

EARTHQUAKE ANALYSIS

of Magnitude 6.8

Mount Carmel, Illinois

For

Central and Southern
Indiana



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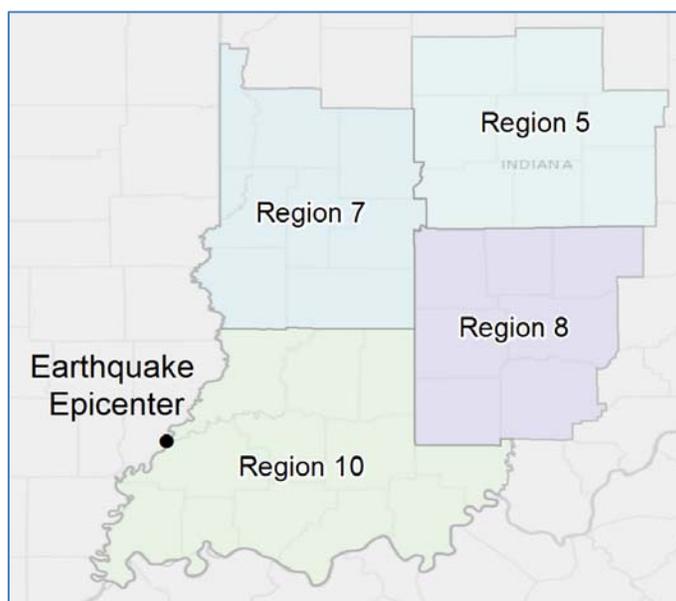
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Executive Summary

At the request of Indiana Department of Homeland Security (IDHS) Planning Division, The Polis Center performed an enhanced (Hazardus Level 2) earthquake analysis for IDHS Regions 5, 7, 8, and 10 comprising 35 counties in southern and central Indiana. For the purposes of this study, the Indiana Geological Survey (IGS) provided geological information and recommendations for modeling a 6.8 moment magnitude scenario with an epicenter at Latitude 38.41088, Longitude -87.761417, which is located in Mt. Carmel, Illinois. This scenario was chosen by the Indiana Geological Survey to simulate a Wabash Valley earthquake. The epicenter is also the location of the recent May 2010 earthquake.

Figure 1: Epicenter Location



The Hazardus-MH vsn. 2.1 (Patch 1) earthquake model was used to generate the ground motions for the modeled scenario. In order to derive the most realistic ground motions possible from Hazardus-MH, The Polis Center supplied it with maps of NEHRP (National Earthquake Hazard Reduction Program) compliant soils boundaries as well as liquefaction potential boundaries. These maps covered the entire modeled region.

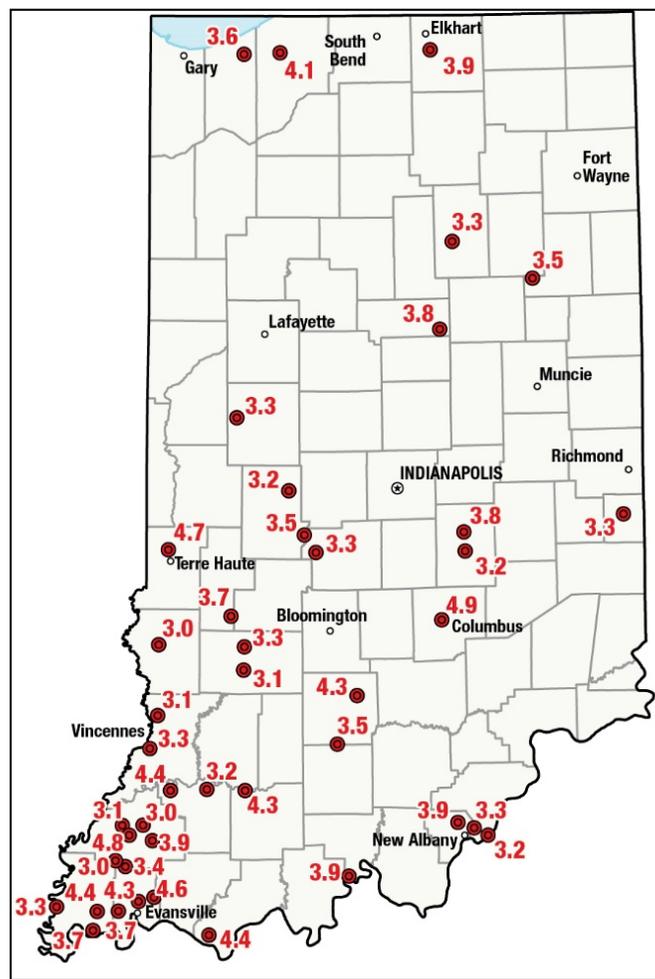
This report provides a summary of the potential impacts of the earthquake as modeled in Hazardus-MH in each of the four IDHS Regions. This includes estimates of the number of buildings damaged based on occupancies as well as potential impacts on five categories of essential facilities. Region summaries are supplemented by county level breakdowns of the same information as well as assessments of transportation impacts, displaced households, and shelter needs.

Introduction

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. For hundreds of millions of years, the forces of plate tectonics have shaped Earth as the huge plates that form the Earth's crust collide, move away from, and slide past each other. This movement is extremely slow. However, when sections of the plates are locked together, stored energy is accumulated. When the accumulated energy grows strong enough, the portions of the plate break free, causing the earthquake.

At least 43 earthquakes, M3.0 or greater, have occurred in Indiana since 1817. The last such event was a M3.1 centered just north of Vincennes on May 10, 2010. A M3.8 earthquake occurred in December later that same year with approximately 10,390 individuals submitting felt-reports to the USGS.

Figure 2: Indiana Historical Earthquake Epicenters



Ninety-five percent of earthquakes occur at the plate boundaries; however, some earthquakes occur in the middle of plates, as is the case for seismic zones in the Midwestern United States. The majority of seismic activity in Indiana occurs in the southwestern region of the state. However, an even larger number of earthquakes originate just across the boundary in Illinois and can be felt in Indiana. The M5.2 Mt. Carmel event on April 19, 2008 was felt by residents in Indiana, Kentucky, and many more states across the central US.

The possibility of the occurrence of a catastrophic earthquake in the central and eastern United States is real, as evidenced by history and described throughout this section. The impacts of significant earthquakes affect large areas, terminating public services and systems needed to aid the suffering and displaced. These impaired systems are interrelated in the hardest struck zones. Power lines, water and sanitary lines, and public communication may be lost; and highways, railways, rivers, and ports may not allow transportation to the affected region. Furthermore, essential facilities, such as fire and police departments and medical care, may be disrupted if not retrofitted to resist earthquakes. Mass relocation may be necessary, but the residents who are suffering from the earthquake can neither leave the heavily impacted areas nor receive aid, or even communication, in the immediate aftermath of a significant event.

Source: Indiana Geological Survey

The Modified Mercalli (MM) Intensity Scale

The MM Intensity Scale is the commonly used scale to describe the intensity of the earthquake. It is composed of 12 increasing levels of intensity which range from ground shaking to catastrophic destruction. The lower levels of the intensity scale indicate the effect of earthquake felt by people, and the higher levels indicate the observed structural damage.

Table 1 describes the 12 levels of Modified Mercalli Intensity Scale. Table 2 describes the earthquake magnitude corresponding to the intensity levels.

Table 1: Abbreviated Modified Mercalli Intensity Scale

Modified Mercalli Intensity	Description
I	Not felt except by a very few under especially favorable conditions.
II	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking

Modified Mercalli Intensity	Description
	building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Table 2: Earthquake Magnitude vs. Modified Mercalli Intensity Scale

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

Source: United States Geological Survey

Inventory

The Hazus-MH compliant building inventory for this study was created using GIS land parcels obtained from IndianaMAP. The detailed building characteristics were obtained from the Indiana Department of Local Government and Finance (IDLGF) for 2013. Indiana counties annually submit an extract of property appraisal data to the IDLGF. This extract contains detailed building information to include square footage, construction type, year built, foundation type, and building replacement cost.

For the purpose of this study, essential facilities are defined as those that are vital to the state in the event of a hazard. These include emergency operations centers, police departments, fire stations, schools, and care facilities. The essential facility updates have been applied to the Hazus-MH model data using data from the local multi hazard mitigation plans and the 2013 Indiana Department of Education, Indiana Department of Health, and Indiana Department of Homeland Security.

Region 5 Assessment

Overview

Region 5 has a total area of 3084.79 square miles. The 2010 census reports the counties that make up the region have a population of 1,474,128. There are an estimated 600,000 buildings in Region 5 with a total building replacement value (excluding contents) of \$ 141.4 billion.

Building Damage

Hazus estimates that about 24,862 buildings in the Region will be at least moderately damaged. There are an estimated 479 buildings that will be damaged beyond repair.

Table 3: Region 5 Building Damaged by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	12,442	1,109	284	46	6
Commercial	16,194	1,476	407	68	7
Education	330	30	11	0	0
Government	1,302	114	27	3	0
Industrial	3,270	299	93	15	0
Other Residential	49,364	4,763	1,726	298	37
Religion	3,390	317	112	18	1
Single Family	415,696	42,764	16,632	3,009	391
Total	489,546	49,763	19,008	3,411	436

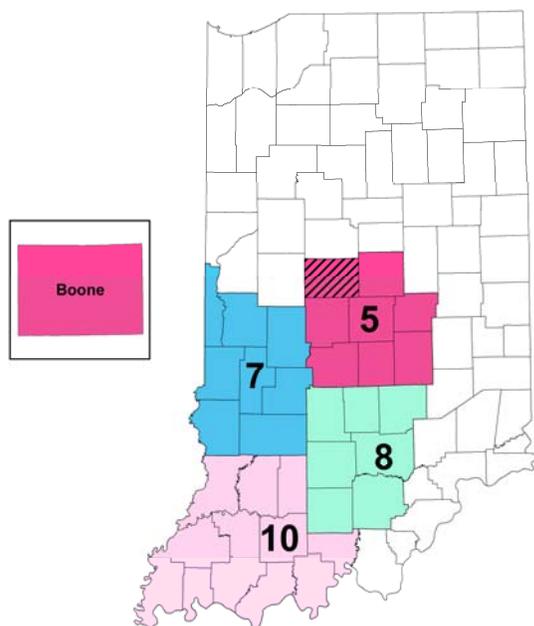
Essential Facility Damage

Before the earthquake, the Region would have an estimated 36,518 medical care beds available for use. On the day of the earthquake, the model estimates that only 28,358 beds (77%) of these beds would be available for use by patients already in the medical care facilities along with those injured by the earthquake.

Table 4: Region 5 Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	855	0	0	855
Schools	547	0	0	547
EOC's	10	0	0	10
Police Stations	80	0	0	80
Fire Stations	206	0	0	206

Boone County



INCORPORATED COMMUNITIES

ADVANCE

JAMESTOWN

LEBANON

THORNTOWN

ULEN

WHITESTOWN

ZIONSVILLE

Overview

Boone County, Indiana is located in the northwest corner of Region 5. It has a total area of 423.25 square miles, of which 422.91 square miles is land and .34 square miles is water. The 2010 Census reports the Boone County population at 56,640, with a reported population density of 134 inhabitants per square mile.

There are an estimated 22 thousand buildings in Boone County with a total building replacement value (excluding contents) of \$5.8 billion. Approximately 88 % of the buildings (and 74% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 59% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 23 medical care facilities in the county with a total bed capacity of 1,500 beds. The county also has 29 schools, 12 fire stations, 7 police stations, and 1 emergency operation facility. With respect to high potential loss facilities (HPL), there are 7 dams identified within the county. Of these, 1 of the dams is classified as 'high hazard'. The inventory also includes 8 hazardous material sites.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Boone County.

Building Damages

Hazus estimates that about 767 buildings in Boone County would be at least moderately damaged. This is over 3 % of the buildings in the county. An estimated 13 buildings would be damaged beyond repair.

Table 5: Boone County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,359	102	15	1	0
Commercial	745	66	19	3	0
Education	22	2	1	0	0
Government	75	7	2	0	0
Industrial	145	12	3	1	0
Other Residential	1,185	114	39	7	1
Religion	155	14	5	1	0
Single Family	15,996	1,539	562	97	12
Total	19,683	1,855	645	110	13

Table 6: Boone County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	12,198	863	141	7	0
Steel	139	14	8	1	0
Concrete	220	18	8	0	0
Precast	34	3	2	1	0
Reinforced Masonry	61	3	2	0	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Unreinforced Masonry	7,029	954	483	100	13
Total	19,683	1,885	645	110	13

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,500 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 1,174 (78%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 91% of the beds would likely be back in service. By 30 days, 98% would be operational.

Table 7: Boone County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	23	0	0	23
Schools	29	0	0	29
EOC's	1	0	0	1
Police Stations	7	0	0	7
Fire Stations	12	0	0	12

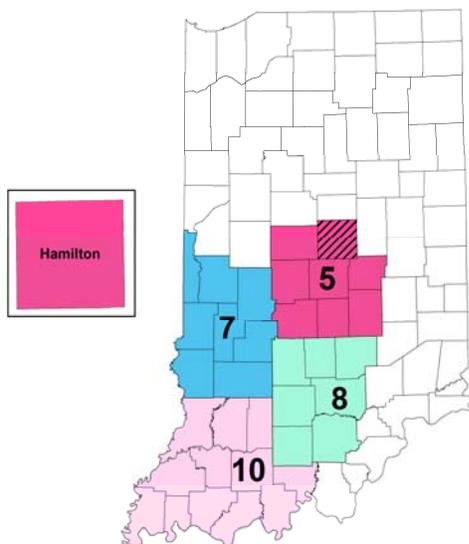
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 262 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 21 households would be displaced due to the earthquake. Of these, 13 people (out of a total population of 46,107) would likely seek temporary lodging in public shelters.

Hamilton County



INCORPORATED COMMUNITIES

ARCADIA
 ATLANTA
 CARMEL
 CICERO
 FISHERS
 NOBLESVILLE
 SHERIDAN
 WESTFIELD

Overview

Hamilton County, Indiana is located in the northeast corner of Region 5. It has a total area of 402.44 square miles, of which 394.27 square miles is land and 8.17 square miles is water. The 2010 Census reports the Hamilton County population at 274,569, is one of the fastest-growing counties in the United States.

There are an estimated 97,000 buildings in Hamilton County with a total building replacement value (excluding contents) of \$28.8 billion. Approximately 94 % of the buildings (and 77% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 67% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 115 medical care in the county with a total bed capacity of 5,650 beds. The county also has 61 schools, 29 fire stations, 9 police stations, and 1 emergency operation facility. With respect to high potential loss facilities (HPL), there are 8 dams identified within the county. Of these, 2 of the dams are classified as 'high hazard'. The inventory also includes 28 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 2.1 billion dollars. This inventory includes over 167 kilometers of highways, 268 bridges, and 6,197 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Hamilton County.

Building Damages

Hazus estimates that about 2,309 buildings in Hamilton County would be at least moderately damaged. This is over 2 % of the buildings in the county. An estimated 34 buildings would be damaged beyond repair.

Table 8: Hamilton County Building Damage By Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,627	86	16	2	0
Commercial	2,551	145	19	2	0
Education	97	5	1	0	0
Government	230	12	1	0	0
Industrial	225	13	3	0	0
Other Residential	7,666	483	123	16	2
Religion	328	18	4	0	0
Single Family	76,681	5,469	1,799	286	33
Total	89,405	6,231	1,967	307	35

Table 9: Hamilton County Building Damage By Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	62,228	3,181	496	25	0
Steel	185	11	5	1	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	439	23	9	0	0
Precast	143	10	7	2	0
Reinforced Masonry	121	6	3	0	0
Unreinforced Masonry	26,290	3,000	1,446	279	34
Total	89,405	6,231	1,967	307	35

Essential Facility Damage

Before the earthquake, the county would have an estimated 5,650 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 4,593 beds (81%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 92% of the beds would be back in service. By 30 days, 99% would likely be operational.

Table 10: Hamilton County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	115	0	0	115
Schools	61	0	0	61
EOC's	1	0	0	1
Police Stations	9	0	0	9
Fire Stations	29	0	0	29

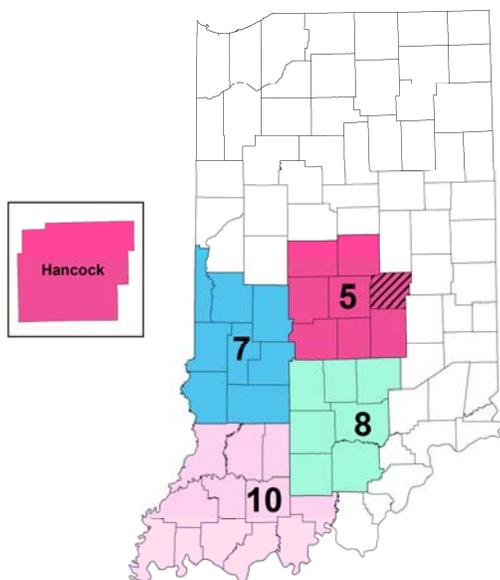
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 268 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 41 households would be displaced due to the earthquake. Of these, 22 people (out of a total population of 182,740) would likely seek temporary lodging in public shelters.

Hancock County



INCORPORATED COMMUNITIES

CUMBERLAND

FORTVILLE

GREENFIELD

MAXWELL

McCORDSVILLE

NEW PALESTINE

SHIRLEY

SPRING LAKE

WILKINSON

Overview

Hancock County, Indiana is located on the east side of Region 5. It has a total area of 307.02 square miles, of which 306.01 square miles is land and 1.01 square miles is water. The 2010 Census reports the Hancock County population at 70,002 with a population density of 229 inhabitants per square mile.

There are an estimated 26,000 buildings in Hancock County with a total building replacement value (excluding contents) of \$5.1 billion. Approximately 89 % of the buildings (and 75% of the building value) are associated with residential housing. In terms of building construction types found in the county, wood frame construction makes up 41% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 30 medical care facilities in the county with a total bed capacity of 1550 beds. The county also has 22 schools, 11 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 2 dams identified within the county. Of these, 1 of the dams is classified as 'high hazard'. The inventory also includes 18 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.2 billion dollars. This inventory includes over 123 kilometers of highways, 176 bridges, and 3,105 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Hancock County.

Building Damages

Hazus estimates that about 968 buildings in Hancock County would be at least moderately damaged. This is over 4 % of the buildings in the county. An estimated 17 buildings would be damaged beyond repair.

Table 11: Hancock County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,665	112	30	5	1
Commercial	679	53	21	4	0
Education	24	2	1	0	0
Government	69	5	2	0	0
Industrial	112	8	4	1	0
Other Residential	1,305	91	28	4	0
Religion	170	13	5	1	0
Single Family	19,785	1,764	717	129	16
Total	23,809	2,048	807	144	17

Table 12: Hancock County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	10,422	543	80	4	0
Steel	166	12	6	1	0
Concrete	163	9	3	0	0
Precast	99	7	5	1	0
Reinforced Masonry	101	5	23	0	0
Unreinforced Masonry	12,858	1,472	710	137	16
Total	23,809	2,048	807	144	17

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,550 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 1,263 beds (81%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 92% of the beds would be back in service. By 30 days, 99% would be operational.

Table 13: Hancock County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	30	0	0	30
Schools	22	0	0	22
EOC's	1	0	0	1
Police Stations	5	0	0	5
Fire Stations	11	0	0	11

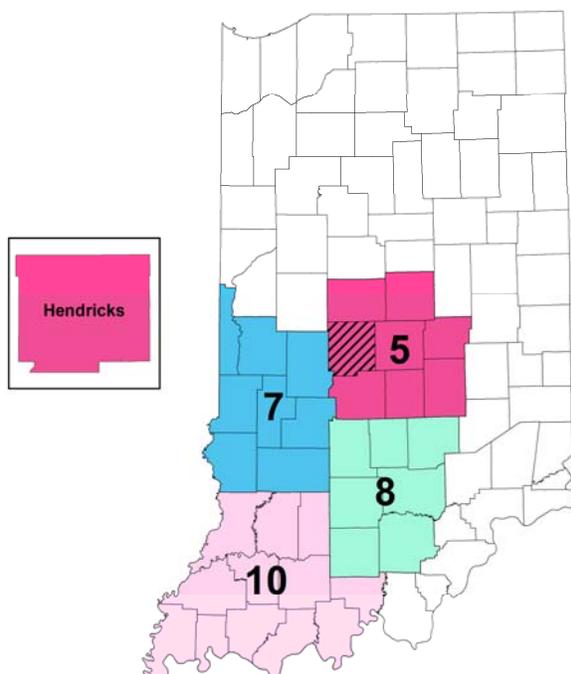
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 176 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 24 households would be displaced due to the earthquake. Of these, 13 people (out of a total population of 55,391) would likely seek temporary lodging in public shelters.

Hendricks County



INCORPORATED COMMUNITIES

AMO
 AVON
 BROWNSBURG
 CLAYTON
 COATSVILLE
 DANVILLE
 LIZTON
 NORTH SALEM
 PITTSBORO
 PLAINFIELD
 STILESVILLE

Overview

Hendricks County, Indiana is located on the west side of Region 5. It has a total area of 408.78 square miles, of which 406.91 square miles is land and 1.871 square miles is water. The 2010 Census reports the Hendricks County population at 145,448 with a population density of 356 inhabitants per square mile. Hendricks County is currently the second fastest growing county in Indiana and 85th in the nation.

There are an estimated 53,000 buildings in Hendricks County with a total building replacement value (excluding contents) of \$11.5 billion. Approximately 91 % of the buildings (and 73% of the building value) are associated with residential housing.

In terms of building construction types found in the region, wood frame construction makes up 28% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 60 medical care facilities in the county with a total bed capacity of 3,050 beds. The county also has 39 schools, 22 fire stations, 11 police stations, and 1

emergency operation center. With respect to high potential loss facilities (HPL), there are 19 dams identified within the county. Of these, 2 of the dams are classified as 'high hazard'. The inventory also includes 20 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 2.4 billion dollars. This inventory includes over 182 kilometers of highways, 293 bridges, and 4,491 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Hendricks County.

Building Damages

Hazus estimates that about 3,710 buildings in Hendricks County would be at least moderately damaged. This is over 7 % of the buildings in the county. An estimated 89 buildings would be damaged beyond repair.

Table 14: Hendricks County Building Damage By Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,995	252	75	13	2
Commercial	1,259	171	79	16	2
Education	43	5	2	0	0
Government	153	20	8	1	0
Industrial	233	28	16	3	0
Other Residential	3,039	459	233	50	7
Religion	184	25	12	2	0
Single Family	36,514	5,372	2,568	543	77
Total	43,381	6,333	2,992	629	89

Table 15: Hendricks County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	13,226	1,315	249	14	1
Steel	183	25	16	3	0
Concrete	199	23	10	1	0
Precast	152	16	14	4	0
Reinforced Masonry	315	22	15	3	0
Unreinforced Masonry	29,305	4,933	2,688	606	88
Total	43,381	6,333	2,992	629	89

Essential Facility Damage

Before the earthquake, the county would have an estimated 3,050 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 2,259 beds (74%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 88% of the beds would likely be back in service. By 30 days, 97% would be operational.

Table 16: Hendricks County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	60	0	0	60
Schools	39	0	0	39
EOC's	1	0	0	1
Police Stations	11	0	0	11
Fire Stations	22	0	0	22

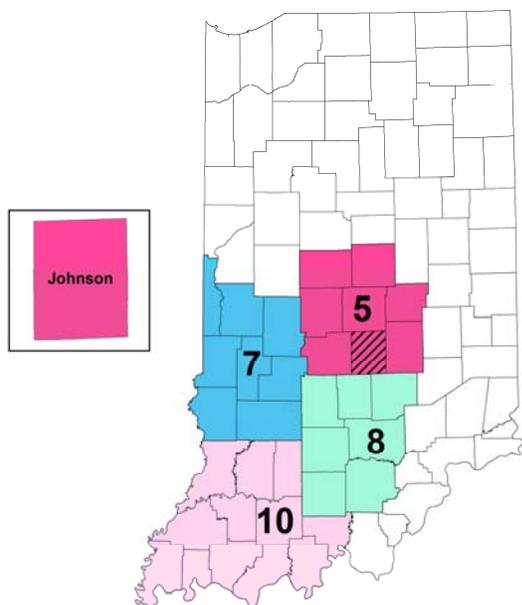
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 293 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 108 households would be displaced due to the earthquake. Of these, 62 people (out of a total population of 104,093) would likely seek temporary lodging in public shelters.

Johnson County



INCORPORATED COMMUNITIES

BARGERSVILLE

EDINBURGH

BROWNSBURG

FRANKLIN

GREENWOOD

NEW WHITELAND

PRINCES LAKE

TRAFALGER

WHITELAND

Overview

Johnson County, Indiana is located on the south side of Region 5. It has a total area of 321.79 square miles, of which 320.43 square miles is land and 1.36 square miles is water. The 2010 Census reports the Johnson County population at 139,654 with a population density of 436 inhabitants per square mile.

There are an estimated 49,000 buildings in Hendricks County with a total building replacement value (excluding contents) of \$10.4 billion. Approximately 91 % of the buildings (and 78% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 70% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 63 medical care facilities in the county with a total bed capacity of 3,500 beds. The county also has 45 schools, 23 fire stations, 9 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 30 dams identified within the county. Of these, 9 of the dams are classified as 'high hazard'. The inventory also includes 15 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.8 billion dollars. This inventory includes over 174 kilometers of highways, 174 bridges, and 4,075 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Johnson County.

Building Damages

Hazus estimates that about 1,858 buildings in Johnson County would be at least moderately damaged. This is over 4 % of the buildings in the county. An estimated 34 buildings would be damaged beyond repair.

Table 17: Johnson County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,736	188	53	9	1
Commercial	1,258	128	20	2	0
Education	35	4	1	0	0
Government	50	5	1	0	0
Industrial	306	32	7	1	0
Other Residential	3,358	355	103	14	2
Religion	300	29	8	1	0
Single Family	35,375	3,989	1,378	228	31
Total	42,418	4,731	1,570	255	34

Table 18: Johnson County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	30,889	2,855	544	30	2
Steel	329	39	23	3	0
Concrete	477	52	29	2	0
Precast	85	9	7	2	0
Reinforced Masonry	78	5	4	1	0
Unreinforced Masonry	10,560	1,770	963	216	31
Total	42,418	4,731	1,570	255	34

Essential Facility Damage

Before the earthquake, the county would have an estimated 3,500 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 2,607 beds (75%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 89% of the beds would likely be back in service. By 30 days, 98% would be operational.

Table 19: Johnson County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	63	0	0	63
Schools	45	0	0	45
EOC's	1	0	0	1
Police Stations	9	0	0	9
Fire Stations	23	0	0	23

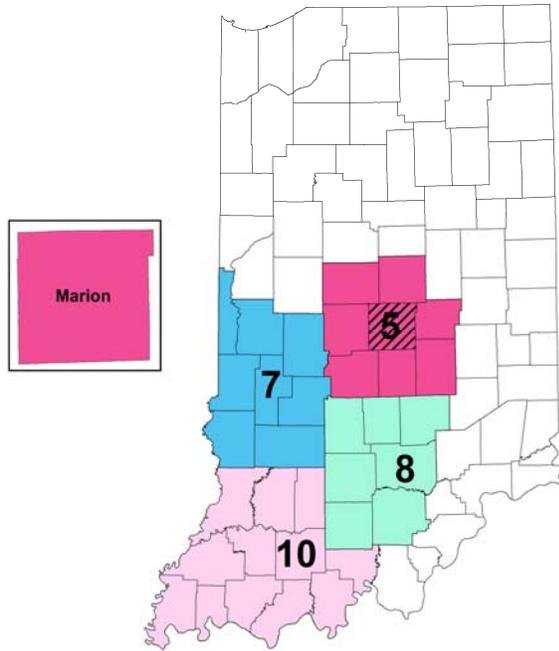
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 174 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 46 households to be displaced due to the earthquake. Of these, 26 people (out of a total population of 115,209) would likely seek temporary shelter in public shelters.

Marion County



Note, the communities of Beech Grove, Lawrence, Southport and Speedway are excluded.

INCORPORATED COMMUNITIES

CLERMONT
 CROWS NEST
 CUMBERLAND
 HOMECROFT
 INDIANAPOLIS
 MERIDIAN HILLS
 NORTH CROWS NEST
 ROCKY RIPPLE
 SPRING HILL
 WARREN PARK
 WEST NEWTON
 WILLIAMS CREEK
 WYNNEDALE

Overview

Marion County, Indiana is located in the center of Region 5. The county is consolidated with Indianapolis through a geo-political arrangement known as Unigov. It has a total area of 321.79 square miles, of which 320.43 square miles is land and 1.36 square miles is water. The 2010 Census reports the Marion County population at 903,393 making it the largest county in Indiana. The reported population density was 2,172 people per square mile.

There are an estimated 290,000 buildings in Marion County with a total building replacement value (excluding contents) of \$68.4 billion. Approximately 95 % of the buildings (and 67% of the building value) are associated with residential housing.

In terms of building construction types found in the region, wood frame construction makes up 52% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 515 medical care facilities in the county with a total bed capacity of 18,768 beds. The county also has 304 schools, 80 fire stations, 9 police stations, and 2 emergency operation centers. With respect to high potential loss facilities (HPL), there are 10 dams identified within the county. Of these, 4 of the dams are classified as 'high hazard'. The inventory also includes 425 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 7.8 billion dollars. This inventory includes over 645 kilometers of highways, 768 bridges, and 13,973 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Marion County.

Building Damages

Hazus estimates that about 12,231 buildings in Marion County would be at least moderately damaged. This is over 4 % of the buildings in the county. An estimated 233 buildings would be damaged beyond repair.

Table 20: Marion County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	277	25	5	1	0
Commercial	8,559	804	208	33	4
Education	64	7	3	0	0
Government	591	52	9	1	0
Industrial	1,876	174	50	7	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Other Residential	31,336	3,106	1,137	195	24
Religion	1,958	188	65	11	1
Single Family	206,990	22,217	8,701	1,572	203
Total	251,651	26,572	10,178	1,821	233

Table 21: Marion County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	137,795	10,637	1,929	105	4
Steel	755	80	46	8	0
Concrete	2,961	260	136	8	1
Precast	100	9	8	2	0
Reinforced Masonry	1,176	69	44	7	0
Unreinforced Masonry	108,864	15,517	8,015	1,691	228
Total	251,651	26,572	10,178	1,821	233

Essential Facility Damage

Before the earthquake, the county would have an estimated 18,768 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 14,589 beds (78%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 91% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 22: Marion County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	515	0	0	515
Schools	304	0	0	304
EOC's	2	0	0	2
Police Stations	28	0	0	28
Fire Stations	80	0	0	80

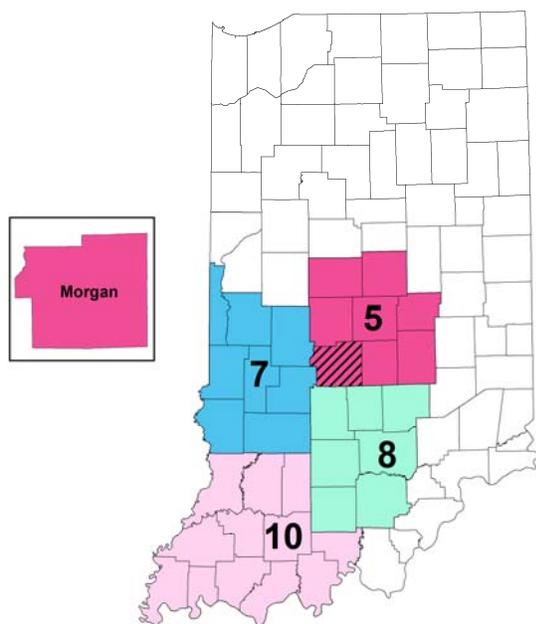
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 768 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 707 households would be displaced due to the earthquake. Of these, 431 people (out of a total population of 860,454) would likely seek temporary lodging in public shelters.

Morgan County



INCORPORATED COMMUNITIES

BETHANY

BROOKLYN

MARTINSVILLE

MONROVIA

MOORESVILLE

MORGANTOWN

PARAGON

Overview

Morgan County, Indiana is located on the southwest corner of Region 5. It has a total area of 409.43 square miles, of which 403.97 square miles is land and 5.46 square miles is water. The 2010 Census reports the Morgan County population at 68,894 with a population density of 169 inhabitants per square mile.

There are an estimated 290,000 buildings in Morgan County with a total building replacement value (excluding contents) of \$68.4 billion. Approximately 95 % of the buildings (and 67% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 51% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 26 medical care facilities in the county with a total bed capacity of 1,200 beds. The county also has 28 schools, 80 fire stations, 8 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 61 dams identified within the county. Of these, 15 of the dams are classified as 'high hazard'. The inventory also includes 11 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.7 billion dollars. This inventory includes over 171 kilometers of highways, 191 bridges, and 3,973 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Morgan County.

Building Damages

Hazus estimates that about 1,676 buildings in Morgan County would be at least moderately damaged. This is over 6 % of the buildings in the county. An estimated 39 buildings would be damaged beyond repair.

Table 23: Morgan County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,038	285	83	14	2
Commercial	710	108	52	11	1
Education	16	2	1	0	0
Government	87	13	5	1	0
Industrial	108	16	8	2	0
Other Residential	1,886	276	81	13	2
Religion	170	24	11	2	0
Single Family	17,727	2,611	1,126	228	34
Total	22,741	3,335	1,366	271	39

Table 24: Morgan County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	12,458	1,438	280	15	1
Steel	152	23	16	3	0
Concrete	175	25	15	2	0
Precast	102	12	11	3	0
Reinforced Masonry	114	9	7	1	0
Unreinforced Masonry	9,741	1,827	1,037	246	38
Total	22,741	3,335	1,336	271	39

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,200 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 858 beds (72%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 87% of the beds would likely be back in service. By 30 days, 97% would likely be operational.

Table 25: Morgan County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	26	0	0	26
Schools	28	0	0	28
EOC's	1	0	0	1
Police Stations	8	0	0	8
Fire Stations	19	0	0	19

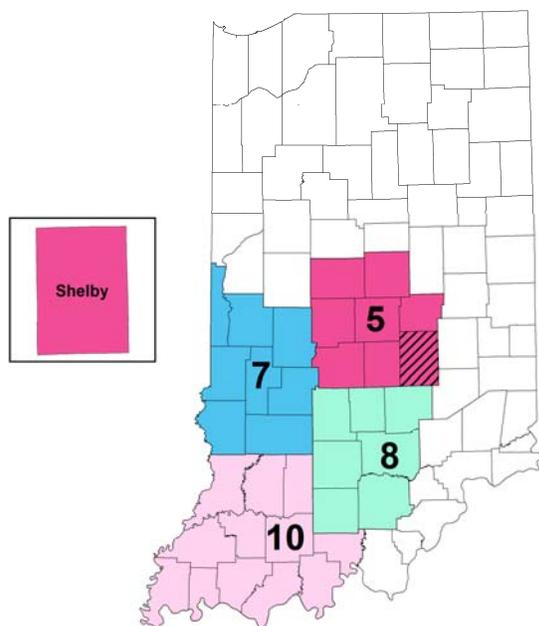
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 191 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 72 households would be displaced due to the earthquake. Of these, 46 people (out of a total population of 66,689) would likely seek temporary lodging in public shelters.

Shelby County



INCORPORATED COMMUNITIES

EDINBURGH
 FAIRLAND
 MORRISTOWN
 ST PAUL
 SHELBYVILLE

Overview

Shelby County, Indiana is located on the southeast corner of Region 5. It has a total area of 412.76 square miles, of which 411.15 square miles is land and 1.61 square miles is water. The 2010 Census reports the Shelby County population at 44,436 with a population density of 108 inhabitants per square mile.

There are an estimated 36,000 buildings in Shelby County with a total building replacement value (excluding contents) of \$6.6 billion. Approximately 82 % of the buildings (and 63% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 55% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 23 medical care facilities in the county with a total bed capacity of 1,300 beds. The county also has 19 schools, 10 fire stations, 3 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are no dams identified within the county. The inventory also includes 44 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.3 billion dollars. This inventory includes over 154 kilometers of highways, 239 bridges, and 3,889 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Shelby County.

Building Damages

Hazus estimates that about 1,347 buildings in Morgan County would be at least moderately damaged. This is over 4 % of the buildings in the county. An estimated 23 buildings would be damaged beyond repair.

Table 26: Shelby County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	3,783	344	90	15	2
Commercial	1,143	109	41	8	1
Education	45	5	2	0	0
Government	134	13	4	1	0
Industrial	373	32	10	2	0
Other Residential	1,475	155	63	12	1
Religion	295	30	13	2	0
Single Family	24,355	2,414	907	154	19
Total	31,603	3,102	1,130	193	24

Table 27: Shelby County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	18,116	1,327	218	11	0
Steel	60	6	3	0	0
Concrete	1,299	108	52	3	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Precast	194	17	13	3	0
Reinforced Masonry	195	11	7	1	0
Unreinforced Masonry	11,738	1,634	836	175	23
Total	31,603	3,102	1,130	193	24

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,300 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 1,015 beds (78%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 91% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 28: Shelby County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	23	0	0	23
Schools	19	0	0	19
EOC's	2	0	0	2
Police Stations	3	0	0	3
Fire Stations	10	0	0	10

Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 239 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 25 households would be displaced due to the earthquake. Of these, 15 people (out of a total population of 43,445) would likely seek temporary lodging in public shelters.

Region 7 Assessment

Overview

Region 7 has a total area of 3347.25 square miles. The 2010 census reports the counties that make up the region have a population of 255,127. There are an estimated 76,000 buildings in Region 7 with a total building replacement value (excluding contents) of \$ 11.1 Billion.

Building Damage

Hazus estimates that about 3,726 buildings in the Region would be at least moderately damaged. An estimated 54 buildings would be damaged beyond repair.

Table 29: Region 7 Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	11,835	2,242	588	60	6
Commercial	2,555	516	135	12	1
Education	133	21	6	1	0
Government	297	54	15	1	0
Industrial	296	59	16	1	0
Other Residential	8,104	1,408	295	13	0
Religion	936	139	41	4	0
Single Family	40,243	6,261	2,187	295	48
Total	64,399	10,700	3,283	387	55

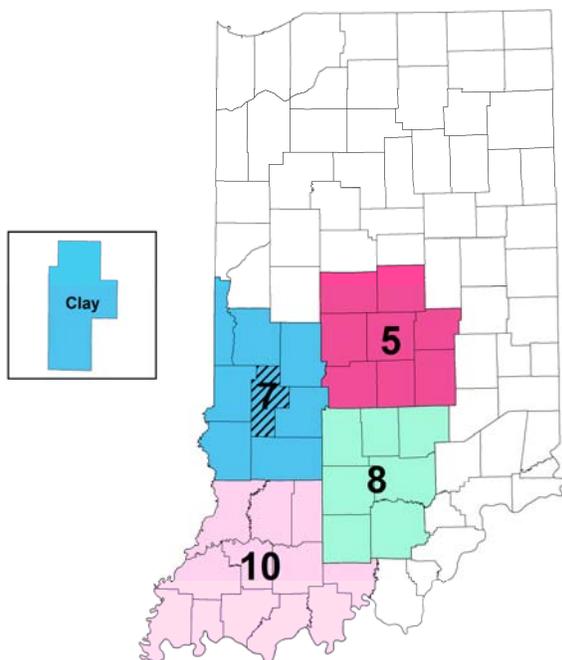
Essential Facility Damage

Before the earthquake, the region have an estimated 7,807 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 5,355 medical care beds (68%) would be available for use by patients already in the medical care along with those injured by the earthquake.

Table 30: Region 7 Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	136	0	0	136
Schools	131	0	0	131
EOC's	8	0	0	8
Police Stations	44	0	0	44
Fire Stations	112	0	0	112

Clay County



INCORPORATED COMMUNITIES

BRAZIL

CARBON

CENTER POINT

CLAY CITY

HARMONY

KNIGHTSVILLE

STAUTON

Overview

Clay County, Indiana is located in the center of Region 7. It has a total area of 360.32 square miles, of which 357.54 square miles is land and 2.78 square miles is water. The 2010 Census reports the Clay County population at 26,890 with a population density of 75 inhabitants per square mile.

There are an estimated 12,000 buildings in Clay County with a total building replacement value (excluding contents) of \$1.5 billion. Approximately 77 % of the buildings (and 68% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 68% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 15 medical care facilities in the county with a total bed capacity of 602 beds. The county also has 13 schools, 13 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 9 dams identified within the county. Of these, no dams are classified as 'high hazard'. The inventory also includes 9 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.2 billion dollars. This inventory includes over 151 kilometers of highways, 202 bridges, and 3,509 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Clay County.

Building Damages

Hazus estimates that 966 buildings in Clay County would be at least moderately damaged. This is over 8 % of the buildings in the county. An estimated 25 buildings would be damaged beyond repair.

Table 31: Clay County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,525	337	123	21	2
Commercial	427	87	20	1	0
Education	4	1	0	0	0
Government	18	4	1	0	0
Industrial	54	11	3	0	0
Other Residential	1,101	219	45	2	0
Religion	105	17	5	1	0
Single Family	6,104	1,188	618	102	22
Total	9,339	1,864	814	127	25

Table 32: Clay County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	6,798	1,186	261	13	1
Steel	1,745	492	434	84	19
Concrete	59	13	11	2	0
Precast	13	2	2	1	0
Reinforced Masonry	9	1	1	0	0
Unreinforced Masonry	714	170	105	28	5
Total	9,339	1,864	814	127	25

Essential Facility Damage

Before the earthquake, the county would have an estimated 602 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 418 beds (70%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 83% of the beds would likely be back in service. By 30 days, 96% would likely be operational.

Table 33: Clay County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	15	0	0	15
Schools	13	0	0	13
EOC's	1	0	0	1
Police Stations	5	0	0	5
Fire Stations	13	0	0	13

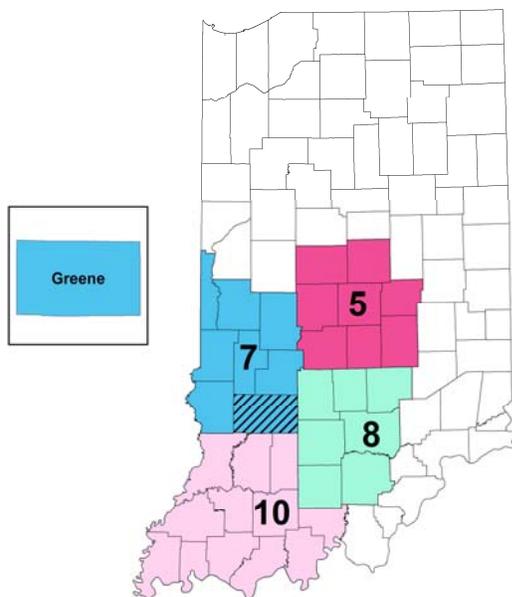
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 202 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 30 households would be displaced due to the earthquake. Of these, 19 people (out of a total population of 26,556) would likely seek temporary lodging in public shelters.

Greene County



INCORPORATED COMMUNITIES

BLOOMFIELD

JASONVILLE

LINTON

SOLSBERRY

NEWBERRY

SWITZ CITY

WORTHINGTON

Overview

Greene County, Indiana is located in the southeast corner of Region 7. It has a total area of 545.92 square miles, of which 542.50 square miles is land and 3.42 square miles is water. The 2010 Census reports the Greene County population at 33,165 with a population density of 61 inhabitants per square mile.

There are an estimated 14,000 buildings in Greene County with a total building replacement value (excluding contents) of \$1.7 billion. Approximately 69 % of the buildings (and 57% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 88% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 13 medical care facilities in the county with a total bed capacity of 671 beds. The county also has 19 schools, 15 fire stations, 6 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 19 dams identified within the county. Of these, 2 of the dams are classified as 'high hazard'. The inventory also includes 4 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.8 billion dollars. This inventory includes over 263 kilometers of highways, 201 bridges, and 4,606 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Greene County.

Building Damages

Hazus estimates that about 825 buildings in Greene County would be at least moderately damaged. This is over 6 % of the buildings in the county. An estimated 14 buildings would be damaged beyond repair.

Table 34: Greene County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,797	563	156	16	2
Commercial	535	142	39	3	0
Education	11	3	1	0	0
Government	63	16	4	0	0
Industrial	36	9	2	0	0
Other Residential	991	198	46	2	0
Religion	172	30	9	1	0
Single Family	6,991	1,273	462	68	11
Total	11,596	2,234	720	91	14

Table 35: Greene County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	10,460	1,938	474	27	2
Steel	304	88	91	24	6
Concrete	185	47	47	9	1

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Precast	47	8	8	3	0
Reinforced Masonry	13	1	1	0	0
Unreinforced Masonry	588	152	98	27	5
Total	11,596	2,234	720	91	14

Essential Facility Damage

Before the earthquake, the county would have an estimated 671 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 393 beds (59%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 74% of the beds would likely be back in service. By 30 days, 93% would likely be operational.

Table 36: Greene County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	13	0	0	13
Schools	19	0	0	19
EOC's	1	0	0	1
Police Stations	6	0	0	6
Fire Stations	15	0	0	15

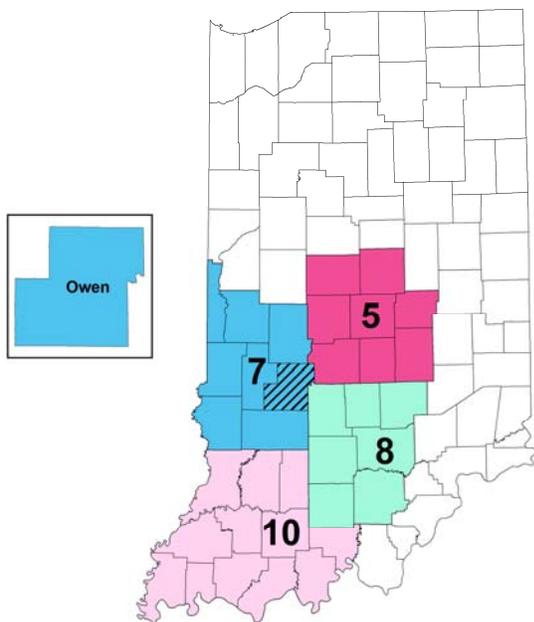
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 201 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 20 households would be displaced due to the earthquake. Of these, 13 people (out of a total population of 33,157) would likely seek temporary lodging in public shelters.

Owen County



INCORPORATED COMMUNITIES

GOSPORT

SPENCER

Overview

Owen County, Indiana is located on the east side of Region 7. It has a total area of 387.82 square miles, of which 385.29 square miles is land and 2.54 square miles is water. The 2010 Census reports the Owen County population at 21,575 with a population density of 56 inhabitants per square mile.

There are an estimated 10,000 buildings in Owen County with a total building replacement value (excluding contents) of \$1.4 billion. Approximately 66 % of the buildings (and 54% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 92% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 8 medical care facilities in the county with a total bed capacity of 534 beds. The county also has 8 schools, 8 fire stations, 3 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 20 dams identified within the county. Of these, 3 of the dams are classified as 'high hazard'.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 497 million dollars. This inventory includes over 79 kilometers of highways, 133 bridges, and 3,509 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Owen County.

Building Damages

Hazus estimates that about 330 buildings in Owen County would be at least moderately damaged. This is over 3 % of the buildings in the county. An estimated 3 buildings would be damaged beyond repair.

Table 37: Owen County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,408	445	102	8	1
Commercial	253	26	4	0	0
Education	6	1	0	0	0
Government	39	4	1	0	0
Industrial	38	5	1	0	0
Other Residential	1,603	263	51	2	0
Religion	141	15	4	0	0
Single Family	4,233	507	139	14	2
Total	8,721	1,268	302	25	3

Table 38: Owen County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	8,126	1,169	235	10	1
Steel	114	22	19	4	1
Concrete	135	17	11	1	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Precast	31	4	4	1	0
Reinforced Masonry	8	1	1	0	0
Unreinforced Masonry	307	54	31	8	1
Total	8,721	1,268	302	25	3

Essential Facility Damage

Before the earthquake, the county would have an estimated 534 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 399 beds (75%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 89% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 39: Owen County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	8	0	0	8
Schools	8	0	0	8
EOC's	1	0	0	1
Police Stations	3	0	0	3
Fire Stations	8	0	0	8

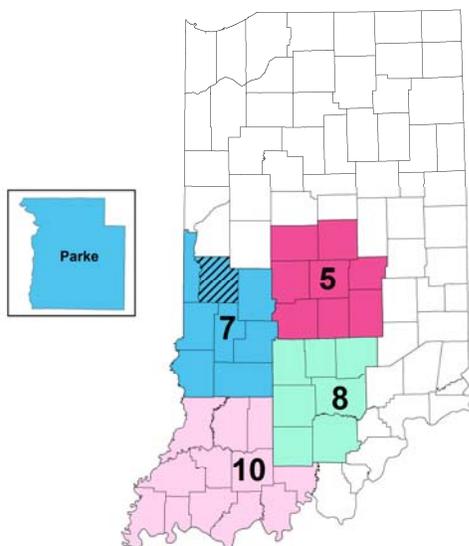
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 133 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 3 households would be displaced due to the earthquake. Of these, 1 person (out of a total population of 21,786) would likely seek temporary lodging in public shelters.

Parke County



INCORPORATED SETTLEMENTS

BLOOMINGDALE

MECCA

MARSHALL

MONTEZUMA

ROCKVILLE

ROSEDALE

Overview

Parke County, Indiana is located on the north side of Region 7. It has a total area of 449.98 square miles, of which 444.66 square miles is land and 5.32 square miles is water. The 2010 Census reports the Parke County population at 17,339 with a population density of 39 inhabitants per square mile.

There are an estimated 3,000 buildings in Parke County with a total building replacement value (excluding contents) of \$358 million. Approximately 64 % of the buildings (and 54% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 93% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 12 medical care facilities in the county with a total bed capacity of 478 beds. The county also has 11 schools, 9 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 29 dams identified within the county. Of these, 8 of the dams are classified as 'high hazard'.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value

of the lifeline inventory is over 589 million dollars. This inventory includes over 110 kilometers of highways, 195 bridges, and 3,169 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Parke County.

Building Damages

Hazus estimates that about 91 buildings in Parke County would be at least moderately damaged. This is over 3 % of the buildings in the county. The model estimates that no buildings would be damaged beyond repair.

Table 40: Parke County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	819	120	21	1	0
Commercial	96	14	4	1	0
Education	0	0	0	0	0
Government	12	2	1	0	0
Industrial	7	1	0	0	0
Other Residential	294	43	7	0	0
Religion	52	6	2	0	0
Single Family	1,473	188	48	5	0
Total	2,754	375	83	8	0

Table 41: Parke County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	2,577	343	64	3	0
Steel	8	1	1	0	0
Concrete	7	1	0	0	0
Precast	6	1	1	0	0
Reinforced	6	0	0	0	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Masonry					
Unreinforced Masonry	151	29	17	4	1
Total	2,754	375	83	8	1

Essential Facility Damage

Before the earthquake, the county would have an estimated 478 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 407 beds (85%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 93% of the beds would likely be back in service. By 30 days, 99% would likely be operational.

Table 42: Parke County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	12	0	0	12
Schools	11	0	0	11
EOC's	1	0	0	1
Police Stations	5	0	0	5
Fire Stations	9	0	0	9

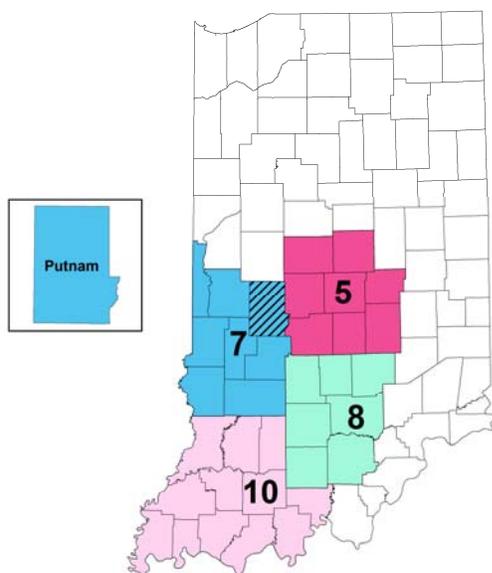
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 195 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 1 household would be displaced due to the earthquake. Of these, 1 person (out of a total population of 17,241) would likely seek temporary lodging in public shelters.

Putnam County



INCORPORATED COMMUNITIES

BAINBRIDGE

CLOVERDALE

FILLMORE

GREENECASTLE

ROACHDALE

RUSSELLVILLE

Overview

Putnam County, Indiana is located on the northeast corner of Region 7. It has a total area of 482.69 square miles, of which 480.53 square miles is land and 2.16 square miles is water. The 2010 Census reports the Putnam County population at 37,963 with a population density of 79 inhabitants per square mile.

There are an estimated 15,000 buildings in Putnam County with a total building replacement value (excluding contents) of \$2.6 billion. Approximately 75 % of the buildings (and 55% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 93% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 11 medical care in the county with a total bed capacity of 699 beds. The county also has 21 schools, 15 fire stations, 8 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 28 dams identified within the county. Of these, 9 of the dams are classified as ‘high hazard’.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value

of the lifeline inventory is over 1.5 billion dollars. This inventory includes over 139 kilometers of highways, 282 bridges, and 3,929 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Parke County.

Building Damages

Hazus estimates that 336 buildings in Putnam County would be at least moderately damaged. This is over 2 % of the buildings in the county. An estimated 2 buildings would be damaged beyond repair.

Table 43: Putnam County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,441	276	46	3	0
Commercial	507	68	25	5	1
Education	92	12	4	1	0
Government	82	11	4	1	0
Industrial	59	7	3	1	0
Other Residential	2,330	261	41	2	0
Religion	158	18	6	1	0
Single Family	7,706	744	178	16	1
Total	13,375	1,397	306	28	2

Table 44: Putnam County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	12,346	1,246	218	10	0
Steel	68	10	7	1	0
Concrete	234	27	17	2	0
Precast	42	5	4	1	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Reinforced Masonry	33	3	2	0	0
Unreinforced Masonry	652	107	59	13	2
Total	13,375	1,397	306	28	3

Essential Facility Damage

Before the earthquake, the county would have an estimated 699 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 596 beds (85%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 93% of the beds would likely be back in service. By 30 days, 99% would likely be operational.

Table 45: Putnam County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	11	0	0	11
Schools	21	0	0	21
EOC's	1	0	0	1
Police Stations	8	0	0	8
Fire Stations	15	0	0	15

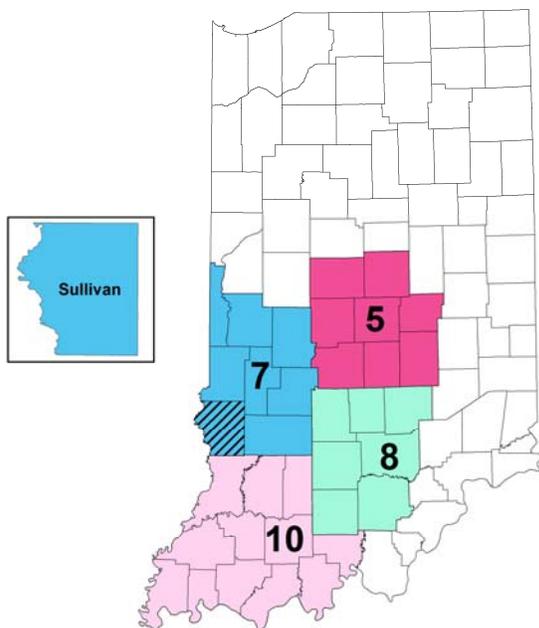
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 282 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 7 households would be displaced due to the earthquake. Of these, 5 people (out of a total population of 36,091) would likely seek temporary lodging in public shelters.

Sullivan County



INCORPORATED COMMUNITIES

CARLISLE
 DUGGER
 FARMERSBURG
 HYMERA
 MEROM
 SHELBURN
 SULLIVAN

Overview

Sullivan County, Indiana is located in the southwest corner of Region 7. It has a total area of 454.12 square miles, of which 447.14 square miles is land and 6.97 square miles is water. The 2010 Census reports the Sullivan County population at 21,475 with a population density of 49 inhabitants per square mile.

There are an estimated 9,000 buildings in Sullivan County with a total building replacement value (excluding contents) of \$1.4 billion. Approximately 74 % of the buildings (and 40% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 93% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 10 medical care facilities in the county with a total bed capacity of 991 beds. The county also has 11 schools, 13 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 26 dams identified within the county. Of these, 2 of the dams are classified as ‘high hazard’.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.3 billion dollars. This inventory includes over 78 kilometers of highways, 204 bridges, and 4,026 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Parke County.

Building Damages

Hazus estimates that about 594 buildings in Sullivan County would be at least moderately damaged. This is over 6 % of the buildings in the county. An estimated 6 buildings would be damaged beyond repair.

Table 46: Sullivan County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,214	393	114	7	1
Commercial	345	109	29	1	0
Education	4	1	0	0	0
Government	25	8	2	0	0
Industrial	52	17	5	0	0
Other Residential	945	288	76	3	0
Religion	142	29	9	1	0
Single Family	4,511	949	303	38	5
Total	7,238	1,795	538	50	6

Table 47: Sullivan County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	6,851	1,681	458	27	2
Steel	0	0	0	0	0
Concrete	13	4	5	1	0

Precast	0	0	0	0	0
Reinforced Masonry	6	1	1	0	0
Unreinforced Masonry	368	109	74	21	4
Total	7,238	1,795	538	50	7

Essential Facility Damage

Before the earthquake, the county would have an estimated 991 medical care beds available for use. On the day of the earthquake, the model estimates that only 583 beds (59%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 77% of the beds would likely be back in service. By 30 days, 94% would likely be operational.

Table 48: Sullivan County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	10	0	0	10
Schools	11	0	0	11
EOC's	1	0	0	1
Police Stations	5	0	0	5
Fire Stations	13	0	0	12

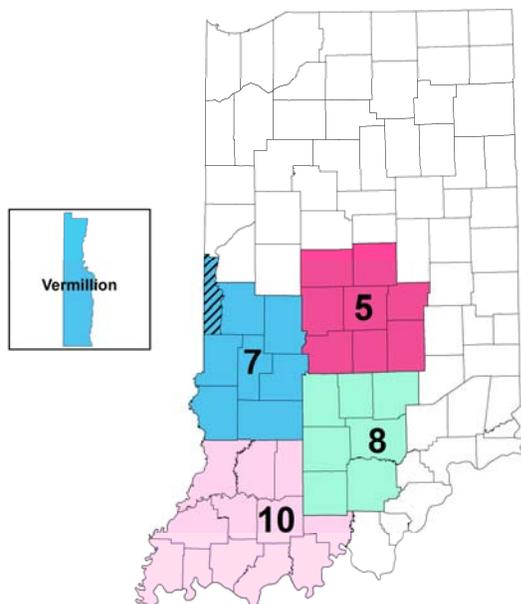
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 204 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 9 households would be displaced due to the earthquake. Of these, 6 people (out of a total population of 21,751) would likely seek temporary lodging in public shelters.

Vermillion County



INCORPORATED COMMUNITIES

CAYUGA

CLINTON

DANA

FAIRVIEW PARK

NEWPORT

PERRYSVILLE

UNIVERSAL

Overview

Vermillion County, Indiana is located in the northwest corner of Region 7. The Wabash River forms the western border of Vermillion County. Vermillion County is less than 10 miles from east to west at its widest point, while from north to south the county extends 37 miles. The county has a total area of 259.93 square miles, of which 256.88 square miles is land and 3.05 square miles is water. The 2010 Census reports the Vermillion County population at 16,212 with a population density of 65 inhabitants per square mile.

There are an estimated 7,000 buildings in Vermillion County with a total building replacement value (excluding contents) of \$1.1 billion. Approximately 86 % of the buildings (and 68% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 93% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 4 medical care in the county with a total bed capacity of 407 beds. The county also has 7 schools, 7 fire stations, 7 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 6 dams identified within the county. Of these, none of the dams are classified as ‘high hazard’. The inventory also includes 48 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1 billion dollars. This inventory includes over 92 kilometers of highways, 119 bridges, and 2,284 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Vermillion County.

Building Damages

Hazus estimates that about 262 buildings in Vermillion County would be at least moderately damaged. This is over 4 % of the buildings in the county. An estimated 3 buildings would be damaged beyond repair.

Table 49: Vermillion County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	415	61	13	2	0
Commercial	265	42	8	1	0
Education	5	1	0	0	0
Government	42	6	1	0	0
Industrial	26	4	1	0	0
Other Residential	556	83	15	1	0
Religion	106	14	3	0	0
Single Family	4,757	652	193	21	3
Total	6,172	863	235	24	3

Table 50: Vermillion County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	5,574	745	157	9	1
Steel	57	13	10	1	0
Concrete	201	35	26	3	0
Precast	15	2	2	1	0
Reinforced Masonry	3	0	0	0	0
Unreinforced Masonry	321	68	40	10	2
Total	6,172	863	235	24	3

Essential Facility Damage

Before the earthquake, the county would have an estimated 407 medical care beds available for use. On the day of the earthquake, the model estimates that only 297 beds (73%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 85% of the beds would likely be back in service. By 30 days, 97% would likely be operational.

Table 51: Vermillion County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	4	0	0	4
Schools	7	0	0	7
EOC's	1	0	0	1
Police Stations	7	0	0	7
Fire Stations	7	0	0	7

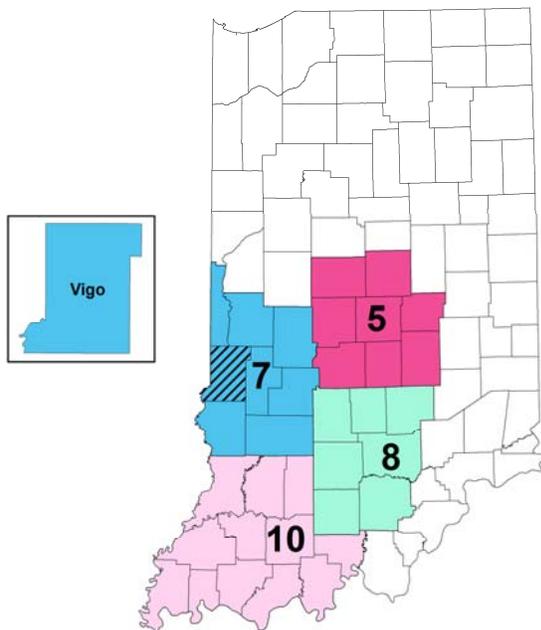
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 119 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 3 households would be displaced due to the earthquake. Of these, 2 people (out of a total population of 16,788) would likely seek temporary lodging in public shelters.

Vigo County



INCORPORATED COMMUNITIES

RILEY

SEELYVILLE

TERRE HAUTE

WEST TERRE HAUTE

Overview

Vigo County, Indiana is located on the west side of Region 7. The Wabash River forms the western border of Vigo County is the southernmost Indiana bordering the Wabash River. The county has a total area of 410.45 square miles, of which 403.31 square miles is land and 7.14 square miles is water. The 2010 Census reports the Vigo County population at 107,848 with a population density of 267 inhabitants per square mile.

There are an estimated 6,000 buildings in Vigo County with a total building replacement value (excluding contents) of \$896 million. Approximately 91 % of the buildings (and 76% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 87% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 63 medical care facilities in the county with a total bed capacity of 3,425 beds. The county also has 41 schools, 32 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 45 dams identified within the county. Of these, 8 of the dams are classified as 'high hazard'. The inventory also includes 69 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 2.8 billion dollars. This inventory includes over 238 kilometers of highways, 243 bridges, and 4,984 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Vigo County.

Building Damages

Hazus estimates that about 323 buildings in Vigo County would be at least moderately damaged. This is over 5 % of the buildings in the county. An estimated 4 buildings would be damaged beyond repair.

Table 52: Vigo County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	216	47	13	2	0
Commercial	127	28	6	0	0
Education	11	2	1	0	0
Government	16	3	1	0	0
Industrial	24	5	1	0	0
Other Residential	284	53	14	1	0
Religion	60	10	3	0	0
Single Family	4,468	760	246	31	4
Total	5,206	907	284	35	4

Table 53: Vigo County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	4,629	768	186	13	1
Steel	11	3	3	1	0
Concrete	141	33	31	4	1
Precast	9	2	1	0	0
Reinforced Masonry	4	0	0	0	0
Unreinforced Masonry	412	101	63	17	3
Total	5,206	907	284	35	4

Essential Facility Damage

Before the earthquake, the county would have an estimated 3,425 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 2,262 beds (66%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 80% of the beds will likely be back in service. By 30 days, 95% would likely be operational.

Table 54: Vigo County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	63	0	0	63
Schools	41	0	0	41
EOC's	1	0	0	1
Police Stations	5	0	0	5
Fire Stations	32	0	0	32

Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 243 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 20 households would be displaced due to the earthquake. Of these, 13 people (out of a total population of 105,848) would likely seek temporary lodging in public shelters.

Region 8 Assessment

Overview

Region 8 has a total area of 3024.60 square miles. The 2010 census reports the counties that make up the Region have a population of 340,541. There are an estimated 129,000 buildings in Region 8 with a total building replacement value (excluding contents) of \$ 23.6 billion.

Building Damage

Hazus estimates that about 4,670 buildings in the Region would be at least moderately damaged. An estimated 80 buildings would be damaged beyond repair.

Table 55: Region 8 Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	14,454	1,512	330	41	3
Commercial	5,887	564	157	25	1
Education	150	14	4	1	0
Government	608	65	18	2	0
Industrial	855	94	33	6	0
Other Residential	11,997	1,205	325	44	6
Religion	1,217	108	34	4	0
Single Family	81,417	8,379	3,061	503	68
Total	116,585	11,941	3,962	626	78

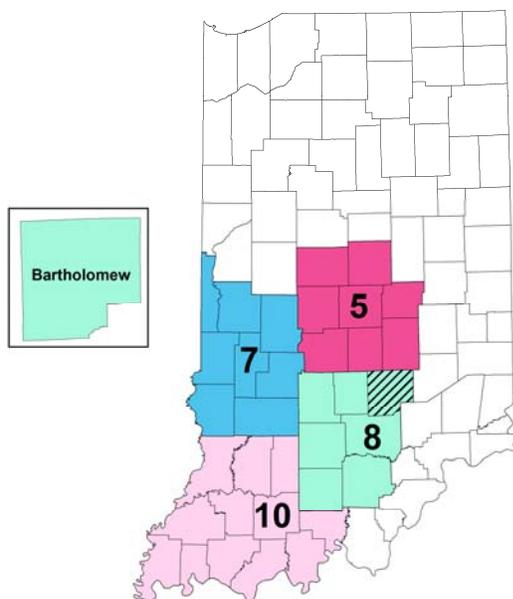
Essential Facility Damage

Before the earthquake, the Region would have an estimated 9,100 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 6,930 beds (88%) would be available for use by patients already in these facilities along with those injured by the earthquake.

Table 56: Region 8 Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	206	0	0	206
Schools	142	0	0	142
EOC's	8	0	0	8
Police Stations	37	0	0	37
Fire Stations	99	0	0	99

Bartholomew County



INCORPORATED COMMUNITIES

CLIFFORD

COLUMBUS

EDINBURGH

ELIZABETHTOWN

HARTSVILLE

HOPE

JONESVILLE

TAYLORSVILLE

Overview

Bartholomew County, Indiana is located on the northeast corner of Region 8. It has a total area of 409.52 square miles, of which 406.91 square miles is land and 2.62 square miles is water. The 2010 Census reports the Bartholomew County population at 76,794 with a population density of 189 inhabitants per square mile.

There are an estimated 27,000 buildings in Bartholomew County with a total building replacement value (excluding contents) of \$6.1 billion. Approximately 85 % of the buildings (and 61% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 40% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 35 medical care facilities in the county with a total bed capacity of 1,600 beds. The county also has 23 schools, 19 fire stations, 4 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 40 dams identified within the county. Of these, 9 of the dams are classified as 'high hazard'. The inventory also includes 68 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.6 billion dollars. This inventory includes over 175 kilometers of highways, 244 bridges, and 4,304 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Bartholomew County.

Building Damages

Hazus estimates that about 1,706 buildings in Bartholomew County would be at least moderately damaged. This is over 6% of the buildings in the county. An estimated 37 buildings would be damaged beyond repair.

Table 57: Bartholomew County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,029	269	83	15	2
Commercial	842	115	57	12	1
Education	19	3	1	0	0
Government	144	19	8	1	0
Industrial	227	33	19	4	0
Other Residential	835	107	38	6	1
Religion	132	17	8	2	0
Single Family	18,037	2,587	1,190	224	33
Total	22,266	3,149	1,404	264	37

Table 58: Bartholomew County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	9,658	1,016	193	10	1
Steel	1,611	238	148	18	3
Concrete	891	112	68	6	1

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Precast	158	18	16	4	0
Reinforced Masonry	97	7	5	1	0
Unreinforced Masonry	9,852	1,757	975	225	33
Total	22,266	3,149	1,404	264	38

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,600 medical care beds available for use. On the day of the earthquake, the model estimates that only 1,170 beds (73%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 88% of the beds would likely back in service. By 30 days, 97% would likely be operational.

Table 59: Bartholomew County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	35	0	0	35
Schools	23	0	0	23
EOC's	1	0	0	1
Police Stations	4	0	0	4
Fire Stations	19	0	0	19

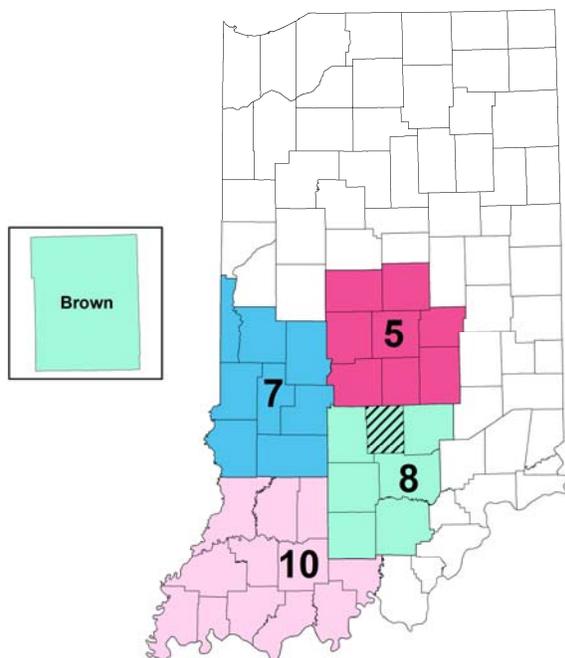
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 244 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 62 households would be displaced due to the earthquake. Of these, 37 people (out of a total population of 71,435) would likely seek temporary lodging in public shelters.

Brown County



INCORPORATED COMMUNITIES

NASHVILLE

Overview

Brown County, Indiana is located on the north side of Region 8. Nashville is the county seat and the only incorporated community in Brown County. It has a total area of 316.63 square miles, of which 311.98 square miles is land and 4.65 square miles is water. The 2010 Census reports the Brown County population at 15,242 with a population density of 49 inhabitants per square mile.

There are an estimated 7,000 buildings in Brown County with a total building replacement value (excluding contents) of \$1 billion. Approximately 86 % of the buildings (and 80% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 97% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 14 medical care facilities in the county with a total bed capacity of 200 beds. The county also has 8 schools, 8 fire stations, 4 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 99 dams identified within the county. Of these, 36 of the dams are classified as 'high hazard'. The inventory also includes 1 hazardous material site.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 491 million dollars. This inventory includes over 71 kilometers of highways, 107 bridges, and 2,291 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Brown County.

Building Damages

Hazus estimates that about 65 buildings in Brown County would be at least moderately damaged. This is over 1% of the buildings in the county. The model estimates that no buildings would be damaged beyond repair.

Table 60: Brown County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	723	39	4	0	0
Commercial	209	12	1	0	0
Education	1	0	0	0	0
Government	11	1	0	0	0
Industrial	7	0	0	0	0
Other Residential	595	31	3	0	0
Religion	56	3	1	0	0
Single Family	5,850	301	52	3	0
Total	7,451	387	61	4	0

Table 61: Brown County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	7,214	371	53	3	0
Steel	6	0	0	0	0
Concrete	144	8	3	0	0
Precast	12	1	1	0	0
Reinforced Masonry	2	0	0	0	0
Unreinforced Masonry	73	8	4	1	0
Total	7,451	387	61	4	0

Essential Facility Damage

Before the earthquake, the county would have an estimated 200 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 148 beds (74%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 88% of the beds will likely be back in service. By 30 days, 97% would likely be operational.

Table 62: Brown County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	14	0	0	14
Schools	8	0	0	8
EOC's	1	0	0	1
Police Stations	4	0	0	4
Fire Stations	8	0	0	8

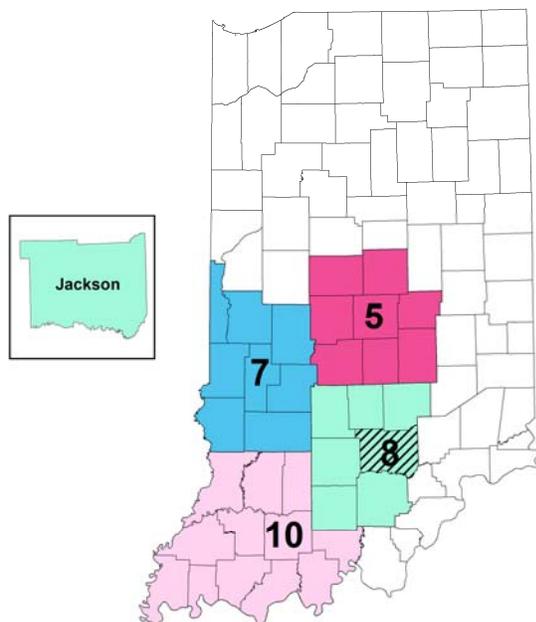
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 107 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimate no households would be displaced due to the earthquake.

Jackson County



INCORPORATED COMMUNITIES

BROWNSTOWN

CROTHERSVILLE

MEDORA

SEYMOUR

UNIONTOWN

KURTZ

NORMAN STATION

TAMPICO

VALLONIA

FREETOWN

Overview

Jackson County, Indiana is located on the east side of Region 8. It has a total area of 513.91 square miles, of which 509.31 square miles is land and 4.60 square miles is water. The 2010 Census reports the Jackson County population at 42,376 with a population density of 49 inhabitants per square mile.

There are an estimated 16,000 buildings in Jackson County with a total building replacement value (excluding contents) of \$2.8 billion. Approximately 75 % of the buildings (and 59% of the building value) are associated with residential housing.

In terms of building construction types found in the region, wood frame construction makes up 79% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 26 medical care facilities in the county with a total bed capacity of 1,300 beds. The county also has 23 schools, 16 fire stations, 9 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 17

dams identified within the county. Of these, 5 of the dams are classified as ‘high hazard’. The inventory also includes 20 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 2 billion dollars. This inventory includes over 197 kilometers of highways, 302 bridges, and 3,595 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Jackson County.

Building Damages

Hazus estimates that about 627 buildings in Jackson County would be at least moderately damaged. This is over 4% of the buildings in the county. An estimated 9 buildings would be damaged beyond repair.

Table 63: Jackson County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,557	382	89	11	1
Commercial	730	88	16	1	0
Education	19	2	0	0	0
Government	53	7	1	0	0
Industrial	131	16	5	1	0
Other Residential	1,422	189	35	2	0
Religion	119	14	3	0	0
Single Family	9,377	1,174	395	58	8
Total	14,407	1,872	545	73	9

Table 64: Jackson County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	11,674	1,393	260	13	1
Steel	104	19	13	2	0
Concrete	503	70	45	4	0
Precast	113	14	12	3	0
Reinforced Masonry	28	2	2	0	0
Unreinforced Masonry	1,985	374	213	51	8
Total	14,407	1,872	545	73	9

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,300 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 923 beds (71%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 87% of the beds would likely be back in service. By 30 days, 97% would likely be operational.

Table 65: Jackson County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	26	0	0	26
Schools	23	0	0	23
EOC's	1	0	0	1
Police Stations	9	0	0	9
Fire Stations	16	0	0	16

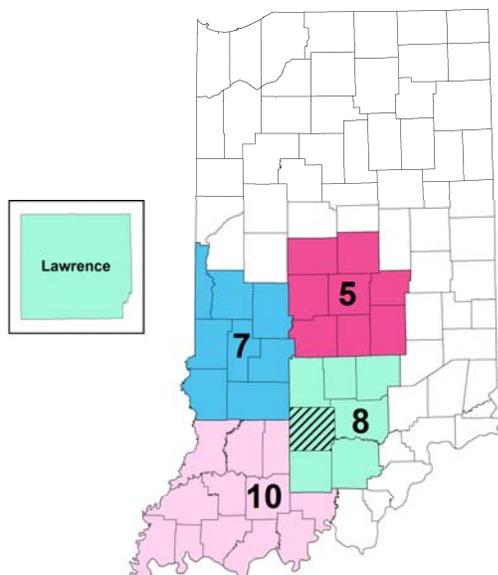
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 302 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 16 households would be displaced due to the earthquake. Of these, 10 people (out of a total population of 41,335) would likely seek temporary lodging in public shelters.

Lawrence County



INCORPORATED COMMUNITIES

BEDFORD

MITCHELL

OOLITIC

Overview

Lawrence County, Indiana is located on the west side of Region 8. It has a total area of 451.93 square miles, of which 449.17 square miles is land and 2.76 square miles is water. The 2010 Census reports the Lawrence County population at 46,134 with a population density of 103 inhabitants per square mile.

There are an estimated 19,000 buildings in Lawrence County with a total building replacement value (excluding contents) of \$3 billion. Approximately 74 % of the buildings (and 59% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 88% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 33 medical care in the county with a total bed capacity of 1,950 beds. The county also has 24 schools, 20 fire stations, 4 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 4 dams identified within the county. Of these, 1 of the dams are classified as 'high hazard'. The inventory also includes 22 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.2 billion dollars. This inventory includes over 124 kilometers of highways, 154 bridges, and 4,086 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Lawrence County.

Building Damages

Hazus estimates that about 330 buildings in Lawrence County will be at least moderately damaged. This is over 2% of the buildings in the county. There are an estimated 2 buildings that will be damaged beyond repair.

Table 66: Lawrence County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	3,339	263	46	5	0
Commercial	675	52	8	1	0
Education	7	1	0	0	0
Government	91	7	1	0	0
Industrial	173	13	2	0	0
Other Residential	860	65	10	1	0
Religion	313	23	5	0	0
Single Family	12,486	956	229	20	2
Total	17,945	1,379	301	27	2

Table 67: Lawrence County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	15,671	1,139	179	9	0
Steel	928	84	42	4	1
Concrete	438	35	17	1	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Precast	70	6	5	1	0
Reinforced Masonry	14	1	1	0	0
Unreinforced Masonry	824	114	58	12	2
Total	17,945	1,379	301	27	2

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,950 medical care beds available for use. On the day of the earthquake, the model estimates that only 1,522 beds (78%) would be available for use by patients already in the facilities as well as those injured by the earthquake. After one week, 91% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 68: Lawrence County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	33	0	0	33
Schools	24	0	0	24
EOC's	1	0	0	1
Police Stations	4	0	0	4
Fire Stations	20	0	0	20

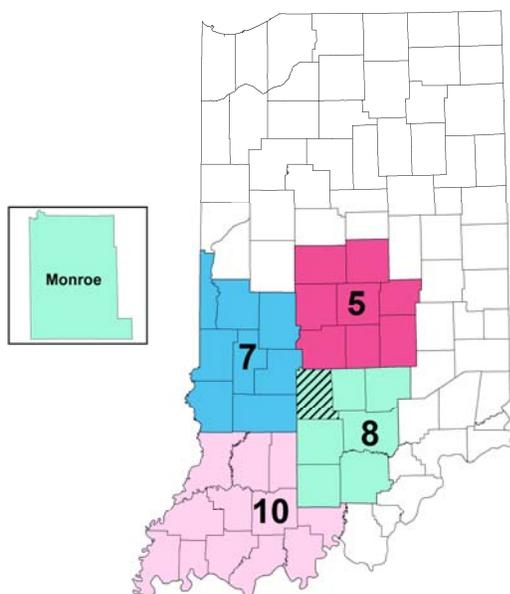
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 154 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 3 households to be displaced due to the earthquake. Of these, 2 people (out of a total population of 45,922) will seek temporary shelter in public shelters.

Monroe County



INCORPORATED COMMUNITIES

BLOOMINGTON

ELLETTSVILLE

STINESVILLE

NEW UNIONVILLE

SMITHVILLE

Overview

Monroe County, Indiana is located on the northwest corner of Region 8. It has a total area of 411.32 square miles, of which 394.91 square miles is land and 16.81 square miles is water. The 2010 Census reports the Monroe County population at 137,974 with a population density of 350 inhabitants per square mile.

There are an estimated 39,000 buildings in Monroe County with a total building replacement value (excluding contents) of \$7.8 billion. Approximately 87% of the buildings (and 71% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 53% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 66 medical care facilities in the county with a total bed capacity of 2,750 beds. The county also has 42 schools, 18 fire stations, 9 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 14 dams identified within the county. Of these, 5 of the dams are classified as 'high hazard'. The inventory also includes 26 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.2 billion dollars. This inventory includes over 129 kilometers of highways, 144 bridges, and 3,918 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Monroe County.

Building Damages

Hazus estimates that about 1,464 buildings in Monroe County would be at least moderately damaged. This is over 4% of the buildings in the county. An estimated 27 buildings would be damaged beyond repair.

Table 69: Monroe County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,187	93	22	3	0
Commercial	2,794	229	61	10	0
Education	94	8	3	1	0
Government	184	16	5	1	0
Industrial	212	18	4	1	0
Other Residential	4,553	442	177	32	4
Religion	344	30	11	2	0
Single Family	25,662	2,446	937	168	21
Total	35,030	3,282	1,220	217	27

Table 70: Monroe County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	19,461	1,289	211	11	0
Steel	41	4	2	0	0
Concrete	311	22	9	1	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Precast	64	5	4	1	0
Reinforced Masonry	295	15	10	2	0
Unreinforced Masonry	14,859	1,947	984	203	27
Total	35,030	3,282	1,220	217	27

Essential Facility Damage

Before the earthquake, the county would have an estimated 2,750 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 2,160 beds (79%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 91% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 71: Monroe County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	66	0	0	66
Schools	42	0	0	42
EOC's	1	0	0	1
Police Stations	9	0	0	9
Fire Stations	18	0	0	18

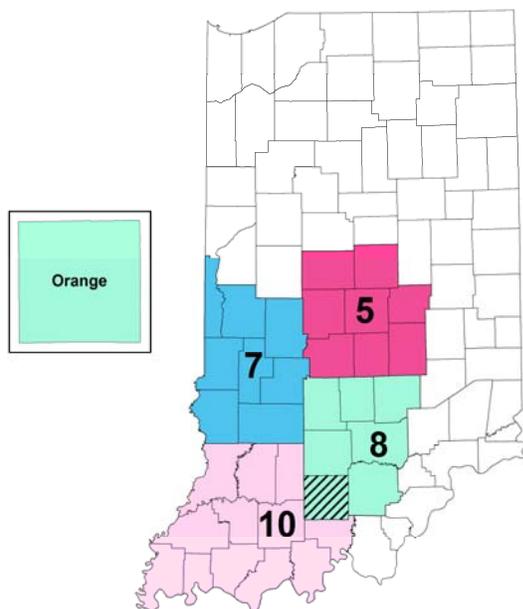
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 144 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 114 households would be displaced due to the earthquake. Of these, 74 people (out of a total population of 120,563) would likely seek temporary lodging in public shelters.

Orange County



INCORPORATED COMMUNITIES

FRENCH LICK

ORLEANS

PAOLI

WEST BADEN

Overview

Orange County, Indiana is located on the southwest corner of Region 8. Patoka Lake is in the southwest corner of Orange County. The county has a total area of 408.91 square miles, of which 398.39 square miles is land and 9.80 square miles is water. The 2010 Census reports the Orange County population at 19,840 with a population density of 50 inhabitants per square mile.

There are an estimated 10,000 buildings in Orange County with a total building replacement value (excluding contents) of \$1.5 billion. Approximately 70 % of the buildings (and 48% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 90% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 17 medical care facilities in the county with a total bed capacity of 650 beds. There are 9 schools, 8 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 8 dams identified within the county. Of these, 5 of the dams are classified as 'high hazard'. The inventory also includes 12 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 943 million dollars. This inventory includes over 124 kilometers of highways, 126 bridges, and 2,999 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Orange County.

Building Damages

Hazus estimates that about 281 buildings in Orange County would be at least moderately damaged. This is over 3% of the buildings in the county. An estimated 3 buildings would be damaged beyond repair.

Table 72: Orange County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,047	244	49	4	0
Commercial	323	46	11	1	0
Education	4	0	0	0	0
Government	59	10	2	0	0
Industrial	83	12	3	0	0
Other Residential	1,849	231	46	3	1
Religion	90	9	3	0	0
Single Family	4,257	471	139	16	2
Total	8,712	1,023	253	25	3

Table 73: Orange County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	7,957	906	172	8	1
Steel	318	48	36	7	2

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	143	20	15	2	0
Precast	31	4	4	1	0
Reinforced Masonry	6	0	0	0	0
Unreinforced Masonry	256	46	26	6	1
Total	8,712	1,023	253	25	3

Essential Facility Damage

Before the earthquake, the county would have an estimated 650 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 486 beds (75%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 89% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 74: Orange County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	17	0	0	17
Schools	9	0	0	9
EOC's	1	0	0	1
Police Stations	5	0	0	5
Fire Stations	8	0	0	8

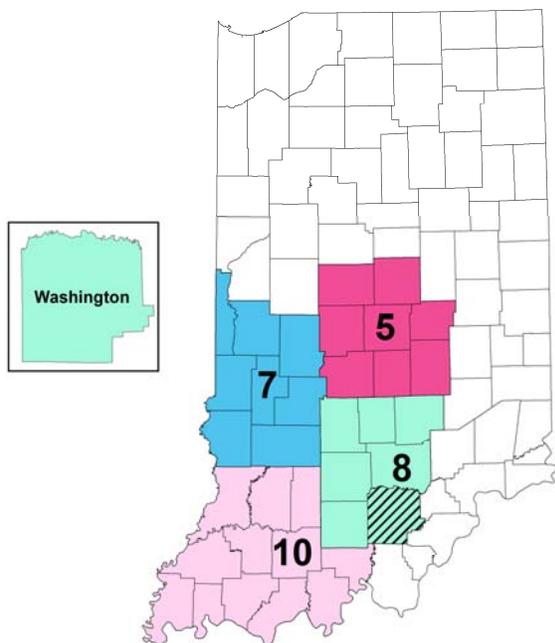
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 126 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 4 households would be displaced due to the earthquake. Of these, 3 people (out of a total population of 19,306) would likely seek temporary lodging in public shelters.

Washington County



INCORPORATED COMMUNITIES

CAMPBELLSBURG

FREDERICKSBURG

HARDINSBURG

LITTLE YORK

LIVONIA

NEW PEKIN

PEKIN

SALEM

SALTILLO

Overview

Washington County, Indiana is located on the northwest corner of Region 8. It has a total area of 516.60 square miles, of which 513.72 square miles is land and 2.87 square miles is water. The 2010 Census reports the Washington County population at 28,262 with a population density of 54.9 inhabitants per square mile.

There are an estimated 11,000 buildings in Washington County with a total building replacement value (excluding contents) of \$1.5 billion. Approximately 71 % of the buildings (and 57% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 88% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 15 medical care facilities in the county with a total bed capacity of 650 beds. The county also has 13 schools, 10 fire stations, 2 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 28 dams identified within the county. Of these, 10 of the dams are classified as 'high hazard'. The inventory also includes 17 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 990 million dollars. This inventory includes over 135 kilometers of highways, 162 bridges, and 3,974 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Washington County.

Building Damages

Hazus estimates that about 198 buildings in Washington County would be at least moderately damaged. This is over 2% of the buildings in the county. An estimated 2 buildings would be damaged beyond repair.

Table 75: Washington County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	2,572	222	37	3	0
Commercial	314	22	3	0	0
Education	6	0	0	0	0
Government	66	5	1	0	0
Industrial	22	2	0	0	0
Other Residential	1,883	140	16	0	0
Religion	163	12	3	0	0
Single Family	5,748	444	119	14	2
Total	10,774	846	178	18	2

Table 76: Washington County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	9,588	708	106	5	0
Steel	241	22	12	2	0
Concrete	139	10	5	0	0
Precast	21	2	1	0	0
Reinforced Masonry	12	1	0	0	0
Unreinforced Masonry	774	104	54	11	2
Total	10,774	846	178	18	2

Essential Facility Damage

Before the earthquake, the county would have an estimated 650 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 521 beds (80%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 92% of the beds would likely be back in service. By 30 days, 98% would likely be operational.

Table 77: Washington County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	15	0	0	15
Schools	13	0	0	13
EOC's	2	0	0	2
Police Stations	2	0	0	2
Fire Stations	10	0	0	10

Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 162 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 2 households would likely be displaced due to the earthquake. Of these, 2 people (out of a total population of 27,223) would likely seek temporary lodging in public shelters.

Region 10 Assessment

Overview

Region 10 has a total area of 4,714.82 square miles. The 2010 census reports the counties that make up the Region have a population of 465,855. There are an estimated 188,000 buildings in Region 10 with a total building replacement value (excluding contents) of \$ 35.5 billion.

Building Damage

Hazus estimates that about 33,253 buildings in the Region would be at least moderately damaged. An estimated 3,654 buildings would be damaged beyond repair.

Table 78: Region 10 Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	10,212	3,106	2,320	1,081	773
Commercial	4,775	1,793	2,309	489	260
Education	166	81	71	26	12
Government	438	172	134	58	37
Industrial	1,171	426	288	108	55
Other Residential	9,007	2,372	1,462	494	266
Religion	1,508	421	229	68	28
Single Family	96,068	28,567	16,467	5,081	2,235
Total	123,345	36,938	23,280	7,405	3,666

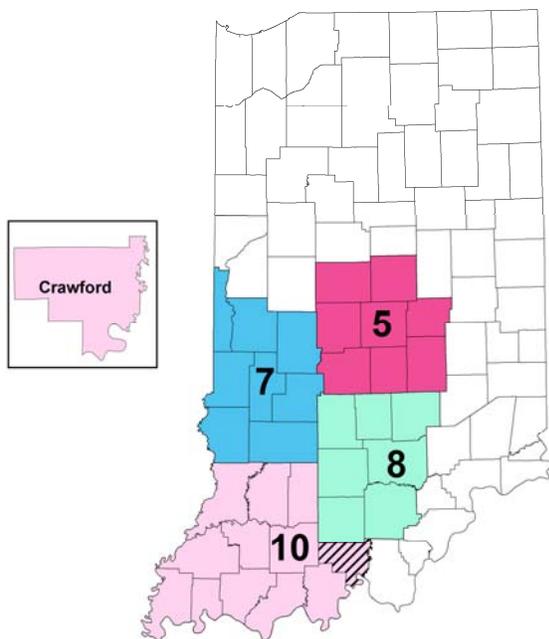
Essential Facility Damage

Before the earthquake, the Region would have an estimated 13,770 medical care beds available for use. On the day of the earthquake, the model estimates that only 3,843 beds (28%) would be available for use by patients already in these facilities along with those injured by the earthquake.

Table 79: Region 10 Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	193	128	19	49
Schools	234	45	7	83
EOC's	12	6	1	5
Police Stations	63	37	10	19
Fire Stations	194	98	18	52

Crawford County



INCORPORATED COMMUNITIES

ALTON

ECKERTY

ENGLISH

LEAVENWORTH

MARENGO

MILLTOWN

TASWELL

Overview

Crawford County, Indiana is located in the southeast corner of Region 10. It has a total area of 308.72 square miles, of which 305.64 square miles is land and 3.08 square miles is water. The 2010 Census reports the Crawford County population at 10,713 with a population density of 35 inhabitants per square mile.

There are an estimated 6,000 buildings in Crawford County with a total building replacement value (excluding contents) of \$613 million. Approximately 95 % of the buildings (and 82% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 58% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 5 medical care facilities in the county with an unknown bed capacity. The county also has 6 schools, 7 fire stations, and 2 police stations. With respect to high potential loss facilities (HPL), there are 2 dams identified within the county. Of these, 1 of the dams are classified as 'high hazard'. The inventory also includes 2 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail,

bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 952 million dollars. This inventory includes over 104 kilometers of highways, 108 bridges, and 2,459 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Crawford County.

Building Damages

Hazus estimates that about 254 buildings in Crawford County would be at least moderately damaged. This is over 4% of the buildings in the county. The model estimates that 2 buildings would be damaged beyond repair.

Table 80: Crawford County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	25	3	1	0	0
Commercial	175	18	8	1	0
Education	10	1	1	0	0
Government	12	1	1	0	0
Industrial	54	5	3	0	0
Other Residential	2,280	298	140	10	1
Religion	26	3	1	0	0
Single Family	3,097	267	75	10	1
Total	5,679	597	229	23	2

Table 81: Crawford County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	3,494	259	47	3	0
Steel	92	9	5	1	0
Concrete	24	2	1	0	0
Precast	22	2	2	0	0

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Reinforced Masonry	886	125	64	13	2
Unreinforced Masonry	1,133	197	109	5	0
Total	5,679	597	229	23	2

Essential Facility Damage

Due to the lack of knowledge about medical care facility bed capacity we were unable to determine the number of beds likely to be available as a result of the scenario earthquake.

Table 82: Crawford County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	5	0	0	5
Schools	6	0	0	6
EOC's	0	0	0	0
Police Stations	2	0	0	2
Fire Stations	7	0	0	7

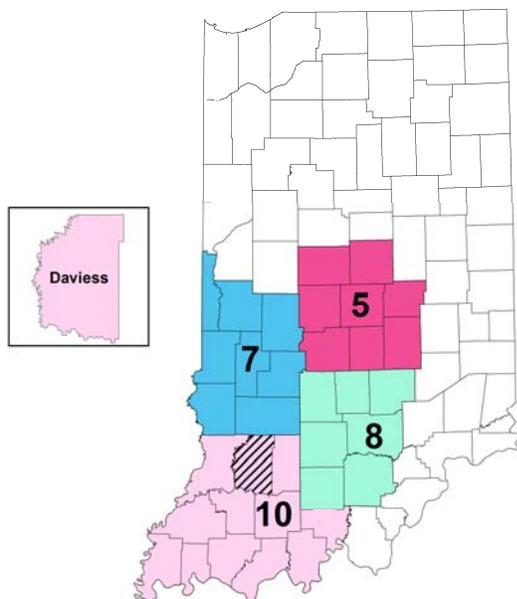
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 108 bridges on the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 1 household would be displaced due to the earthquake. Of these, 1 person (out of a total population of 10,743) would likely seek temporary lodging in public shelters.

Daviess County



INCORPORATED COMMUNITIES

ALFORDSVILLE

CANNELBURG

ELNORA

MONTGOMERY

ODON

PLAINVILLE

WASHINGTON

Overview

Daviess County, Indiana is located on the north side of Region 10. It has a total area of 436.87 square miles, of which 429.49 square miles is land and 7.39 square miles is water. The 2010 Census reports the Daviess County population at 31,648 with a population density of 73 inhabitants per square mile.

Inventory

There are an estimated 12,000 buildings in Daviess County with a total building replacement value (excluding contents) of \$1.6 billion. Approximately 71 % of the buildings (and 56% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 73% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 20 medical care facilities in the county with a total bed capacity of 2,034 beds. The county also has 31 schools, 11 fire stations, 4 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 14 dams identified within the county. Of these, 1 of the dams is classified as 'high hazard'. The inventory also includes 30 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.1 billion dollars. This inventory includes over 88 kilometers of highways, 136 bridges, and 3,793 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Daviess County.

Building Damages

Hazus estimates that about 1,593 buildings in Daviess County will be at least moderately damaged. This is over 13% of the buildings in the county. An estimated 55 buildings would be damaged beyond repair.

Table 83: Daviess County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,625	678	289	36	7
Commercial	341	140	120	46	9
Education	1	0	0	0	0
Government	2	1	0	0	0
Industrial	21	9	9	4	1
Other Residential	403	194	90	10	2
Religion	65	22	16	5	1
Single Family	5,300	1,628	748	166	35
Total	7,758	2,671	1,272	267	55

Table 84: Daviess County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	6,008	2,003	709	58	6
Steel	45	21	33	20	6

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	94	40	53	23	6
Precast	70	21	28	14	1
Reinforced Masonry	34	7	8	3	0
Unreinforced Masonry	1,506	579	442	149	35
Total	7,758	2,671	1,272	267	55

Essential Facility Damage

Before the earthquake, the county would have an estimated 2,034 medical care beds available for use. On the day of the earthquake, the model estimates that only 725 beds (36%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 56% of the beds would likely be back in service. By 30 days, 82% would likely be operational.

Table 85: Daviess County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	20	10	0	3
Schools	31	0	0	20
EOC's	1	0	0	0
Police Stations	4	2	0	2
Fire Stations	11	6	0	2

Bridge Functionality

There are 136 bridges in the highway system. Hazus estimates that at least 1 of these bridges would be moderately damaged. After day 1 of the earthquake 135 bridges will be functional. After 7 days of the earthquake, 136 bridges will be functional.

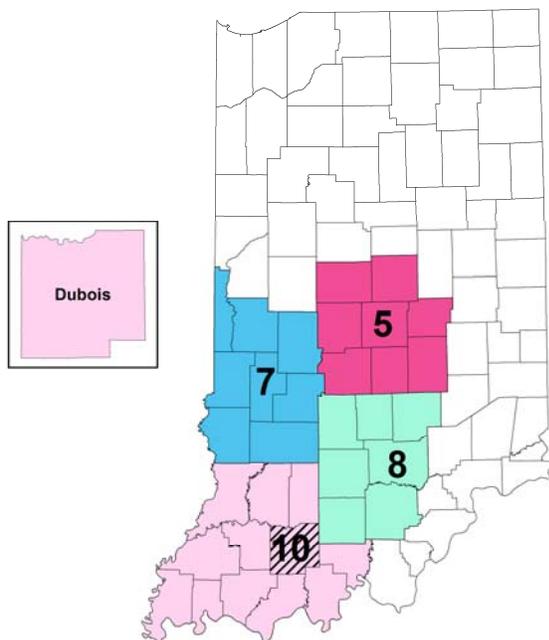
Table 86: Daviess County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	136	1	0	135	136

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 94 households would be displaced due to the earthquake. Of these, 65 people (out of a total population of 29,820) would seek temporary shelter in public shelters.

Dubois County



INCORPORATED COMMUNITIES

BIRDSEYE

FERDINAND

HOLLAND

HUNTINGBURG

JASPER

Overview

Dubois County, Indiana is located on the east side of Region 10. It has a total area of 435.33 square miles, of which 427.27 square miles is land and 8.06 square miles is water. The 2010 Census reports the Dubois County population at 41,889 with a population density of 97 inhabitants per square mile.

There are an estimated 17,000 buildings in Dubois County with a total building replacement value (excluding contents) of \$3.4 billion. Approximately 79 % of the buildings (and 62% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 62% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 25 medical care facilities in the county with a total bed capacity of 2,188 beds. The county also has 23 schools, 16 fire stations, 6 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 32 dams identified within the county. Of these, 7 of the dams are classified as 'high hazard'. The inventory also includes 62 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.4 billion dollars. This inventory includes over 120 kilometers of highways, 192 bridges, and 3,962 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Dubois County.

Building Damages

Hazus estimates that about 1,566 buildings in Dubois County would be at least moderately damaged. This is over 9% of the buildings in the county. An estimated 54 buildings would be damaged beyond repair.

Table 87: Dubois County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,748	388	145	23	3
Commercial	723	139	40	4	0
Education	4	1	0	0	0
Government	17	4	1	0	0
Industrial	218	44	14	2	0
Other Residential	591	103	38	7	1
Religion	183	28	9	1	0
Single Family	10,245	1,967	992	237	49
Total	13,730	2,674	1,239	273	54

Table 88: Dubois County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	9,156	1,534	399	27	2
Steel	457	114	126	45	14

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	410	84	89	20	4
Precast	65	11	11	4	0
Reinforced Masonry	26	3	3	1	0
Unreinforced Masonry	3,616	929	612	176	35
Total	13,730	2,674	1,239	273	54

Essential Facility Damage

Before the earthquake, the county would have an estimated 2,188 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 1,629 beds (74%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 89% of the beds would likely be back in service. By 30 days, 97% would likely be operational.

Table 89: Dubois County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	25	0	0	20
Schools	23	0	0	23
EOC's	1	0	0	1
Police Stations	6	0	0	5
Fire Stations	16	0	0	13

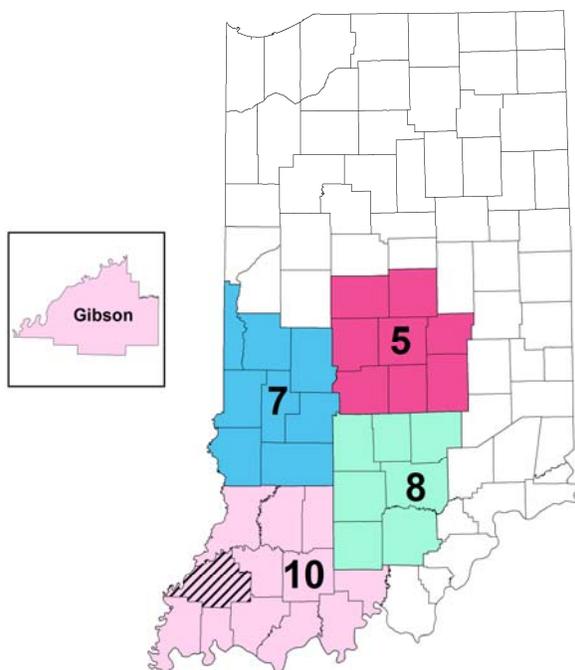
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 192 bridges on the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 59 households would be displaced due to the earthquake. Of these, 36 people (out of a total population of 39,674) would likely seek temporary lodging in public shelters.

Gibson County



INCORPORATED COMMUNITIES

OAKLAND CITY

PRINCETON

BUCKSKIN

FRANCISCO

HAUBSTADT

HAZELTON

MACKEY

OWENSVILLE

PATOKA

SOMERVILLE

Overview

Gibson County, Indiana is located on the west side of Region 10. It has a total area of 499.16 square miles, of which 487.49 square miles is land and 11.68 square miles is water. The 2010 Census reports the Gibson County population at 33,503 with a population density of 69 inhabitants per square mile.

There are an estimated 14,000 buildings in Gibson County with a total building replacement value (excluding contents) of \$2.4 billion. Approximately 78 % of the buildings (and 60% of the building value) are associated with residential housing.

In terms of building construction types found in the region, wood frame construction makes up 75% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 20 medical care facilities in the county with a total bed capacity of 1,690 beds. The county also has 20 schools, 17 fire stations, 8 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 7 dams

identified within the county. Of these, 1 of the dams is classified as ‘high hazard’. The inventory also includes 45 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.4 billion dollars. This inventory includes over 124 kilometers of highways, 293 bridges, and 4,879 kilometers of pipes

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Gibson County.

Building Damages

Hazus estimates that about 8,444 buildings in Gibson County would be at least moderately damaged. This is over 60% of the buildings in the county. An estimated 2,128 buildings would be damaged beyond repair.

Table 90: Gibson County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	76	180	577	571	569
Commercial	21	62	216	195	154
Education	5	11	23	12	7
Government	4	10	32	29	23
Industrial	4	11	36	32	28
Other Residential	90	145	281	215	165
Religion	55	59	52	20	14
Single Family	2,222	2,632	2,671	1,355	1,169
Total	2,476	3,110	3,888	2,428	2,128

Table 91: Gibson County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	2,240	2,275	3,142	1,519	808
Steel	7	13	65	169	282
Concrete	6	9	54	126	208
Precast	2	2	10	18	35
Reinforced Masonry	1	1	5	8	11
Unreinforced Masonry	221	330	613	587	784
Total	2,476	3,110	3,888	2,428	2,128

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,690 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 11 beds (1%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 2% of the beds would likely be back in service. By 30 days, 9% would likely be operational.

Table 92: Gibson County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	20	20	18	0
Schools	19	19	7	0
EOC's	1	1	1	0
Police Stations	8	8	7	0
Fire Stations	17	17	12	0

Bridge Functionality

There are 293 bridges in the highway system. Hazus estimates that at least 46 would be moderately damaged and 5 would be completely damaged due to earthquake. After day 1 of the earthquake 246 bridges would be functional. After 7 days of the earthquake, 259 bridges would be functional.

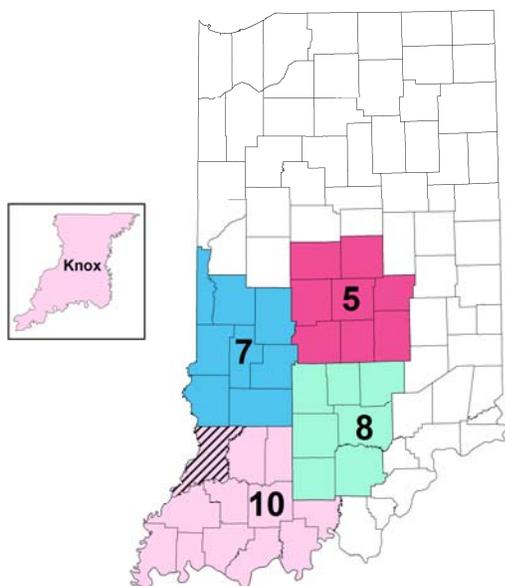
Table 93: Gibson County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	293	46	5	246	259

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 1,540 households would be displaced due to the earthquake. Of these, 971 people (out of a total population of 32,500) will likely seek temporary lodging in public shelters.

Knox County



INCORPORATED COMMUNITIES

BICKNELL

BRUCEVILLE

DECKER

EDWARDSPORT

FREELANDVILLE

MONROE CITY

OAKTOWN

SANDBORN

VINCENNES

WESTPHALIA

Overview

Knox County, Indiana is located in the northwest corner of Region 10. It has a total area of 524.04 square miles, of which 516.03 square miles is land and 8.01 square miles is water. The 2010 Census reports the Knox County population at 38,440 with a population density of 75 inhabitants per square mile.

There are an estimated 16,000 buildings in Knox County with a total building replacement value (excluding contents) of \$2.7 billion. Approximately 81 % of the buildings (and 55% of the building value) are associated with residential housing.

In terms of building construction types found in the region, wood frame construction makes up 73% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 28 medical care in the county with a total bed capacity of 2,516 beds. The county also has 17 schools, 25 fire stations, 4 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 6 dams identified

within the county. Of these, none of the dams are classified as ‘high hazard’. The inventory also includes 20 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.5 billion dollars. This inventory includes over 156 kilometers of highways, 288 bridges, and 4,788 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Knox County.

Building Damages

Hazus estimates that about 3,490 buildings in Knox County would be at least moderately damaged. This is over 21% of the buildings in the county. An estimated 304 buildings would be damaged beyond repair.

Table 94: Knox County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	762	378	293	96	41
Commercial	374	214	229	111	45
Education	31	19	20	9	3
Government	62	31	35	18	9
Industrial	47	26	37	25	15
Other Residential	664	350	258	78	29
Religion	145	54	41	18	7
Single Family	7,160	2,763	1,495	424	159
Total	9,244	3,834	2,408	778	304

Table 95: Knox County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	7,414	2,930	1,462	279	72
Steel	59	30	62	54	32
Concrete	71	36	61	39	16
Precast	49	18	30	23	8
Reinforced Masonry	42	12	18	11	2
Unreinforced Masonry	1,610	808	774	372	173
Total	9,244	3,834	2,408	778	304

Essential Facility Damage

Before the earthquake, the county would have an estimated 2,516 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 157 medical care beds (6%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 11% of the beds would likely be back in service. By 30 days, 33% would likely be operational.

Table 96: Knox County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	28	27	0	0
Schools	17	13	0	2
EOC's	1	1	0	0
Police Stations	4	4	0	0
Fire Stations	25	23	3	1

Bridge Functionality

There are 288 bridges on the highway system. Hazus estimates that at least 15 would be moderately damaged and 1 would be completely damaged due to earthquake. After day 1 of the earthquake 273 bridges would be functional. After 7 days of the earthquake, 278 bridges would be functional.

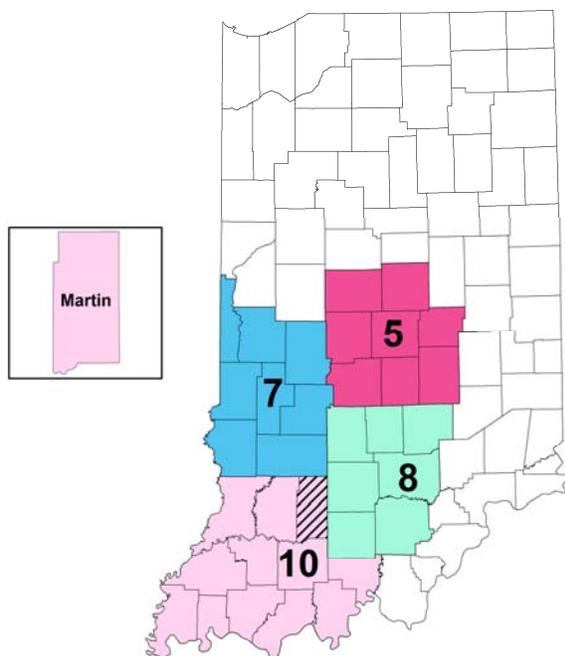
Table 97: Knox County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	288	15	1	273	278

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 374 households would be displaced due to the earthquake. Of these, 281 people (out of a total population of 39,256) will likely seek temporary lodging in public shelters.

Martin County



INCORPORATED COMMUNITIES

CRANE

LOOGOOTE

SHOALS

Overview

Martin County, Indiana is located on the west side of Region 10. It has a total area of 340.41 square miles, of which 335.74 square miles is land and 4.67 square miles is water. The 2010 Census reports the Martin County population at 10,334 with a population density of 31 inhabitants per square mile.

There are an estimated 4,000 buildings in Martin County with a total building replacement value (excluding contents) of \$616 million. Approximately 71 % of the buildings (and 58% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 87% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 4 medical care in the county with a total bed capacity of 69 beds. The county also has 6 schools, 6 fire stations, 3 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 7 dams identified within the county. Of these, 2 of the dams are classified as 'high hazard'. The inventory has no hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 690 million dollars. This inventory includes over 77 kilometers of highways, 61 bridges, and 2,966 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Martin County.

Building Damages

Hazus estimates that about 207 buildings in Martin County would be at least moderately damaged. This is over 4% of the buildings in the county. An estimated 4 buildings would be damaged beyond repair.

Table 98: Martin County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	936	103	21	2	0
Commercial	174	40	11	1	0
Education	3	1	0	0	0
Government	26	4	1	0	0
Industrial	25	4	1	0	0
Other Residential	475	67	14	1	0
Religion	52	6	2	0	0
Single Family	2,463	362	130	20	4
Total	4,154	586	179	24	4

Table 99: Martin County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	3,687	492	107	6	0
Steel	164	29	25	6	2
Concrete	80	16	16	3	0
Precast	19	3	2	1	0
Reinforced Masonry	3	0	0	0	0
Unreinforced Masonry	201	46	29	8	1
Total	4,154	586	179	24	4

Essential Facility Damage

Before the earthquake, the county would have an estimated 69 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 38 beds (56%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 71% of the beds would likely be back in service. By 30 days, 92% would likely be operational.

Table 100: Martin County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	4	0	0	4
Schools	6	0	0	6
EOC's	1	0	0	1
Police Stations	3	0	0	3
Fire Stations	6	0	0	6

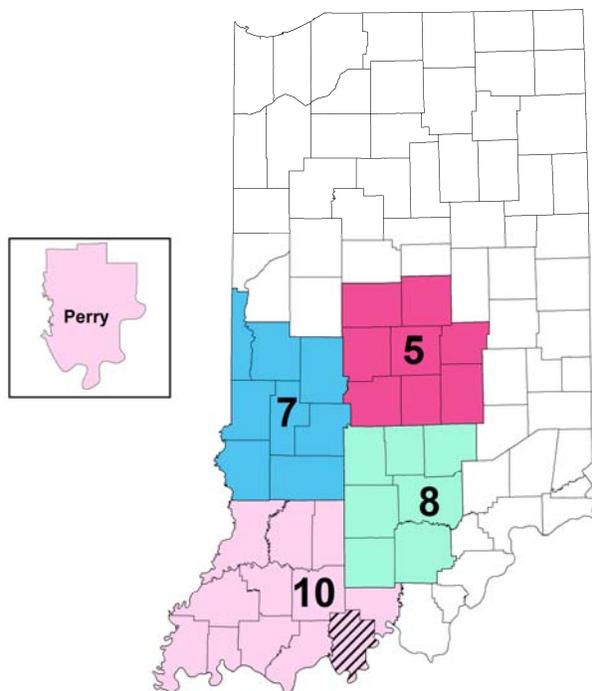
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 61 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 6 households would be displaced due to the earthquake. Of these, 3 people (out of a total population of 10,369) would likely seek temporary lodging in public shelters.

Perry County



INCORPORATED COMMUNITIES

CANNELTON

TELL CITY

TROY

Overview

Perry County, Indiana is located on the west side of Region 10. It has a total area of 386.29 square miles, of which 381.73 square miles is land and 4.56 square miles is water. The 2010 Census reports the Perry County population at 19,338 with a population density of 51 inhabitants per square mile.

There are an estimated 8,000 buildings in Perry County with a total building replacement value (excluding contents) of \$1.1 billion. Approximately 72 % of the buildings (and 60% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 82% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 11 medical care in the county with a total bed capacity of 992 beds. There are 12 schools, 11 fire stations, 3 police stations, and 1 emergency operation facilities. With respect to high potential loss facilities (HPL), there are 15 dams identified within the county. Of these, 6 of the dams are classified as 'high hazard'. The inventory also includes 16 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 753 million dollars. This inventory includes over 109 kilometers of highways, 140 bridges, and 2,968 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Perry County.

Building Damages

Hazus estimates that about 270 buildings in Perry County would be at least moderately damaged. This is over 3% of the buildings in the county. An estimated 4 buildings would be damaged beyond repair.

Table 101: Perry County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,629	147	31	4	0
Commercial	346	46	9	1	0
Education	3	0	0	0	0
Government	28	3	1	0	0
Industrial	76	9	2	0	0
Other Residential	751	74	11	1	0
Religion	85	9	2	0	0
Single Family	4,527	537	179	24	4
Total	7,446	826	236	30	4

Table 102: Perry County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	6,217	640	119	7	0
Steel	328	40	25	4	1
Concrete	291	37	27	3	0
Precast	37	4	3	1	0
Reinforced Masonry	9	1	0	0	0
Unreinforced Masonry	564	105	61	15	2
Total	7,446	826	236	30	4

Essential Facility Damage

Before the earthquake, the county would have an estimated 992 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 613 beds (62%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 76% of the beds would likely be back in service. By 30 days, 94% would likely be operational.

Table 103: Perry County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	11	0	0	11
Schools	12	0	0	12
EOC's	1	0	0	1
Police Stations	3	0	0	3
Fire Stations	11	0	0	11

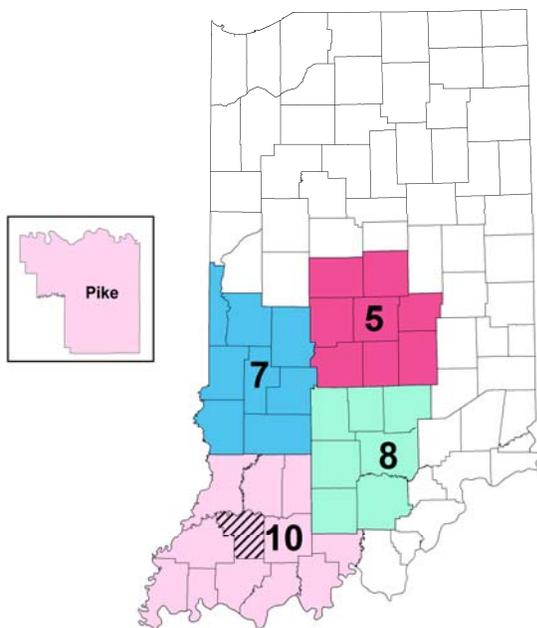
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 140 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 6 households would be displaced due to the earthquake. Of these, 4 people (out of a total population of 18,899) would likely seek temporary lodging in public shelters.

Pike County



INCORPORATED COMMUNITIES

PETERSBURG

SPURGEON

WINSLOW

Overview

Pike County, Indiana is located in the center of Region 10. It has a total area of 341.09 square miles, of which 334.24 square miles is land and 2.01 square miles is water. The 2010 Census reports the Pike County population at 12, 845 with a population density of 38 inhabitants per square mile.

There are an estimated 6,000 buildings in Pike County with a total building replacement value (excluding contents) of \$864 million. Approximately 74 % of the buildings (and 59% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 77% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 9 medical care facilities in the county with a total bed capacity of 623 beds. The county also has 8 schools, 9 fire stations, 3 police stations, and 2 emergency operation facilities. With respect to high potential loss facilities (HPL), there are 25 dams identified within the county. Of these, 1 of the dams is classified as 'high hazard'. The inventory also includes 27 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 959 million dollars. This inventory includes over 66 kilometers of highways, 136 bridges, and 3,012 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Pike County.

Building Damages

Hazus estimates that about 1,407 buildings in Pike County would be at least moderately damaged. This is over 23% of the buildings in the county. An estimated 157 buildings would be damaged beyond repair.

Table 104: Pike County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	572	237	223	95	46
Commercial	76	53	58	19	7
Education	0	0	0	0	0
Government	26	14	13	4	2
Industrial	24	14	15	5	2
Other Residential	152	68	58	21	10
Religion	82	28	14	4	2
Single Family	2,520	917	531	191	88
Total	3,451	1,332	911	339	157

Table 105: Pike County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	2,907	1,101	607	132	37
Steel	221	90	142	117	76

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	79	31	56	39	24
Precast	13	4	7	6	2
Reinforced Masonry	4	1	1	1	0
Unreinforced Masonry	226	105	99	44	16
Total	3,451	1,332	911	339	156

Essential Facility Damage

Before the earthquake, the county would have an estimated 623 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 41 beds (7%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 17% of the beds would likely be back in service. By 30 days, 48% would likely be operational.

Table 106: Pike County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	9	9	0	0
Schools	8	0	0	1
EOC's	2	1	0	1
Police Stations	3	3	0	0
Fire Stations	9	5	0	3

Bridge Functionality

There are 136 bridges in the highway system. Hazus estimates that at least 2 would be moderately damaged due to the earthquake. After day 1 of the earthquake 134 bridges would likely be functional. After 7 days of the earthquake, 136 bridges would likely be functional.

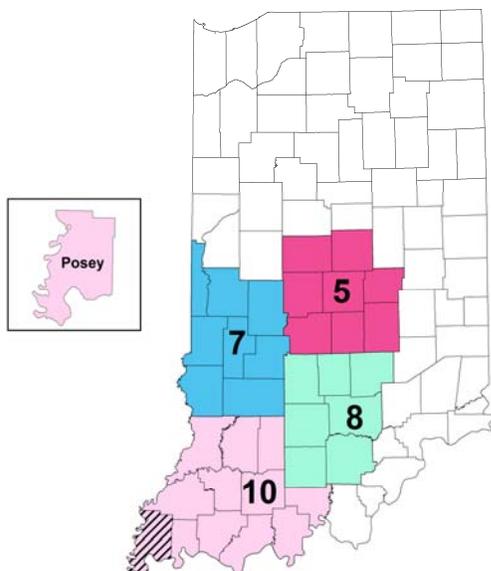
Table 107: Pike County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	136	2	0	134	136

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 109 households would be displaced due to the earthquake. Of these, 73 people (out of a total population of 12,837) would likely seek temporary lodging in public shelters.

Posey County



INCORPORATED COMMUNITIES

CYNTHIANA

GRIFFIN

MOUNT VERNON

NEW HARMONY

POSEYVILLE

Overview

Posey County, Indiana is located in the southwest corner of Region 10. Posey County is also the southeastern-most County in Indiana. It has a total area of 419.32 square miles, of which 409.57 square miles is land and 2.33 square miles is water. The 2010 Census reports the Posey County population at 25,910 with a population density of 63 inhabitants per square mile.

There are an estimated 11,000 buildings in Posey County with a total building replacement value (excluding contents) of \$2 billion. Approximately 81 % of the buildings (and 69% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 65% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 9 medical care facilities in the county with a total bed capacity of 339 beds. The county also has 14 schools, 12 fire stations, 9 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 5 dams identified within the county. Of these, none are classified as 'high hazard'. The inventory also includes 62 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.162 billion dollars. This inventory includes over 121 kilometers of highways, 191 bridges, and 4,173 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Posey County.

Building Damages

Hazus estimates that about 3,761 buildings in Posey County would be at least moderately damaged. This is over 33% of the buildings in the county. An estimated 427 buildings would be damaged beyond repair.

Table 108: Posey County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	360	345	447	200	97
Commercial	124	105	1217	65	37
Education	2	4	7	3	2
Government	7	6	8	3	2
Industrial	33	24	23	11	6
Other Residential	225	206	260	109	50
Religion	53	29	20	7	2
Single Family	4,005	2,139	1,489	554	232
Total	4,809	2,859	2,381	953	427

Table 109: Posey County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	3,458	2,037	1,442	404	143
Steel	8	9	23	24	15

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	45	37	110	109	76
Precast	20	10	19	19	12
Reinforced Masonry	9	3	6	6	3
Unreinforced Masonry	1,270	764	781	392	177
Total	4,809	2,859	2,381	953	427

Essential Facility Damage

Before the earthquake, the county would have an estimated 399 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 25 beds (6%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 12% of the beds would likely be back in service. By 30 days, 35% would likely be operational.

Table 110: Posey County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	9	9	1	0
Schools	14	6	0	0
EOC's	1	1	0	0
Police Stations	9	6	3	0
Fire Stations	12	11	3	0

Bridge Functionality

There are 191 bridges in the highway system. Hazus estimates that at least 8 would be moderately damaged and 1 would be completely damaged due to earthquake. After day 1 of the earthquake 184 bridges would be functional. After 7 days of the earthquake, 187 bridges would be functional.

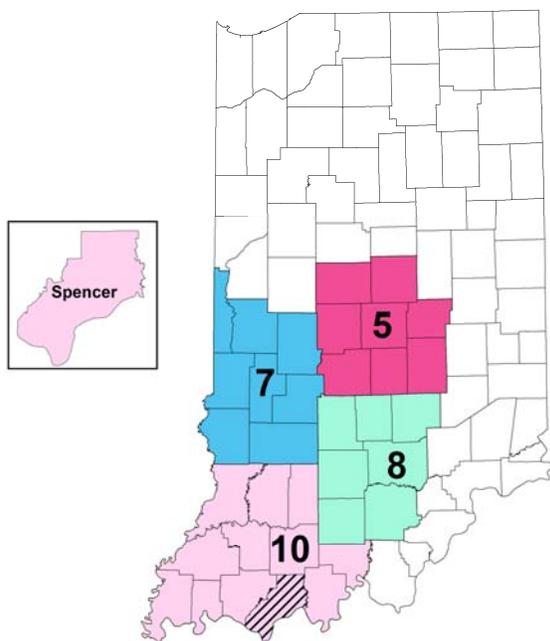
Table 111: Posey County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	191	8	1	184	187

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 381 households would be displaced due to the earthquake. Of these, 240 people (out of a total population of 27,061) would likely seek temporary lodging in public shelters.

Spencer County



INCORPORATED COMMUNITIES

CHRISNEY

DALE

GENTRYVILLE

GRANDVIEW

RICHLAND

ROCKPORT

SANTA CLAUS

Overview

Spencer County, Indiana is located on the south side of Region 10. The Ohio River forms the southern border of Spencer County. It has a total area of 401.43 square miles, of which 396.74 square miles is land and 4.68 square miles is water. The 2010 Census reports the Spencer County population at 20,952 with a population density of 53 inhabitants per square mile.

There are an estimated 10,000 buildings in Spencer County with a total building replacement value (excluding contents) of \$1.7 billion. Approximately 72 % of the buildings (and 52% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 78% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 9 medical care facilities in the county with a total bed capacity of 479 beds. The county also has 11 schools, 10 fire stations, 5 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 9 dams identified within the county. Of these, 5 of the dams are classified as 'high hazard'. The inventory also includes 24 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.375 billion dollars. This inventory includes over 133 kilometers of highways, 212 bridges, and 3,808 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Spencer County.

Building Damages

Hazus estimates that about 644 buildings in Spencer County would be at least moderately damaged. This is over 6% of the buildings in the county. An estimated 15 buildings would be damaged beyond repair.

Table 112: Spencer County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	1,643	311	104	16	2
Commercial	320	65	17	1	0
Education	7	1	0	0	0
Government	48	10	3	0	0
Industrial	94	16	5	1	0
Other Residential	707	150	40	2	0
Religion	142	22	7	1	0
Single Family	5,198	881	365	66	12
Total	8,158	1,457	541	88	15

Table 113: Spencer County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	6,572	1,102	270	16	1
Steel	247	62	65	20	5

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Concrete	209	50	53	11	2
Precast	45	7	7	2	0
Reinforced Masonry	16	2	1	0	0
Unreinforced Masonry	1,068	234	144	38	7
Total	8,158	1,457	541	88	15

Essential Facility Damage

Before the earthquake, the county would have an estimated 479 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 259 beds (54%) would be available for use by patients already in these facilities as well as those injured by the earthquake. After one week, 70% of the beds would likely be back in service. By 30 days, 91% would likely be operational.

Table 114: Spencer County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	9	0	0	6
Schools	11	0	0	11
EOC's	1	0	0	1
Police Stations	5	0	0	4
Fire Stations	40	0	0	9

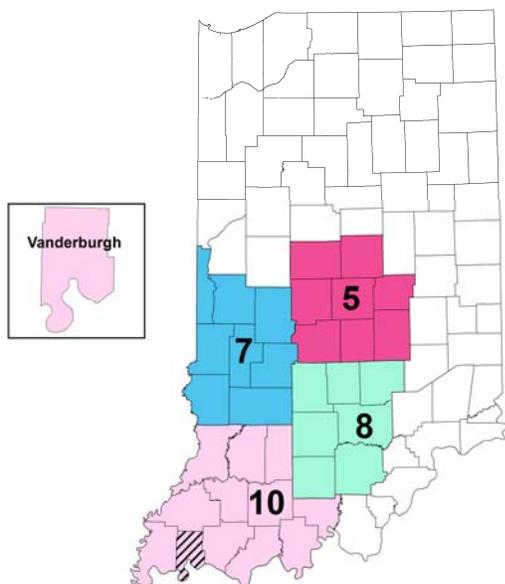
Bridge Functionality

All bridges are estimated to be functional following the earthquake. There are 212 bridges in the highway system.

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 14 households to be displaced due to the earthquake. Of these, 9 people (out of a total population of 20,391) will seek temporary shelter in public shelters.

Vanderburgh County



INCORPORATED COMMUNITIES

DARMSTADT

EVANSVILLE

Overview

Vanderburgh County, Indiana is located on the south side of Region 10. The Ohio River forms the southern border of Vanderburgh County. The county has a total area of 236.33 square miles, of which 233.48 square miles is land and 2.86 square miles is water. The 2010 Census reports the Vanderburgh County population at 179,703 with a population density of 53 inhabitants per square mile.

There are an estimated 63,000 buildings in Vanderburgh County with a total building replacement value (excluding contents) of \$14.3 billion. Approximately 92 % of the buildings (and 63% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 70% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 21 medical care facilities in the county with a total bed capacity of 1,438 beds. The county also has 67 schools, 28 fire stations, 10 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 20 dams identified within the county. Of these, 7 of the dams are classified as 'high hazard'. The inventory also includes 73 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 2 billion dollars. This inventory includes over 138 kilometers of highways, 188 bridges, and 4,356 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Vanderburgh County.

Building Damages

Hazus estimates that about 9,150 buildings in Vanderburgh County would be at least moderately damaged. This is over 14% of the buildings in the county. An estimated 425 buildings would be damaged beyond repair.

Table 115: Vanderburgh County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	215	128	97	22	5
Commercial	1,622	745	329	41	7
Education	87	38	18	2	0
Government	170	75	34	4	1
Industrial	494	235	131	26	3
Other Residential	1,664	440	183	32	6
Religion	485	132	55	11	2
Single Family	36,835	11,277	6,114	1,626	400
Total	41,571	13,071	6,961	1,764	425

Table 116: Vanderburgh County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	32,089	9,074	3,034	288	24
Steel	146	96	155	75	25
Concrete	1,474	699	1,211	483	144
Precast	130	38	51	26	2
Reinforced Masonry	16	3	4	2	0
Unreinforced Masonry	7,717	3,160	2,505	891	228
Total	41,571	13,071	6,961	1,764	425

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,438 medical care beds available for use. On the day of the earthquake, the model estimates that only 133 beds (9%) would be available for use by patients already in these facilities along with those injured by the earthquake. After one week, 17% of the beds would likely be back in service. By 30 days, 44% would likely be operational.

Table 117: Vanderburgh County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	21	21	0	0
Schools	67	6	0	0
EOC's	1	1	0	0
Police Stations	10	8	0	0
Fire Stations	28	27	0	0

Bridge Functionality

There are 188 bridges in the highway system. Hazus estimates that at least 8 would be moderately damaged due to earthquake. After day 1 of the earthquake 180 bridges would likely be functional. After 7 days of the earthquake, 186 bridges would likely be functional.

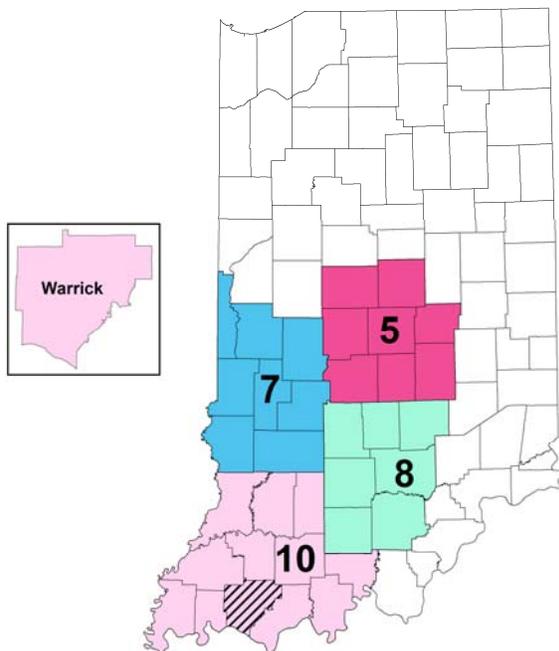
Table 118: Vanderburgh County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	188	8	0	180	186

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 606 households would be displaced due to the earthquake. Of these, 372 people (out of a total population of 171,922) would likely seek temporary lodging in public shelters.

Warrick County



INCORPORATED COMMUNITIES

BOONVILLE

CHANDLER

ELBERFELD

LYNNFELD

NEWBURGH

TENNYSON

Overview

Warrick County, Indiana is located on the south side of Region 10. The Ohio River forms the southern border of Warrick County. The county has a total area of 391.05 square miles, of which 384.82 square miles is land and 6.24 square miles is water. The 2010 Census reports the Warrick County population at 59,689 with a population density of 136 inhabitants per square mile.

There are an estimated 21,000 buildings in Warrick County with a total building replacement value (excluding contents) of \$4.1 billion. Approximately 91 % of the buildings (and 83% of the building value) are associated with residential housing.

In terms of building construction types found in the county, wood frame construction makes up 56% of the building inventory. The remaining percentage is distributed between the other general building types (concrete, steel, masonry, manufactured housing).

For essential facilities, there are 32 medical care facilities in the county with a total bed capacity of 1,342 beds. The county also has 20 schools, 12 fire stations, 6 police stations, and 1 emergency operation center. With respect to high potential loss facilities (HPL), there are 14 dams identified within the county. Of these, 1 of the dams is classified as 'high hazard'. The inventory also includes 56 hazardous material sites.

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The total value of the lifeline inventory is over 1.5 billion dollars. This inventory includes over 134 kilometers of highways, 173 bridges, and 3,899 kilometers of pipes.

Damages

The extent of the damages from a 6.8 Magnitude at Mt. Carmel, Illinois epicenter would encompass all areas of Warrick County.

Building Damages

Hazus estimates that about 2,471 buildings in Warrick County would be at least moderately damaged. This is over 12% of the buildings in the county. An estimated 88 buildings would be damaged beyond repair.

Table 119: Warrick County Building Damage by Occupancy

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Agriculture	621	208	92	16	3
Commercial	479	166	55	4	1
Education	13	5	2	0	0
Government	36	13	5	0	0
Industrial	81	29	12	2	0
Other Residential	1,005	277	89	8	2
Religion	135	29	10	1	0
Single Family	12,496	3,197	1,678	408	82
Total	14,867	3,924	1,942	441	88

Table 120: Warrick County Building Damage by Building Type

	NONE	SLIGHT	MODERATE	EXTENSIVE	COMPLETE
Wood	9,059	2144	626	47	4
Steel	159	73	92	33	10
Concrete	255	90	119	34	8
Precast	34	8	10	4	0
Reinforced Masonry	13	2	2	1	0
Unreinforced Masonry	5,347	1,607	1,093	322	64
Total	14,867	3,924	1,942	441	87

Essential Facility Damage

Before the earthquake, the county would have an estimated 1,342 medical care facility beds available for use. On the day of the earthquake, the model estimates that only 212 beds (16%) would be available for use by patients already in these facilities as well as those injured by the earthquake. After one week, 26% of the beds would likely be back in service. By 30 days, 57% would likely be operational.

Table 121: Warrick County Essential Facility Damage

	TOTAL	Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Medical Care	32	32	0	0
Schools	20	1	0	2
EOC's	1	1	0	0
Police Stations	6	6	0	0
Fire Stations	12	9	0	0

Bridge Functionality

There are 173 bridges in the highway system. Hazus estimates that at least 3 would be moderately damaged due to earthquake. After day 1 of the earthquake 171 bridges would likely be functional. After 7 days of the earthquake, 173 bridges would likely be functional.

Table 122: Warrick County Highway Bridge Damage and Functionality

System	Locations/Segments	At Least Mod. Damage	With Complete Damage	With >50% Functionality After Day 1	With >50% Functionality After Day 7
Highway	173	3	0	171	173

Shelter Requirement

Hazus estimates the number of households that might be displaced from their homes due to the earthquake along with the number of displaced people that might require accommodations in temporary public shelters. The model estimates 94 households would be displaced due to the earthquake. Of these, 55 people (out of a total population of 52,383) would likely seek temporary lodging in public shelters.