1.0 INTRODUCTION AND PLANNING PROCESS

1.1 INTRODUCTION

Nine participating counties and one Indian Tribe within the northeast Kansas region (Kansas Homeland Security Region K) prepared this Regional Multi-Hazard Mitigation Plan to provide sustained actions to eliminate or reduce risk to people and property from the effects of natural and man-made hazards. This Plan documents northeast Kansas's planning process and identifies applicable hazards, vulnerabilities, and hazard mitigation strategies. This Plan will serve to direct available community and regional resources towards creating policies and actions that provide long-term benefits to the community. Local and regional officials can refer to the Plan when making decisions regarding regulations and ordinances, granting permits, and in funding capital improvements and other community initiatives.

This Plan was also developed to make participating jurisdictions with northeast Kansas eligible for applicable federal disaster assistance, including the Federal FEMA's Hazard Mitigation Grant Program, Pre-Disaster Mitigation program, and Flood Mitigation Assistance program. Additionally, this regional Plan will serve as the basis for the State of Kansas to prioritize available grant funding.

This Plan has been prepared in coordination with FEMA Region VII and the Kansas Division of Emergency Management (KDEM).

This Plan has been designed to be a living document, a document that will evolve to reflect regional changes, correct any omissions, and constantly strive to ensure the safety of northeast Kansas's citizens. In addition, this document allows each participating jurisdiction to integrate the data, information and hazard mitigation goals and actions from the plan into other planning mechanisms.

1.2 BACKGROUND

Northeast Kansas is vulnerable to a wide range of natural hazards, including flooding, tornadoes, drought, and winter storms. These hazards threaten the safety of citizens and have the potential to damage or destroy property and disrupt local and regional economies. Their occurrence is natural and there is little we can do to control their force and intensity. Each year some of these hazards cause disasters that cost hundreds of lives, cause countless injuries, and cost taxpayers billions of dollars to help communities recover. And while the intensity of these natural disasters cannot be controlled, there are many actions that can be taken to minimize their potential impacts to the region. Actions taken to reduce the potential impact of a hazard can greatly diminish the possibility that the hazard will result in a disaster. The practice of minimizing risks to people and property from identified hazards is referred to as hazard mitigation. FEMA describes hazard mitigation as "sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects."

1.3 DISASTER MITIGATION ACT OF 2000

In an effort to reduce natural disaster losses the United States Congress passed the Disaster Mitigation Act of 2000 (DMA 2000) in order to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). DMA 2000 amended the Stafford Act by repealing the previous Mitigation Planning section (409) and replacing it with a new Mitigation Planning section (322). Section 322 of the DMA makes the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for Federal mitigation grant funds.

This Plan was prepared to meet the requirements of the DMA 2000, as defined in regulations set forth by the Interim Final Rule (44 CFR Part 201.6).

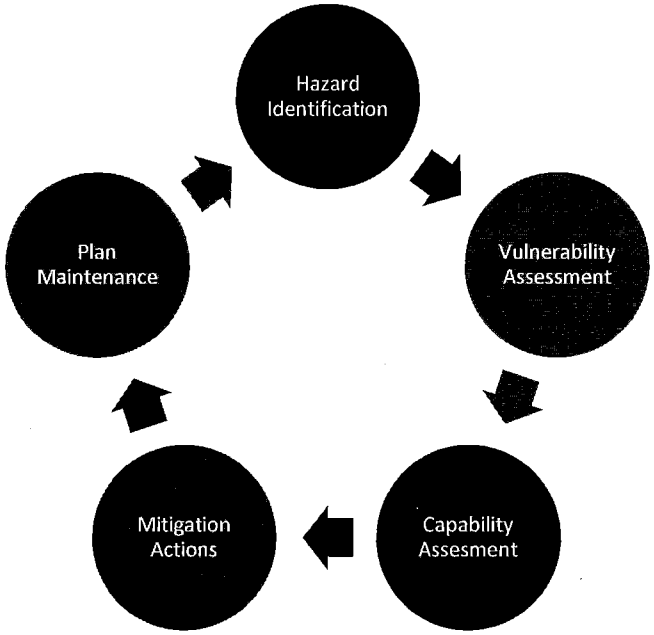
1.4 HAZARD MITIGATION PLANNING PROCESS

44 CFR 201.6(c)(1) Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

KDEM contracted with Blue Umbrella Solutions in November 2012 to assist northeast Kansas in developing a multi-jurisdictional, multi-hazard mitigation plan. Blue Umbrella Solutions and the northeast Kansas HMPC worked together in developing this Plan to meet the requirements of the DMA 2000, as defined in regulations set forth by the Interim Final Rule (44 CFR Part 201.6). As part of this process, the following tasks were conducted:

- Consultation with FEMA Region VII on Plan development
- Review of current mitigation plans for all participating jurisdictions
- Incorporation of review elements into new regional plan
- Delivery of organizational and planning meetings
- Solicitation of public input as to Plan development
- Assessment of potential regional risks
- Assessment of vulnerabilities and assets
- Development of the mitigation actions
- Development of a draft multi-jurisdictional, multi-hazard mitigation plan
- Implementation, adoption, and maintenance of the Plan

In general, the following diagram shows the planning cycle:



1.5 PLANNING PROCESS PARTICIPATION REQUIREMENTS

44 CFR 201.6(a)(4): Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.

All eligible jurisdictions within northeast Kansas were invited to participate in the organization, drafting, completion and adoption of this Plan. Invited jurisdictions included, but were not limited to, elected officials, relevant State of Kansas agencies, counties, cities, school districts, universities and community colleges, special districts, including rural fire and water districts, non-profit agencies, and businesses.

In order to have an approved hazard mitigation plan, DMA 2000 requires that each jurisdiction participate in the planning process. Each jurisdiction choosing to participate in the development of the Plan were required to meet detailed participation requirements, which included the following:

- When practical and affordable, participation in planning meetings
- Provision of information to support the Plan development
- Identification of relevant mitigation actions
- Review and comment on Plan drafts
- Formal adoption of the plan

County Emergency Managers and a Tribal representative were designated as HMPC representatives for each participating jurisdiction within their county. Jurisdiction provision of

information, identification of mitigation actions and Plan review and comment are detailed throughout this Plan and were, in general coordinated by each relevant HMPC member.

Jurisdictions who were unable to attend meetings due to budgetary or time constraints were contacted by their HMPC member via email or phone to discuss hazard mitigation planning, including the process, goals, mitigation actions, local planning concerns and Plan review.

Multiple methods of communication with HMPC members, participating jurisdictions, and the public were used during the planning process. Communications used include:

- On-site meetings
- Telephone
- Email
- Internet resources
- Social media

1.6 CONSULTATION WITH FEMA REGION VII

Upon initiation of the planning process, a meeting was held with FEMA Region VII to review current and pending planning requirements and to discuss methods to provide for a smooth planning and review process. The meetings were held on January 3 and 4, 2013 at the FEMA Region VII offices, and the following participants were in attendance:

Participant	Organization
Joe Chandler	FEMA Region VII
Michelle Wolf	FEMA Region VII
Jeanne Bunting	State of Kansas
Matthew Eyer	Blue Umbrella Solutions

1.7 REVIEW OF PREVIOUS MITIGATION PLANS

44 CFR 201.6(b):(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Prior to the delivery of the northeast Kansas project kickoff meetings, all relevant northeast Kansas hazard mitigation plans and applicable planning documents were reviewed and mined for data to be used in the consolidation and creation of the new regional Plan, and for use to guide kickoff meeting discussions. In addition to the regional mitigation plans, the Kansas State Hazard Mitigation Plan and available relevant data from state and federal agencies was reviewed. These sources are noted throughout the Plan.

Each section of the May, 2009 Kickapoo Tribe in Kansas Multi-Hazard Mitigation Plan was reviewed as part of this planning process. Because this current mitigation plan is both an update and consolidation of regional county and tribal plans each section of the May, 2009 Kickapoo

Tribe in Kansas Multi-Hazard Mitigation Plan has been updated. Finally, all applicable information from the previous plan has been included and/or updated in this update.

1.8 ORGANIZATIONAL AND PLANNING MEETINGS

44 CFR 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: ..... (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process.

Within northeast Kansas there are many jurisdictions and organizations who have a vested interest in participating in the creation and adoption of the hazard mitigation plan. An integral part of the planning process included the identification, development, and coordination of all of these entities. As such, a series of three organizational and planning meetings were scheduled and all past and potential future participants were notified by the State of Kansas as to the dates and locations of the meetings. In addition, communities neighboring the region were invited to participate in the planning process.

It is worth noting that all neighboring Kansas counties are undergoing a similar mitigation planning effort, and as part of this statewide process all county and state planners are working together toward common mitigation goals. During the creation and adoption of this plan communication channels were opened to facilitate the cross pollination of ideas, to incorporate neighboring regions concerns, and to ensure the overall preparedness of the State of Kansas.

The following table presents the date, location and purpose of each planning meeting.

Meeting Number	Date	Location	Purpose
1	9/03/2013	City of Holton	Review of planning process, project coordination, scope, participation requirements, strategies for public involvement. Formation of HMPC. Discussion and review of potential hazards.
	9/04/2013	City of Marysville	
	9/05/2013	City of Lawrence	
2	1/22/2014	City of Topeka	Results of the hazard identification, classification, and delineation discussed Sections of the plan were made available for review and comment. Development of mitigation goals and actions
3	3/25/2014	City of Marysville	Review of completed draft Plan. Review of public comments. Incorporation of any changes. Discussion of approval and adoption timeframes.
	3/27/2014	City of Holton	
	3/28/2014	City of Lawrence	

A series of kick-off meetings were held with available representatives from jurisdictions within the planning region in attendance. At the kickoff meeting, the planning process, project coordination, scope, participation requirements, strategies for public involvement, and schedule

were discussed in detail. Additionally, the HMPC was created to include the Emergency Manager from each participating county along with relevant State of Kansas partners. HMPC members were tasked with the following roles and responsibilities that continued for the duration of the planning process:

- Meeting attendance and facilitation assistance
- Data collection and submission
- Assistance in soliciting public involvement and input
- Draft and final plan review
- Oversight of facilitation of final plan adoption by respective jurisdictions

During the meeting, participants were led through a guided discussion concerning hazard data sourced from their previous hazard mitigation plans. Additionally, research was conducted prior to the meeting on recent regional hazard events to further inform the discussion. Participants were encouraged to discuss past hazard events, past impacts, and the future probability for all identified hazards. Based on this discussion, a comprehensive list of regional hazards was created.

At the conclusion of the meeting, all participants were provided with a data collection forms to solicit information needed to properly complete the plan. The forms asked for information concerning data on historic hazard events, at risk populations and properties, and available capabilities. Additionally, participating jurisdictions were provided with their mitigation actions from the previous plans for review and comment, and asked to identify any additional mitigation actions.

Each participating jurisdiction was required to complete and return the forms and actions to be considered as participating. These forms were used in the development of this plan.

A series of mid-term planning meetings were held with HMPC representatives in attendance. Based upon the initial research, discussions held during the kickoff meetings, information obtained from the data collection forms, additional research, and subsequent discussion with HMPC members, the results of the hazard identification, classification, and delineation were discussed in detail. In addition, sections of the plan were made available for review and comment. Based on the supplied hazard information, participants were asked to assist in the development and review of mitigation goals and actions.

A final planning meeting was held with representatives from jurisdictions within the planning region in attendance. The completed draft plan was made available for review and comment.

1.9 PUBLIC OUTREACH

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process

As part of the overall planning process, the general public were provided with numerous opportunities to contribute and comment on the creation and adoption of the Plan. These opportunities include:

- SurveyMonkey (online survey)
- Facebook
- Meeting and discussions with local emergency managers or HMPC representatives

The Plan was made available for public review and comment on participating county websites, and where possible, participating jurisdiction websites in addition to the previously mentioned outreach measures.

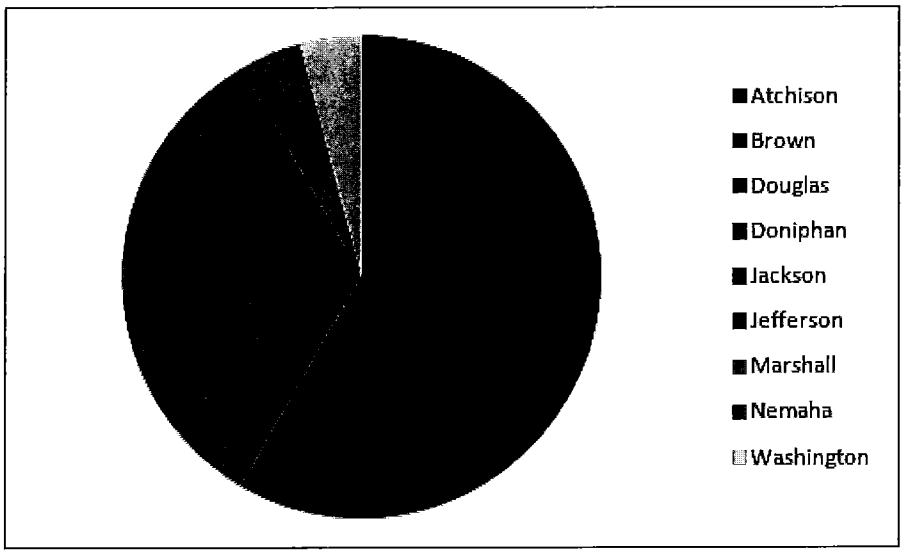
The Kickapoo Tribe considers tribal members and non-natives living within the Reservation boundaries as the public. The Kickapoo Tribe HMPC representative agreed that the above noted methods for reaching out to the public were applicable to the tribe.

Input from the general public provided the HMPC with a clearer understanding of regional concerns, increased the likelihood of citizen buy-in concerning proposed mitigation actions, and provided elected officials with a guide and tool to set regional ordinances and regulations. This public outreach effort was also an opportunity for adjacent jurisdictions and entities to be involved in the planning process.

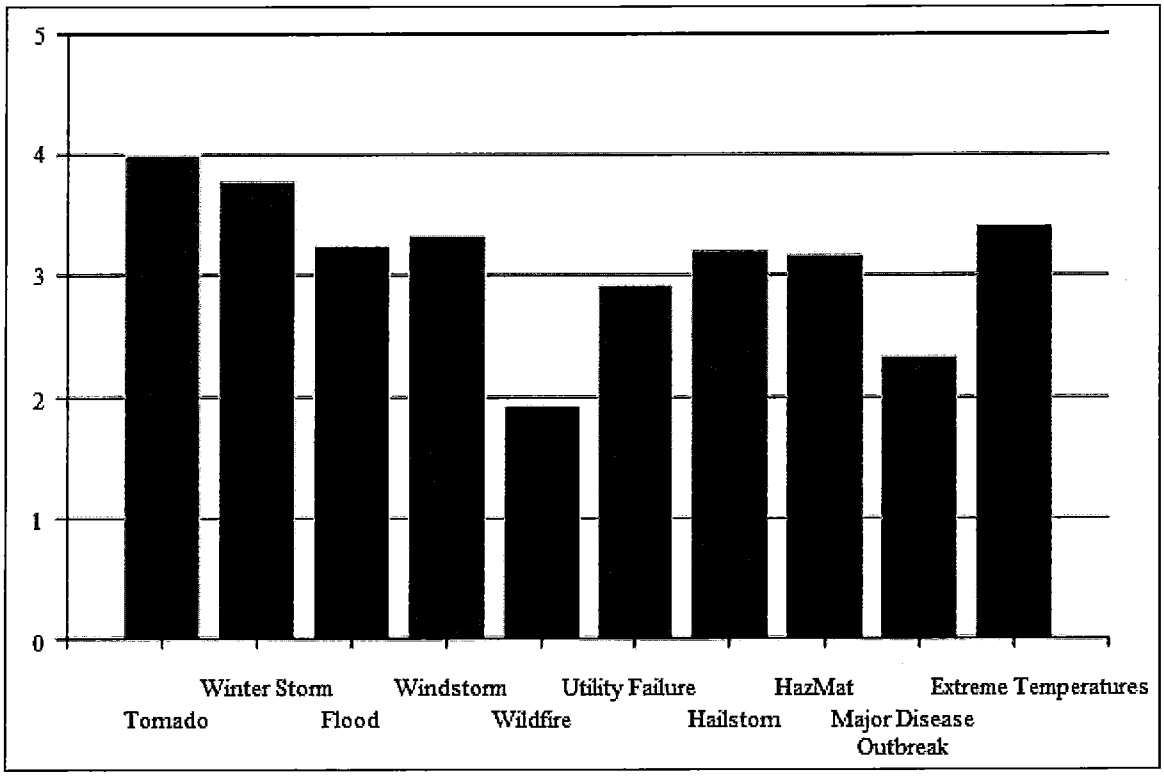
Additionally, as citizens were made more aware of potential hazards and the local and regional process to mitigation against their impacts, it was believed that they would take a stronger role in making their homes, neighborhoods, schools, and businesses safer from the potential effects of natural hazards.

The following graphics show the results of the public input, with 24 responses received, from the SurveyMonkey online survey for the region for each question asked.

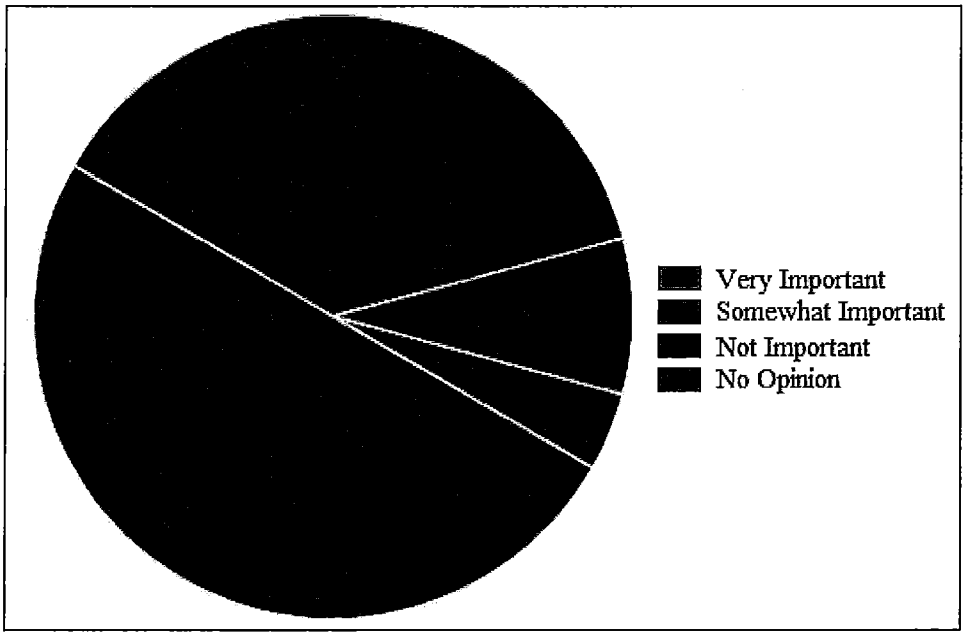
Question 1: What County and jurisdiction do you live in?



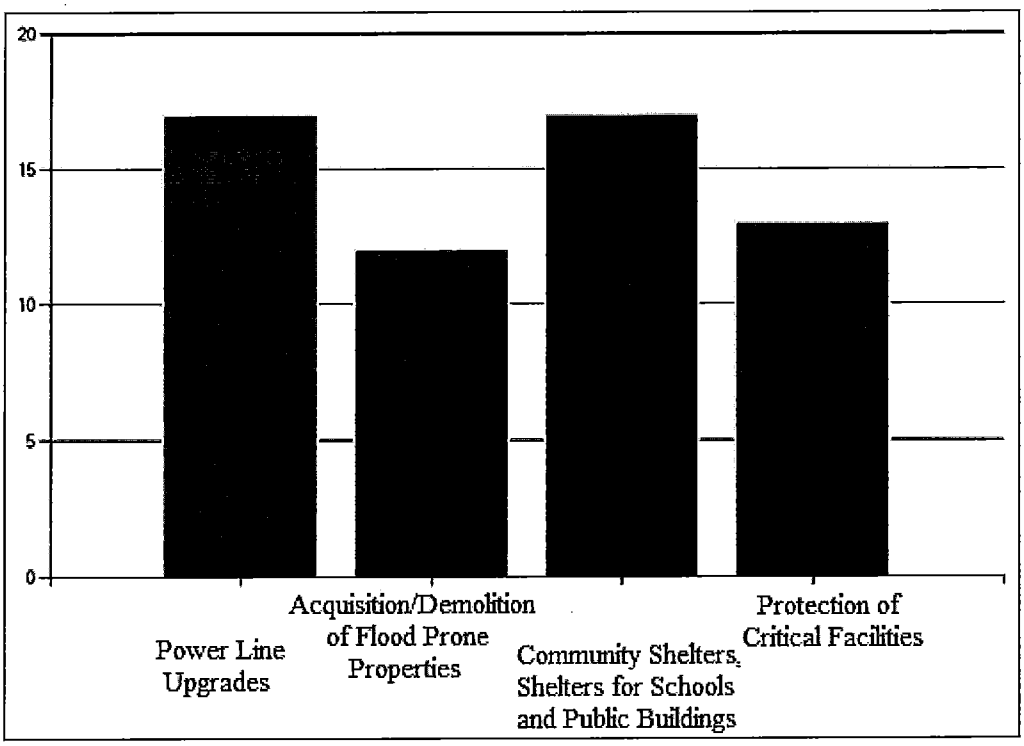
Question 2: In the Region consisting of Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington Counties, the planning committee has determined that the hazards listed below are of significance to the area. Please indicate the level of risk, or extent of potential impacts, in the Region, that you perceive for each hazard.



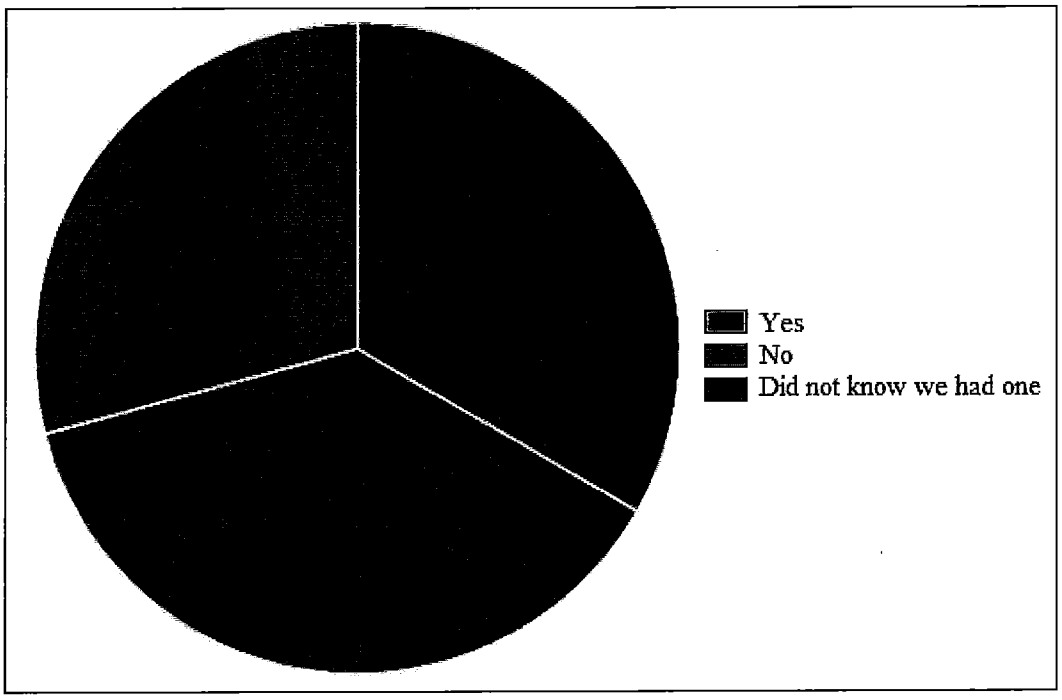
Question 3: In the region, the planning committee has determined that a flood event is a hazard. How important to you is it that you participate or continue to participate in the National Flood Insurance Program?



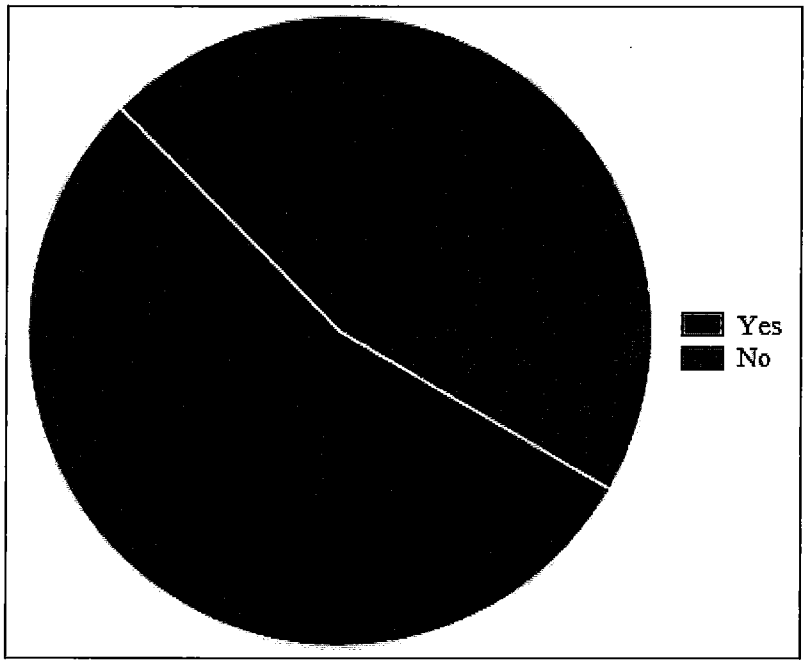
Question 4: Funding requests for FEMA Hazard Mitigation Grant Program funds are currently reviewed initially by the Kansas Division of Emergency Management. Listed below are their current funding priorities. Please check those that benefit your community.



Question 5: Have you had an opportunity to read your current Hazard Mitigation Plan?



Question 6: Do you know where the mitigation plan for your county can be found if you wanted to look at it?



In addition, the following comments relating to mitigation planning were from interested citizens of the region. Please note that questions answered with a "none," "non applicable," or similar response, or left blank are not reported.

Question 7: Your input is valuable to this planning process. Please comment on any other issues that the planning committee should consider in developing a strategy to reduce future losses caused by natural hazard events.

- There needs to be a tornado shelter on the side of town where the HS and MS are!! Also, those of us who live on that side of town cannot hear the tornado sirens if we are inside our homes.
- Information should be provided and included in the plan for the public on how to deal with the aftermath of a disaster
- Future Conditions flood mapping
- Plan using locally available resources and reduce dependency on federal funds.
- Water shortage

Question 8: Do you have any mitigation projects you would like to see implemented and what are they?

- Preparedness stress test to find out if our community is capable of withstanding such disasters if they were to occur.
- Generator hook ups at sheltering facilities safe rooms at major businesses and schools
- Additional safe rooms for schools. Any projects that can improve flood prone ponding areas.
- Yes, we have several structure that are in severe disrepair, and/or have been determined to be unsafe structures located in the Wakarusa floodway on the south side of N 1250 Rd. Removing these from the floodway would be beneficial to the entire county.
- Storm shelter for public
- Texting of emergency events by local authorities to citizens that wish to subscribe.
- Water storage

A copy of the surveymonkey.com questionnaire may be found in Appendix C.

1.10 RISK ASSESSMENT

44 CFR 201.6(c) Plan Content. The plan shall include the following: (2) A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include: (i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

44 CFR 201.6(c)(2)(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

As part of the mitigation planning effort, the hazards that could potentially impact jurisdictions in northeast Kansas were identified based on historical data, past occurrences, and local and regional knowledge. Identified hazards were then provided with a risk ranking using a weighted formula whose parameters included probability of occurrence, potential magnitude/severity of the event, event duration, warning time of occurrence.

Initially, participants of the kickoff meetings discussed hazard data sourced from their previous hazard mitigation plans and any recent regional hazard events. In general, participants were asked to consider:

- Previously identified mitigation plan hazards
- State of Kansas mitigation plan identified hazards
- FEMA identified hazards
- Recent hazard events, including declared disasters

Participants were encouraged to discuss past hazard events, including magnitude and severity, past impacts, and the future probability for all identified hazards. Based on this discussion, a comprehensive list of regional hazards was created. It should be noted that all discussed hazards did not warrant inclusion in the northeast Kansas Plan.

Finally, a data collection form to solicit and further develop the discussed hazards was provided to participants. Based upon the initial research, discussion held during the kickoff meetings, information obtained from the data collection forms, additional research, and subsequent discussion with HMPC members, a complete profile was developed for each selected hazard, and each hazard was assigned a risk ranking. HMPC participants were asked to review the profiled and developed hazards at the second planning meeting to further refine the information.

Further discussion of hazards, and justification for hazard omission may be found in Section 3.

1.11 VULNERABILITY ASSESSMENT AND LOSS ESTIMATION

44 CFR 201.6(c)(2)(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of: (A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; (B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate; (C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

As part of the information collection process, participating jurisdictions created an inventory of assets that could be potentially impacted by identified hazards, including a total number, identified values and potential losses, and development trends if available. Based on the gathered information a northeast Kansas assets at risk inventory was created.

Identified assets include:

- Critical facilities
- Critical infrastructure
- Historic structures and locations
- Economic assets
- Vulnerable populations
- Special needs populations

Further discussion of vulnerabilities and loss may be found throughout the plan.

Information obtained from previous mitigation plans, research, meetings, data collection forms, conversations, and public input was used to complete a draft of the Plan. The Plan was made available online for review for public comment. Valid comments and suggestions received from stakeholders were integrated into the final Plan. The plan was then submitted to the KDEM SHMO for initial review. The SHMO then submitted the Plan to FEMA Region VII for review and approval

1.16 PLAN ADOPTION, REVIEW AND MAINTENANCE

44 CFR 201.6(c)(4) A plan maintenance process that includes: (i) A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle. (ii) A process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate. (iii) Discussion on how the community will continue public participation in the plan maintenance process.

44 CFR 201.6(c)(5) Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

In order to have an approved hazard mitigation plan, DMA 2000 requires that each jurisdiction officially adopt the Plan. After FEMA Region VII review and Approval Pending Adoption status participating jurisdictions were tasked with formally adopting the Plan. Information concerning adoption dates and, if applicable, resolution number were presented in the Resolutions of Adoption section and copies of the resolutions are presented in Appendix A.

Prior the plan adoption process, the HMPC developed a long-term maintenance strategy. This strategy is discussed in detail in Section 6.

1.17 PLANNING PROCESS PARTICIPATION

44 CFR 201.6(a)(4): Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.

1.17.4 DOUGLAS COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Douglas County	x	x	x
City of Baldwin City	x	x	x
City of Eudora	x	x	x
City of Lawrence	x	x	x
City of Lecompton	x	x	x
Clinton Township			
Kanawaka Township	x	x	x
Lecompton Township			
Marion Township			
Palmyra Township	x	x	x
Wakarusa Township			
Willow Springs Township	x	x	x
Baker University			
University of Kansas	x	x	x
USD #343 - Perry / Lecompton	x	x	x
USD #348 - Baldwin City	x	x	x
USD #491 - Eudora	x	x	x
USD #497 - Lawrence	x	x	x
Rural Water District #2	x	x	x
Rural Water District #5	x	x	x
Rural Water District #6	x	x	x
Lawrence Memorial Hospital	x	x	x

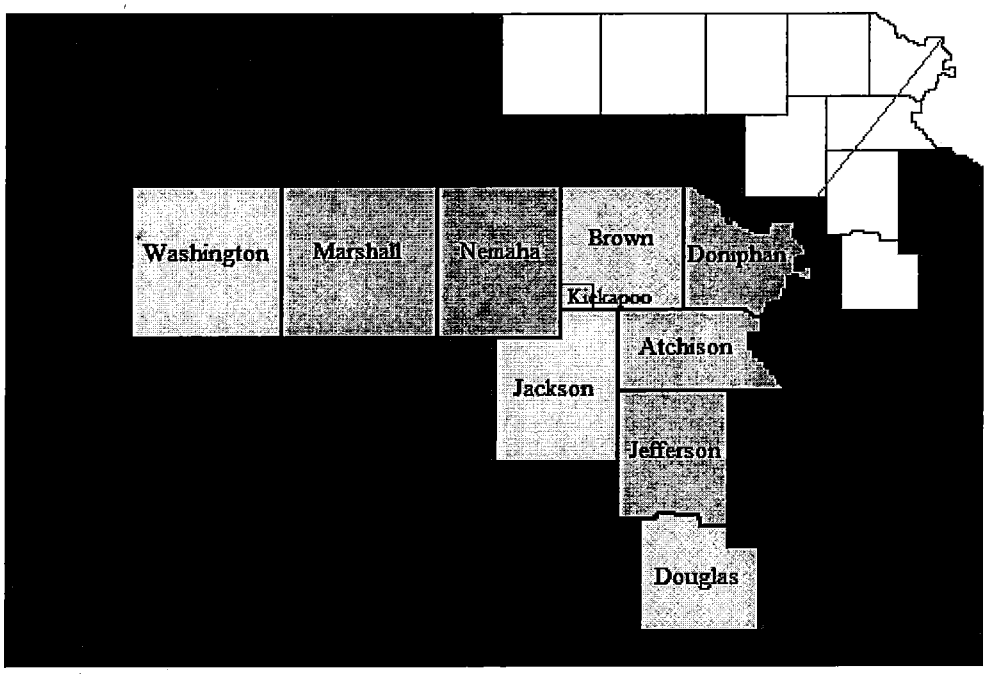
1.17.5 JACKSON COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Jackson County	x	x	x
City of Circleville	x	x	x
City of Delia	x	x	x
City of Denison	x	x	x
City of Holton	x	x	x
City of Hoyt	x	x	x
City of Mayetta	x	x	x
City of Netawaka	x	x	x
City of Soldier	x	x	x
City of Whiting	x	x	x

2.0 REGIONAL PROFILE

2.1 PLANNING REGION

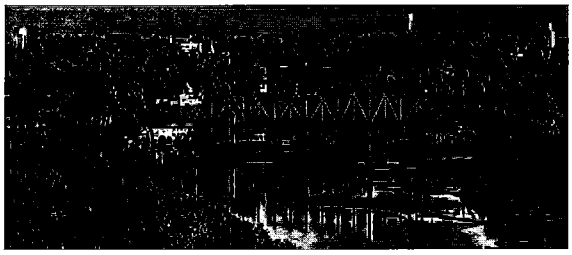
The northeast Kansas planning region includes Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha, and Washington counties, as well as the cities and towns located within these counties and the Kickapoo Tribe located in Brown County. The counties and majority of the cities participating in the 2014 hazard mitigation plan update plan are briefly summarized in the following two sections.



2.2 COUNTY AND TRIBE PROFILES

The following includes a general discussion of participating counties.

Atchison County



Atchison County is located in the northeast corner of Kansas and encompasses 435 square miles, with approximately 2.7 square miles being covered by water. It is bound to the north by Brown and Doniphan Counties, to the south by Jefferson and Leavenworth Counties, to the east by Platte and Buchanan Counties, Missouri, and to the west by Jefferson County.

The County seat is the City of Atchison.

In 1855, Atchison County was established and named in honor of David Rice Atchison, a United States Senator from Missouri. The area currently comprising Atchison County was originally a part of the Kickapoo Reserve, established by the treaty of 1833, with the exception of the southwest corner, which was a part of the Delaware Reserve and outlet, established by the treaty of 1831. These lands were ceded, under certain conditions, to the general government in 1854 and opened to settlement.

Major water courses in Atchison County include the Missouri River and the Delaware River. Five major lakes were identified in Atchison County and include Atchison State Lake, County Lake, Figge Lake, Warnock Lake, and Big Eight Lake.

Major roads include U.S. Highway 73, a northwest-southeast route that travels through the City of Atchison, U.S. Highway 159, a northwest-southeast route that passes through Muscotah and Effingham, and U.S. Highway 59, a northeast-southwest route that passes through the City of Atchison. State Highways include K-7, a north-south route that passes through the City of Atchison where it merges with U.S. Highway 73, K-9, an east-west route that passes through Muscotah and Effingham and K-116, an east-west route .

According to the 2012 United States Census (Census), the population estimate for Atchison County was 16,813 (statistically unchanged from a 2000 Census population of 16,774), with a population density of 39 people per square mile.

Brown County

Brown County is located in northeast Kansas and encompasses approximately 572 square miles, with approximately 1.5 square miles being covered by water. It is bound to the north by Richardson County, Nebraska, to the south by Atchison and Jackson Counties, to the east by Doniphan County, and to the west by Nemaha County.

Brown County was founded in 1855, with county seat as the City of Hiawatha. Brown County was originally named for Albert G. Browne, of Mississippi, who had been Senator and member of the House of Representatives from that state, and was United States Senator at the date of the Act organizing Kansas Territory.

The main water courses include the Wolf River, Middle Fork Wolf River, South Fork Wolf River, Delaware River, North Fork Wolf River and the Crow River. Brown County also has 18 named creeks. Major lakes include Pony Creek Lake, Brown State Lake and Mission Lake.

Major roads include U.S. Highway 75, a north - south route that passes through Fairview and Sabetha, U.S. Highway 73, a northwest - southeast route that passes through the City of Horton,

and near Hiawatha area, and U.S. Highway 36, an east - west route that passes near Hiawatha and Fairview. State Highways include K-20, and east - west route and K-246, an east - west route that travels between Sabetha and Morrill.

According to 2012 Census data, the population estimate for Brown County was 9,881 (a 7.9% decrease from a 2000 Census population of 10,724), with a population density of 17 people per square mile.

Doniphan County

Doniphan County is located in northeast corner of Kansas along the Missouri and Nebraska borders. The county encompasses 397 square miles, with approximately 4.9 square miles being covered by water. It is bound to the north by Holt County, Missouri, and Richardson County, Nebraska, to the south by Atchison County and Buchanan County, Missouri, to the east by Andrew and Buchanan Counties, Missouri, and to the west by Brown County.

Doniphan County was organized in 1855 and the county seat is Troy. The county was named in honor of Col. A. W. Doniphan, of Missouri who commanded a regiment of cavalry during the Mexican War.

The main water course are the Missouri River and Wolf River. There are also twenty-six named streams in Doniphan County. Major lakes include the Browning Oxbow Lake and Troy 4-H Lake.

Major roads include U.S. Highway 36, an east-west route that passes through Troy, Wathena, and Elwood. State Highways include K-20, northeast - southwest route that passes through Denton, and K-120, a north - south roadway route that passes through Severance.

According to 2012 Census data, the population estimate for Doniphan County was 7,864 (a 4.7% decrease from a 2000 Census population of 8,249), with a population density of 20 people per square mile.

Douglas County

Douglas County is located in northeast Kansas The county encompasses 574 square miles, with approximately 1.2 square mile being covered by water. It is bound to the north by Jefferson and Leavenworth Counties, to the south by Franklin County, to the east by Johnson County, and to the west by Shawnee and Osage Counties.

Douglas County was opened for settlement on May 15, 1854, and was named for Stephen A. Douglas, a Senator from Illinois, with Lawrence as the county seat.

The main water courses include Baldwin Creek, Coal Creek, Coon Creek, Kansas River, Little Wakarusa Creek, Naismith Creek, Quail Creek, Tauy Creek, Vinland Creek, Wakarusa River, Washington Creek, and Yankee Tank Creek. Major lakes include Clinton Lake, Lone Star Lake, and Douglas County State Fishing Lake.

Major roads include Interstate 70, an east-west route near the northern edge of the county, U.S. Highway 59, north-south route passing through Lawrence, and U.S. Highway 10, an east-west route passing through Lawrence. State Highways include K-10, a north-south route which passes through Lawrence and K-56, an east-west route that passes through Baldwin City, Worden and Globe along the southern edge of the county.

According to 2012 Census data, the population estimate for Douglas County was 112,864 (a 12.9% increase from a 2000 Census population of 99,962), with a population density of 202 people per square mile.

Jackson County

Jackson County is located in northeast Kansas. The county encompasses 658 square miles, with approximately 2.3 square miles being covered by water. It is bound to the north by Nemaha and Brown Counties, to the south by Shawnee County, to the east by Atchison and Jefferson Counties, and to the west by Pottawatomie County.

Jackson County was established in 1873 with Holton as the county seat. The county was originally Calhoun, in honor of John C. Calhoun, of South Carolina, but was changed in 1859 to Jackson after Andrew Jackson, seventh President of the United States.

The main water course is the Delaware River, which flows southeast through the northeast corner of the county. Elk Creek, Muddy Creek, North Cedar Creek South Cedar Creek and Spring Creek and are tributaries to the Delaware River. Other creeks include Big Soldier Creek, Cross Creek, Little Soldier Creek and Walnut Creek. In total, there are 20 named streams in Jackson County. There are six lakes in Jackson county, Elk Horn Lake, Lake of the Oaks, Nebo Lake, Prairie Lake, Riley Lake, including one reservoir, Banner Creek reservoir.

Major roads include U.S. Highway 75, an north-south route that passes through Netawaka, Holton, and Mayetta. State Highways include K-79, a north-south route that passes through Circleville, K-16 an east-west that passes through the city of Holton, K-62 a north-south route that passes through Soldier, and K-9 an east-west route that passes through the towns of Netawaka and Whiting.

According to the 2012 United States Census, the population estimate for Jackson County was 13,449 (a 6.3% increase from a 2000 Census population of 12,657), with a population density of 20 people per square mile.

Jefferson County

Jefferson County is located in northeast Kansas. The county encompasses 557 square miles, with approximately 21 square miles being covered by water. It is bound to the north by Atchison County, to the south by Douglas and Shawnee Counties, to the east by Leavenworth County, and to the west by Jackson and Shawnee Counties.

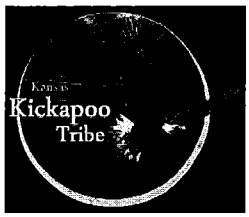
Jefferson County was organized in 1855, with Okaloosa as the County Seat. The county was named for Thomas Jefferson, the third President of the United States. Kansas' first settlement was established in 1827 in Jefferson County by Major Daniel M. Boone, son of the famous frontiersman.

The main water course is the Delaware River, which flows through the western part of the county in a southerly direction. Its principal tributaries include Mud, Clear, Martin's, Bruno, French, South Branch, Catlin, Doyle, Brush, Little Rock, Little Slough, Big Slough, Wild Horse and Newell Creeks. In total, 40 named streams may be found in Jefferson County. Three lakes were identified in the county and include Perry Lake, Lake Dabanawa, and Fin and Feather Lake. Perry lake is classified as a reservoir.

Major roads include U.S. Highway 24/59, an east-west route passing through Williamstown where it diverges in to U.S. 59, which passes through Okaloosa and Nortonville and U.S. 24, which passes through Perry, Medina and Grantville. State Highways include K-4, a north-south route that diagonally crosses the county and passes through Nortonville, Valley Falls and Rock Creek, K-16, an east-west route that passes near McLouth and through Dunavant, Boyle and Valley Falls, and K-92, an east-west route that passes through Oskaloosa.

According to 2012 Census data, the population estimate for Jefferson County was 18,945 (a 2.8% increase from a 2000 Census population of 18,426), with a population density of 34 people per square mile.

Kickapoo Tribe

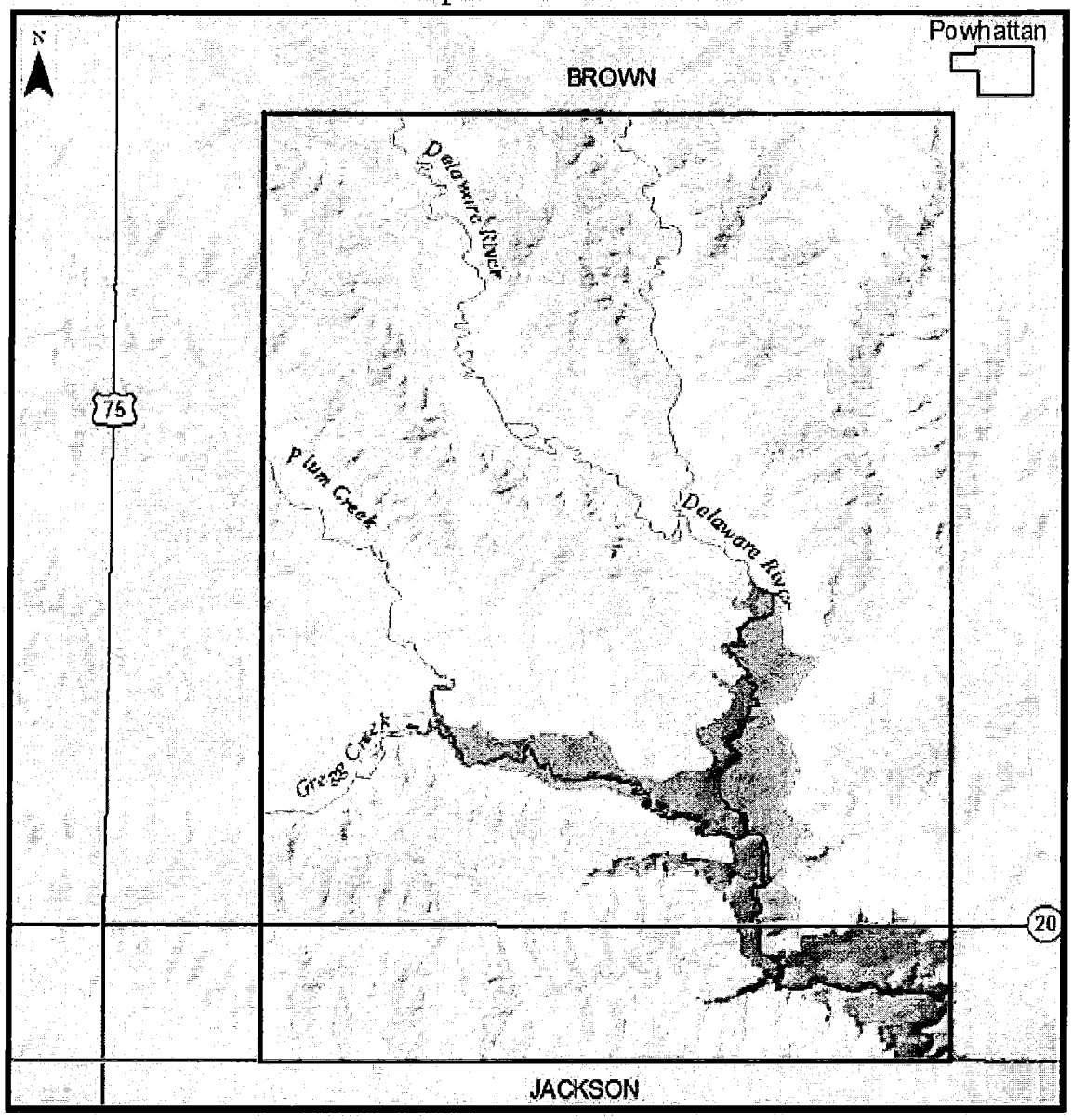


The Kickapoo Tribe in Kansas is located in southern Brown County, and has been in its present area since the 1832 Treaty of Castor Hill. The Treaty of 1854 with the Kickapoo Tribe ceded over 600,000 acres of land to the US Government but retained approximately 150,000 acres of land. In 1862, the Tribe ceded the remaining lands to the U.S. Government, except the

present day 19,200 acres.

The Kickapoo Tribe in Kansas is located in northeast Kansas along Kansas Highway K- 20, just 5 miles east of U.S. Highway 75 in Brown County. The reservation is a six mile long and five mile wide area that encompasses 19,200 acres. The land consists of prairies, meadows, and some wooded forests with much of the land dedicated to grazing and agricultural development. According to the tribe, the tribe has approximately 500 members living within the reservation borders and 771 local members within the region.

Kicakapoo Tribe Reservation



The Kickapoo Tribe has a diverse workforce made up of over 130 professionals and technical staff members. The day-to-day operations include issues with environmental, health, road maintenance, compliance, financial, legal, gaming, and planning community growth. Please note that available demographic and agricultural information relating specifically to the Kickapoo Tribe is limited, andbased ona discusiion with the Kicakpoo Tribe HMPC representaive, often innacurate. As such, information is included when available.

Marshall County

Marshall County is located in northeast Kansas, along the border with Nebraska. The county encompasses 904 square miles, with approximately 1.8 square miles being covered by water. It is bound to the north by Gage and Pawnee Counties, Nebraska, to the south by Riley and Pottawatomie Counties, to the east by Nemaha County, and to the west by Washington County.

Marshall County was organized in 1855, with Marysville as the County Seat. The county was named after General Frank J. Marshall, who established a ferry on the Big Blue at the crossing of the old Independence-California road in 1849.

The main water course is the Big Blue River, which bisects the county flowing north to south. Other rivers, creek sand streams include the Little Blue River, Red Vermillion Creek, Deer Creek, and Horse Shoe Creek. In total, 43 named streams may be found in Marshall County. There are no major identified lakes or reservoirs in the county..

Major roads include U.S. Highway 36, an east-west route that passes near Axtell and through Home City and Marysville, and U.S. Highway 77, a north-south route that passes through Waterville, Blue Rapids, Marysville and Lone Elm. State Highways include K- 9, an east-west route that passes through Vermillion and Frankfort, and K-99 a north-south route that passes through Frankfort Beattie, and Summerfield.

According to 2012 Census data, the population estimate for Marshall County was 10,022 (an 8.6% decrease from a 2000 Census population of 10,965), with a population density of 11 people per square mile.

Nemaha County

Nemaha County is located in northeast Kansas along the Nebraska border. The county encompasses 719 square miles, with approximately 1.4 square miles being covered by water. It is bound to the north by Richardson and Pawnee Counties, Nebraska, to the south by Pottawatomie and Jackson Counties, to the east by Brown County, and to the west by Marshall County.

Nemaha County was organized in 1873, with Seneca as the county seat. The County was named for the Nemaha River.

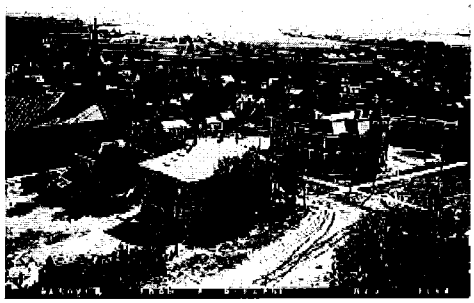
The main water courses in the county are the Nemaha River, Black Vermillion River, and the Delaware River. The Nemaha River flows north from Corning through Seneca, the Black Vermillion River west through Centralia, and the Delaware River rises west of Sabetha traversing east out of the county. In addition to the above-mentioned rivers, there are 26 named-creeks/streams in Nemaha County. There are three large public lakes located within Nemaha County, Centralia City Lake, Sabetha City Lake and Nemaha State Fishing Lake and Wildlife Area.

Major roads include U.S. Highway 36, an east-west route passing through Seneca. State Highways include K-9/63, a north-south route passing through Corning and Seneca, and K-71, and east-west route passing through Bern and Sabetha.

According to 2012 Census data, the population estimate for Nemaha County was 10,132 (a 5.5% decrease from a 2000 Census population of 10,717), with a population density of 14 people per square mile.

Washington County

Washington County is located in northeast Kansas along the Nebraska border. The county encompasses 899 square miles, with approximately 0.4 square mile being covered by water. It is bound to the north by Gage, Jefferson and Thayer Counties, Nebraska, to the south by Clay and Riley Counties, to the east by Marshall County, and to the west by Republic and Cloud Counties.



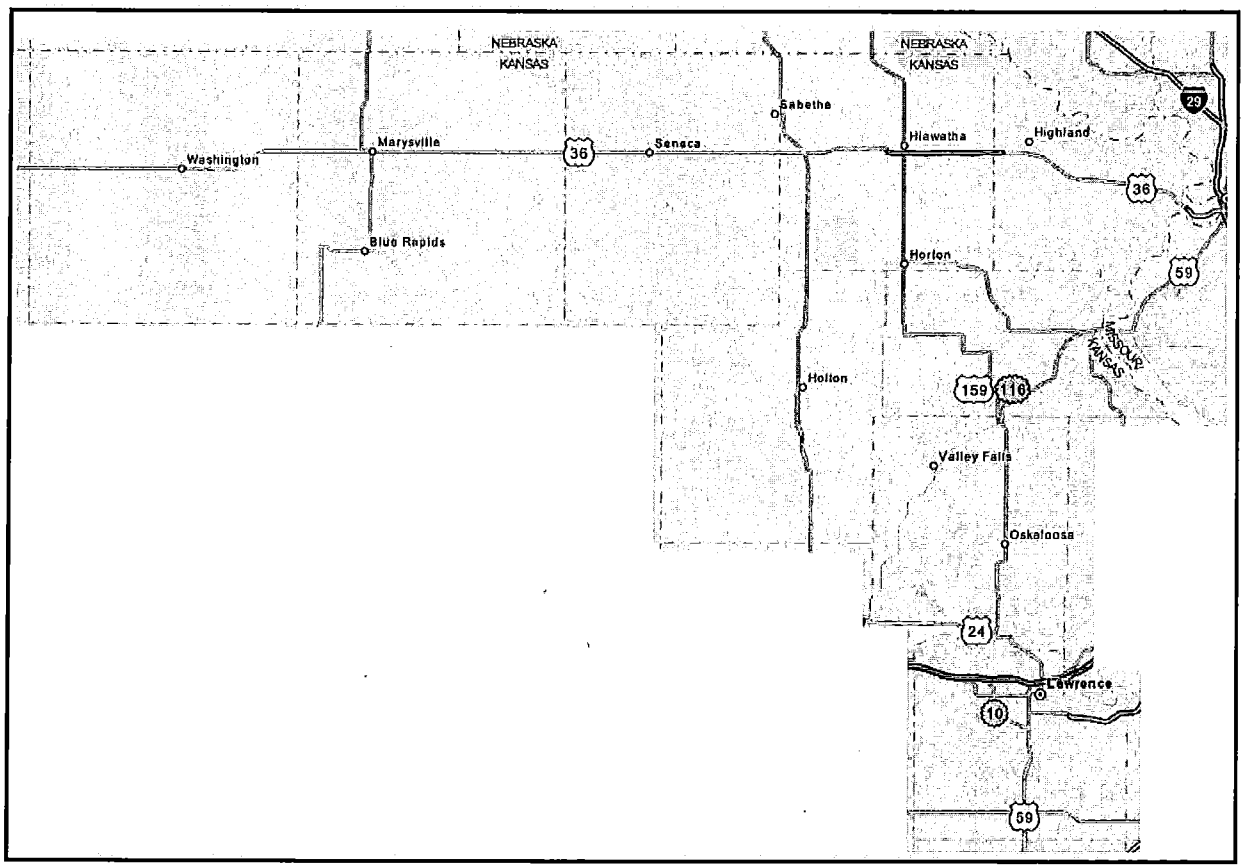
Washington County was organized in 1873 with the City of Washington as the county seat. The county was named in honor of George Washington, the first president of the United States.

The main water course is the is the Little Blue River, which flows to the east to join the Big Blue River in Marshall County. In addition to the Little Blue River, there are 43 named streams/creeks in the county. The only major lake in the county is Washington County State Lake.

Major roads include U.S. Highway 36, an east-west route passing near the City of Washington. State Highways include K-15, a north-south route passing through Morrowville and near the City of Washington, K-148, and east-west route passing south of Greenleaf and through Barnes and Hanover, and K-9, and east-west route passing through Clifton, Palmer, Linn and Barnes.

According to 2012 Census data, the population estimate for Washington County was 5,758 (a 11% decrease from a 2000 Census population of 6,483), with a population density of 6 people per square mile.

2.3 CITY PROFILES



The following includes a brief discussion of participating cities, broken down by county.

Atchison County

Atchison is located along the Missouri River in the eastern part of the county, and is both the county seat and most populous city. The 2010 census indicates a population of 11,021. The city is named for David Atchison, a Missouri Senator, In addition, Atchison is the birthplace of Amelia Earhart.

Effingham is located near the center of the county, along Highway 159. The 2010 census indicates the city has a total area of 0.53 square miles and a population of 546.

Huron is located near the northern border of the county along Highway 73. The 2010 census indicates the city has a total area of 0.85 square miles and a population of 54.

Lancaster is located in the center of the county Along Highway 73. The 2010 census indicates the city has a total area of 0.22 square miles and a population of 298.

Muscotah is a located on the western border of the county along Highway 159. The 2010 census indicates the city has a total area of 0.34 square miles and a population of 176. Muscotah is the Kickapoo word for prairie.

Brown County

Everest is located near the southern border of the county, north of Highway 73. The 2010 census indicates the city has a total area of 0.26 square miles and a population of 284. The city was named for Colonel Aaron S. Everest, an attorney and Kansas State Senator.

Fairview is located near the western border of the county, along Highway 36. The 2010 census indicates the city has a total area of 0.37 square miles and a population of 260.

Hiawatha is located near the center of the county, at the intersection of Highway 36 and Highway 73, and is both the largest city in the county and the county seat. The 2010 census indicates the city has a total area of 2.59 square miles and a population of 3,172. Hiawatha is named after the poem "Song of Hiawatha" by Henry Longfellow and is known for its Maple trees.

Horton is located on the southern border of the county, at the intersection of Highways 73 and 159. The 2010 census indicates the city has a total area of 1.8 square miles, with 0.02 square miles of water, and a population of 1,776.

Morrill is located in the northwest corner of the county, near the border with Nebraska. The 2010 census indicates the city has a total area of 0.19 square miles and a population of 230.

Reserve is located near the northern border of the county. The 2010 census indicates the city has a total area of 0.11 square miles and a population of 84.

Robinson is located near the eastern border of the county, just south of Highway 36. Robinson was named for Charles Robinson, the first governor of Kansas. The 2010 census indicates the city has a total area of 0.24 square miles and a population of 234.

Willis is located in the center of the county, east of Highway 73/159. The 2010 census indicates the city has a total area of 0.17 square miles and a population of 38.

Doniphan County

Denton is located in the southwestern corner of the county. The 2010 census indicates the city has a total area of 0.14 square miles and a population of 148.

Elwood is located on the eastern border of county on the Kansas-Missouri border, along Highway 36, and on the Missouri River The 2010 census indicates the city has a total area of 3.20 square miles and a population of 1,124.

Highland is located in the northeast corner of the county along Kansas-7, near the Kansas-Missouri border. The 2010 census indicates the city has a total area of 0.53 square miles and a population of 1,012.

Leona is located eastern border of the county. The 2010 census indicates the city has a total area of 0.05 square miles and a population of 48.

Severance is located in eastern part of the county, along Kansas Highway 120 and the Wolf River. The 2010 census indicates the city has a total area of 0.14 square miles and a population of 94.

Troy is located in the center of the county, along Highway 36, and is the county seat. The 2010 census indicates the city has a total area of 0.99 square miles, with 0.01 square miles of water, and a population of 1,010.

Wathena is located eastern border of the county, along Highway 36, on the Kansas-Missouri border. The 2010 census indicates the city has a total area of 0.31 square miles and a population of 11.

White Cloud is located in the northeast corner of the county, on the Kansas-Oklahoma border, along the Missouri River. The city was named for James White Cloud, the son of Chief White Cloud of the Iowa, and is the seat of government for the Iowa. The 2010 census indicates the city has a total area of 0.73 square miles and a population of 176.

Douglas County

Baldwin City is located southeast corner of the county, along Highway 56. The city is home to Baker University. The 2010 census indicates the city has a total area of 2.64 square miles, with 0.02 square miles of water, and a population of 4,515.

Eudora, incorporated in 1859, is located northeast corner of the county, north of Highway 10, along the Kansas and Wakarusa Rivers and Highway 10. The 2010 census indicates the city has a total area of 2.94 square miles, with 0.05 square miles of water, and a population of 6,136.

Lawrence is the sixth largest city in Kansas and the county seat of Douglas County. Located forty-one miles west of Kansas City, Missouri, it is situated along the banks of the Kansas and Wakarusa rivers. Lawrence is a college town and is the home to the University of Kansas and Haskell Indian Nations University. Lawrence was founded in 1854 for the New England Emigrant Aid Company by Charles Robinson, who later served as governor of Kansas. The city was named after Amos Adams Lawrence, a prominent politician and antislavery partisan and the son of famed philanthropist Amos Lawrence. In the Bleeding Kansas era, Lawrence was a center of anti-slavery sentiment. On May 21, 1856, a pro-slavery posse led by Sheriff Samuel J. Jones burned the Free-State Hotel, destroyed the equipment of two anti-slavery newspapers, and looted several other businesses in an attack known as the Sack of Lawrence, one man was killed, struck dead by a stone falling from the burning hotel. Abolitionist John Brown's nearby Pottawatomie Massacre is believed to have been a reaction to this event. On August 21, 1863, during the American Civil War, Confederate guerrillas led by William Quantrill burned most of the houses and commercial buildings in Lawrence and killed 150 to 200 of the men they found in the Lawrence Massacre. Of historical importance is KU's Pioneer Cemetery, perhaps best known for being the final resting place of Thomas Barber, a free-state settler, and Elmer McCollum, University of Kansas alumnus who is credited with discovering Vitamin A. James Naismith, the inventor of basketball, is buried in East Lawrence in Memorial Park Cemetery. The 2010 census indicates the city has a total area of 34.26 square miles, with 0.70 square miles of water, and a population of 87,643.

Lecompton is located in the northwest corner of the county, north of Interstate 70. The city was founded in 1845 and was the Territorial capital of Kansas from 1855 to 1861. The 2010 census indicates the city has a total area of 1.78 square miles, with 0.01 square miles of water, and a population of 625.

Jackson County

Circleville is located in the northwest corner of the county, north of Highway 16. The 2010 census indicates the city has a total area of 0.26 square miles and a population of 179.

Delia is located in the southwest corner of the county. The 2010 census indicates the city has a total area of 0.11 square miles and a population of 169.

Denison is located along the eastern border of the county, along Highway 16. The 2010 census indicates the city has a total area of 0.11 square miles and a population of 187.

Holton is located in the center of the county, at the intersection of Highways 75 and 116. Holton was founded in 1856 and is the county seat. The 2010 census indicates the city has a total area of 2.78 square miles, with 0.08 square miles of water, and a population of 3,329.

Hoyt, founded in 1886, is located near the southeast corner of the county, along Highway 75. The 2010 census indicates the city has a total area of 0.50 square miles and a population of 669.

Mayetta is located near the center of the county, along Highway 75. The 2010 census indicates the city has a total area of 0.17 square miles and a population of 341.

Netawaka is located near the northern border of the county, along Highway 75. Netawaka is from Pottawatomi word meaning "grand view." The 2010 census indicates the city has a total area of 0.98 square miles and a population of 143.

Soldier is located in the northwestern portion of the county, along Highway 62 and near Soldier Creek. The city was incorporated in 1878. The 2010 census indicates the city has a total area of 0.15 square miles and a population of 136.

Whiting is located in the northeast corner of the county, along Highway 9. The 2010 census indicates the city has a total area of 1.00 square miles and a population of 187.

Jefferson County

McLouth is located near the eastern border of the county, along Highway 16/92. The 2010 census indicates the city has a total area of 0.60 square miles, with 0.01 square miles of water, and a population of 880.

Meridan is located near the western border the county, west of Highway 4. The 2010 census indicates the city has a total area of 0.79 square miles, with 0.01 square miles of water, and a population of 813.

Nortonville is located on the northern border of the county, at the intersection of Highways 4 and 59. The 2010 census indicates the city has a total area of 0.44 square miles, with 0.01 square miles of water, and a population of 637.

Okaloosa is located near the center of the county, along Highway 59. Okaloosa is the county seat. The 2010 census indicates the city has a total area of 1.03 square miles, with 0.01 square miles of water, and a population of 1,113.

Perry is located near the southern border of the county, along Highway 24. Perry was founded in 1854 and named after John D. Perry, the President of Kansas Pacific Railroad. The 2010 census indicates the city has a total area of 0.77 square miles and a population of 929.

Valley Falls is located in the northern portion of the county, along Highway 16. The 2010 census indicates the city has a total area of 0.77 square miles, with 0.01 square miles of water, and a population of 1,192.

Winchester is located near the northeast corner of the county, along Highway 192. The 2010 census indicates the city has a total area of 0.35 square miles, with 0.01 square miles of water, and a population of 551.

Marshall County

Axtell is located in the northeast corner of the county, north of Highway 36. The 2010 census indicates the city has a total area of 0.51 square miles and a population of 406.

Beattie is located near the northeast corner of the county, along Highway 99. The 2010 census indicates the city has a total area of 0.23 square miles and a population of 200.

Blue Rapids is located southwest corner of the county, along Highway 9/77, and a the confluence of the Little Blue and Big Blue Rivers. The city was incorporated in 1872. The 2010 census indicates the city has a total area of 2.01 square miles, with 0.02 square miles of water, and a population of 1,109.

Frankfort is located in the northeast corner of the county, along Highway 99. The 2010 census indicates the city has a total area of 1.01 square miles, with 0.01 square miles of water, and a population of 726.

Marysville is located in the center of the county, at the intersection of Highway 36 and 77, along the Big Blue River. Marysville serves as the county seat. The city is named after the wife of Francis J. Marshall, who in turn gave name to the county. The 2010 census indicates the city has a total area of 4.62 square miles, with 0.04 square miles of water, and a population of 3,294.

Oketo is located in the southeast corner of the county, near Interstate 135. The city was incorporated in 1887. The 2010 census indicates the city has a total area of 1.41 square miles and a population of 1,737.

Summerfield is located on the northern border of the county with Nebraska, along Highway 99. The 2010 census indicates the city has a total area of 0.34 square miles and a population of 156.

Vermillion is located along the eastern border of the county. The 2010 census indicates the city has a total area of 0.24 square miles, with 0.01 square miles of water, and a population of 112.

Waterville is located along the western border of the county, along Highway 9/77, just south of the Little Blue River. The 2010 census indicates the city has a total area of 0.49 square miles, with 0.01 square miles of water, and a population of 680.

Nemaha County

Bern is located near the northern of the county with Nebraska, along Highway 71. The 2010 census indicates the city has a total area of 0.29 square miles and a population of 166.

Centralia is located in the near the western border of the county, south of Highway 36. The 2010 census indicates the city has a total area of 0.47 square miles and a population of 512.

Corning is located in the southwest corner of the county, along Highway 9/63. The 2010 census indicates the city has a total area of 0.27 square miles and a population of 157.

Goff is located in the southern portion of the county, Along Highway 9. Goff was named in honor of Edward Goff, and official with the Union Pacific Railroad. The 2010 census indicates the city has a total area of 0.21 square miles and a population of 126.

Oneida is located in the northern portion of the county, north of Highway 36. The 2010 census indicates the city has a total area of 0.24 square miles and a population of 75.

Sabetha is located in the northeast corner of the county, west of Highway 75. The City Hall was damaged by a tornado on June 13, 1998, and subsequently demolished. The 2010 census indicates the city has a total area of 3.47 square miles, with 0.01 square miles of water, and a population of 2,571.

Seneca is located in the northwest corner of the county, along Highway 36, and is the county seat. The 2010 census indicates the city has a total area of 1.63 square miles and a population of 1,991.

Wetmore is located in the southeast corner of the county, along Highway 9. Wetmore was named in honor of W.T. Wetmore, and official with the Union Pacific Railroad. The 2010 census indicates the city has a total area of 0.39 square miles and a population of 368.

Washington County

Barnes is located in near the eastern border of the county, along Highway 9/148. Barnes was named in honor of A.S. Barnes, and stockholder of the Union Pacific Railroad. The 2010 Census indicates the city has a total area of 0.18 square miles, with 0.01 square miles of water, and a population of 159.

Clifton is located southwest corner of the county, along Highway 9. Bel Aire was founded in 1955, and incorporated into a city in 1980. The 2010 Census indicates the city has a total area of 0.41 square miles and a population of 554.

Greenleaf is located near the center of the county, along Highway 119. Greenleaf was named in honor of A.W. Greenleaf, Treasurer of the Union Pacific Railroad. The 2010 Census indicates the city has a total area of 0.46 square miles and a population of 331.

Haddam is located near the northwest corner of the county, north of Highway 36. The 2010 Census indicates the city has a total area of 0.35 square miles and a population of 104.

Hanover is located near the northern border of the county, west of Highway 148. The 2010 Census indicates the city has a total area of 0.54 square miles and a population of 682.

Hollenberg is located near on the northern border of the county with Nebraska. The 2010 Census indicates the city has a total area of 0.08 square miles and a population of 21.

Linn is located near the center of the county, along Highway 9/15. The 2010 Census indicates the city has a total area of 0.34 square miles and a population of 410.

Mahaska is located northwest corner of the county along the border with Nebraska. Mahaska was founded in 1887. The 2010 Census indicates the city has a total area of 0.25 square miles and a population of 83.

Morrowville is located near the center of the county, along Highway 15. The 2010 Census indicates the city has a total area of 0.14 square miles and a population of 155.
Palmer is located in the southern portion of the county, west of Highway 9/15. The 2010 Census indicates the city has a total area of 0.31 square miles and a population of 111.

Vining is located in the southwest corner of the county, along Highway 9. The 2010 Census indicates the city has a total area of 0.22 square miles and a population of 45.

City of Washington is located near the center of the county, at the intersection Highways 15 and 36. Washington was founded in 1860 and is the county seat. The 2010 Census indicates the city has a total area of 0.91 square miles, with 0.04 square miles of water, and a population of 1,131.

2.4 REGIONAL GEOLOGY AND HYDROLOGY

The Kansas landscape was formed by alternating periods of deposition and erosion. The northeast region of Kansas contains four distinct physiographic regions. Each region is differentiated by underlying rock formations, overlying soil types, and land use suitability. The following physiographic regions are found within northeast Kansas.

increased the data and general observations indicate that the increase is being spent on maintenance rather than new construction.

Regional Capital Infrastructure Expenditures, 2001 to 2011

County	Road & Bridge Expenditure (2001)	Road & Bridge Expenditure (2011)	Percent Change
Atchison	$1,741,098	$2,315,056	33%
Brown	$1,896,873	$2,426,044	28%
Doniphan	$2,349,336	$2,138,352	-9%
Douglas	$3,959,853	$4,634,464	17%
Jackson	$2,398,698	$3,182,410	33%
Jefferson	$3,870,210	$5,295,499	37%
Marshall	$2,098,392	$2,973,898	42%
Nemaha	$2,328,817	$2,401,608	3%
Washington	$2,125,912	$3,360,955	58%

Source: Office of Local Government, Kansas State Research and Extension

2.10 Potential Structure Expose to Hazards

This section quantifies the buildings exposed to potential hazards in northeast Kansas. The following tables provide the value of the region's built environment and contents, which in addition to the population information presented above, forms the basis of the vulnerability and risk assessment presented in this plan. This information was derived from inventory data associated with FEMA's loss estimation software HAZUS-MH 2.1 (February 2012). HAZUS-MH 2.1 classifies building stock types into seven categories: residential, commercial, industrial, agriculture, religion, government, and education. Values associated with each of these categories reflect 2006 valuations, published by R.S. Means Company (Means Square foot Costs", 2006) with replacement costs. According to the HAZUS-MH 2.1 inventory, the total estimated replacement value of buildings within the northeast Kansas region is $13,008,070,000 and the total buildings content's estimated value within the northeast Kansas region is $8,676,324,000. The exposure value of buildings is incorporated as a factor in vulnerability assessments for hailstorm, tornado, windstorm, and winter storm hazards that are profiled later in this plan.

Estimated Replacement Value of Buildings by Category (2006 Valuations)

County	Residential ($1,000s)	Commercial ($1,000s)	Industrial ($1,000s)	Agriculture ($1,000s)	Religion ($1,000s)	Government ($1,000s)	Education ($1,000s)
Atchison	$922,586	$215,344	$120,042	$18,748	$31,437	$7,159	$18,047
Brown	$491,108	$132,926	$31,985	$18,467	$18,445	$7,781	$12,513
Doniphan	$386,334	$70,233	$22,395	$18,514	$9,006	$5,215	$45,412
Douglas	$4,984,505	$1,021,552	$282,104	$34,900	$120,529	$38,161	$132,518
Jackson	$612,772	$92,004	$25,943	$15,510	$17,712	$11,439	$12,943
Jefferson	$917,944	$105,391	$37,231	$15,249	$24,020	$12,020	$18,997
Marshall	$509,777	$115,403	$61,303	$30,922	$22,783	$6,957	$15,232
Nemaha	$489,512	$113,121	$38,057	$32,775	$15,788	$6,466	$16,177
Washington	$265,449	$66,867	$8,953	$27,159	$14,036	$4,136	$10,056
Regional Total	$9,579,987	$1,932,841	$628,013	$212,244	$273,756	$99,334	$281,895

Estimated Replacement Value of Building's Contents by Category (2006 Valuations)

County	Residential ($1,000s)	Commercial ($1,000s)	Industrial ($1,000s)	Agriculture ($1,000s)	Religion ($1,000s)	Government ($1,000s)	Education ($1,000s)
Atchison	$461,919	$234,893	$173,580	$18,748	$31,437	$8,163	$18,263
Brown	$246,314	$142,548	$45,063	$18,467	$18,445	$8,968	$12,588
Doniphan	$193,822	$73,843	$31,080	$18,514	$9,006	$6,047	$58,976
Douglas	$2,494,254	$1,089,023	$392,086	$34,900	$120,529	$43,856	$170,631
Jackson	$307,165	$98,273	$34,270	$15,510	$17,712	$13,452	$12,943
Jefferson	$459,870	$114,889	$48,033	$15,249	$24,020	$15,011	$18,997
Marshall	$255,546	$119,682	$89,444	$30,922	$22,783	$7,518	$15,232
Nemaha	$245,437	$120,599	$54,566	$32,775	$15,788	$7,786	$16,177
Washington	$133,484	$69,033	$11,540	$27,159	$14,036	$5,404	$10,056
Regional Total	$4,797,811	$2,062,783	$879,662	$212,244	$273,756	$116,205	$333,863

2.11 REGIONAL CRITICAL AND SACRED FACILITIES

This section details the critical facilities and assets that may be at risk by county, tribe, and available jurisdiction for the region. A critical facility is essential in providing utility or direction either during the response to an emergency or during the recovery operation. Facilities were determined from jurisdictional feedback, historic research, available data from the State of Kansas and HAZUS-MH 2.1. Critical assets are equipment or systems that may be needed during a response or recovery effort and may be at risk of damage or destruction from a hazard. In addition, jurisdictions considered facilities that, if damaged or destroyed, would result in a high economic, human, or societal losses. Sacred facilities are facilities that have an important

historical, tribal or spiritual resonance. Sacred facilities are listed under a restricted appendix in order to preserve and respect them. Finally, jurisdictions also considered transportation facilities and corridors that would provide critical lifelines in the event of a hazard event. The following are examples of critical facilities and assets:

- Hospitals and other medical facilities
- Police and fire stations
- Emergency operations centers
- Power plants
- Dams and levees
- Military installations
- Hazardous material sites
- Schools and day care centers
- Shelters
- Nursing homes
- Highways, bridges, and tunnels
- Railroads and facilities
- Airports
- Water treatment facilities
- Natural gas and oil facilities and pipelines
- Communications facilities
- Tribal sacred sites

Participating jurisdictions were given the option to supply as much information as possible relating to critical facilities, however they were not compelled to provide any information, up to and including name, address, replacement value and occupancy. A detailed list of critical facilities may be found in Appendix D. Appendix D has been deemed sensitive information, and as such is restricted and unavailable to the public.

2.12 HISTORICALLY SIGNIFICANT STRUCTURES AND LOCATIONS

The following sections detail structures that have local historical significance. Historic structure means any structure that is:

- Listed in the National Register of Historic Places or preliminarily determined as meeting the requirements for listing
- Certified as contributing to the historical significance of a registered historic district
- Listed on a state inventory of historic places
- Listed on a local inventory of historic places
- Deemed by the community as a locally historic structure

These structures may warrant a greater degree of protection due to their unique and irreplaceable nature. Additionally, the rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.

2.12.4 DOUGLAS COUNTY

Name of Historic Property	Address or Location	City
Black Jack Battlefield	US 56 and Cty Rd. 2000, 3.o mi. E of Baldwin City	Baldwin
Black Jack Battlefield Boundary Increase	US 56 and Cty Rd. 200, 3.0 mi. E of Baldwin City	Baldwin
Quayle, William A., House	210 N. 6th St.	Baldwin
Santa Fe Trail--Douglas County Trail Segments	US 56, 2.5 mi. E of Baldwin City	Baldwin
Vinland Fair Association Fairgrounds Exhibit Building	1736 N. 700 Rd.	Baldwin
Vinland Presbyterian Church	697 E. 1725 Rd.	Baldwin
Barnes Apple Barn	714 E. 1728 Rd.	Baldwin City
Case Library	Baker University, Eighth and Grove	Baldwin City
Coal Creek Library	698 E. 1719 Rd.	Baldwin City
Old Castle Hall, Baker University	513 5th St.	Baldwin City
Parmenter Memorial Hall	8th and Dearborn Sts.	Baldwin City
Santa Fe Depot	1601 High St.	Baldwin City
Stoebener Barn	SW of Worden	Baldwin City
Stony Point Evangelical Lutheran Church	1575 N. 600 Rd.	Baldwin City
Steele, J. C., House	E of Clinton	Clinton
Beni Israel Cemetery	1301 E. 2100 Rd.	Eudora
Pilla, Charles, House	615 Elm St.	Eudora
Achning, Ralph and Cloyd, House	846 Missouri St.	Lawrence
Bailey Hall	Jct. of Jayhawk Dr. and Sunflower Rd.	Lawrence
Bell, George and Annie, House	1008 Ohio St.	Lawrence
Benedict House	923 Tennessee St.	Lawrence
Blood, Col. James, House	1015 Tennessee St.	Lawrence
Breezedale Historic District	2301-2401 Massachusetts St.	Lawrence
Clinton School District 25	1180 N 604 East Rd.	Lawrence
Double Hyperbolic Paraboloid House	934 W. 21st. St.	Lawrence
Douglas County Courthouse	SE corner of Massachusetts and 11th Sts.	Lawrence
Duncan, Charles, House	933 Tennessee St.	Lawrence
Dyche Hall, University of Kansas	14th St. and Oread Ave., University of Kansas campus	Lawrence
East Lawrence Industrial Historic District	619 E. 8th St., 804-846 Pennsylvania St., and 716 E 9th St.	Lawrence
Eldridge House Hotel	Seventh and Massachusetts	Lawrence
English Lutheran Church	1040 New Hampshire St.	Lawrence
Fernand--Strong, House	1515 University Drive	Lawrence

Name of Historic Property	Address or Location	City
French, Charles & Elizabeth Haskell, House	1300 Haskell Ave.	Lawrence
Goodrich, Eugene F., House	1711 Massachusetts St.	Lawrence
Green Hall, University of Kansas	Jayhawk Dr.	Lawrence
Greenlee, Michael D., House	947 Louisiana St.	Lawrence
Hancock (12th Street) Historic District	Roughly along W. 12th St., from Oread Ave. to Mississippi St.	Lawrence
Haskell Institute	Address Unknown	Lawrence
House, Edward, House	1646 Massachusetts St.	Lawrence
Lawrence's Downtown Historic District	Generally along Massachusetts St. bet. 6th Ave. and S. park St.	Lawrence
Ludington House	1613 Tennessee St.	Lawrence
Mackie, George K., House	1941 Massachusetts St.	Lawrence
McCurdy, Witter S., House	909 W. 6th St.	Lawrence
Miller, Robert H., House	1111 E. 19th St.	Lawrence
Morse, Dr. Frederic D., House	1041 Tennessee St.	Lawrence
North Rhode Island Street Historic Residential District	700-1144,901-1047,1201-1215 Rhode Island St.	Lawrence
Old Lawrence City Hall	1047 Massachusetts St.	Lawrence
Old Lawrence City Library	NW corner of 9th and Vermont Sts.	Lawrence
Old West Lawrence Historic District	Bounded roughly by Tennessee, 8th, Indiana, and 6th Sts.	Lawrence
Oread Historic District	Roughly between W 9th & 12th Sts. & the alleys behind Louisiana & Kentucky Sts.	Lawrence
Pinckney I Historic District	Roughly bounded by W. 5th St., Tennessee St., W 6th St., and Louisiana St., with 501-533 Louisiana St. and 444-445 W. 5t	Lawrence
Pinckney II Historic District	Roughly bounded by W. 3rd St., Louisiana St., W. 4th St. and Mississippi St.	Lawrence
Plymouth Congregational Church	925 Vermont St.	Lawrence
Priestly House	1505 Kentucky St.	Lawrence
Riggs, Samuel A., House	1500 Pennsylvania	Lawrence
Roberts, John N., House	1307 Massachusetts St.	Lawrence
Saint Luke African Methodist Episcopal Church	900 New York St.	Lawrence
Snow House	706 W. 12th St.	Lawrence
South Rhode Island and New Hampshire Street Historic Residential District	E Rhode Island St,1120-1340;W Rhode Island St.,1301-1345;E New Hampshire St.,1300-1346, W New Hampshire St. 1301-1347	Lawrence
Spooner Hall, University of Kansas	14th St. and Oread Ave. on the University of Kansas campus	Lawrence

Name of Historic Property	Address or Location	City
Stephens, Judge Nelson T., House	340 N. Michigan St.	Lawrence
Strong Hall	213 Strong Hall, U. of Kansas, Jct. Jayhawk Dr. and Poplar Ln.	Lawrence
Taylor, Lucy Hobbs, Building	809 Vermont	Lawrence
United Presbyterian Center	1204 Oread Ave.	Lawrence
US Post Office--Lawrence	645 New Hampshire	Lawrence
Usher, John Palmer, House	1425 Tennessee St.	Lawrence
Vermilya--Boener House	NW of jct. of US 24, US 59 and US 40	Lawrence
Zimmerman, S. T., House	304 Indiana St.	Lawrence
Constitution Hall	Elmore St. between Woodson and 3rd Sts.	Lecompton
Lane University	E side of Lecompton	Lecompton
Chicken Creek Bridge	Over Chicken Creek, SE of Lone Star	Lone Star
Vinland Grange Hall	Jct. of Oak and Main Sts.	Vinland

2.12.5 JACKSON COUNTY

Name of Historic Property	Address or Location	City
Holton Bath House	711 Nebraska Ave.	Holton
McFadden House	315 W. 5th St.	Holton
State Bank of Holton	4th and Pennsylvania Ave.	Holton
Booth Site	Address Restricted	Mayetta
Harris Site	Address Restricted	Soldier
Shedd and Marshall Store	3rd and Whiting Sts.	Whiting

2.12.6 JEFFERSON COUNTY

Name of Historic Property	Address or Location	City
Sunnyside School	1121 Republic Rd	Jefferson
Jefferson Old Town Bowstring Truss	Off US 59	Oskaloosa
Union Block	SW corner of Delaware and Jefferson Sts.	Oskaloosa
Buck Creek School	Off US 24, 2 mi. E of Williamstown	Perry
Delaware River Parker Truss Bridge	Bridge St., 0.3 mi. W of int. with Main St.	Perry
Delaware River Composite Truss Bridge	Coal Creek Rd., 0.1 mi. S of int. with 170th Rd.	Valley Falls

12.7 KICKAPOO TRIBE

Name of Historic Property	Address or Location	City
None Identified	-	-

3.0 RISK ASSESSMENT

3.1 INTRODUCTION

44 CFR 201.6(C) Plan content. The plan shall include the following: (2) risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

The ultimate purpose of this Hazard Mitigation Plan is to minimize the loss of life and property in the planning region. In order to accomplish this all relevant hazards, potential vulnerabilities and exposures for the region have been identified. Once potential hazards, vulnerabilities and exposure have been identified communities within the region are able to conceptualize their potential risks as part of a risk assessment process. Based on this understanding of risk, communities can then develop a strategy to identify and prioritize mitigation action to defend against these potential risks. The following table presents a definition of terms used within this section.

Definition of Terms

Term	Definition
Hazard	A potential source of injury, death or damage
Vulnerability	Susceptibility to injury, death or damage
Exposure	People and property within the area the potential hazard could affect
Risk	Function of potential hazard, vulnerability and exposure, it is the likelihood of a hazard event resulting in injury, death or damage
Risk Mitigation	A systematic reduction in the exposure and vulnerability to a potential hazard

3.2 METHODOLOGY

The risk assessment for northeast Kansas followed the methodology described in the FEMA "Local Mitigation Planning Handbook" (March 2013). FEMA recommends the following steps be taken, with each step described in further detail in the following sections:

Each step is described in detail in the following sections, with Inventory Assets and Estimate Losses being combined into Hazard Vulnerability and Impact.

3.3 IDENTIFY POTENTIAL HAZARDS

44 CFR 201.6(C)(2)(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

The hazard identification was compiled by investigating the various hazard occurrences within the northeast Kansas region. The HMPC identified 21 natural hazards that may affect the planning area and organized these hazards to be consistent with the Kansas Hazard Mitigation Plan (2013). These hazards are listed below and profiled in further detail in the next sections.

- Agricultural Infestation
- Civil Disorder
- Drought
- Earthquake
- Expansive Soils
- Extreme Temperatures
- Flood
- Hailstorm
- Hazardous Materials
- Land Subsidence
- Landslide
- Lightning
- Major Disease Outbreak
- Radiological
- Soil Erosion and Dust
- Terrorism/Agri-terrorism
- Tornado
- Utility/Infrastructure Failure
- Wildfire
- Wind Storm
- Winter Storm

For purposes of this multi-jurisdictional plan, hazards were identified initially by county to include all participating jurisdictions within that county, and then expanded to a regional basis.

Based on discussion with the HMPC and a lack of identified risk or history, numerous FEMA identified hazards, such as avalanche, coastal erosion, hurricane, tsunami and volcano, were not included in the scope of this plan.

3.4 PROFILE HAZARD EVENTS

Based on the identification of potential hazards, each hazard is profiled to provide data concerning previous occurrences, the probability of future occurrence and the threat to the planning area. As northeast Kansas is generally uniform in terms of climate, topography, building characteristics and development trends, overall hazards and vulnerability do not vary greatly across the planning area. Weather-related hazards such as drought, extreme temperatures, hail, tornados, windstorms and winter storms affect the entire planning area. As such, one general profile will be created for these hazards. However, some hazards such as dam and levee failure, flood and landslide may have local variances and multiple profiles may be developed if the risk does not match with the entire planning area .

For each identified hazard the following information is provided:

- Hazard Description: a general discussion of the hazard and includes information on potential warning time, the potential duration of the event, and potential impacts
- Hazard Location: the geographic extent or location of the hazard in the planning area
- Previous Occurrences and Extent: information on historic incidents and their impacts
- Hazard Vulnerability and Impact: discussion of the vulnerability of the region, or specific jurisdiction as appropriate, and potential impacts of identified hazards
- Future Development: potential results of future development related to hazards
- Probability of Future Occurrence: frequency of past events used to gauge the likelihood of future occurrences
- Consequence Analysis: analysis the potential impacts using set criteria

Calculated Priority Risk Index

The northeast Kansas HMPC used the calculated priority risk index (CPRI) methodology to prioritize each of the identified hazards. CPRI prioritization considers the following four elements of risk:

- Probability
- Magnitude/Severity
- Warning Time
- Duration

The following tables provide a summary for each of the risk elements, including a rationale behind each numerical rating.

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

	Rating	Rating Parameters
Magnitude /Severity	**4** Catastrophic	Multiple deaths
		Complete shutdown of facilities for 30 or more days
		More than 50 percent of property is severely damaged
	3 Critical	Injuries and/or illnesses result in permanent disability
		Complete shutdown of critical facilities for at least two weeks
		25–50 percent of property is severely damaged
	2 Limited	Injuries and/or illnesses do not result in permanent disability
		Complete shutdown of critical facilities for more than one week
		10–25 percent of property is severely damaged
	1 Negligible	Injuries and/or illnesses are treatable with first aid
		Minor quality of life lost
		Shutdown of critical facilities and services for 24 hours or less
		Less than 10 percent of property is severely damaged

	Rating	Rating Parameters
Warning Time	4	Less than 6 hours
	3	6-12 hours
	2	12-24 hours
	1	24+ hours

	Rating	Rating Parameters
Duration	4	More than 1 week
	3	Less than 1 week
	2	Less than 1 day
	1	Less than 6 hours

Using the rankings described in the tables above, the following weighted formula was used to determine each hazard's CPRI:

(Probability x 0.45) + (Magnitude/Severity x 0.30) + (Warning Time x 0.15) + (Duration x 0.10)

Based on their CPRI, each hazard was assigned a planning significance category. Each planning significance category was assigned a CPRI range, with a higher score indicating greater planning criticality. The following table details planning significance CPRI ranges.

CPRI Range Planning Significance

	CPRI Range	
Planning Significance	**Low CPRI**	**High CPRI**
Moderate	2.0	2.9
Low	1.0	1.9

The terms high, moderate and low indicate the level of prioritization of planning effort for each hazard, and do not indicate the potential impact of a hazard occurring. Hazards rated with moderate or high planning significance were more thoroughly investigated and discussed due to the availability of data and historic occurrences, while those with a low planning significance were generally addressed due to lack of available data and historical occurrences. The following table shows previous CPRI ratings for each county. Based on discussions with the HMPC, the CPRIs were reviewed and approved or modified as required

County Specific Calculated Hazard CPRI Planning Significance

	Atchison	Brown	Doniphan	Douglas	Jackson	Jefferson	Kickapoo	Marshall	Nemaha	Washington
Agricultural Infestation	1.60	1.60	1.60	2.05	1.60	1.60	2.05	1.60	2.05	1.60
Civil Disorder	1.75	1.75	1.75	2.43	1.75	1.75	1.75	1.75	1.95	1.75
Dam and Levee Failure	2.05	2.05	2.05	2.35	2.20	2.50	1.45	2.50	1.30	2.60
Drought	1.90	1.90	1.90	2.50	1.90	2.05	3.25	2.05	1.75	2.50
Earthquake	1.45	1.45	1.45	1.75	1.45	1.45	1.45	1.45	1.45	1.45
Expansive Soils	1.30	1.30	1.30	2.50	1.30	1.30	2.50	1.30	1.30	1.75
Extreme Temperature	2.40	1.78	2.25	3.25	2.50	2.40	2.40	2.40	2.40	2.40
Flood	3.00	3.30	3.00	3.55	3.00	3.00	2.85	3.00	2.25	3.01
Hailstorm	3.03	3.40	3.40	3.10	3.25	3.10	2.43	3.10	2.65	2.50
Hazardous Materials	2.30	2.30	2.30	2.30	2.30	2.30	2.00	2.30	2.05	2.30
Land Subsidence	1.45	1.45	1.45	1.75	1.45	1.45	1.30	1.45	1.30	1.45
Landslide	1.45	1.45	1.45	1.30	1.45	1.45	1.30	1.45	1.10	1.45
Lightning	1.75	1.75	1.75	2.80	1.75	1.75	1.45	1.75	2.35	1.75
Major Disease Outbreak	1.90	1.90	1.90	1.90	1.90	1.90	2.80	1.90	1.60	1.90
Radiological	1.75	1.75	1.75	1.75	1.75	1.75	1.95	1.75	1.90	1.75
Soil Erosion & Dust	1.75	1.75	1.75	1.60	1.75	1.75	1.60	1.75	1.10	1.75
Terrorism, Agri-Terrorism	1.75	1.75	1.75	1.75	1.75	1.75	2.65	1.75	1.95	1.75
Tornado	2.95	2.95	2.95	3.25	2.95	2.95	2.35	2.95	2.95	2.95
Utility / Infrastructure Failure	2.75	2.10	2.80	3.70	2.85	2.85	3.60	2.85	2.35	3.08
Wildfire	3.31	3.45	3.25	2.85	3.24	3.05	3.20	3.13	1.45	3.24
Windstorm	2.45	3.05	2.83	3.50	3.20	3.13	3.20	3.05	2.80	3.05
Winter Storm	3.00	2.78	3.10	3.40	3.08	3.15	3.30	3.15	2.85	3.30

Based on the above noted county specific CPRIs, a regional CPRI was calculated. The following table summarizes the regional CPRI rating for each identified hazard.

Calculated Hazard CPRI Planning Significance

Hazard	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Agricultural Infestation	1.30	2.00	1.00	4.00	1.74
Civil Disorder	1.15	2.10	3.80	1.20	1.84
Dam and Levee Failure	1.40	2.70	2.10	3.50	2.11
Drought	2.40	1.80	1.00	4.00	2.17
Earthquake	1.00	1.10	4.00	1.00	1.48
Expansive Soils	1.50	1.20	1.00	4.00	1.59
Extreme Temperature	3.05	1.90	1.10	3.10	2.42
Flood	3.10	3.10	2.40	3.10	
Hailstorm	3.80	2.40	3.10	1.00	
Hazardous Materials Event	2.00	1.90	3.90	1.90	2.25
Land Subsidence	1.00	1.00	2.00	4.00	1.45
Landslide	1.00	1.00	3.50	1.10	1.39
Lightning	2.30	1.20	2.60	1.00	1.89
Major Disease Outbreak	1.20	2.90	1.00	4.00	1.96
Radiological Event	1.00	1.40	3.50	3.90	1.79
Soil Erosion & Dust	1.70	1.20	1.00	3.80	1.66
Terrorism, Agri-Terrorism	1.00	2.30	3.80	1.50	1.86
Tornado	2.80	3.20	4.00	1.00	2.92
Utility / Infrastructure Failure	3.15	2.20	3.50	2.90	2.89
Wildfire	3.08	2.78	4.00	2.00	
Windstorm	3.70	2.40	3.00	1.90	
Winter Storm	3.90	2.50	1.90	3.20	

In general, the average CPRI for each identified hazard remained similar to the calculated CPRI for each participating county and tribal entity, both for their previous planning effort and this plan update. Notable changes for calculated CPRIs include the Terrorism/Agri-Terrorism CPRI being lowered for each county due to a lack of historical events.

Emergency Management Accreditation Program Consequence Analysis

The Emergency Management Accreditation Program (EMAP) is a voluntary review process for local emergency management program. EMAP accreditation is a means of demonstrating that a program meets national standards for emergency management programs. In an effort to foster EMAP accreditation, a consequence analysis of the potential for detrimental impacts of hazard was conducted. In this analysis the potential impacts of all 21 of the above referenced hazards have been addressed in regards to:

- Health and safety of persons in the area of the incident
- Responders

- Continuity of Operations
- Property, Facilities, and Infrastructure
- Delivery of Services
- Environment
- Economic Conditions
- Public Confidence in Governance

Available data and estimations of potential future events for each of the identified hazards was used to provide guidance for a consequence analysis. The ranking elements are categorized as Minimal, Moderate, or Severe, with a methodology for the rankings provided in the following table.

EMAP Ranking Methodology

Impact On	Minimal	Moderate	Severe
Public	Less than 5 people	Between 5 to 14 people	15 people or greater
Responders	Less than 5 people	Between 5 to 14 people	15 people or greater
Continuity of Operations	0 days	1 to 7 days	8 or greater days
Delivery of Services	Less than 1 day	1 to 7 days	8 or greater days
Property, Facilities, & Infrastructure	Less than $1.37 per capita	$1.37 to $10.00 per capita	Greater than $10.01 per capita
Environment	Less than 10%	10% to 20%	Greater than 20.01%
Economy	Less than 8% unemployment	8% to 15% unemployment	Greater than 15% unemployment
Public Confidence	Less than 1%	1.0% to 10%	Greater than 10.01%

The ratings are meant to be only a guide as variances exist such as population, location, time, hazard type, and the amount of jurisdictions within the hazard area. The results of the EMAP consequence analysis are presented in each hazard profile's Consequence Analysis Section.

3.5 REGIONAL VULNERABILITY ASSESSMENT

(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:

(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate;

(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

Each identified hazard is detailed to meet the above stated criteria, including potential regional variances. In addition, a complete discussion of regional population, business, land use, special needs and development trends as part of the regional vulnerability assessment is presented in Section 2.

3.6 HISTORICAL DISASTER DECLARATIONS

The HMPC reviewed federal and state disaster declarations to assist in hazard identification. Federal and state declarations may be enacted when local governments are unable to cope with the magnitude of an event. In those cases a state disaster declaration may be issued, allowing for state assistance. In more extreme cases, when both the local and state governments' abilities are inadequate; a federal disaster declaration may be issued allowing federal assistance. These federal disaster declarations may be issued through a variety of agencies based on the scale and sectors affected.

The following information on past declared disasters is presented to provide a historical perspective on potential hazards that could impact northeast Kansas. The information was obtained from the FEMA and KDEM. Many of the disaster events reported in the following tables were multi-regional or statewide. As a result, the reported costs do not solely reflect losses to northeast Kansas. Further discussion of disasters and events may be found under the relevant hazard in the following sections.

Major Disaster Declarations

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost**
4150	10/22/2013 (07/22-08/16/2013)	Severe Storms, Winds, Tornados and Flooding	Washington	-
4035	09/23/2011 (6/1-8/1/2011)	Flooding	Atchison and Doniphan,	$7,462,881
4010	07/29/2011 (5/19-6/4/2011)	Severe Storms, Straight-line Winds, Tornados and Flooding	Washington	$8,259,620
1932	08/10/2010 (6/7-7/21/2010)	Severe Storms, Flooding and Tornados	Atchison, Brown, Doniphan, Jackson, Marshall and Washington	$9,279,257
1885	03/09/2010 (12/9/2009-1/8/2010)	Severe Winter Storms and Snowstorm	Atchison, Brown, Doniphan, Jackson, Jefferson, Marshall, Nemaha, and Washington	$19,100,658
1868	12/23/2009 (11/14-11/16/2009)	Severe Winter Storm	Marshall, Republic and Washington	$43,217,690

Major Disaster Declarations, Continued

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost**
1776	07/09/2008	Severe Storms, Flooding, and Tornados	Brown and Jackson	$70,629,544
1741	02/01/2008	Severe Winter Storms	Atchison, Brown, Butler, Doniphan, Jackson, Jefferson, Marshall, Nemaha and Washington	$359,557,345
1699	5/6/2007 (5/4/2007)	Severe Storms, Tornados, and Flooding	Brown, Doniphan, Douglas, Jackson, Marshall, Nemaha and Washington	$117,565,269
1638	4/14/2006 (3/12-13/2006)	Severe Storms, Tornados, and Straight-Line Winds	Douglas	$6,233,044
1615	11/21/2005 (10/1-2/2005)	Severe Storms and Flooding	Atchison, Jackson and Jefferson,	$10,286,064
1579	2/8/2005 (1/4-6/2005)	Severe Winter Storm, Heavy Rains, and Flooding	Atchison, Brown, Douglas, Jackson and Jefferson	$106,873,672
1562	09/30/2004 (8/27-30/2004)	Severe Storms, Flooding, and Tornados	Douglas	$2,103,376
1462	5/6/2003 (5/4-30/2003)	Severe Storms, Tornados, and Flooding	Douglas	$988,056
1402	2/6/2002 (1/29-2/15/2002)	Ice Storm	Douglas and Jefferson	$60,185,754
1258	11/5/1998 (10/30-11/15/1998)	Severe Storms and Flooding	Douglas	$16,688,650
1254	10/14/1998 (10/1-10/8/1998)	Severe Storms, Flooding, and Tornados	Douglas, Jackson and Jefferson	$9,770,769
1000	7/22/1993 (6/28-10/5/1993)	Flooding, Severe Storms	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington	$99,790,368
903	4/29/1991 (4/26-5/19/1991)	Severe Storm, Tornado	Jefferson and Washington	$4,862,790
714	6/22/1984 (6/7-6/9/1984)	Severe Storms, Tornados, Flooding	Atchison, Brown, Doniphan, Jackson and Nemaha	$5,002,299

Major Disaster Declarations, Continued

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost**
663	6/28/1982	Severe Storms, Flooding	Jackson	$804,048
644	7/18/1981	Severe Storms, Flooding, Tornados	Douglas	$670,436
539	9/20/1977	Severe Storms, Flooding	Atchison, Brown, Doniphan, Jackson, Jefferson, Johnson, and Nemaha	$4,041,566
403	9/28/1973	Severe Storms, Tornados, Flooding	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington	$4,296,913
378	5/2/1973	Severe Storms, Flooding	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington	$1,954,624
229	7/18/1967	Tornados, Severe Storms, Flooding	Atchison, Doniphan, Douglas, Jackson, Jefferson, Nemaha and Washington	$847,439

Sources: FEMA and Kansas Division of Emergency Management

* Incident dates are in parentheses.

** Disaster costs include Public Assistance and Individual Assistance for all affected counties, including those not listed

In addition, the following table presents Emergency Declarations for regional counties.

Emergency Declarations

Declaration Number	Declaration Date	Disaster Description	Regional Counties Involved	Disaster Cost
3324	6/25/2011	Flooding	Atchison and Doniphan,	N/A
3282	12/12/2007	Severe Winter Storms	All	N/A
3236	9/1/0/2005	Hurricane Katrina Evacuation	All	N/A

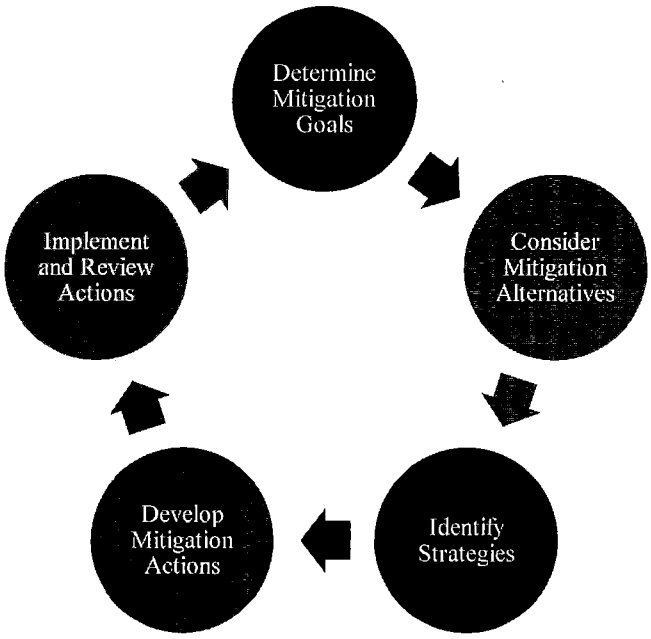
Sources: FEMA and Kansas Division of Emergency Management

5.0 MITIGATION ACTIONS

5.1 INTRODUCTION

44 CFR 201.6 (c)(3) requires "A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tool."

This section of the Plan describes development of a mitigation strategy for each participating jurisdiction, and the region as a whole. In general, developing a comprehensive strategy consists of:



To ensure that a comprehensive mitigation strategy was developed, a thorough review of potential regional and local hazards and current policies, procedures and regulations was conducted to help participating jurisdictions identify and achieve their goals. Additionally, this review assists participating jurisdictions in linking relevant policies, procedures, regulations, ordinances and planning documents to help establish priorities and meet desired implementation deadlines.

For the 2014 regional combination and update, historical goals, objectives, and strategies were re-examined, and where applicable combined, and new goals and strategies were identified and included.

5.2 IDENTIFICATION OF GOALS

44 CFR 201.6 (c)(3)(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

The HMPC developed goals and objectives to provide direction for reducing hazard-related losses both locally and regionally. The following definitions of goals and objectives were provided by FEMA in publication 386-3, *Developing a Mitigation Plan* (2002):

- **Goal:** General guidelines that explain what you want to achieve. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. They are usually long-term, broad, policy-type statements.

Identified goals were based on known hazards and a review of goals and objectives from previously approved county mitigation plans and the 2007 Kansas Hazard Mitigation Plan. This review was conducted to ensure that this region's goals were both obtainable and practical.

Through a group discussion at their second meeting, the HMPC identified and refined four primary, cross-jurisdictional goals. The identified goals are as follows:

- **Goal 1:** Reduce and/or eliminate the risk to the people and property of northeast Kansas from the identified hazards in this plan.
- **Goal 2:** Strive to protect all of the vulnerable populations, structures, and critical facilities in northeast Kansas from the impacts of the identified hazards.
- **Goal 3:** Improve public outreach initiatives to include education, awareness and partnerships with all willing entities in order to enhance understanding of the risks northeast Kansas faces due to the impacts of the identified hazards.
- **Goal 4:** Enhance communication and coordination among all agencies and between agencies and the public.

5.3 IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIONS

44 CFR 201.6 (c)(3)(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

For this plan update and regional combination participating jurisdictions were provided with a complete list of their previous mitigation actions and asked to review them to determine if they had been achieved, are in process or on hold, or had been cancelled. Additionally, participating jurisdictions were provided with forms to identify and incorporate newly identified actions. Participating jurisdictions priorities were developed based on past damages, existing exposure to

risk, other community goals, and weaknesses identified by the local government capability assessments.

In preparing the region's mitigation strategy all reasonable and obtainable mitigation actions were considered to help achieve the general regional goals. Additionally, each participating jurisdiction was invited to identify relevant actions.

In identifying and reviewing mitigation actions, the following activities recommended by the EMAP were considered:

- The use of applicable building construction standards
- Hazard avoidance through appropriate land-use practices
- Relocation, retrofitting, or removal of structures at risk
- Removal or elimination of the hazard
- Reduction or limitation of the amount or size of the hazard
- Segregation of the hazard from that which is to be protected
- Modification of the basic characteristics of the hazard
- Control of the rate of release of the hazard
- Provision of protective systems or equipment for both cyber or physical risks
- Establishment of hazard warning and communication procedures
- Redundancy or duplication of essential personnel, critical systems, equipment, and information materials.

In addition, participating jurisdictions were provided with information on types of mitigation actions. A handout was provided at the first meeting, and upon request, with types of mitigation actions which originated from the National Flood Insurance Program's Community Rating System. The follow provides a brief explanation of each action.

Prevention: Administrative or regulatory actions or processes that influence the way land and buildings are developed and built, including:

- Planning and zoning
- Building codes
- Open space preservation
- Floodplain regulations
- Stormwater management regulations
- Drainage system maintenance
- Capital improvements programming
- Shoreline and riverine setbacks

Property protection: Actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area, including:

- Acquisition

- Relocation
- Building elevation
- Critical facilities protection
- Retrofitting
- Safe room and shatter-resistant glass
- Insurance

Structural: Actions that involve the construction of structures to reduce the impact of hazard, including:

- Reservoirs
- Dams and levees
- Diversion, detention and/ or retention
- Channel modification
- Storm sewers

Natural resource protection: Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems, including

- Floodplain protection
- Watershed management
- Riparian buffers
- Forest/ vegetation management
- Erosion and sediment control
- Wetland preservation and restoration
- Habitat preservation
- Slope stabilization

Emergency services: Although not typically considered a "mitigation" technique, theses are actions that protect people and property during and immediately after a disaster or hazard event, including:

- Warning systems
- Evacuation planning and management
- Emergency response training and exercises
- Sandbagging for flood protection
- Installing temporary shutters for wind protection

Public education and awareness: Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them, including:

- Outreach projects

- Speaker and/ or demonstration events
- Hazard map information
- Real estate disclosure
- Library materials
- School children educational programs

5.4 PRIORITIZING MITIGATION ACTIONS

44 CFR 201.6 (c)(3) (iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

In formulating a regional mitigation strategy, a wide range of activities was considered to help achieve identified goals and to lessen the vulnerability of the region to the effects of identified hazards.

Through a series of jurisdictional meetings, phone discussions, electronic communications and self analysis participating jurisdictions were asked to review the previously determined regional and local mitigation actions to determine if they had been completed, were On- Going, or had been cancelled. In addition, jurisdictions were asked to review the initial STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) analysis to see if the ranking were still applicable. Participating jurisdictions were asked to submit any new mitigation actions with an analysis while newly participating jurisdictions were required, as per FEMA, to submit new mitigation actions.

A self analysis method was used for reviewing and prioritizing mitigation action alternatives. This methodology takes all local considerations into account to ensure that, based on a jurisdictions' capabilities, funding, public wishes, political climate, and legal framework and context reasonable actions are determined. The following provides a brief description of each consideration:

- Are all people within the jurisdiction being treated equally and fairly?
- Will the action disrupt the social fabric of the jurisdiction?
- Does the proposed action work and is it technically feasible?
- Does the action offer a long term solution to the problem?
- Does the jurisdiction have adequate staffing
- Is there someone to coordinate and lead the effort?
- Is there sufficient funding available?
- Are there ongoing administrative requirements that need to be met?
- Does the action have political and public support?
- Does the jurisdiction have the legal authority to implement the action?
- Will the jurisdiction be liable for the action or for any inaction?
- Could the action face any legal challenges?

- What are the costs and benefits of this action?
- Do the benefits exceed the costs?
- Has funding for the action been identified?

Identified actions were prioritized by the participating jurisdiction and were given one of the following rankings:

- **High:** Actions that should be implemented as soon as possible
- **Medium:** Actions that should be implemented in the long-term
- **Low:** Actions that should be implemented if and when funding becomes available

Of major concern to all participating jurisdictions was the potential or identified cost of each action. In general, identified actions were proposed to reduce future damages. As such, it is critical that selected and implemented actions provide a greater saving over the life of the action than the initial cost.

For structural and property protection actions cost effectiveness is primarily assessed on:

- Likelihood of damages occurring
- Severity of the damages
- Potential effectiveness

For all other type of actions, including legislative actions, codes and ordinances, maintenance and education, cost effectiveness is primarily assessed on likely future benefits as these actions may not easily result in a quantifiable reduction in damage.

Although detailed analysis was not conducted during the mitigation action development process, these factors were of primary concern when selecting measures.

Each participating jurisdiction's mitigation actions, including newly identified actions and reviewed actions, can be found in the following sections listed by county.

Where a strategy's status is blank, either updates were not received from the jurisdiction, or the jurisdiction has elected not to participate in this process.

5.5 FUNDING SOURCES

It is generally recognized that mitigation actions help communities realize long term savings by preventing future losses due to hazard events. However, many mitigation actions are beyond the budgetary capabilities of a single jurisdiction. This section provides a general description of some of the avenues available to jurisdictions to defray the cost of implementing mitigation actions The following are potential available funding streams:

- Hazard Mitigation Grant Program (HMGP): The HMGP assists in implementing long-term hazard mitigation measures following Presidential disaster declarations. Funding is available to implement projects in accordance with State, Tribal, and local priorities.

- Pre-Disaster Mitigation (PDM): The PDM program provides funds on an annual basis for hazard mitigation planning and the implementation of mitigation projects prior to a disaster. The goal of the PDM program is to reduce overall risk to the population and structures, while at the same time, also reducing reliance on Federal funding from actual disaster declarations.

- Flood Mitigation Assistance (FMA): FMA provides funds on an annual basis so that measures can be taken to reduce or eliminate risk of flood damage to buildings insured under the NFIP.

- Public Assistance (PA) Grant Program: The mission of FEMA's PA program is to provide assistance to State, Tribal and local governments, and certain types of Private Nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President. Through the PA program, FEMA provides supplemental Federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain private non-profit organizations. The PA Program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process. The Federal share of assistance is not less than 75% of the eligible cost for emergency measures and permanent restoration. The grantee (usually the State) determines how the non-Federal share (up to 25%) is split with the eligible applicants.

- Small Business Administration (SBA) Disaster Loans: The SBA provides low-interest disaster loans to homeowners, renters, businesses of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

- The Housing and Urban Development Agency provides flexible grants to help cities, counties, and States recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations.

- Community Development Block Grant Program - The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. Beginning in 1974, the CDBG program is one of the longest Continuously run programs at the Housing and Urban Development Agency. The CDBG program provides annual grants on a formula basis to 1209 general units of local government and States. HUD provides flexible grants to help cities, counties, and States recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations.

- Individual & Households, Other Needs Assistance (ONA) Program: The ONA program provides financial assistance to individuals or households who sustain damage or develop serious needs because of a natural or man-made disaster. The funding share is 75% federal funds and 25% state funds. The ONA program provides grants for necessary expenses and serious needs that cannot be provided for by insurance, another federal program, or other source of assistance. The current maximum allowable amount for any one disaster to individuals or families is $25,000. The program gives funds for disaster-related necessary expenses and serious needs, including the following categories:

    - Personal property
    - Transportation
    - Medical and dental
    - Funeral
    - Essential tools
    - Flood insurance
    - Moving and storage

- Wildland Urban Interface (WUI) Grants: The 10-Year Comprehensive Strategy focuses on assisting people and communities in the WUI to moderate the threat of catastrophic fire through the four broad goals of improving prevention and suppression, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance. The WUI Grant may be used to apply for financial assistance towards hazardous fuels and educational projects within the four goals of: improved prevention, reduction of hazardous fuels, restoration of fire-adapted ecosystems and promotion of community assistance.

5.6 JURISDICTIONAL MITIGATION ACTIONS

(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

Information as to the identified mitigation actions for participating jurisdictions is summarized in the following sections and tables. All mitigation action information was provided by jurisdictional officials through the outreach from the HMPC. For each action presented the current status is provided. Actions listed as on-going are carried over from the previous plan and are awaiting funding or opportunity to start. Actions that are listed as [redacted] have been finished. Actions listed as [redacted] have been removed from consideration. New actions are actions that have been added for this plan and are identified as such. Any information listed with a "-" is either no longer relevant or unavailable. Finally, some actions have been reassigned and are noted as such. In these cases not all information is provided under the original listing, rather the newly assigned responsible entity has been given the opportunity to detail the requested information.

5.6.4 DOUGLAS COUNTY

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Douglas County-1	Promote and continue to participate in the National Flood Insurance Program. This multi-jurisdictional project will promote the use of the National Flood Insurance Program in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Flood	Emergency Manager	High	1	Staff Time	Local	Continuous	On-going, Continuous
Douglas County-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Flood	Emergency Manager	High	1	Staff Time	Local, State, Federal	12/31/2015	On-going
Douglas County-3	Proactive management of tree and debris removal from roadways and elevation of roadways. The project will identify and prioritize roadways in need of elevation and those with large trees which are in need of trimming prior to winter conditions. The project will seek to gather assistance from local citizen volunteers to assist with the process.	Tornado, Winter Storm, Windstorm	Emergency Manager	High	1	$60,000	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Douglas County-4	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Windstorm	Emergency Manager	High	2	Staff Time	Local	Unknown	On-going
Douglas County-5	Develop and conduct a seminar for builders, developers, and home buyers on wind resistant and safe room construction. Seminar for builders, developers, code officials and home buyers on wind resistant and safe room construction.	Tornado, Windstorm	Emergency Manager	High	3	$1500 per seminar	Local	Continuous	On-going, Continuous
Douglas County-6	Promote the early warning notification with the use of all hazard radios. The purpose of this project is to promote the use of early warning systems through the use of all–hazards weather radios. The project uses public service announcements and involves purchasing NOAA radios as funds are available.	All Hazards	Emergency Manager	High	2,3	$10,000	Local	Continuous	On-going, Continuous
Douglas County-7	Purchase software that allows management and essential staff to operate in a virtual office environment. The purpose of this project is to prepare local emergency responders in the event of a large scale emergency. The desired system will allow users to work remotely during the crisis and will allow essential emergency operations business activities to continue. The project includes an education component for system users.	All Hazards	Emergency Manager	High	4	$229,500	Local	2017	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Douglas County-8	Enhance existing GIS systems to support study of potential health related issues within existing floodplains. The purpose of this project is to enhance the existing GIS systems to support the application and study of septic systems and water wells within the flood plain. Would also like to enhance GIS program to improve capabilities in mitigation, preparedness, response for all hazards.	All Hazards	Emergency Manager	High	1	$6,000	Local	On-going	On-going
Douglas County-9	Identify and clearly mark evacuation routes. Allow for quick and safe evacuation if needed.	All Hazards	Emergency Manager	High	1	Unknown	Local	On-going	
Douglas County-10	Acquire outdoor tornado warning sirens for the Douglas County area. Effectively notify entire county of tornado warnings.	Tornado	Emergency Manager	High	1,2,3,4	$20,000 per siren	Unknown	Continuous	
Douglas County--11	Public education of drought impacts on tree roots and preventative measures to take. Prevent damages caused by damaged trees.	Tornado, Windstorm, Winter Storm	Emergency Manager	High	1,2,3	Unknown	Unknown	On-going	
Douglas County-12	Acquire and install a permanently mounted emergency generator for the Douglas county Courthouse. This will allow for continuity of operations during extensive loss of power.	Utility/ Infrastructure Failure	Emergency Manager	High	1,2	$30,000	Unknown	Unknown	
Douglas County-13	Conduct regular emergency preparedness drills for school children at all levels, including tornado drills, and fire evacuation drills. This will better prepare students and faculty for disaster situations.	Tornado, Wildfire, Terrorism/ Agri-Terrorism, Civil Disorder	Emergency Manager	High	1,2,3	Staff Time	Unknown	Continuous	

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Douglas County-14	Assess vulnerability of critical facilities, including police/fire stations, hospitals, schools, and others, to identify and prioritize projects for risk reduction. This will help limit the effects an event may have on critical facilities.	All Hazards	Emergency Manager	High	1,2	Staff Time	Unknown	Continuous	
DouoglasCo-15	Provide educational materials about natural hazards and risks in Douglas county to customers in utility bills. This will provide information to the community that will make them more disaster aware and prepared.	All Hazards	Emergency Manager	High	1,2,3	$5,000	Unknown	Continuous	
Douglas County-16	Public education program of all hazards and previous measures taken. This will make citizens more disaster aware and prepared, and allow them to be more involved in what has been done to mitigate the risk of disasters.	All Hazards	Emergency Manager	High	1,2,3	Staff Time	Unknown	Continuous	
Douglas County-17	Study drainage issues of the Baldwin Creek drainage basin and NW Lawrence caused by the development of Rock Chalk Sports complex. At risk are thousands of acres of farmland and dozens of residences along the south banks of the KS River west of Lawrence. The study will provide data about how much water various creeks and tributaries can handle.	Flood	Emergency Manager	High	1,2	$75,000	Unknown	Continuous	

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Baldwin-1	Promote and continue to participate in the National Flood Insurance Program. This multi-jurisdictional project will promote the use of the National Flood Insurance Program in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Flood	Mayor	High	1,2	Staff Time	Local	Continuous	On-going, Continuous
Baldwin-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Flood	Mayor	High	3,4	Staff Time	Local	Continuous	On-Going
Baldwin-3	Upgrade / repair / upsize 8 culverts within Baldwin City to prevent continued flooding issues. This project has identified 8 culverts within Baldwin City that are in need of upgrade/upsize or reconstruction. One has been completed, but 7 remain to be repaired. Additional funding is being sought.	Flood	Mayor	High	1,2	$565,000	Local	2015	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Baldwin-4	Proactive management of tree and debris removal from roadways and elevation of roadways. The project will identify and prioritize roadways in need of elevation and those with large trees which are in need of trimming prior to winter conditions. The project will seek to gather assistance from local citizen volunteers to assist with the process.	Tornado, Winter Storm, Windstorm	Mayor	High	1,2	$60,000	Local	Continuous	On-going, Continuous
Baldwin-5	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Windstorm	Mayor	High	1,2	Staff Time	Local	Unknown	On-going
Baldwin-6	Develop and conduct a seminar for builders, developers, and home buyers on wind resistant and safe room construction. Seminar for builders, developers, code officials and home buyers on wind resistant and safe room construction.	Tornado, Windstorm	Mayor	High	3	$1,000 per seminar	Local	Continuous	On-going, Continuous
Baldwin-7	Promote the early warning notification with the use of all hazard radios. The purpose of this project is to promote the use of early warning systems through the use of all–hazards weather radios. The project uses public service announcements and involves purchasing NOAA radios as funds are available.	All Hazards	Mayor	High	1,2,3,4	$4,000	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Baldwin-8	Study drainage issues throughout the county in flood prone areas, and make recommendations for flood control measures, flood management procedures, and low-water crossing improvements.	Flood	Mayor	High	1,2	Staff Time	Local	2015	On-going
Baldwin-9	Enhance existing GIS systems to support study of potential health related issues within existing floodplains. The purpose of this project is to enhance the existing GIS systems to support the application and study of septic systems and water wells within the flood plain.	Flood	Mayor	High	1,2	$4,000	Local	2017	On-going
Eudora-1	Develop procedures to activate EAS and NWS all-hazard radios for emergency situations affecting a large portion of the population and provide education on shelter-in-place versus evacuation. This project is designed to develop procedures for staff to activate the emergency alert system and the NWS all-hazard radios which have been installed in each normally occupied city building. This system is designed to effectively alert large numbers of people in a relatively short amount of time. All hazard radios have been installed in all normally occupied city buildings. The focus of this goal is to provide training to staff members and citizens related to shelter-in-place versus evacuation.	All Hazards	Fire Chief, Emergency Manager	High	4	Staff Time	Local	1 year	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Eudora-2	Investigate available systems that can be utilized to warn citizens of an emergency situation. Identify effective systems to quickly warn citizens of existing or potential emergency situations. Investigate existence and availability of systems such as cable override and reverse 911. Develop guidelines to quickly access and utilize available systems. Provide training to staff members.	All Hazards	Fire Chief, Emergency Manager	High	3,4	Staff Time	Unknown	2 years	New
Eudora-3	Provide back-up power generators for critical facilities operated by the City of Eudora. The purchase and installation of the generators is dependent on future funding and the project is considered long-term. Identify critical structures, prioritize facilities, determine generator needs and seek funding.	Utility/ Infrastructure Failure	Fire Chief, Emergency Manager	High	2	$20,000	Local, Grants	Unknown	New
Eudora-4	Provide backup power generators for critical facilities in Eudora.	Utility/ Infrastructure Failure	Mayor	High	2	$60,000	Local	2016	On-going
Eudora-5	Promote and continue to participate in the NFIP. This multi-jurisdictional project will promote the use of the National Flood Insurance Program in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Flood	Mayor	High	1,3	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Eudora-6	Purchase structures in the 100 year flood plain. All utilities will be properly disconnected, and the property will be graded and seeded for maintenance purposes. No structures will be allowed to be constructed on these properties except those allowed under open space uses.	Flood	Mayor	High	1	Dependent upon number and fair market value	Local	2016	On-going
Eudora-7	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Flood	Mayor	High	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going, Continuous
Eudora-8	Develop procedures to activate EAS and NWS all-hazard radios for chemical events and provide education on shelter in- place related to a chemical release event. This project is designed to develop procedures for staff to utilize to activate the emergency alert system and the NWS all–hazard radios in the event of a hazardous materials release in the Eudora area. A part of the program will be an educational program for citizens and responders related to shelter-in-place protocols.	Hazardous Material	Mayor	High	1,2,4	Staff Time	Local	2017	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Eudora-9	Provide educational materials for COOP Planning for small business and government. This project involves provision of initial educational materials to small businesses and government departments within the City of Eudora related to COOP. FEMA guidelines will be utilized initially.	All Hazards	Mayor	High	3	Staff Time	Local	2016	On-going
Eudora-10	Proactive management of tree and debris removal from roadways and elevation of roadways. The project will identify and prioritize roadways in need of elevation and those with large trees which are in need of trimming prior to winter conditions. The project will seek to gather assistance from local citizen volunteers to assist with the process.	Tornado, Windstorm, Winter Storm	Mayor	High	1,2	$60,000	Local	Continuous	On-going, Continuous
Eudora-11	Provide homeowner education on wildfire mitigation in wildland-urban interface. This project will provide educational workshops for homeowners with property in wildland/ urban interface areas on steps they can take to defend their own property from wildfire. The Kansas Forest Service is a partner in the project.	Wildfire	Mayor	High	3	$500 per workshop	Local	Continuous	On-going, Continuous
Eudora-12	Research stream bank set back ordinances. The purpose of this project is to research the possibility of enacting a stream bank set back ordinance for the City of Eudora.	Flood	Mayor	High	1	Staff Time	Local	2017	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Eudora-14	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Windstorm, Winter Storm	Mayor	High	1,2	$350,000	Local	Unknown	On-going
Eudora-15	Develop and conduct a seminar for builders, developers, and home buyers on wind resistant and safe room construction. Seminar for builders, developers, code officials and home buyers on wind resistant and safe room construction.	Tornado, Windstorm	Mayor	High	3	$300 per seminar	Local	Continuous	On-going, Continuous
Eudora-16	Promote the early warning notification with the use of all hazard radios. The project uses public service announcements and involves purchasing NOAA radios as funds are available.	All Hazards	Mayor	High	1,2,4	$2,000	Local	Continuous	On-going, Continuous
Eudora-17	Enhance existing GIS systems to support study of potential health related issues within existing floodplains. The purpose of this project is to enhance the existing GIS systems to support the application and study of septic systems and water wells within the flood plain.	Flood	Mayor	High	1,2	$3,000	Local	2017	On-going
Eudora-18	Provide hydrologic and hydraulic analysis and storm damage improvement designs for City of Eudora. The purpose of this project is to provide hydrologic and hydraulic analysis and storm damage improvements design for the City of Eudora.	Flood	Mayor	High	1,2	$20,000	Local	2016	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lawrence-1	Promote and continue to participate in the NFIP. This multi-jurisdictional project will promote the use of the NFIP in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Flood	Planning & Development Services Department; Asst Director, Planning	High	1,2	Staff Time	Local	Continuous	On-going, Continuous
Lawrence-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The KDA is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Flood	Planning & Development Services Department; Asst Director, Planning	High	3	Staff Time	Local, State, Federal	12/31/2015	On-going, Continuous
Lawrence-3	Proactive management of tree and debris removal from roadways and elevated areas next to the roadway, such as Right of way or other easements. Proactive management of tree populations to encourage good health and identify and reduce the risk from defective dead , or drought stricken trees that could become hazardous. This may require an inventory all trees in public r/w and property. The project will identify and prioritize roadways in need of elevation and those with large trees in need of trimming prior to winter conditions. The project will seek assistance from local citizen volunteers to assist with the process. The program would cooperate with other entities to educate the public on environmental issues.	Tornado, Winter Storm, Windstorm	Parks & Rec Department; Horticulture Manager	High	1,2	$60,000	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lawrence-4	Update flood damage prevention ordinance to include new FEMA digital flood insurance rate maps. This project will update the flood damage prevention ordinance to include the new FEMA digital flood insurance rate maps. Work on the new ordinance has already begun and it is expected to be completed in 2009.	Flood	Planning & Development Services Department; Asst Director, Planning	High	1,2	Staff Time	Local	8/5/2010	Complete
Lawrence-5	Upgrade storm water pumps for Maple Grove drainage and additional pumping capacity to the existing pump station. . An infrastructure tax to support this project is on the November 2009 ballot.	Utility/ Infrastructure Failure	Public Works Department; Stormwater Engineer	High	1,2	Unknown	Local	Unknown	On-going
Lawrence-6	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities.	Tornado, Windstorm, Winter Storm		High	2	Staff Time	Local	Continuous	On-going
Lawrence-7	Develop and conduct a seminar for builders, developers, and home buyers on wind resistant and safe room construction. Seminar for builders, developers, code officials and home buyers on wind resistant and safe room construction.	Tornado, Windstorm	Planning & Development Services Department; Asst Director Development Svcs	High	3	$2,000 per seminar	Local	Continuous	On-going, Continuous
Lawrence-8	Promote the early warning notification with the use of all hazard radios. The project uses public service announcements and involves purchasing NOAA radios as funds are available.	All Hazards		High	3,4	$8,000	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lawrence-9	Enhance and maintain existing GIS systems to support study of potential all-hazard and health related issues within existing floodplains city boundary areas, including but not limited to map data for floodplains, critical infrastructure, facilities & structures, imagery, and topography, technology and equipment such as wide-format plotters, servers, GPS-enabled field equipment. The purpose of this project is support first responders and the EOC prior to and during any hazard situation.	Flood	Dept of Information Technology; GIS Coordinator	High	1,2	$10,000	Local	On-going	On-going
Lawrence-10	Create a stream buffer ordinance. The City of Lawrence is creating a stream buffer ordinance as a part of the flood damage prevention program to preserve open space through regulatory and non-regulatory methods.	Flood	Dept of Public Works; Stormwater Engineer	High	1,2	Staff Time	Local	On-going	On-going
Lawrence-11	Relocate the Public Works Facility and Fuel Station outside of flood zone. Loss of the public works facility due to flooding would impact the communities ability to operate. In addition, a fuel leak in the event of a flood could exacerbate damage.	Flood	Public Works Director	High	1,2	Unknown	Local, State and Federal	On-going	On-going
Lawrence-12	Develop a map layer of lower water crossing bridges. In the event of a flood these bridges could be severely damaged or destroyed endangering community members.	Flood	Dept of Public Works; Stormwater Engineer	High	1,2	Staff Time	Local	On-going	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lecompton-1	Promote and continue to participate in the NFIP. This multi-jurisdictional project will promote the use of the NFIP in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Flood	Mayor	High	1,2	Staff Time	Local	Continuous	On-going, Continuous
Lecompton-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Flood	Mayor	High	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lecompton-3	Proactive management of tree and debris removal from roadways and elevation of roadways. The project will identify and prioritize roadways in need of elevation and those with large trees which are in need of trimming prior to winter conditions. The project will seek to gather assistance from local citizen volunteers to assist with the process.	Tornado, Winter Storm, Windstorm	Mayor	High	1,2	$60,000	Local	Continuous	On-going, Continuous
Lecompton-4	Provide homeowner education on wildfire mitigation in wildland-urban interface. This project will provide educational workshops for homeowners with property in wildland/ urban interface areas on steps they can take to defend their own property from wildfire. The Kansas Forest Service is a partner in the project.	Wildfire	Mayor	High	3	$500 per workshop	Local	2017	On-going
Lecompton-5	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Windstorm, Winter Storm	Mayor	High	1,2	$350,000	Local	Unknown	On-going
Lecompton-6	Develop and conduct a seminar for builders, developers, and home buyers on wind resistant and safe room construction. Seminar for builders, developers, code officials and home buyers on wind resistant and safe room construction.	Tornado, Windstorm	Mayor	High	3	$1,000 per seminar	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lecompton-7	Promote the early warning notification with the use of all hazard radios. The project uses public service announcements and involves purchasing NOAA radios as funds are available.	All Hazards	Mayor	High	2,3	$4,000	Local	Continuous	On-going, Continuous
Lecompton-8	Enhance existing GIS systems to support study of potential health related issues within existing floodplains. The purpose of this project is to enhance the existing GIS systems to support the application and study of septic systems and water wells within the flood plain.	Flood	Mayor	High	1,2	3,000	Local	2017	On-going
Clinton Township - 1	Proactive management of tree and debris removal from roadways and elevation of roadways. The project will identify and prioritize roadways in need of elevation and those with large trees which are in need of trimming prior to winter conditions. The project will seek to gather assistance from local citizen volunteers to assist with the process.	Tornado, Winter Storm, Windstorm	Administrator	High	1,2	$60,000	Local	Continuous	On-going, Continuous
Clinton Township-2	Provide homeowner education on wildfire mitigation in wildland-urban interface. This project will provide educational workshops for homeowners with property in wildland/ urban interface areas on steps they can take to defend their own property from wildfire. The Kansas Forest Service is a partner in the project.	Wildfire	Administrator	M	3	$500 per workshop	Local	6 months	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Clinton Township - 3	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Windstorm	Administrator	High	1,2	$300,000	Local	Unknown	On-going
Clinton Township - 4	Identify critical facilities that are vulnerable to natural and man-made hazards. Bring fire stations up to code and have back up heat , electricity and water to use for emergency shelters. There are no shelters that the residents of Clinton Township can take refuge in. Station #1 is located next to the township hall and is just a garage. Station #2 is located @ 5 miles south east of Station #1 in a metal building with heat but no restrooms or running water. The construction of a new Station #1 with electricity, heat and restrooms. Also make improvements to Station #2 to improve facilities for use if needed for emergency shelters.	All Hazards	Fire Chief	High	2	$500,000	Clinton Township Tax Base	5 years	
Kanawaka Township - 1	We would like to procure and provide warning sirens and weather radios for the safety of our citizens.	All Hazards	Fire Chief	M	1,2	$70,000	Local, State, Federal	12 - 18 months	
Kanawaka Township-2	Provide education on wildfire mitigation in wildland-urban interface through educational workshops for homeowners with property in wildland-urban interface areas, including steps they can take to defend their property from wildfire. The KS Forest Service is a partner in the project.	Wildfire	Administrator	High	3	$500 per workshop	Local	2017	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lecompton Township - 1	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Windstorm	Administrator	High	1,2	$300,000	Local	Unknown	On-going
Lecompton Township - 2	Provide education on wildfire mitigation in wildland-urban interface through educational workshops for homeowners with property in wildland-urban interface areas, including steps they can take to defend their property from wildfire. The KS Forest Service is a partner in the project.	Wildfire	Administrator	High	3	$500 per workshop	Local	2017	On-going
Lecompton Township - 3	Provide weather alert radios for all businesses and residential properties in Lecompton Township. This project will provide weather radios for all businesses and potentially all residential properties in Lecompton Township. Local fire department personnel will be utilized to deliver and set up the radios.	Extreme Temperatures, Flood, Tornado, Winter Storm	Lecompton Fire District #1	High	1,2	$4,000	Local	2017	On-going
Marion Township - 1	Provide education on wildfire mitigation in wildland-urban interface through educational workshops for homeowners with property in wildland-urban interface areas, including steps they can take to defend their property from wildfire. The KS Forest Service is a partner in the project.	Wildfire	Administrator	High	3	$500 per workshop	Local	2017	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Palmyra Township-1	Provide education on wildfire mitigation in wildland-urban interface through educational workshops for homeowners with property in wildland-urban interface areas, including steps they can take to defend their property from wildfire. The KS Forest Service is a partner in the project.	Wildfire	Administrator	High	3	$500 per workshop	Local	2017	On-going
Wakarusa Township - 1	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Windstorm	Administrator	High	1,2	$350,000	Local	Unknown	On-going
Wakarusa Township - 2	Provide education on wildfire mitigation in wildland-urban interface through educational workshops for homeowners with property in wildland-urban interface areas, including steps they can take to defend their property from wildfire. The KS Forest Service is a partner in the project.	Wildfire	Administrator	High	3	$500 per workshop	Local	2017	On-going
Wakarusa Township - 3	Proactive management of tree and debris removal from roadways and elevation of roadways. The project will identify and prioritize roadways in need of elevation and those with large trees which are in need of trimming prior to winter conditions. The project will seek to gather assistance from local citizen volunteers to assist with the process.	Tornado, Winter Storm, Windstorm	Administrator	High	1,2	$60,000	Local	On-going	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Willow Springs Township - 1	Provide education on wildfire mitigation in wildland-urban interface through educational workshops for homeowners with property in wildland-urban interface areas, including steps they can take to defend their property from wildfire. The KS Forest Service is a partner in the project.	Wildfire	Administrator	High	3	$500 per workshop	Local	2017	On-going
USD343-1	Conduct regular emergency preparedness drills for school children at all levels, including tornado drills and fire evacuation drills. The drills include tornado, fire, and general evacuation drills and are conducted at routine intervals. Corrective action is taken for each drill where problems are determined to exist.	Flood, Tornado	Superintendant	High	3	Staff Time	Local	Continuous	On-going, Continuous
USD343-2	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	tornado, Winter, Utility/ Infrastructure Failure	Superintendant	High	1,2	$1,000,000	Local	Unknown	On-going
USD343-3	Construct a FEMA approved safe room in all USD #343 school facilities as funding becomes available The purpose of this project is to equip each school within the district with at least one FEMA approved safe room as funding for remodeling / new construction becomes available through grants or tax bonds.	Tornado, Winter Storm	Superintendant	High	1,2	$1,000,000	Local	2017	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD348-1	Conduct regular emergency preparedness drills for school children at all levels, including tornado drills and fire evacuation drills. The drills include tornado, fire, and general evacuation drills and are conducted at routine intervals. Corrective action is taken for each drill where problems are determined to exist.	Flood, Tornado	Superintendant	High	3	Staff time	Local	Continuous	On-going, Continuous
USD348-2	Construct a FEMA approved safe room at the proposed Baldwin Elementary school site. The purpose of this project is to install a FEMA approved safe room at the proposed Baldwin Elementary School – Primary Center that is planned for future development.	Tornado	Superintendant	High	1,2	$1,000,000	Local	Completed	Complete
USD348-3	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Utility/ Infrastructure Failure	Superintendant	High	2	$1,000,000	Local	Unknown	On-going
USD348-4	Construct a FEMA approved safe room in all USD #348 school facilities as funding becomes available This project is a part of the district's 10 year improvement plan. The goal is to evaluate each school facility to determine the need / feasibility for a FEMA approved safe room, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm	Superintendant	High	1,2	$2,000,000	Local	Completed	Complete

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD491-1	Conduct regular emergency preparedness drills for school children at all levels, including tornado drills and fire evacuation drills. The drills include tornado, fire, and general evacuation drills and are conducted at routine intervals. Corrective action is taken for each drill where problems are determined to exist.	Flood, Tornado	Superintendant	High	3	Staff Time	Local	Continuous	On-going, Continuous
USD491-2	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Utility/ Infrastructure Failure	Superintendant	High	1,2	$1,000,000	Local	Unknown	On-going
USD491-3	Construct a FEMA approved safe room for USD#491. The school is under construction currently and this project was approved by FEMA following the approval of the City of Eudora Hazard Mitigation Plan.	Tornado, Winter Storm	Superintendant	High	1,2	$1,000,000	Local	2016	On-going
USD491-4	Implement a program promoting the purchase and use of NOAA weather radios in school district classrooms.	Tornado, Windstorm, Winter Storm	Superintendant	Medium	1, 2, 3	$10,000	Local, State, Federal	6 - 12 months	
USD497-1	Conduct regular emergency preparedness drills for school children at all levels, including tornado drills and fire evacuation drills. The drills include tornado, fire, and general evacuation drills and are conducted at routine intervals. Corrective action is taken for each drill where problems are determined to exist.	Flood, Tornado	Superintendant	High	3	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD497-2	Develop a plan for supporting medically fragile and special needs students at each school site during emergency events. This project will develop a plan for supporting medically fragile and special needs students at each school site during emergency events. Dependent on funding, the project may only make recommendations or may implement recommendations.	All Hazards	Superintendant	High	2	Staff Time	Local	2017	On-going
USD497-3	Construct reinforced and/or FEMA approved safe rooms in all schools. While all buildings have shelter locations identified, many are inadequate in size or stability. Buildings need to have safer tornado shelters constructed. Construct reinforced rooms, or FEMA approved safe rooms in each building.	Tornado, Winter Storm	Superintendant	High	2	$15M for reinforced, $22M for FEMA Standard	Local, Grants	4 years	

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD497-4	Implement an emergency communication system that will allow for communication in district and with county emergency personnel in the event of power loss. If a major event were to occur with power and cell phone use being limited USD 497 does not have a means for communicating with its buildings or with county emergency responders. It is important for us to be able to participate in a unified ICS command and communicate as needed. 1 phone tower failure Research potential communication solutions and implement the one most feasible.	All Hazards	Director of Administrative Services	High	4	$10,000 - $100,000	Local, Grants	4 years	
USD497-5	Conduct regular emergency preparedness drills for school children at all levels, including tornado drills and fire evacuation drills. We will invite first responders to observe these drills when possible to familiarize them with our processes and solicit advice for improvement. It is important to keep staff and students prepared in the event of an emergency and to ensure plans are feasible. This also meets State Fire Marshall requirements. Conduct one fire drill per month and three tornado drills per school year.	Utility/ Infrastructure Failure	Director of Administrative Services	High	3	Staff Time	None	Continuous	

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD497-6	Acquire and install emergency generators for buildings prioritized on building usage for District grounds. USD 497 currently has no emergency generators for buildings. This is an issue due to computer server back up and community need for building use in the event of a major event. Add at least two emergency generators in the school district	Utility/ Infrastructure Failure	Director of Administrative Services	High	1,2	$500,000	Local, Grants	4 years	
USD497-7	Construct secure entrances for each building in USD 497. Secure entrances to buildings can help mitigate potential dangerous situations with strangers, angry patrons, and armed intruders Construct 300 ft2 secure entrances in each district building.	Terrorism/ Agri-Terrorism, Civil Disorder	Director of Administrative Services	High	1,2	$1.3 million	Local, Grants	4 years	
USD497-8	Develop a plan for supporting medically fragile and special needs students at each school site during emergency events. Some students need additional support from others in order to be able to move safely in an emergency situation. Many are dependent on others for movement. Buildings will add emergency support plans specific to their students' needs.	All Hazards	Director of Administrative Services	High	2	Staff Time	None	Continuous	
Baker University-1	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Utility/ Infrastructure Failure	President	High	1,2	$1,000,000	Local	Unknown	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Baker University-2	Campus Safety. Constant attention and upgrading of campus safety protocols for on campus violence. Increase amount of Campus Safety staff on campus at one time. Install cameras and or call boxes. Improve campus lighting and line of sight across entire campus. Maintain adequate security for access to dorms and other buildings on campus during operating hours and after hours.	All Hazards	Physical Plant Director	M	1,2,3	$25,000	None	Continuous	
KU-1	Develop a campus wide alert website to include emergency numbers and instructions for emergency preparedness. This project will design and develop a Campus Alert website. The site would post the current status of any emergency situation and would also provide educational regarding emergency response plans / procedures at the University.	All Hazards	President	High	1,2,4	$8,000	Local	2017	On-going
KU-2	Evaluate existing buildings for safe areas and prioritize replacements and upgrades to existing facilities. The goal is to evaluate each school facility and other critical infrastructures to determine the need / feasibility for FEMA approved safe rooms, and obtain funding for those retrofits / new construction.	Tornado, Winter Storm, Utility/ Infrastructure Failure	President	High	1,2	$1,300,000	Local	Unknown	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
KU-3	Install Electronic building access controls on KU campus. To improve public safety, reduce crime, and provide instant lock-down capability in response to threats of violence or terrorism. Replace manual key locks with system-integrated electronic locks on exterior doors of main buildings on the University of Kansas campus in Lawrence, Kansas. This would protect over 30,000 students, faculty, and staff in over 100 buildings.	Terrorism/ Agri-Terrorism, Civil Disorder	Deputy Director of Design & Construction Management	High	1,2	$3,000	State, private, Grant	1 - 2 years	
KU-4	Enhance Emergency public address system on KU Campus. To improve public safety with situation-specific voice and text messages in response to natural and man-made threats. Currently about half the campus' buildings and grounds are within coverage of speakers over which canned and live voice messages can be broadcast to alert and direct individuals in the event of severe weather or other threats. Adding speakers to cover the remainder of populated areas on campus and adding video messaging for the hearing-impaired would increase protection of KU's 30,000+ students, faculty, and staff.	All Hazards	City Administrator	M	1,2,4	$1,000,000	State, private, Grant	1 - 2 years	

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
RWD#2-1	Purchase and install remote telemetry for rural water systems including controls for water tanks and pump stations. This project seeks to purchase and install remote telemetry equipment for rural water systems within RWD #2. The project includes training for system operators and update of the emergency water supply plan.	Utility/ Infrastructure Failure	Director	High	1,2	$58,000	Local	2017	On-going
RWD#2-2	Review and update emergency water supply plan. This project involves the routine review and update of the emergency water supply plan. The Board of Directors will meet with the District Operator to complete the review and update.	All Hazards	Director	High	1,2	Staff Time	Local	2017	On-going
RWD#2-3	Communication Link Protection. Lightning strikes cause loss of communication between the water tower and remote telemetry equipment located in the District office building. Purchase and install two (2) fiber optic links for the cable connecting the equipment in the tower with the telemetry computer in the office.	Lightning, Utility/ Infrastructure Failure	Director	High	1,2,4	$200	General Funds	2019	

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
RWD#5-1	Purchase emergency generators for facilities to ensure continued operations. Loss of power could potentially curtail services to the community.	All Hazards	Director	High	1,2	$100,000	Local, State, Federal	2017	
RWD#5-1	Replace and upgrade pump stations and water towers.	All Hazards	Director	High	1,2	$1,000,000	Local, State, Federal	2017	
RWD#6-1	Advertise and promote the availability of flood insurance to property owners by direct mail once a year. Jefferson County, including the cities of McLouth, Meriden, Nortonville, and Oskaloosa participate in the NFIP. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	All Hazards	Director	High	1,2	$60,000	Local	2017	On-going
Lawrence Memorial Hospital-1	Install shatter proof hardened windows throughout hospital. Damage from broken windows could cause severe injury or death to patients and staff.	Hail, Windstorm and Tornado	CEO	High	1,2	$100,000	State and Federal Funding	2019	

5.7 MITIGATION ACTIONS SUPPORTING NATIONAL FLOOD INSURANCE PROGRAM

Participating jurisdictions within the region are committed to continued participation and compliance with the NFIP. The following table identifies specific, previously listed, mitigation actions supporting this commitment and are provided to assist in NFIP CRS application and compliance.

Actions in Support of NFIP

County	Action Identification	Description	Responsible Party	Current Status
Atchison	Atchison County-1	Educate and promote participation in the NFIP.	Emergency Management Coordinator	On-going
Atchison	Atchison County-21	Advertise and promote the availability of flood insurance to property owners by direct mail once a year. Atchison County, including the city of Atchison participates in the NFIP. There are currently fifteen policies in effect, with a total coverage amount of $3,914,500. Since the jurisdiction joined the program, there have been one claim made, but did not report a loss payout. (Source: FEMA, 2008). NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Emergency Management Coordinator	On-going, Continuous
Atchison	Atchison-1	The County and local governments will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Division of Water Resources provides local training and education on the benefits of participation in the NFIP. The program provides availability of flood insurance to individuals whose local governments participate in the program.	Mayor	On-going
Atchison	Atchison-3	Annually host a public "hazards workshop" in combination with local festivals, fairs, or other appropriate events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Atchison County, and the mitigation and preparedness measures available to protect them. Guest speakers from the NWS, the KDEM, and other relevant agencies should be invited to attend, and educational displays/handouts should be provided such as FIRMs, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Atchison	Atchison-8	The City of Atchison is committed to participation and compliance with the NFIP. A benefit of participation is that the citizens are provided the opportunity to purchase flood insurance to protect themselves against flood losses. There is no Federal law that requires a jurisdiction to join the program, and participation is voluntary. A Another consideration is that a jurisdiction that has been identified by FEMA as being flood-prone and has not joined the NFIP within one year of being notified of being mapped as flood-prone will be sanctioned. Jurisdictions that regulate development in floodplains are able to participate in the NFIP. To participate in the NFIP the jurisdiction must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	City Planners	On-going
Atchison	Effingham-1	The County and local governments will work with the KDA - DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas DWR provides local training and education on the benefits of participation in the NFIP. The program provides availability of flood insurance to individuals whose local governments participate in the program.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Doniphan	Troy-13	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going
Doniphan	Wathena-1	The County and incorporated cities will work in coordination with the KDA-DWR and FEMA to develop D-FIRMs. The County is currently working with the State and FEMA to develop new flood maps for the county and incorporated cities in an effort to gather important flood plain data, allowing the county to identify potential hazard areas and impacted properties for future planning activities.	Mayor	On-going
Doniphan	Wathena-2	NFIP. Participation in the NFIP ensures that citizens are provided the opportunity to purchase flood insurance to protect themselves against flood losses. Adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the NFIP.	City Clerk	new
Doniphan	Wathena-3	The County and local governments will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas Water Resources Division provides local training and education on the benefits of participation in the NFIP. The program provides availability of flood insurance to individuals whose local governments participate in the program. Flood insurance claims are paid even if a disaster is not declared by the president, and there is no payback requirement. Flood insurance policies are continuous, and are not non-renewed for repeat losses.	Mayor	On-going
Doniphan	Wathena-5	Annually host a public "hazards workshop" in combination with local festivals, fairs, or other community events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten the jurisdiction, and the mitigation and preparedness measures available to protect them. Guest speakers from the NWS, the KDEM, and other relevant agencies should be invited to attend, and educational displays/handouts should be provided such as Flood Insurance Rate Maps, FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous
Doniphan	Wathena-11	The City is committed to continued participation and compliance with the NFIP. A benefit of participation is that citizens are provided the opportunity to purchase flood insurance to protect against flood losses. Additionally, a jurisdiction that has been identified by FEMA as being flood-prone and has not joined the NFIP within one year of being notified of being mapped will be sanctioned. Jurisdictions that regulate development in floodplains are able to participate in the NFIP. To participate in the NFIP the jurisdiction must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program	City Clerk	On-going, Continuous
Douglas	Douglas County-1	Promote and continue to participate in the National Flood Insurance Program. This multi-jurisdictional project will promote the use of the National Flood Insurance Program in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Emergency Manager	On-going, Continuous
Douglas	Douglas County-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Emergency Manager	On-going

County	Action Identification	Description	Responsible Party	Current Status
Douglas	Baldwin-1	Promote and continue to participate in the National Flood Insurance Program. This multi-jurisdictional project will promote the use of the National Flood Insurance Program in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Mayor	On-going, Continuous
Douglas	Baldwin-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Mayor	
Douglas	Baldwin-8	Study drainage issues throughout the county in flood prone areas, and make recommendations for flood control measures, flood management procedures, and low-water crossing improvements.	Mayor	On-going
Douglas	Eudora-5	Promote and continue to participate in the NFIP. This multi-jurisdictional project will promote the use of the National Flood Insurance Program in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested	Mayor	On-going, Continuous
Douglas	Eudora-6	Purchase structures in the 100 year flood plain. All utilities will be properly disconnected, and the property will be graded and seeded for maintenance purposes. No structures will be allowed to be constructed on these properties except those allowed under open space uses.	Mayor	On-going
Douglas	Eudora-7	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Mayor	On-going, Continuous
Douglas	Lawrence-1	Promote and continue to participate in the NFIP. This multi-jurisdictional project will promote the use of the NFIP in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Planning & Development Services Department; Asst Director, Planning	On-going, Continuous
Douglas	Lawrence-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Planning & Development Services Department; Asst Director, Planning	On-going, Continuous
Douglas	Lawrence-4	Update flood damage prevention ordinance to include new FEMA digital flood insurance rate maps. This project will update the flood damage prevention ordinance to include the new FEMA digital flood insurance rate maps. Work on the new ordinance has already begun and it is expected to be completed in 2009.	Planning & Development Services Department; Asst Director, Planning	Complete

County	Action Identification	Description	Responsible Party	Current Status
Douglas	Lawrence-10	Create a stream buffer ordinance. The City of Lawrence is creating a stream buffer ordinance as a part of the flood damage prevention program to preserve open space through regulatory and non-regulatory methods.	Dept of Public Works; Stormwater Engineer	On-going
Douglas	Lecompton-1	Promote and continue to participate in the NFIP. This multi-jurisdictional project will promote the use of the NFIP in all participating areas. The project relies on educational materials prepared both by FEMA and the local entities. Public Service Announcements are utilized and publications are made available to homeowners. Local emergency management also provides on-site education at home owner association and other meetings when requested.	Mayor	On-going, Continuous
Douglas	Lecompton-2	Provide additional support to the Community Rating System to raise the rating to the next level. The purpose of this project is to familiarize each NFIP participating community with the Community Rating System. The Kansas Department of Agriculture is a partner in this project. Once education has occurred, each community will take steps to raise its rating.	Mayor	On-going, Continuous
Douglas	RWD#6-1	Advertise and promote the availability of flood insurance to property owners by direct mail once a year. Jefferson County, including the cities of McLouth, Meriden, Nortonville, and Oskaloosa participate in the NFIP. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Manager	On-going
Jackson	Jackson County-1	The County and local governments will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The DWR provides local training and education on the benefits of participation in the NFIP. The program provides availability of flood insurance to individuals whose local governments participate in the program. Flood insurance claims are paid even if a disaster is not declared by the President, and there is no payback requirement. Flood insurance policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Jackson County-2	Jackson County is committed to continued participation and compliance with the NFIP. Participation is voluntary. A benefit of participation is that the citizens are provided the opportunity to purchase flood insurance to protect themselves against flood losses. Another consideration is that a jurisdiction that has been identified by FEMA as being flood-prone and has not joined the NFIP within one year of being notified of being mapped as flood-prone will be sanctioned. Jurisdictions that regulate development in floodplains are able to participate in the NFIP. To participate in the NFIP the jurisdiction must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Emergency Manager	On-going, Continuous
Jackson	Jackson County-3	Advertise and promote the availability of flood insurance to property owners by direct mail once a year. Jackson County, participates in the NFIP. There are currently 17 policies in effect, with a total coverage amount of $3,325,300. Since the jurisdictions joined the program, there have been 5 claims paid for a total loss paid amount of $119,609. (Source: FEMA, 2008). NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Emergency Manager	On-going, Continuous

APPENDIX C

PUBLIC SURVEY

Region K Mitigation Plan Public Input

*1. What County and Jurisdiction do you live in?

*2. In the Region consisting of Atchison, Brown, Douglas, Jackson, Jefferson, Nemaha, and Washington Counties, the planning committee has determined that the hazards listed below are of significance to the area. Please indicate the level of risk, or extent of potential impacts, in the Region, that you perceive for each hazard.

	Negligible	Limited	Moderate	Critical	Catastrophic
Tornado	○	○	○	○	○
Winter Storm	○	○	○	○	○
Flood	○	○	○	○	○
Windstorm	○	○	○	○	○
Wildfire	○	○	○	○	○
Utility/Infrastructure Failure	○	○	○	○	○
Hailstorm	○	○	○	○	○
Hazardous Material	○	○	○	○	○
Major Disease Outbreak	○	○	○	○	○
Extreme Temperatures	○	○	○	○	○

*3. In the Region, the planning committee has determined that a Flood event is a hazard for your region,. How important is it to you that your community participate or continue to participate in the National Flood Insurance Program?

- ○ Very Important
- ○ Somewhat Important

k

- ○ Not Important
- ○ No Opinion

*4. Funding request for FEMA Hazard Mitigation Grant Program Funds are currently reviewed initially by the Kansas Division of Emergency Management. Listed below are their current funding priorities. Please check those that could benefit your community.

- ☐ Power Line Upgrades
- ☐ Acquisition/Demolition/Elevation of Flood Prone Properties
- ☐ Community Shelters, Shelters for Schools and Public Buildings
- ☐ Protection of Critical Facilities

*5. Have you had an opportunity to read your current Hazard Mitigation Plan?

- ○ Yes
- ○ No
- ○ Did not know we had one

*6. Do you know where the mitigation plan can be found for your county if you wanted to look at it?

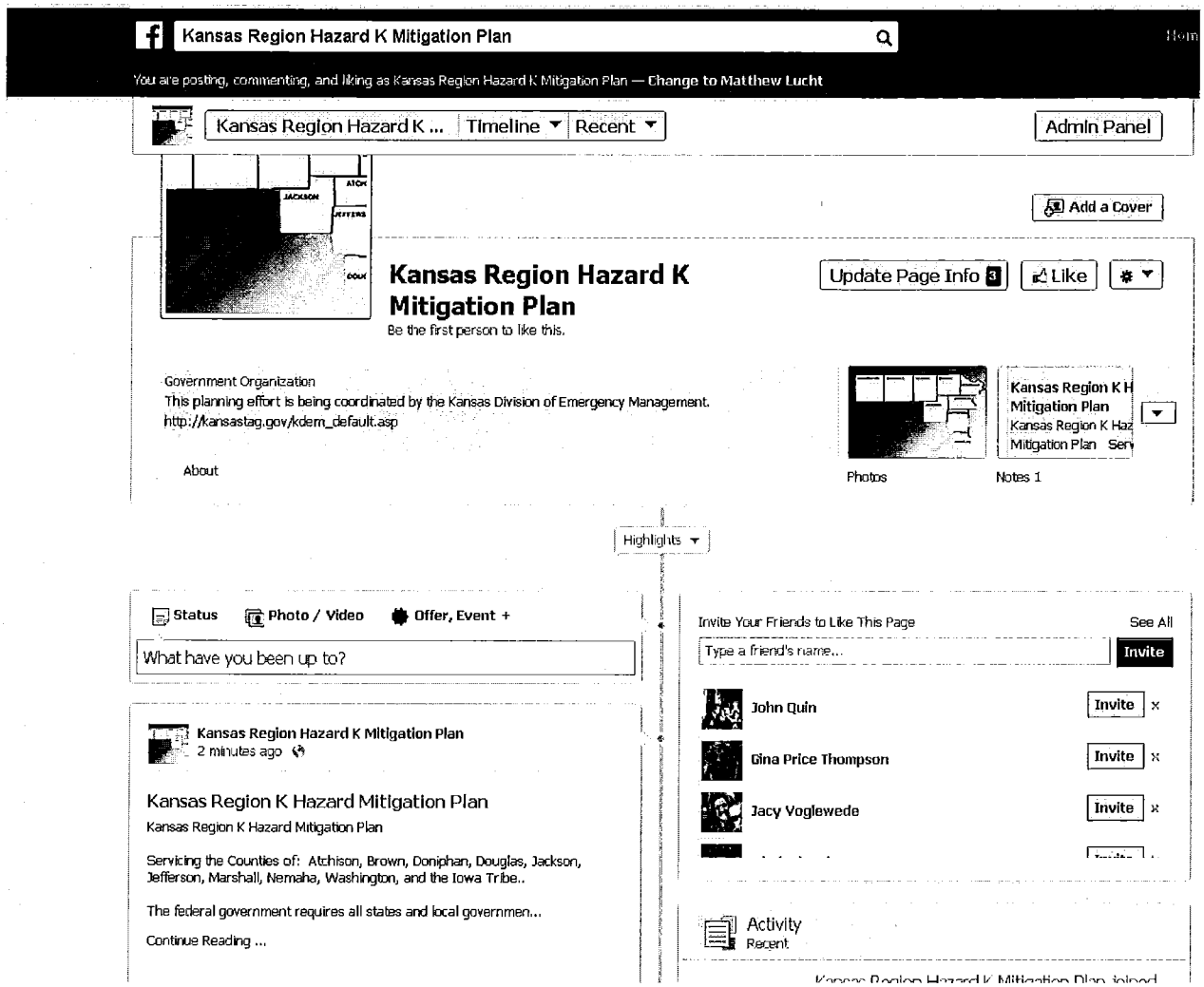
- ○ yes
- ○ no

7. Your input is valuable to this planning process. Please comment on any other issues that the planning committee should consider in developing a strategy to reduce future losses caused by natural hazard events.

8. Do you have any mitigation projects you would like to see implemented and what are they?

Done

https://www.facebook.com/pages/Kansas-Region-Hazard-K-Mitigation-Plan/1420355771513010



Regional Hazard Mitigation Plan

Servicing the Counties of: Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha, Washington, and the Iowa Tribe..

The federal government requires all states and local governments to have hazard mitigation plans, approved by FEMA, that are consistent with the Disaster Mitigation Act of 2000 (DMA 2000). This is required to maintain eligibility for certain types of federal disaster assistance, such as pre-disaster and post-disaster mitigation funding.

For the past few months the planning committee officials have been drafting the Regional Mitigation Plan, and now seek public comment and review. This plan is intended to identify feasible strategies to reduce the potential loss of life, human suffering, and loss of property from natural disasters, such as floods, snow and ice storms, tornados, and power outages.

Your input is very important to this process and we ask that you take a few moments to review the material below and complete the short questionnaire provided on the link below.

Hazard Rankings – for the Regional Mitigation Plan the following hazards were identified as having a planning significance for the region. These 22 hazards are in line with the State Hazard Mitigation Plan, and each are profiled in the plan being written for Region K.

1. Tornado
2. Flood
3. Winter Storm
4. Windstorm
5. Utility/Infrastructure Failure
6. Drought
7. Hazardous Materials
8. Lightning
9. Wildfire
10. Civil Disorder
11. Earthquake
12. Major Disease Outbreak
13. Hailstorm
14. Terrorism/Agro-terrorism
15. Extreme Temperatures
16. Agricultural Infestation
17. Expansive Soils
18. Dam and Levee Failure
19. Radiological
20. Landslide
21. Soil Erosion and Dust
22. Land Subsidence

Previous 10 FEMA Disasters that have affected Region J:

Disaster Number	Declaration Date	Description of Disaster
4035	2011	Flood
4010	2011	Severe Storms/Tornadoes, FL
1932	2010	Severe Storms/Tornadoes/ FL
1885	2010	Severe Winter Storms
1849	2009	Severe Storms/tornadoes/flood
1776	2008	Severe Storms/Tornadoes/FL
1741	2008	Severe Winter Storms
1699	2007	Severe Storms, Tornadoes/FL
1638	2006	Severe Storms, Tornadoes/Wind
1615	1005	Severe Storms, Flood

The following is a link to surveymonkey.com which has a short survey we encourage you to complete for inclusion in the Regional Hazard Mitigation Plan. Specifically, we are looking for information on local issues that each identified hazard could potentially aggravate.

https://www.surveymonkey.com/s/TQG7XT8