. | 0 | 0 | 0 | 0 |
| 255 <u>Clio</u> | 03/08/2006 | 05:36 PM | Hail | 1.75 in. | 0 | 0 | 10K | 0 |
| 256 <u>Sevynour</u> | 03/12/2006 | 12:58 PM | Hail | 1.00 in. | 0 | 0 | 5K | 0 |
| 257 <u>LAZ085 - 095</u> | 11/29/2006 | 15:00 PM | Ice Storm | N/A | 0 | 0 | 5K | 0K |
| 258 <u>Allerton</u> | 02/24/2007 | 23:00 PM | Flood | N/A | 0 | 0 | 5K | 0K |
| 259 <u>Sewal</u> | 03/21/2007 | 23:39 PM | Tornado | F0 | 0 | 0 | 150K | 0K |
| 260 <u>Harvard</u> | 03/21/2007 | 23:43 PM | Thunderstorm Wind | 70 kts. | 0 | 0 | 30K | 0K |

| | | | | | | | | |
|--|------------|----------|----------------------|-------------|---|---|------|------|
| 261 <u>Seymour</u> | 03/21/2007 | 23:49 PM | Thunderstorm Wind | 70 kts. | 0 | 0 | 30K | OK |
| 262 <u>Seymour</u> | 03/21/2007 | 23:51 PM | Thunderstorm Wind | 70 kts. | 0 | 0 | 30K | OK |
| 263 <u>Humeston</u> | 04/26/2007 | 06:00 AM | Flood | N/A | 0 | 0 | 250K | OK |
| 264 <u>Promise City</u> | 05/06/2007 | 18:00 PM | Flood | N/A | 0 | 0 | 25K | OK |
| 265 <u>Humeston</u> | 08/07/2007 | 16:44 PM | Thunderstorm Wind | 61 kts. | 0 | 0 | 30K | 5K |
| 266 <u>Bentonville</u> | 08/07/2007 | 16:50 PM | Hail | 0.88 in. | 0 | 0 | 3K | 25K |
| 267 <u>Promise City</u> | 08/22/2007 | 17:17 PM | Thunderstorm Wind | 57 kts. | 0 | 0 | 10K | 65K |
| 268 <u>Corydon</u> | 08/23/2007 | 21:28 PM | Flash Flood | N/A | 0 | 0 | 150K | 50K |
| 269 <u>Confidence</u> | 08/23/2007 | 23:30 PM | Flood | N/A | 0 | 0 | 25K | 50K |
| 270 <u>Cambria</u> | 08/24/2007 | 05:00 AM | Flash Flood | N/A | 0 | 0 | 500K | 100K |
| 271 <u>Harvard</u> | 08/24/2007 | 05:23 AM | Flash Flood | N/A | 0 | 0 | 500K | 100K |
| 272 <u>Seymour</u> | 08/24/2007 | 05:53 AM | Heavy Rain | N/A | 0 | 0 | 150K | 50K |
| 273 <u>Corydon</u> | 09/18/2007 | 15:44 PM | Thunderstorm Wind | 60 kts. | 0 | 0 | 15K | OK |
| 274 <u>Cambria</u> | 09/18/2007 | 15:47 PM | Thunderstorm Wind | 57 kts. | 0 | 0 | 10K | 10K |
| 275 <u>Corydon</u> | 09/18/2007 | 15:50 PM | Thunderstorm Wind | 57 kts. | 0 | 0 | 10K | 5K |
| 276 <u>Corydon</u> | 09/18/2007 | 16:00 PM | Thunderstorm Wind | 65 kts. | 0 | 0 | 40K | OK |
| 277 <u>Seymour</u> | 10/02/2007 | 16:35 PM | Tornado | F1 | 0 | 0 | 100K | OK |
| 278 <u>IAZ044 - 057>062 - 070>074 - 082>086 - 095</u> | 12/01/2007 | 06:00 AM | Ice Storm | N/A | 0 | 0 | 50K | OK |

| | | | | | | | | | |
|-----|--|------------|----------|----------------------|----------|---|---|-----|-----|
| 279 | <u>LAZ050 - 061 - 074>075 - 086 - 095</u> | 02/17/2008 | 02:00 AM | Winter Storm | N/A | 0 | 0 | 50K | OK |
| 280 | <u>Confidence</u> | 03/02/2008 | 15:30 PM | Flood | N/A | 0 | 0 | 50K | OK |
| 281 | <u>Seymour</u> | 03/31/2008 | 14:51 PM | Hail | 0.75 in. | 0 | 0 | OK | OK |
| 282 | <u>Lineville</u> | 04/10/2008 | 15:33 PM | Tornado | F0 | 0 | 0 | OK | OK |
| 283 | <u>Cambrria</u> | 04/10/2008 | 15:49 PM | Tornado | F0 | 0 | 0 | OK | OK |
| 284 | <u>Genoa</u> | 04/10/2008 | 15:52 PM | Thunderstorm Wind | 65 kts. | 0 | 0 | 40K | OK |
| 285 | <u>Confidence</u> | 04/18/2008 | 03:00 AM | Flood | N/A | 0 | 0 | 10K | OK |
| 286 | <u>Confidence</u> | 05/24/2008 | 13:42 PM | Flood | N/A | 0 | 0 | OK | 20K |
| 287 | <u>Lineville</u> | 05/25/2008 | 21:15 PM | Thunderstorm Wind | 52 kts. | 0 | 0 | 5K | OK |
| 288 | <u>Seymour</u> | 05/25/2008 | 21:33 PM | Thunderstorm Wind | 52 kts. | 0 | 0 | 15K | OK |
| 289 | <u>Sewal</u> | 06/01/2008 | 18:00 PM | Thunderstorm Wind | 61 kts. | 0 | 0 | 30K | OK |
| 290 | <u>Confidence</u> | 06/12/2008 | 12:12 PM | Flood | N/A | 0 | 0 | 10K | 10K |
| 291 | <u>Seymour</u> | 06/12/2008 | 16:00 PM | Heavy Rain | N/A | 0 | 0 | OK | OK |
| 292 | <u>Corydon</u> | 06/15/2008 | 10:22 AM | Thunderstorm Wind | 52 kts. | 0 | 0 | 15K | OK |
| 293 | <u>Sewal</u> | 06/15/2008 | 10:30 AM | Thunderstorm Wind | 57 kts. | 0 | 0 | 10K | OK |
| 294 | <u>Seymour</u> | 06/15/2008 | 10:37 AM | Thunderstorm Wind | 57 kts. | 0 | 0 | 10K | OK |
| 295 | <u>Seymour</u> | 06/19/2008 | 13:15 PM | Hail | 0.75 in. | 0 | 0 | OK | 5K |
| 296 | <u>Corydon</u> | 06/26/2008 | 02:45 AM | Heavy Rain | N/A | 0 | 0 | OK | OK |

| | | | | | | | | | |
|-----|---------------------|------------|----------|--------------|----------|---|---|-----|------|
| 297 | <u>Confidence</u> | 06/26/2008 | 17:44 PM | Flood | N/A | 0 | 0 | 5K | 10K |
| 298 | <u>Bethlehem</u> | 07/21/2008 | 20:32 PM | Hail | 0.75 in. | 0 | 0 | 0K | 10K |
| 299 | <u>Seymour</u> | 07/21/2008 | 20:42 PM | Hail | 0.75 in. | 0 | 0 | 0K | 10K |
| 300 | <u>Allerton</u> | 07/24/2008 | 20:30 PM | Heavy Rain | N/A | 0 | 0 | 0K | 0K |
| 301 | <u>Seymour</u> | 07/24/2008 | 20:30 PM | Heavy Rain | N/A | 0 | 0 | 0K | 0K |
| 302 | <u>Seymour</u> | 07/24/2008 | 22:00 PM | Heavy Rain | N/A | 0 | 0 | 0K | 0K |
| 303 | <u>Confidence</u> | 07/25/2008 | 01:50 AM | Flood | N/A | 0 | 0 | 10K | 50K |
| 304 | <u>Millerton</u> | 07/25/2008 | 03:48 AM | Flash Flood | N/A | 0 | 0 | 50K | 100K |
| 305 | <u>Promise City</u> | 07/25/2008 | 05:15 AM | Flood | N/A | 0 | 0 | 25K | 100K |
| 306 | <u>Humeston</u> | 07/27/2008 | 17:10 PM | Thunderstorm | 52 kts. | 0 | 0 | 3K | 0K |
| 307 | <u>Cambria</u> | 07/27/2008 | 17:12 PM | Hail | 0.88 in. | 0 | 0 | 2K | 10K |
| 308 | <u>Cambria</u> | 07/27/2008 | 17:15 PM | Flash Flood | N/A | 0 | 0 | 25K | 0K |
| 309 | <u>Cambria</u> | 07/27/2008 | 17:16 PM | Hail | 0.88 in. | 0 | 0 | 3K | 0K |
| 310 | <u>Cambria</u> | 07/27/2008 | 17:16 PM | Thunderstorm | 61 kts. | 0 | 0 | 5K | 0K |
| 311 | <u>Cambria</u> | 07/27/2008 | 17:20 PM | Heavy Rain | N/A | 0 | 0 | 0K | 0K |
| 312 | <u>Sewal</u> | 07/27/2008 | 17:38 PM | Hail | 1.25 in. | 0 | 0 | 3K | 10K |
| 313 | <u>Sewal</u> | 07/27/2008 | 17:38 PM | Hail | 1.25 in. | 0 | 0 | 3K | 10K |
| 314 | <u>Sewal</u> | 07/27/2008 | 17:44 PM | Hail | 1.75 in. | 0 | 0 | 10K | 10K |
| 315 | <u>Cambria</u> | 07/27/2008 | 18:00 PM | Flash Flood | N/A | 0 | 0 | 15K | 20K |

NCDC: Query Output

<http://www4.ncdc.noaa.gov/cgi-wfin/wv.cgi.dll?wwevent-storms>

| | | | | | | | | | |
|---------|--------------|------------|----------|-------------|-----|----|----------|--------|-----|
| 316 | Confidence | 07/28/2008 | 00:51 AM | Flood | N/A | 0 | 0 | 20K | 50K |
| 317 | Promise City | 07/28/2008 | 05:59 AM | Heavy Rain | N/A | 0 | 0 | 0K | 0K |
| 318 | Promise City | 07/28/2008 | 06:01 AM | Flash Flood | N/A | 0 | 0 | 25K | 25K |
| 319 | Confidence | 09/12/2008 | 23:44 PM | Flood | N/A | 0 | 0 | 0K | 5K |
| 320 | Confidence | 03/08/2009 | 11:01 AM | Flood | N/A | 0 | 0 | 25K | 0K |
| 321 | Confidence | 03/10/2009 | 04:41 AM | Flood | N/A | 0 | 0 | 25K | 0K |
| 322 | Confidence | 03/24/2009 | 09:38 AM | Flood | N/A | 0 | 0 | 25K | 0K |
| TOTALS: | | | | | 11 | 16 | 934.728M | 2.036B | |

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Appendix P: Hazards by Jurisdiction

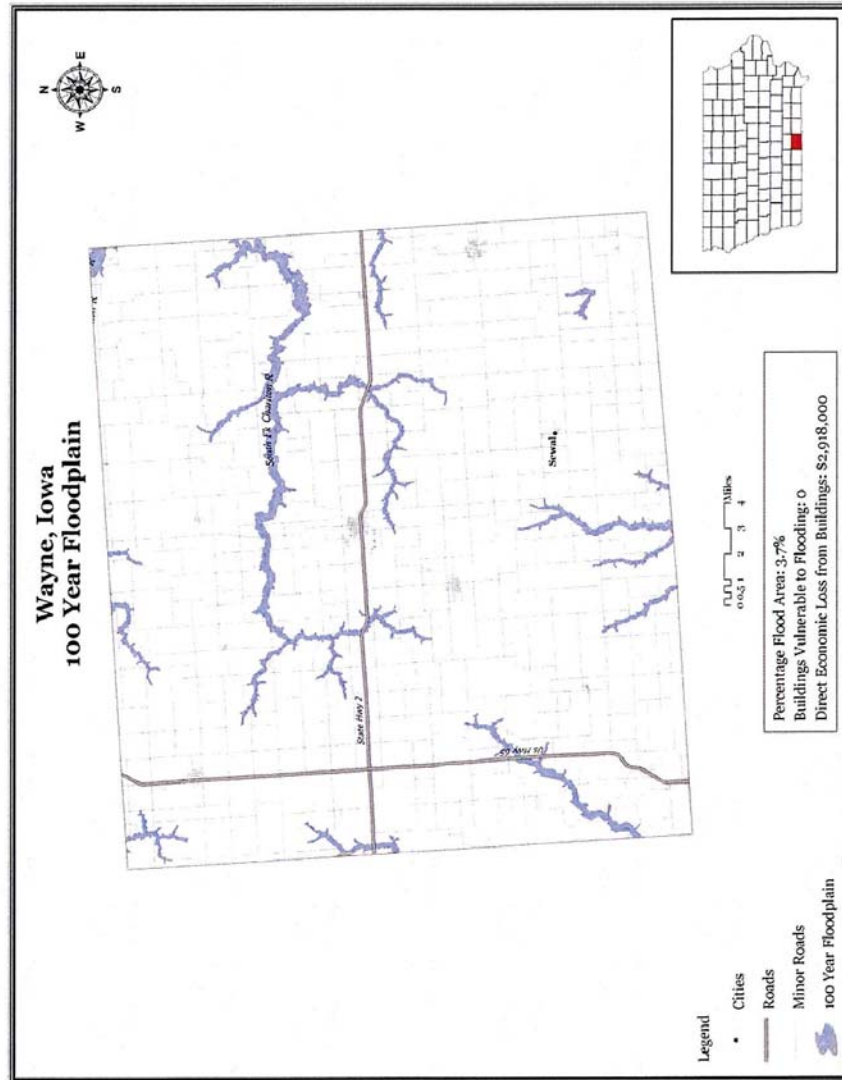
WAYNE COUNTY HAZARDS BY JURISDICTION

| HAZARDS | WAYNE COUNTY | CORDON | HUMESTON | MILLERTON | PROMISE CITY | ALLERTON | CLIO | SEYMOUR | LINEVILLE | Wayne County Comm School | Wayne County Hospital |
|-------------------------------|--------------|--------|----------|-----------|--------------|----------|------|---------|-----------|--------------------------|-----------------------|
| Flash Flood | X | | | | | | | X | | | |
| Tornado | X | X | X | X | X | X | X | X | X | X | X |
| Windstorms / High Wind Events | X | X | X | X | X | X | X | X | X | X | X |
| Extreme Heat | X | X | X | X | X | X | X | X | X | X | X |
| Hailstorm | X | X | X | X | X | X | X | X | X | X | X |
| Grass / Wildfire | X | X | X | X | X | X | X | X | X | | X |
| Sink Holes | X | | | | X | | | X | | | |
| River Flooding | X | | | | | | | | | | |
| Severe Winter Storm | X | X | X | X | X | X | X | X | X | X | X |
| Drought | X | X | X | X | X | X | X | X | X | X | X |
| Earthquake | X | X | X | X | X | X | X | X | X | X | X |
| Dam Failure | X | X | X | X | X | X | X | X | X | X | X |
| Expansive Soils | X | X | X | X | X | X | X | X | X | X | X |
| Thunderstorm / Lightning | X | X | X | X | X | X | X | X | X | X | X |
| Radon/lead | X | X | X | X | X | X | X | X | X | | X |
| Air Transport. Incident | X | X | | | | | | | | | |
| Rail Transport. Incident | X | X | | X | | | | X | X | | |
| Waterway Incident | X | X | X | | | | | X | | | |
| pipeline | X | X | X | | | X | X | | X | | |
| Highway Transport. Incident | X | X | X | | X | | | | X | X | |
| Transport. Haz. Materials | X | X | X | | X | | | | X | X | |

WAYNE COUNTY HAZARDS BY JURISDICTION

| | WAYNE COUNTY | CORYDON | HUMESTON | MILLERTON | PROMISE CITY | ALLERTON | CLIO | SEYMOUR | LINEVILLE | Wayne County Comm School | Wayne County Hospital |
|---------------------------|--------------|---------|----------|-----------|--------------|----------|------|---------|-----------|--------------------------|-----------------------|
| Transport. Rad. Materials | X | X | X | X | X | X | X | X | X | X | |
| Human Disease Incident | X | X | X | X | X | X | X | X | X | X | X |
| Human Disease Pandemic | X | X | X | X | X | X | X | X | X | X | X |
| Fixed Hazardous Materials | X | X | X | X | X | X | X | X | X | | |
| Animal/plant/crop disease | X | X | X | X | X | X | X | X | X | | |
| Enemy Attack | X | X | X | X | X | X | X | X | X | X | X |
| Public Disorder | X | X | X | X | X | X | X | X | X | X | X |
| Agro-Terrorism | X | X | X | X | X | X | X | X | X | X | X |
| Biological Terrorism | X | X | X | X | X | X | X | X | X | X | X |
| Chemical Terrorism | X | X | X | X | X | X | X | X | X | X | X |
| Conventional Terrorism | X | X | X | X | X | X | X | X | X | X | X |
| Cyber Terrorism | X | X | X | X | X | X | X | X | X | X | X |
| Radiological Terrorism | X | X | X | X | X | X | X | X | X | X | X |
| Energy Failure | X | X | X | X | X | X | X | X | X | X | X |
| Communications Failure | X | X | X | X | X | X | X | X | X | X | X |
| Structural Failure | X | X | X | X | X | X | X | X | X | X | X |
| Structural Fire | X | X | X | X | X | X | X | X | X | X | X |

Appendix Q: Wayne County Estimated 100 Year Flood Plain

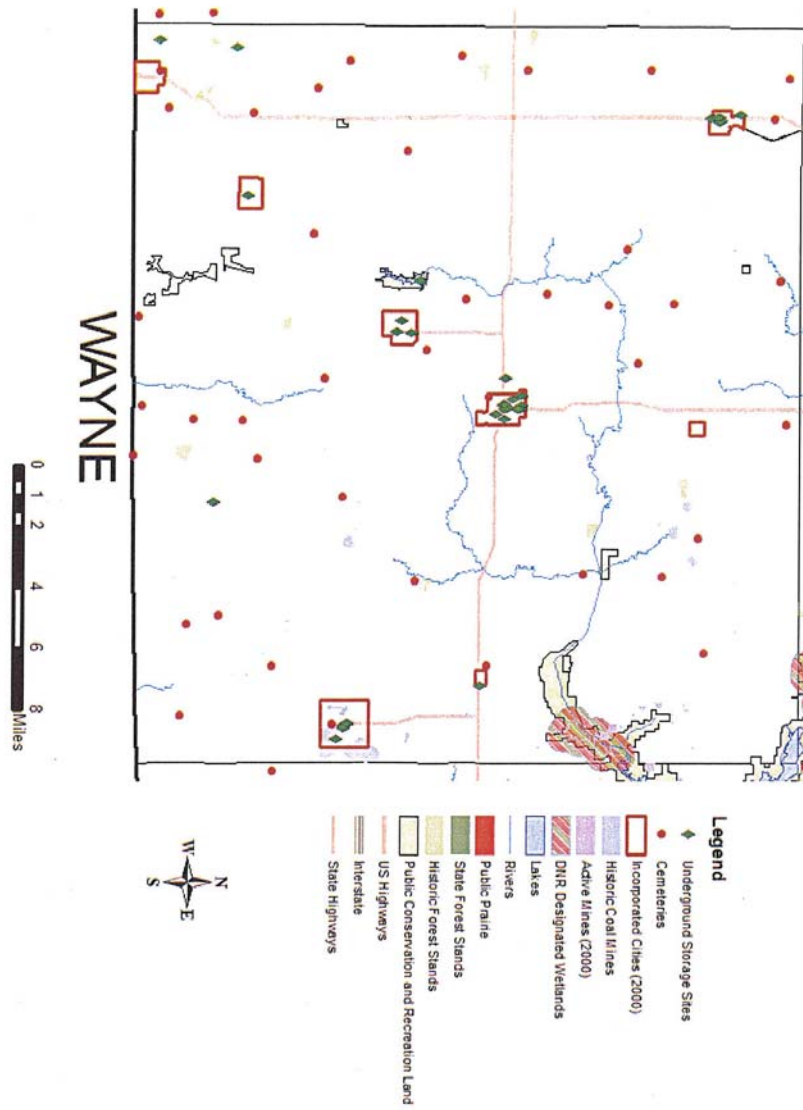


Appendix P: Modified Mercalli Scale for Earthquake Intensity

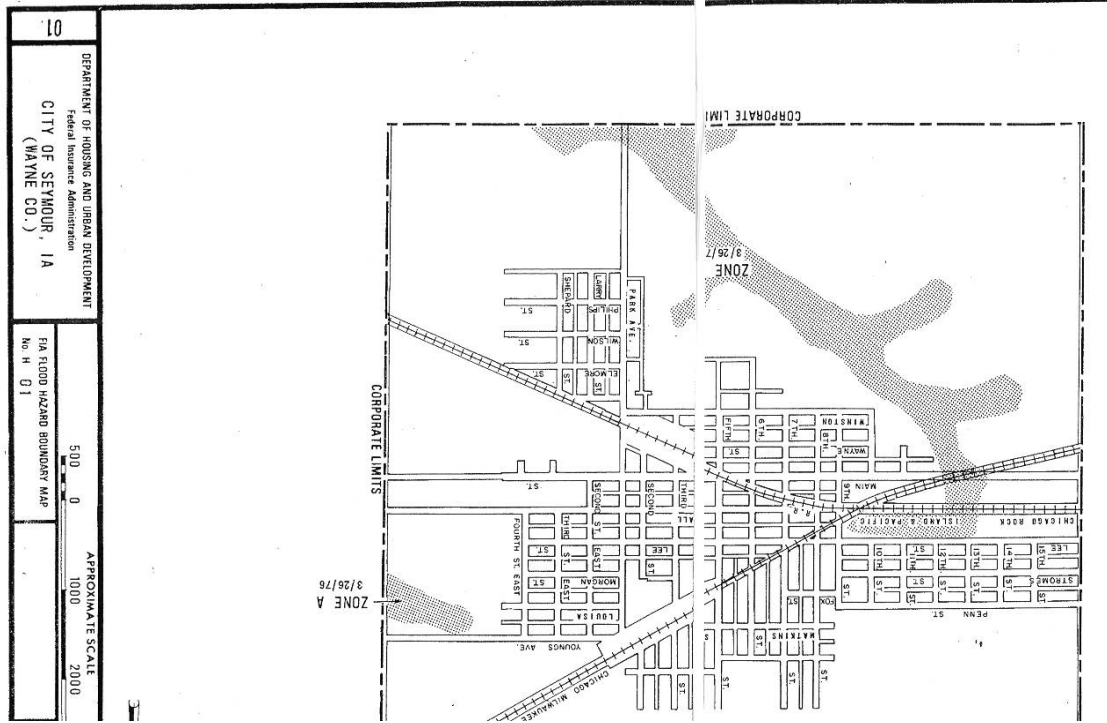
- II. Felt only by a few persons at rest, especially on upper floors of buildings. (Micro)
- III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an Earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated. (Minor)
- 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. (Light)
- V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop. (Moderate)
- VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. (Strong)
- 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. (Major)
- 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. (Great)
- 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. (Great)
- X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. (Great)
- XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly. (Great)
- XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air. (Great)

Source: Iowa Department of Natural Resources, Geological Survey. Modified Mercalli Intensity Scale from National Earthquake Information Center.
<<http://www.igsb.uiowa.edu/Browse/earthqua/MERCALLI.HTM>>.

Appendix R: Wayne County Public Lands



Appendix S: Seymour Floodplain Map



| | | |
|---|---|--------------------------------------|
| 101 | DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Federal Insurance Administration CITY OF SEYMOUR, IA (WAYNE CO.) | 500 0 1000 2000 APPROXIMATE SCALE |
| FIA FLOOD HAZARD BOUNDARY MAP No. H 01 | | |

13. Glossary

Note: most definitions contained here are derived from Dictionary.com and other internet searches; some are based on FEMA or Iowa Department of Homeland Security and Emergency Management information. Where exact language is used, the source is cited following the definition.

100-year flood plain – area in which the chance of a flood occurring in any given year is 1% independent of any other year; this is statistically about once every 100 years, this does not mean that if there is not a flood this year that next year the chance goes up to 2%

500-year flood plain – the area in which the chance is .2% chance of a flood occurring in any given year independent of any other year; this is statistically about once every 500 years this does not mean that if there is not a flood this year that next year the chance goes up to .4%

Acceptable risk hazards – hazards that have been determined by the Mystic Planning Committee to be low priority for mitigation strategies and projects to the point of no actions or steps are worth taking currently

Acute shortage (energy) – severe shortage in energy resources or supplies

Aerosol – a liquid or gas under compression to be dispensed as a spray or foam

Agricultural drought – drought which refers to soil moisture deficiencies

Anhydrous ammonia – a hazardous substance that is used for industrial and commercial purposes and as a fertilizer lacking water which separates it from ammonia hydroxide

Anticholinergics – a class of medications that blocks nerve sensations and treat a variety of conditions including asthma, muscle spasms, and gastrointestinal cramps among others

Appurtenant – legal term describing something that goes along with or belongs to something else

Aquifer – an underground layer of porous rock or soils such as sand or gravel from which water can be drawn from

Asphyxiation – suffocation, choking, smothering

Asthma – respiratory disorder characterized by wheezing, coughing, labored breathing

Atmospheric carbon – carbon monoxide; gaseous carbon in the air, some of which is naturally occurring while some is the result of fossil fuel and wood combustion

Bio-Detection Systems (BDS) – a way to detect pollutants or organic compounds in the air or other substances

Bioterrorism – the use of biological agents against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion or ransom

Blizzard conditions – heavy or prolonged snowstorm characterized by reduced visibility and strong winds

Bottled Fuels – this Census designation is being used in this plan to include the Census designation as well as Fuel Oil and Kerosene; the Census designation “bottled fuels” refers largely to LP gas

Block Group – the smallest census designated area other than for small incorporated areas; many cities contain multiple block groups, which are smaller delineations of blocks which comprise census tracts, some small cities may occupy a small part of a block group however

California Encephalitis – a strain of encephalitis first discovered in California characterized by dizziness, lethargy, headache, fever, seizures, and brain swelling that is transmitted by infected mosquitoes

Cascading Event Matrix – a tool provided by FEMA for ranking hazards in relation to one another including the impacts of one hazard on others or causal relationship between multiple hazards

Cell, storm – a storm cell is the smallest unit of a storm system characterized as an air mass formed by a convective loop

Clandestine – secret or concealed, also related to under-cover law enforcement operations

Coercion – use of force through intimidation or use of power to gain a certain behavior or outcome

Continental climate – a climate region that has cold enough temperatures in the winter to sustain snow and moderate precipitation mainly in the warmer months

Convective (loop or winds) – a meteorological term indicating the transfer of heat in the atmosphere such as by updrafts

Cumulonimbus – clouds that are characterized by large, dense “towers” that are associated with producing thunderstorms, also called Thunderheads or Thunderclouds

Deforestation – removal of a stand of trees

Delimit – marking or setting the outer limits or boundaries of something

Delineate – outline, mark, or define apart from something else, also see Delimit

Demographics – statistical data about a population including age, total population, income, housing status; information found in the US Census

Desertification – the process of an area converting to desert through depletion of vegetation, usually through over-exploitation by animals and / or humans and drought

Disease vector – in epidemiology a vector is a medium or species that carries or transmits diseases, a common disease vector may be mosquitoes

Doppler radar – radar that tracks the speed and direction of something measured

Downburst winds – strong winds that flow downward from cumulonimbus clouds usually associated with intense thunderstorms

Downdrafts – strong downward winds

El Nino – warm ocean currents that develop after December off of the coast of Peru and Ecuador that are sometimes associated with catastrophic storms

Emerald Ash Borer – an exotic invasive species that has been killing ash trees in Michigan, Illinois, Pennsylvania, Ohio, Indiana, and Maryland

Endangered (species) – a species that is determined to be in eminent threat of extinction throughout all or a significant portion of its habitat

Endemic – natural or characteristic, belonging to a particular location

Epidemics – rapidly spreading or extensively found in a population

Epidemiology – branch of medicine dealing with how diseases spread

Erosion – the process of soil or rock being worn away through abrasion, corrosion, or other means

Essential Facility – Elements that are important to ensure a full recovery of a community or state following a hazard event. These would include: government functions, major employers, banks, schools, and certain commercial establishments, such as grocery stores, hardware stores, and gas stations (FEMA).

Evapotranspiration – the process of transferring moisture from the earth to the atmosphere through evaporation and plant transpiration

Event – the occurrence of a storm or hazard

Fauna – animal life

Flood hazard area – The area shown to be inundated by a flood of a given magnitude on a map; The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on NFIP maps. The SFHA is the area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies (FEMA).

flood plain – area along a stream or river where flooding is a natural occurrence: flood plains can change over time based on changing conditions upstream such as urban development, dam or levee constructions, and other human actions

Flood zones – Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded) (FEMA).

Floodway – A "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations. For streams and other watercourses where FEMA has provided Base Flood Elevations (BFEs), but no floodway has been designated, the community must review floodplain development on a case-by-case basis to ensure that increases in water surface elevations do not occur, or identify the need to adopt a floodway if adequate information is available (FEMA).

Floodway fringe – the area surrounding a floodway

Flora – plant life

Foot and Mouth Disease – a severe and contagious disease found in cows, sheep, hogs, and other hoofed animals “characterized by vesicular eruptions in the mouth and about the hoofs, teats, and udder” (Dictionary.com)

Frost/freeze advisory – National Oceanic and Atmospheric Administration convention of indicating when a frost or hard freeze is possible for an area

Frostbite – injury caused by extreme cold or frost

Fujita Scale – Rates tornadoes with numeric values from F0 to F5 based on tornado windspeed and damage sustained. An F0 indicates minimal damage such as broken tree limbs or signs, while and F5 indicated severe damage sustained (FEMA).

Functionally obsolete (bridges) – bridges that due to changing technology, lack of improvement, or deteriorating conditions are obsolete, this includes width of bridges

Funnel cloud – a rapidly rotating funnel-shaped cloud extending downward from the base of a cumulonimbus cloud, which, if it touches the surface of the earth, is a tornado or waterspout (Dictionary.com).

Gradient winds - horizontal wind velocity tangent to the contour line of a constant pressure surface (or to the isobar of a geopotential surface) at or above 2,500 feet (762 meters) (Allwords.com).

Hacking – breaking into another’s computer illegally, also to skillfully write or alter a computer program

Half-life – the time it takes for one-half of the radioactive atoms of a substance to disintegrate

Hazardous substance – a substance that poses a threat to human, animal, or environmental health

Hazardous Materials – see Hazardous substance

HazMat – short-hand for Hazardous Materials, also used as HazMat Team to indicate the trained professionals that respond to release of hazardous substances

Heat index – a number in degrees Fahrenheit that tells how hot it really feels when relative humidity is added to the actual air temperature

High-risk hazards – hazards that are determined by the Mystic Planning Committee to pose the most risk to the community and of priority for developing projects or policies to address

Hijack – to forcefully take

Historical Occurrence – the number of times that a hazard has occurred in the community in the past

Horizontal peak gravity acceleration – a measure of how hard the earth shakes in a given area

Housing stock – the collective set of housing units in a given area, often a city or neighborhood

Housing unit – a single collection of rooms occupied by a family or household (conventional or unconventional) such as an apartment, a house, a mobile home, or a condo unit

Hydrocarbon – organic compounds composed of both hydrogen and carbon such as benzene or methane

Hydrological drought – drought which refers to declining surface water and groundwater supplies

Hypothermia – below normal body temperature

Ice jam – an obstruction of a waterway by pieces of ice

Impoundment – a body of water created by an obstruction such as a dam

Influenza – the common flu and variations of the flu

Infrastructure – Refers to the public services of a community that have a direct impact on the quality of life. Infrastructure includes communication technology such as phone lines or Internet access, vital services such as public water supplies and sewer treatment facilities, and includes an area's transportation system such as airports, heliports; highways, bridges, tunnels, roadbeds, overpasses, railways, bridges, rail yards, depots; and waterways, canals, locks, seaports, ferries, harbors, drydocks, piers and regional dams (FEMA).

Intrusion detection system – any one of various electronic means to detect or thwart hacking attempts not unlike antivirus programs

Invasive species – any species of insects, animals, plants and pathogens, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem (invasive.org)

Ionizing – adding an electrical charge to atoms; lightning ionizes the air

IDALS – Iowa Department of Agriculture and Land Stewardship

IDNR – Iowa Department of Natural Resources

Jet stream – fast flowing, narrow current of air located 6 to 9 miles above the earth's surface

Karst subsidence – the effect of water dissolving of particular soils that lead to surface depressions or sink holes

Kniffen Silt Loam – deep, poorly drained soils generally found in loess with varying slopes between 2 to 9%; a National Resource Conservation Service soil category

La Nina – A cooling of the ocean surface off the western coast of South America, occurring periodically every 4 to 12 years and affecting Pacific and other weather patterns (Dictionary.com)

Land cover – the composition of vegetation or human built environment that occupies horizontal space

Land uses – classifications of how land is used in a given space including farmland, forests, water bodies, or urban areas; also a system of classifications used in zoning ordinances

Linguistically isolated” meaning that all members of the household age 14 and above have some difficulty with the English language - def applied to household

Loam – soils composed of a mixture of sand, clay, silt, and organic matter (Dictionary.com)

Logarithmically – mathematical indication that for each increment beyond a set point the number or magnitude increases or decreased significantly

Low-risk hazards – hazards that are determined by the Mystic Planning Committee to pose a low risk to the community and of low priority for developing projects or policies to address

Lyme Disease – an inflammatory disease caused by tick bites by infected ticks that leads to joint swelling, rash, fever, and sometimes more severe symptoms

Magnitude – size or extent

Malaria – part of a set of tropical diseases characterized by fever, sweating, and chills transmitted to humans by mosquitoes

Maximum Threat – the spatial extent of the community that might be impacted

Median – statistical convention of indicating that half of the data is higher and half of the data is lower than this number; the median number does not necessarily mean the average though it can be the same

Meteorologic drought – drought which refers to precipitation deficiency

Methamphetamine – a central nervous system stimulant used to clinically treat certain conditions but largely known as an illegal drug produced from a variety of chemical inputs that can cause numerous health problems or even death from any given use, including the first

Microbursts – a sudden, violent downdraft of air over a small area. Microbursts are difficult to detect and predict with standard weather instruments and are especially hazardous to airplanes during landing or takeoff (Dictionary.com)

Micro-meteorological – meteorological conditions affecting a small area

Microorganisms – living organisms that require a microscope to view including bacteria and protozoan

Mine subsidence – mine collapses or cave-ins leading to depressions or sink holes on the surface

Mitigation – any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event. Mitigation, also known as prevention (when done before a disaster), encourages long-term reduction of hazard vulnerability. The goal of mitigation is to decrease the need for response as opposed to simply increasing the response capability (FEMA).

Morbidity – the rate of incidence of a disease; proportion of disease in a particular geographic location (Dictionary.com)

Munitions – weapons and military material

NFIP – National Flood Insurance Program; Federal program created by Congress in 1968 that makes flood insurance available in communities that enact minimum floodplain management regulations in 44 CFR §60.3 (FEMA).

National Registry of Historic Places – listing of historic places including buildings and sites that meet the National Park Services requirements for protection; historic places are proposed by the local community or private owners

Nitrogen oxides – form of nitrogen found in vehicle exhaust

Non-convective winds – winds that do not transfer heat

Notifiable disease – diseases that are required to be reported to public health authorities due to its danger to human or animal health

NWS - National Weather Service

Octanol – a substance composed of fatty alcohol and carbon atoms found in some essential oils and used in perfumes and flavor constituents

Outbreak – a sudden occurrence or manifestation of something; disease outbreaks are when a disease suddenly happens and spreads rapidly

Pandemic (disease) – a disease that is found through a large population, a widespread disease

Percolate – fluid moving through a porous substance such as water soaking into the soil, also indicating activity or movement

Perpetrators – person responsible for undertaking an action, generally a criminal action

Petroleum – flammable, oily, thick, dark-colored fluid from which various fuel substances are produced including gasoline and kerosene

Plume – a space in soil, water, or air containing pollutants spreading from a defined location

Precipitation – rain or snow

Probability (hazard occurrence) – Likelihood of the hazard event, sometimes without regard to hazard history

Proximity – location in relation to something else

Radioactive fallout – radioactive particles themselves or the settling of radioactive particles to the surface of the earth and other landcovers

Reforestation – replanting of trees such as in an area that has been denuded

Rhetoric – use of language to influence others

Rotating blackout – an intentional power outage in order to meet electrical demand when supplies are insufficient

Section – a geographic subdivision under the Public Land Survey; a one-square mile subdivision of a township which is composed of 36 sections, a section can be further divided into “quarters” and “quarter-quarters”

Seismic zone – a designated area where earthquakes and other seismic activity may take place

Severity of Impact – assessment of the severity in terms of fatalities, injuries, property losses, and economic losses

SHMT – State Hazard Mitigation Team

Sniping – shooting a firearm from a hidden location

Socio-economic – pertaining to the interaction between economic and social conditions

Speed of Onset – potential amount of warning time available before the hazard occurs

Strong frontal system – a volatile boundary between two masses of air which may produce strong storms

Subsidence – sinking or lowering to a different level; also known as sink holes

Superfund Sites – a location designated by the Federal Government for toxic waste clean-up

Surface-level ozone – ozone found near the surface of the earth rather than in the upper atmosphere, also known as smog

Tectonic – pertaining to the structure of the earth

Threatened (species) – a species that is determined to be in threat of extinction throughout all or a significant portion of its habitat unless action is taken

Topography – detailed description of a specific place including the shape of the land, where the highs and lows are, and how hills are shaped

Tributary – a creek or stream that feeds into a larger creek or stream or a river

USDA – U.S. Department Agriculture

Updraft – upward current of warm, moist air which can form cumulonimbus clouds

Urbanization – the conversion of agricultural or wild lands to human developed, urban environment

Vaccination – a shot or other delivery method of incapacitated disease to boost immunity to the disease

Vandalism – deliberate or mischievous destruction or alterations of another’s property

Vulnerability – measure of the percentage of people and property that would be affected by the hazard event

Watch vs. warning – The National Weather Service uses a watch to indicate that conditions are right for a given storm to develop while warning indicates that a given storm is in the area; these classifications are applied to tornados, winter storms, thunderstorms, and other weather events

West Nile Virus – a virus that is found mostly in birds but can be transmitted to humans by mosquitoes that manifests as flu-like symptoms, the virus can lead to meningitis or encephalitis; there is currently no known treatment

Wind chill – the apparent temperature experienced by the human body taking into account wind speed and actual air temperature