

Northeast Kansas (Homeland Security Region K) Multi-Hazard, Multi-Jurisdictional Mitigation Plan

Prepared For and Developed With
the Jurisdictions Within and Including:

Atchison County, Brown County, Doniphan
County, Douglas County, Jackson County,
Jefferson County, Kickapoo Tribe, Marshall
County, Nemaha County and Washington
County

April 2014

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Umbrella

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APPENDIX

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List of Acronyms

Acronym	Meaning
ANFO	Ammonium Nitrate/Fuel Oil
BATF	Bureau of Alcohol, Tobacco and Firearms
BSE	Bovine Spongiform Encephalopathy
CAFO	Concentrated Animal Feeding Operation
CDBG	Community Development Block Grant
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CPRI	Calculated Priority Risk Index
CRS	Community Rating System
CWPP	Community Wildfire Protection Plans
DASC	Data Access and Support Center
DFIRM	Digital Flood Insurance Rate Map
DWR	Division of Water Resources
EAP	Emergency Action Plan
EF	Enhanced Fujita
EMAP	Emergency Management Accreditation Program
EPA	Environmental Protection Agency
ESA	Endangered Species Act
°F	Fahrenheit
FIA	Flood Insurance Administration
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
GIS	Geographic Information System
HFRA	Healthy Forests Restoration Act
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HMPC	Hazard Mitigation Planning Committee
IPSR	Institute for Policy and Social Research
K.S.A	Kansas Statutes Annotated
KCC	Kansas Corporation Commission
KCP&L	Kansas City Power and Light
KDA	Kansas Department of Agriculture
KDEM	Kansas Division of Emergency Management
KDHE	Kansas Department of Health and Environment
KDOT	Kansas Department of Transportation
km	Kilometer

Acronym	Meaning
KWO	Kansas Water Office
LAMP	Levee Analysis Mapping Procedures
LEPC	Local Emergency Planning Committee
LSP	Levee Safety Program
MH 2.1	Multi Hazard version 2.1
MLI	Mid-Term Levee Inventory
MPH	Miles per Hour
NCDC	National Climatic Data Center
NFIP	National Flood Insurance Program
NFIRS	National Fire Incident Reporting System
NGO	Non-Governmental Organization
NLD	National Levee Database
NOAA	National Oceanic and Atmospheric Administration
NSFHA	No Special Flood Hazard Area
NWS	National Weather Service
ONA	Other Needs Assistance
PA	Public Assistance
PAL	Provisionally Accredited Levee
PDM	Pre-Disaster Mitigation
PDSI	Palmer Drought Severity Index
PIO	Public Information Officer
REC	Rural Electric Cooperative
RMP	Risk Management Plan
SBA	Small Business Administration
SHMO	State Hazard Mitigation Officer
SoVI	Social Vulnerability Index
SRL	Severe Repetitive Loss
STAPLEE	Social, Technical, Administrative, Political, Legal, Economic and Environmental
USACE	United States Army Corps of Engineers
USD	Unified School District
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WUI	Wildland Urban Interface

EXECUTIVE SUMMARY

Mitigation is commonly defined as sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects. Hazard mitigation planning provides communities with a roadmap to aid in the creation and revision of policies and procedures, and the use of available resources, to provide long-term, tangible benefits to the community. A well designed hazard mitigation plan provides communities with realistic actions that can be taken to reduce potential vulnerability and exposure to identified hazards.

In order to create an effective, realistic and useful plan, a methodical and thoughtful planning process that included regional and local stakeholders and followed Federal Emergency Management Agency (FEMA) Guidelines has been completed.

This is a multi-hazard, multi-jurisdictional mitigation plan combination and update covering Kansas Homeland Security Region K. Region K is comprised of nine participating counties and one participating tribe and is located in the northeast region of the State. This plan was prepared to meet the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), as defined in regulations set forth by the Interim Final Rule (44 Code of Federal Regulation (CFR) Part 201.6).

A regional Hazard Mitigation Planning Committee (HMPC), formed by participating County Emergency Managers and State of Kansas Mitigation Planners, conducted a regional risk assessment that identified and characterized potential hazards, suggested incorporation of review elements from previous plans into new regional plan, conducted a regional vulnerability analysis, and proposed and explored potential mitigation actions. The outcome was a mitigation plan that combined each discrete county plan into one regional plan.

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 a list of participating jurisdictions, by county. A special welcome is afforded to Unified School District (USD) #429 - Troy, Doniphan County, Kanawaka and Willow Springs Townships, Douglas County, St. Gregory School, Marshall County, and USD #115 - Nemaha Central, Nemaha County, as new participants to the Plan.

Please note that many Unincorporated Townships and special districts are not included in the following list as they are covered under their home counties participation and adoption.

Atchison County Participating Cities and Townships

Atchison County
City of Atchison
City of Effingham
City of Huron
City of Lancaster
City of Muscotah

Brown County Participating Cities and Townships

Brown County
City of Everest
City of Fairview
City of Hiawatha
City of Horton
City of Morrill
City of Reserve
City of Robinson
City of Willis

Doniphan County Participating Cities and Townships

Doniphan County
City of Denton
City of Elwood
City of Highland
City of Troy
City of Wathena

Douglas County Participating Cities and Townships

Douglas County
City of Baldwin City
City of Eudora
City of Lawrence
City of Lecompton
Clinton Township
Kanawaka Township
Lecompton Township
Marion Township
Palmyra Township
Wakarusa Township
Willow Springs Township

Jackson County Participating Cities and Townships

Jackson County
City of Circleville
City of Delia
City of Denison
City of Holton
City of Hoyt
City of Mayetta
City of Netawaka
City of Soldier
City of Whiting

Jefferson County Participating Cities and Townships

Jefferson County
City of McLouth
City of Meriden
City of Nortonville
City of Oskaloosa
City of Perry
City of Valley Falls
City of Winchester

Marshall County Participating Cities and Townships

Marshall County
City of Axtell
City of Beattie
City of Blue Rapids
City of Frankfort
City of Marysville
City of Oketo
City of Summerfield
City of Vermillion
City of Waterville

Nemaha County Participating Cities and Townships

Nemaha County
City of Bern
City of Centralia
City of Corning
City of Goff
City of Oneida
City of Sabetha
City of Seneca
City of Wetmore

Washington County Participating Cities and Townships

Washington County
City of Clifton
City of Greenleaf
City of Haddam
City of Hanover
City of Hollenberg
City of Linn
City of Morrowville
City of Palmer
City of Vining
City of Washington

The following table presents a list of participating colleges, universities and USDs. The information also presents the district covered, if applicable, and the county.

Participating Colleges, Universities, and USDs

School, College or University	District
Atchison County	
USD #377	Atchison County
USD #409	Atchison
Brown County	
USD #415	Hiawatha
USD #430	Horton
Doniphan County	
USD #114	Riverside
USD #429	Troy

Participating Colleges, Universities, and USDs, Continued

School, College or University	District
Douglas County	
Baker University	-
University of Kansas	-
USD #343	Perry / Lecompton
USD #348	Baldwin City
USD #491	Eudora
USD #497	Lawrence
Jackson County	
USD #335	North Jackson
USD #336	Holton
USD #337	Royal Valley
Jefferson County	
USD #338	Valley Falls
USD #339	Jefferson County North
USD #340	Jefferson West
USD #341	Okaloosa
USD #342	McLouth
USD #343	Perry / Lecompton
Marshall County	
USD #113	Prairie Hills
USD #364	Marysville
USD #380	Vermillion
USD #498	Valley Heights
Nemaha County	
USD #113	Prairie Hills
USD #115	Nemaha Central
Washington County	
USD #108	Washington County
USD #223	Barnes / Hanover / Linn

In addition to the above noted jurisdictions, many special districts are covered under the participation and adoption by the overarching county. These entities include:

- Fire Districts
- Sewer Districts
- Water Districts
- Watershed Districts

Some of the above noted special districts went above and beyond and participated independently in the planning process. These entities are noted below.

Participating Special Districts

Douglas County
Rural Water District #2
Rural Water District #2
Rural Water District #6
Lawrence Memorial Hospital

Additionally, numerous private, non-profit and charitable organizations also independently participated in this planning effort, including:

Private and Non-Profit Participating Stakeholders

Blue Valley Telephone Cooperative
Nemaha / Marshall Electric Cooperative
Good Shepherd School
St. Gregory's School
St. Michael's School

The following jurisdictions, identified as participating in the last hazard mitigation planning process for their respective counties, elected not to participate in this planning iteration: The cities of Leona, Severance and White Cloud, Doniphan County, the cities of Barnes and Mahaska, Washington County, and Highland Community College. Because this is a regional plan data from these non-participating jurisdictions may be included throughout the plan. Each of these jurisdictions will be encouraged to participate in future plan iterations.

Four previously participating USDs, USD #441 - Sabetha, USD #442 - Nemaha Valley, USD #451 - Bailey and USD #488 - Axtell, all located in Nemaha County, have been closed.

TRIBAL NATIONS

According to FEMA, a multi-jurisdictional plan prepared in coordination either with other Indian Tribal governments or with non-tribal jurisdictions is acceptable under 44 CFR 201.7(a)(4). When participants in a multi-jurisdictional plan include Indian Tribal government(s) and local government(s), all of the requirements under 44 CFR 201.6 must be met for each participant in the plan. Indian tribal participants must meet the requirements in 201.7, which already include the requirements under 44 CFR 201.6, to request approval of a Tribal Mitigation Plan. The elements that an Indian Tribal government must address in addition to those under 44 CFR 201.6. Major differences are as follows:

- 44 CFR 201.7(c)(2)(ii)(D): Sacred sites that are significant, even if they cannot be valued in monetary terms.
- 44 CFR 201.7(c)(3)(iv): A discussion of the Indian Tribal government's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: An evaluation of tribal laws, regulations, policies, and programs

related to hazard mitigation as well as to development in hazard-prone areas; and a discussion of tribal funding capabilities for hazard mitigation projects.

- 44 CFR 201.7(c)(6): Assurances. The plan must include assurances that the Indian Tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 13.11(c) of this chapter. The Indian Tribal government will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes as required in 13.11(d) of this chapter.

It is important to note that risks for the participating Tribal Nation need to be specifically addressed only where they differ from the general planning area.

The following Tribal Nations participated fully in this planning process:

Kickapoo Tribe

Kickapoo Tribe

GOALS

Based upon the research conducted to complete this document, the HMPC identified goals and objectives to reduce potential risks associated with identified hazards. The goals and objectives of this multi-hazard mitigation plan are to:

- **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.

To accomplish the above identified goals, the HMPC has developed a series of robust and achievable mitigation actions. These actions are discussed in detail in Section 5 of this plan.

HAZARD MITIGATION PLANNING COMMITTEE

The following table presents the members of the northeast HMPC. Each planning committee member served as a point of contact for their county, assisting with the direction and dissemination of information concerning the planning effort. A special thanks is afforded to these people who made the successful completion and adoption of this plan possible.

Hazard Management Planning Committee

Participant	Title	Organization
Wes Lanter	Emergency Manager	Atchison County
Randy Linck	Emergency Manager	Brown County
Julie Meng	Emergency Manager	Doniphan County
Teri Smith	Emergency Manager	Douglas County
Pat Korte	Emergency Manager	Jackson County
Mike Baxter	Emergency Manager	Jefferson County
Luke Terry	Environmental Director	Kickapoo Tribe
William Schwindamann, Jr.	Emergency Manager	Marshall County
Todd Swart	Emergency Manager	Nemaha County
Ded Swoboda	Emergency Manager	Washington County
Jeanne Bunting	Mitigation Planner	Kansas Division of Emergency Management
Matt Eyer	Plan Author	Blue Umbrella Solutions

In addition to these HMPC members, representatives from each participating jurisdiction deserve a special thanks for assisting in this planning effort. Through their submission of data, participation in discussions and meetings, and feedback on plan revisions they assisted in making a robust plan.

RESOLUTIONS OF ADOPTION

44 CFR Requirement 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.

Upon review and approved pending adoption status by FEMA Region VII adoption resolutions will be signed by the participating jurisdictions and added to the Appendix documents. Additionally, the following table will be completed noting adoption date for each participating jurisdiction and, if applicable, resolution number.

ATCHISON COUNTY

	Adoption Date	Resolution Number
Atchison County		
City of Atchison		
City of Effingham		
City of Huron		
City of Lancaster		
City of Muscotah		
USD #377 - Atchison County		
USD #409 - Atchison		

BROWN COUNTY

	Adoption Date	Resolution Number
Brown County		
City of Everest		
City of Fairview		
City of Hiawatha		
City of Horton		
City of Morrill		
City of Reserve		
City of Robinson		
City of Willis		
USD #415 - Hiawatha		
USD #430 - Horton		

DONIPHAN COUNTY

	Adoption Date	Resolution Number
Doniphan County		
City of Denton		
City of Elwood		
City of Highland		
City of Troy		
City of Wathena		
USD #114 - Riverside		
USD #429 - Troy		

DOUGLAS COUNTY

	Adoption Date	Resolution Number
Douglas County		
City of Baldwin City		
City of Eudora		
City of Lawrence		
City of Lecompton		
Clinton Township		
Kanawaka Township		
Lecompton Township		
Marion Township		
Palmyra Township		
Wakarusa Township		
Willow Springs Township		
Baker University		
University of Kansas		
USD #343 - Perry / Lecompton		
USD #348 - Baldwin City		
USD #491 - Eudora		
USD #497 - Lawrence		

JACKSON COUNTY

	Adoption Date	Resolution Number
Jackson County		
City of Circleville		
City of Delia		
City of Denison		
City of Holton		
City of Hoyt		
City of Mayetta		
City of Netawaka		
City of Soldier		
City of Whiting		
USD #335 - North Jackson		
USD #336 - Holton		
USD #337 - Royal Valley		

JEFFERSON COUNTY

	Adoption Date	Resolution Number
Jefferson County		
City of McLouth		
City of Meriden		
City of Nortonville		
City of Oskaloosa		
City of Perry		
City of Valley Falls		
City of Winchester		
USD #338 - Valley Falls		
USD #339 - Jefferson County North		
USD #340 - Jefferson West		
USD #341 - Okaloosa		
USD #342 - McLouth		
USD #343 - Perry / Lecompton		

KICKAPOO TRIBE

	Adoption Date	Resolution Number
Kickapoo Tribe		

MARSHALL COUNTY

	Adoption Date	Resolution Number
Marshall County		
City of Axtell		
City of Beattie		
City of Blue Rapids		
City of Frankfort		
City of Marysville		
City of Oketo		
City of Summerfield		
City of Vermillion		
City of Waterville		
USD #113 - Prairie Hills		
USD #364 - Marysville		
USD #380 - Vermillion		
USD #498 - Valley Heights		

NEMAHA COUNTY

	Adoption Date	Resolution Number
Nemaha County		
City of Bern		
City of Centralia		
City of Corning		
City of Goff		
City of Oneida		
City of Sabetha		
City of Seneca		
City of Wetmore		
USD #113 - Prairie Hills		
USD #115 - Nemaha Central		

WASHINGTON COUNTY

	Adoption Date	Resolution Number
Washington County		
City of Clifton		
City of Greenleaf		
City of Haddam		
City of Hanover		
City of Hollenberg		
City of Linn		
City of Morrowville		
City of Palmer		
City of Vining		
City of Washington		
USD #108 - Washington County		
USD #223 - Barnes / Hanover / Linn		

INDEPENDENTLY PARTICIPATING SPECIAL DISTRICTS

Unincorporated cities, townships, special districts and agencies that are part of a larger entity, such as a county health department or rural water district, will be considered as adopting when the umbrella county adopts the plan. It is important to note that these entities are not required to individually adopt the mitigation plan, but in doing so they retain the ability to control and oversee any grant funding received. In not adopting, these entities may cede control to the overarching county. In addition, there are no adoption requirements for private or non-profit jurisdictions.

	Adoption Date	Resolution Number
Douglas County		
Rural Water District #2		
Rural Water District #5		
Rural Water District #6		
Lawrence Memorial Hospital		

Completed resolutions of adoption may be found in Appendix A.

EXAMPLE RESOLUTION OF ADOPTION

The following presents an example resolution of adoption for participating jurisdictions to use as a template, if necessary.

Model Resolution

Resolution # ____: **Adopting the Northeast Kansas (Region K) Multi-Hazard, Multi-Jurisdictional Hazard Mitigation Plan**

Whereas, the (Name of Government/District/Organization) recognizes the threat that natural hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

Whereas, the U.S. Congress passed the Disaster Mitigation Act of 2000 (“Disaster Mitigation Act”) emphasizing the need for pre-disaster mitigation of potential hazards;

Whereas, the Disaster Mitigation Act made available hazard mitigation grants to state and local governments; and

Whereas, an adopted Multi-Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs; and

Whereas, the (Name of Government/District/Organization) fully participated in the FEMA prescribed mitigation planning process to prepare this Multi-Hazard Mitigation Plan; and

Whereas, the Kansas Division of Emergency Management and FEMA Region VII officials have reviewed the Northeast Kansas (Region K) Multi-Hazard, Multi-Jurisdictional Hazard Mitigation Plan, and approved it contingent upon this official adoption of the participating governing body; and

Whereas, the (Name of Government/District/Organization) desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the Northeast Kansas (Region K) Multi-Hazard, Multi-Jurisdictional Hazard Mitigation Plan; and

Whereas, adoption by the governing body for the (Name of Government/District/Organization) demonstrates the jurisdictions’ commitment to fulfilling the mitigation goals and objectives outlined in this plan, and

Whereas, adoption of this legitimizes the plan and authorizes responsible agencies to carry out their responsibilities under the plan.

Now, therefore, be it resolved, that the (Name of Government/District/Organization) adopts the Northeast Kansas (Region K) Multi-Hazard, Multi-Jurisdictional Hazard Mitigation Plan as an official plan; and

Be it further resolved, the (Name of Government/District/Organization) will submit this Adoption Resolution to the Kansas Division of Emergency Management and FEMA Region VII officials to enable the plan’s final approval.

Passed

Certifying Official

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).

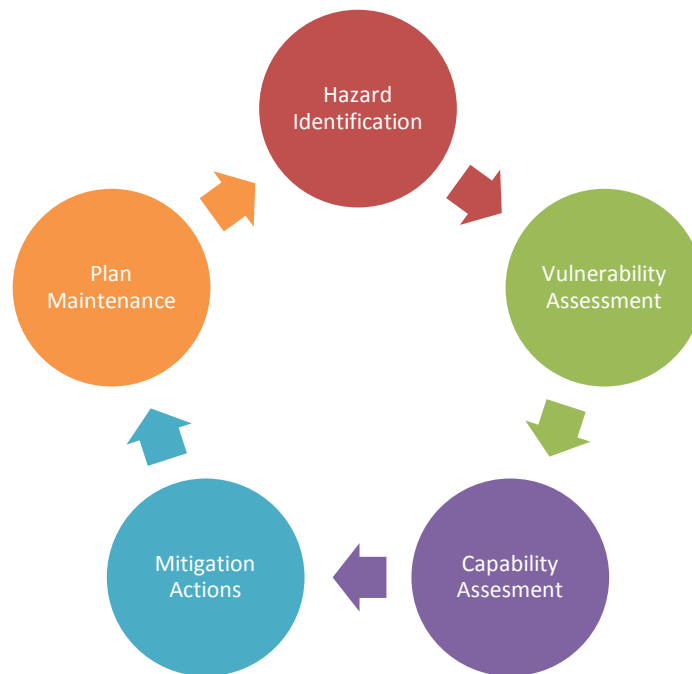
1.4 HAZARD MITIGATION PLANNING PROCESS

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.

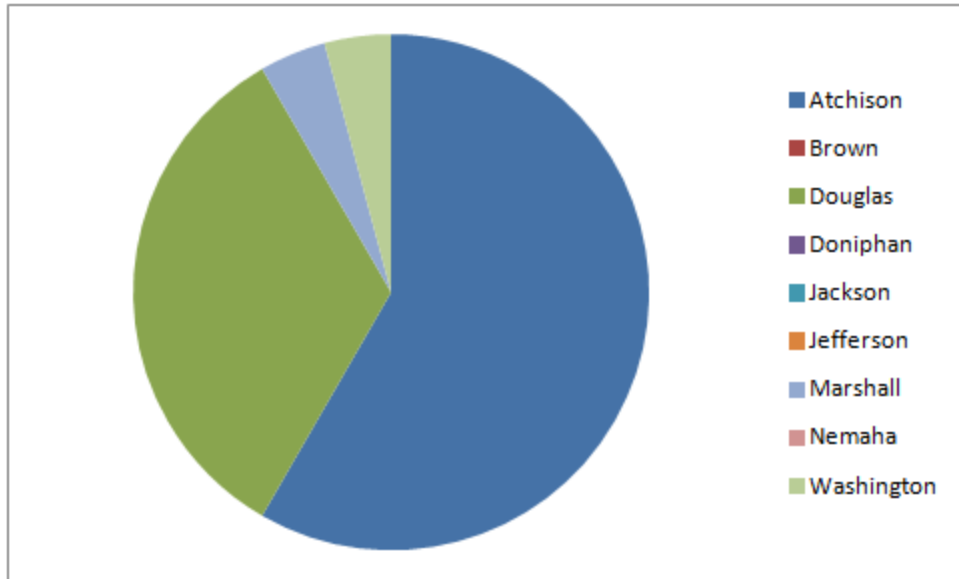
The Kickapoo Tribe considers tribal members and non-natives living within the Reservation boundaries as the public. The Kickapoo Tribe HMPC representative agreed that the above noted methods for reaching out to the public were applicable to the tribe.

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.

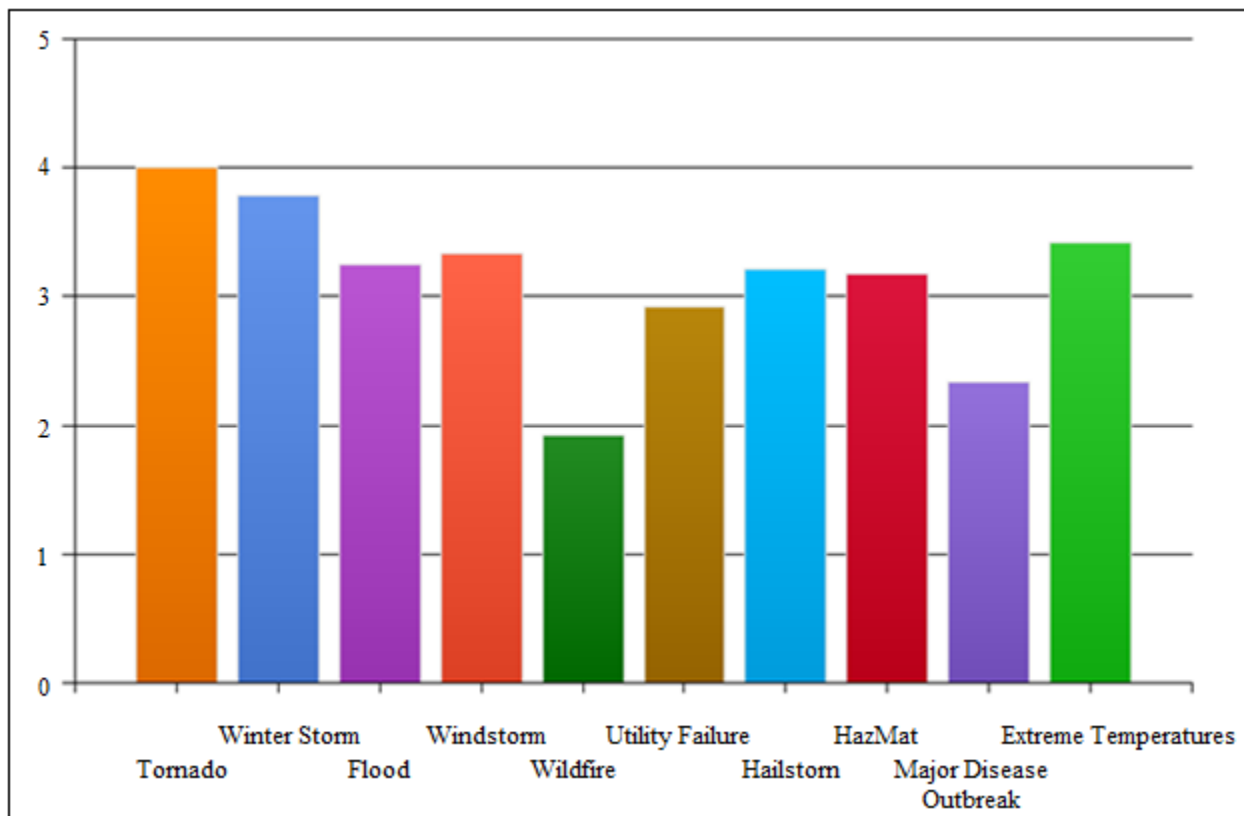
Additionally, as citizens were made more aware of potential hazards and the local and regional process to mitigation against their impacts, it was believed that they would take a stronger role in making their homes, neighborhoods, schools, and businesses safer from the potential effects of natural hazards.

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.

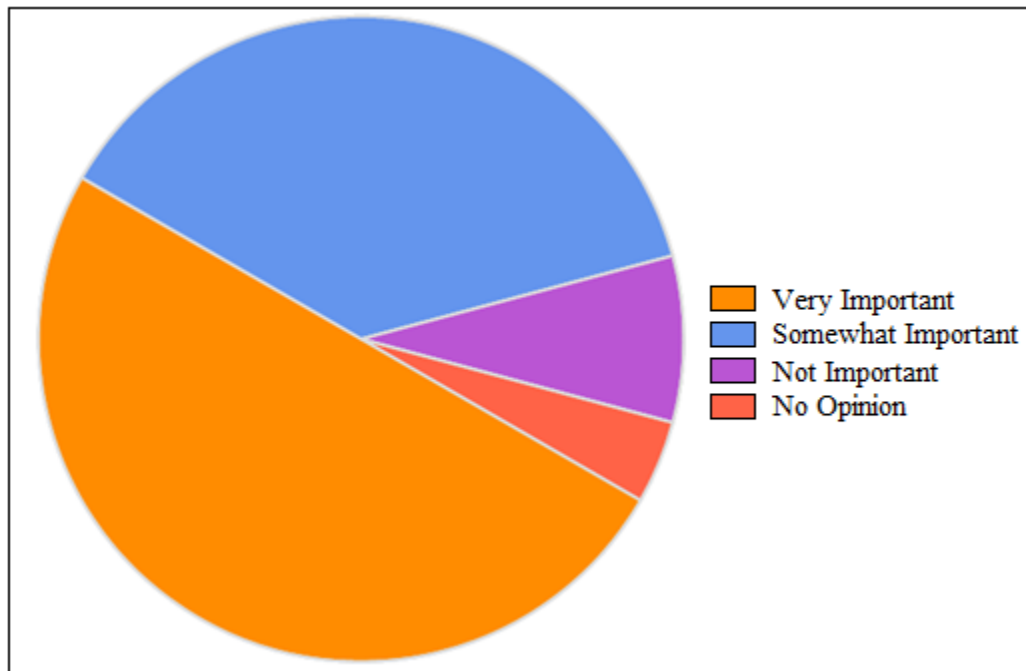
Question 1: What County and jurisdiction do you live in?



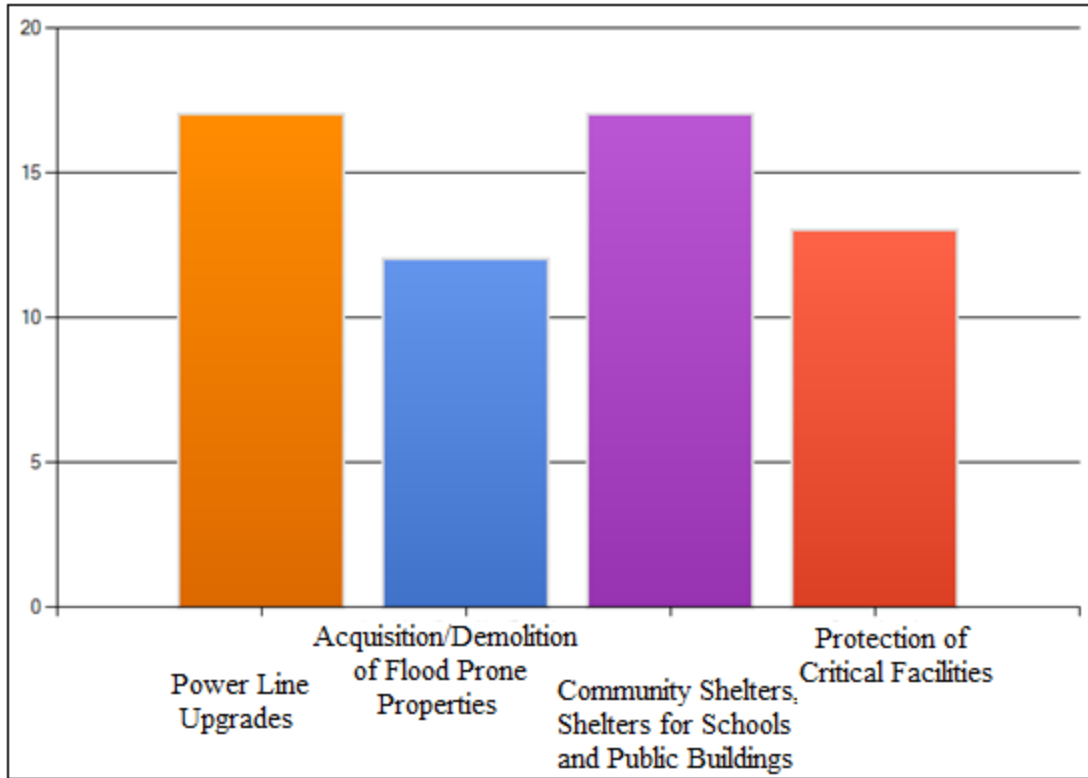
Question 2: In the Region consisting of Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington Counties, the planning committee has determined that the hazards listed below are of significance to the area. Please indicate the level of risk, or extent of potential impacts,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



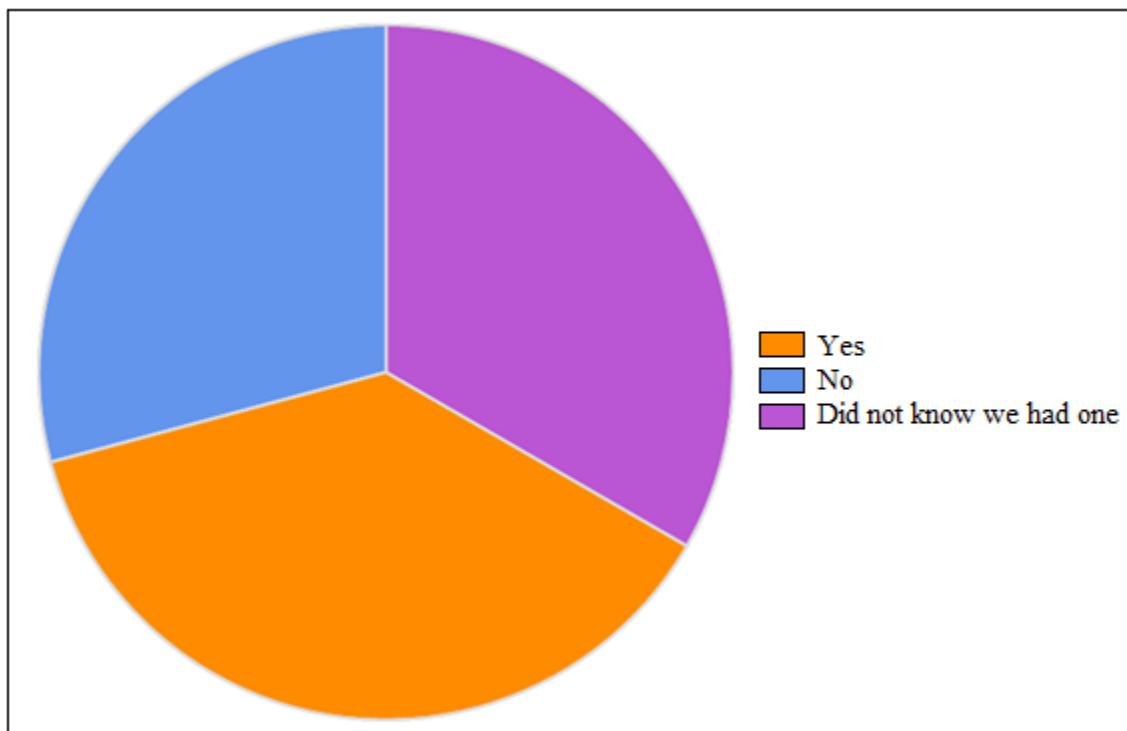
Question 3: In the region, the planning committee has determined that a flood event is a hazard. How important to you is it that you participate or continue to participate in the National Flood Insurance Program?



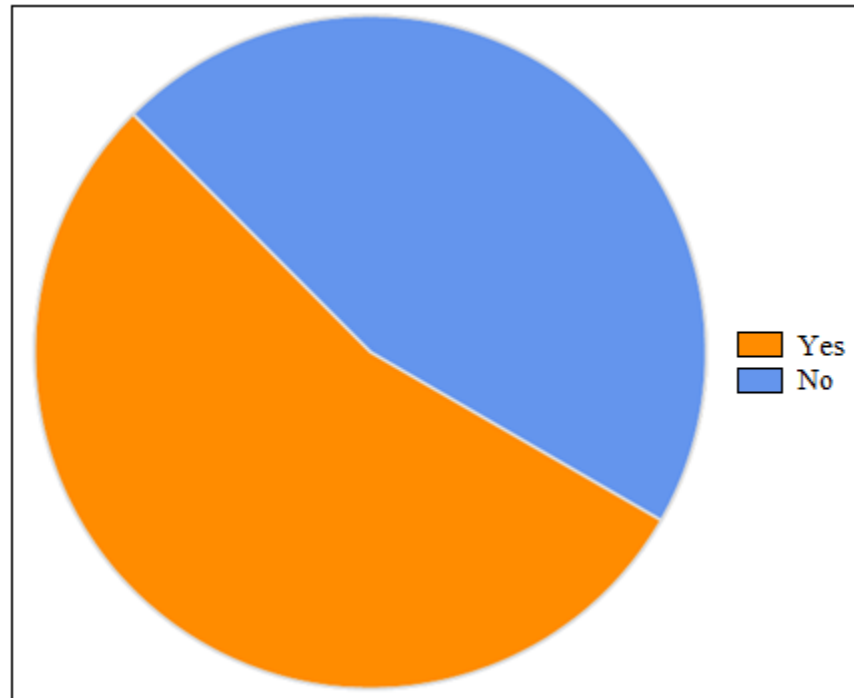
Question 4: Funding requests for FEMA Hazard Mitigation Grant Program funds are currently reviewed initially by the Kansas Division of Emergency Management. Listed below are their current funding priorities. Please check those that benefit your community.



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.

1.12 CAPABILITY ASSESSMENT

A capability assessment was conducted to determine the abilities, policies, and available resources of local and regional jurisdictions to implement mitigation actions. The following information was researched as part of the capability assessment:

- Existing and proposed local and regional ordinances, regulations, and policies
- Active and proposed plans related to mitigation planning, regional and local planning
- Current and proposed public outreach measures and programs
- Available personnel
- Available resources, including technological capabilities
- Available financial resources related to mitigation activities

Additionally, this assessment assisted in identifying any roadblocks, limitations or conflicts that could potentially obstruct mitigation actions and in identifying those activities that could be enhanced to further mitigation goals.

Further discussion of regional capabilities may be found in Section 4.

1.13 DEVELOPMENT OF MITIGATION GOALS

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

Based upon the developed regional hazards the HMPC and participating jurisdictions were asked during the second planning meeting to assist in developing a set of goals related to future hazard event outcomes. Research conducted prior to the meeting provided participants with a list of goals from previous planning efforts as a starting point for development. In general, the goals and objectives of this Plan are to:

- **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.

The above identified goals are discussed in detail in Section 5 of this plan.

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

To accomplish the above identified goals, the HMPC has developed a list of robust and achievable mitigation actions for each participating jurisdiction that address hazard vulnerabilities that exist today and in the foreseeable future.

The mitigation actions noted in this plan include both structural and non-structural measures. Examples include:

- Requiring resistant new construction
- Relocation of structures
- Structural modification
- Construction of shelters
- Construction of barrier, deflection, or retention systems
- Detection and warning systems
- Regulatory measures
- Community awareness and education programs
- Behavioral modification

Mitigation actions were prioritized by the responsible jurisdiction based on both historical and new information and jurisdictional capabilities.

A complete discussion of the development of mitigation actions can be found in Section 5.

1.15 DEVELOPMENT OF NORTHEAST KANSAS MULTI-HAZARD MITIGATION PLAN

44 CFR 201.6(d) Plan review.(1) Plans must be submitted to the State Hazard Mitigation Officer (SHMO) for initial review and coordination. The State will then send the plan to the appropriate FEMA Regional Office for formal review and approval. Where the State point of contact for the FMA program is different from the SHMO, the SHMO will be responsible for coordinating the local plan reviews between the FMA point of contact and FEMA.

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.

1.17.1 ATCHISON COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Atchison County	X	X	X
City of Atchison	X	X	X
City of Effingham	X	X	X
City of Huron	X	X	X
City of Lancaster	X	X	X
City of Muscotah	X	X	X
USD #377 - Atchison County	X	X	X
USD #409 - Atchison	X	X	X

1.17.2 BROWN COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Brown County	X	X	X
City of Everest	X	X	X
City of Fairview	X	X	X
City of Hiawatha	X	X	X
City of Horton	X	X	X
City of Morrill	X	X	X
City of Reserve	X	X	X
City of Robinson	X	X	X
City of Willis	X	X	X
USD #415 - Hiawatha	X	X	X
USD #430 - Horton	X	X	X

1.17.3 DONIPHAN COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Doniphan County	X	X	X
City of Denton	X	X	X
City of Elwood	X	X	X
City of Highland	X	X	X
City of Leona	X	X	X
City of Wathena	X	X	X
USD #114 - Riverside	X	X	X
USD #429 - Troy	X	X	X

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

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
USD #335 - North Jackson	X	X	X
USD #336 - Holton	X	X	X
USD #337 - Royal Valley	X	X	X

1.17.6 JEFFERSON COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Jefferson County	X	X	X
City of McLouth	X	X	X
City of Meriden	X	X	X
City of Nortonville	X	X	X
City of Oskaloosa	X	X	X
City of Perry	X	X	X
City of Valley Falls	X	X	X
City of Winchester	X	X	X
USD #338 - Valley Falls	X	X	X
USD #339 - Jefferson County North	X	X	X
USD #340 - Jefferson West	X	X	X
USD #341 - Okaloosa	X	X	X
USD #342 - McLouth	X	X	X
USD #343 - Perry / Lecompton	X	X	X

1.17.7 KICKAPOO TRIBE

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Kickapoo Tribe	X	X	X

1.17.8 MARSHALL COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Marshall County	X	X	X
City of Axtell	X	X	X
City of Beattie	X	X	X
City of Blue Rapids	X	X	X
City of Frankfort	X	X	X
City of Marysville	X	X	X
City of Oketo	X	X	X
City of Summerfield	X	X	X
City of Vermillion	X	X	X
City of Waterville	X	X	X
USD #113 - Prairie Hills	X	X	X
USD #364 - Maryville	X	X	X
USD #380 - Vermillion	X	X	X
USD #498 - Valley Heights	X	X	X

1.17.9 NEMAHA COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Nemaha County	X	X	X
City of Bern	X	X	X
City of Centralia	X	X	X
City of Corning	X	X	X
City of Goff	X	X	X
City of Oneida	X	X	X
City of Sabetha	X	X	X
City of Seneca	X	X	X
City of Wetmore	X	X	X
Nemaha County	X	X	X
USD #113 - Prairie Hills	X	X	X
USD #115 - Nemaha Central			

1.17.10 WASHINGTON COUNTY

	Meeting Attendance or Communication with HMPC Representative	Data Submission	Mitigation Action
Washington County	X	X	X
City of Clifton	X	X	X
City of Greenleaf	X	X	X
City of Haddam	X	X	X
City of Hanover	X	X	X
City of Hollenberg	X	X	X
City of Linn	X	X	X
City of Morrowville	X	X	X
City of Palmer	X	X	X
City of Vining	X	X	X
City of Washington	X	X	X
USD #108 - Washington County	X	X	X
USD #223 - Barnes / Hanover / Linn	X	X	X

1.17.11 STAKEHOLDERS

The following list includes stakeholders involved in the planning process, including private, non-profit and charitable organizations.

Stakeholder
Blue Valley Telephone Cooperative
Nemaha / Marshall Electric Cooperative
Good Shepherd School
St. Gregory's School
St. Michael's School

1.18 NON-PARTICIPATING JURISDICTIONS

The following jurisdictions, identified as participating in the last hazard mitigation planning process for their respective counties, elected not to participate in this planning iteration: The cities of Leona, Severance and White Cloud, Doniphan County, the cities of Barnes and Mahaska, Washington County, and Highland Community College. Because this is a regional plan data from these non-participating jurisdictions may be included throughout the plan. Each of these jurisdictions will be encouraged to participate in future plan iterations.

Four previously participating USDs, USD #441 - Sabetha, USD #442 - Nemaha Valley, USD #451 - Bailey and USD #488 - Axtell, all located in Nemaha County, have been closed.

1.19 INTRODUCTION TO THE KICKAPOO TRIBE

The Tribal Council, consisting of 7 elected tribal members, make all legal decisions for the tribe. Tribal Council elections are held once each year; terms are for 2 years, with the terms staggered; usually 4 positions one year, 3 positions the next. Tribal Council officers (Chairman, Vice-Chairman, Secretary, Treasurer) are chosen by the council after each election. The Tribal Council reports to the General Council, which is a collective meeting to which all Kickapoo tribal members can attend. Tribal Council oversees most tribal departments, with some boards/commissions that are semi-autonomous.

The Kickapoo Reservation is extremely rural, similar to much of Brown County. Technology is not as widespread or readily available for many on the reservation. General information spreads primarily by word of mouth, and can be accompanied by misinformation. Paper documents are the best way to provide information to the most people with the greatest accuracy. KTIK often send out these kinds of documents with the water bills to reservation water customers. Also, accurate information can be disseminated through the various religious groups on the reservation, through the leaders of the Drum, Kenekuk, Native American Church, or Christian church organizations on the reservation.

With a distrust of official governmental organizations, some tribal members, particularly older members, are reluctant to heed warnings from state or federal agencies, particularly if these include abandoning one's home for a collective shelter location. KTIK Fire and Police must often double-check houses to ensure individuals follow those kinds of instructions.

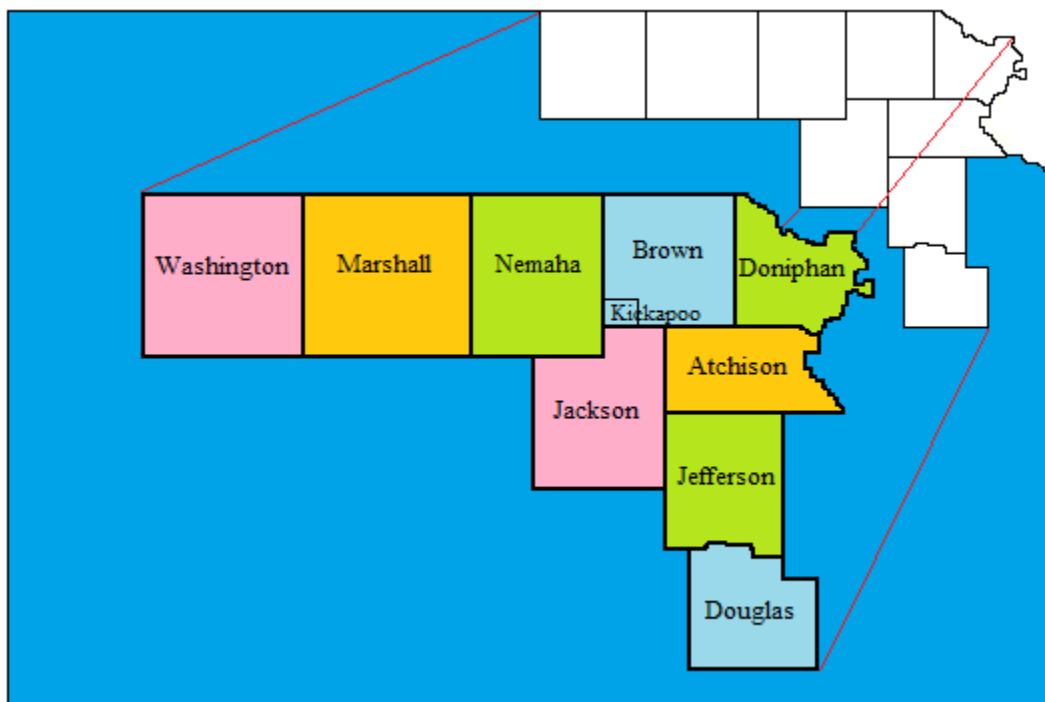
1.20 TRIBAL ASSURANCE

As required by 44 CFR 201.7(c)(6), the Kickapoo Tribe will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 13.11(c). The Kickapoo Tribal government will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes as required in 13.11(d).

2.0 REGIONAL PROFILE

2.1 PLANNING REGION

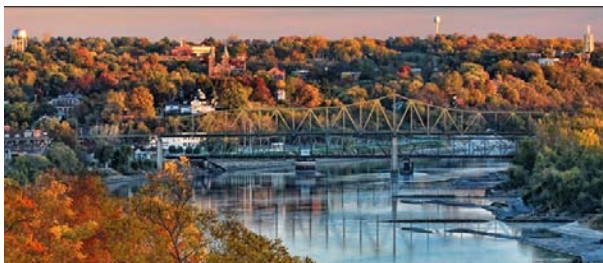
The northeast Kansas planning region includes Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha, and Washington counties, as well as the cities and towns located within these counties and the Kickapoo Tribe located in Brown County. The counties and majority of the cities participating 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.

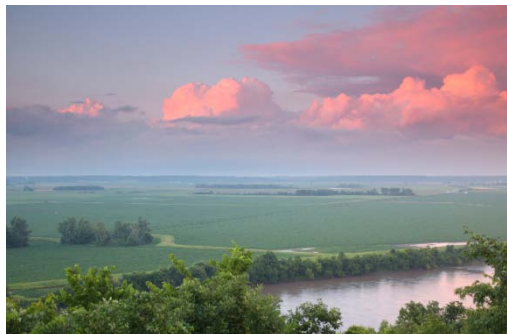
The main water courses include the Wolf River, Middle Fork Wolf River, South Fork Wolf River, Delaware River, North Fork Wolf River and the Crow River. Brown County also has 18 named creeks. Major lakes include Pony Creek Lake, Brown State Lake and Mission Lake.

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, Taub 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.

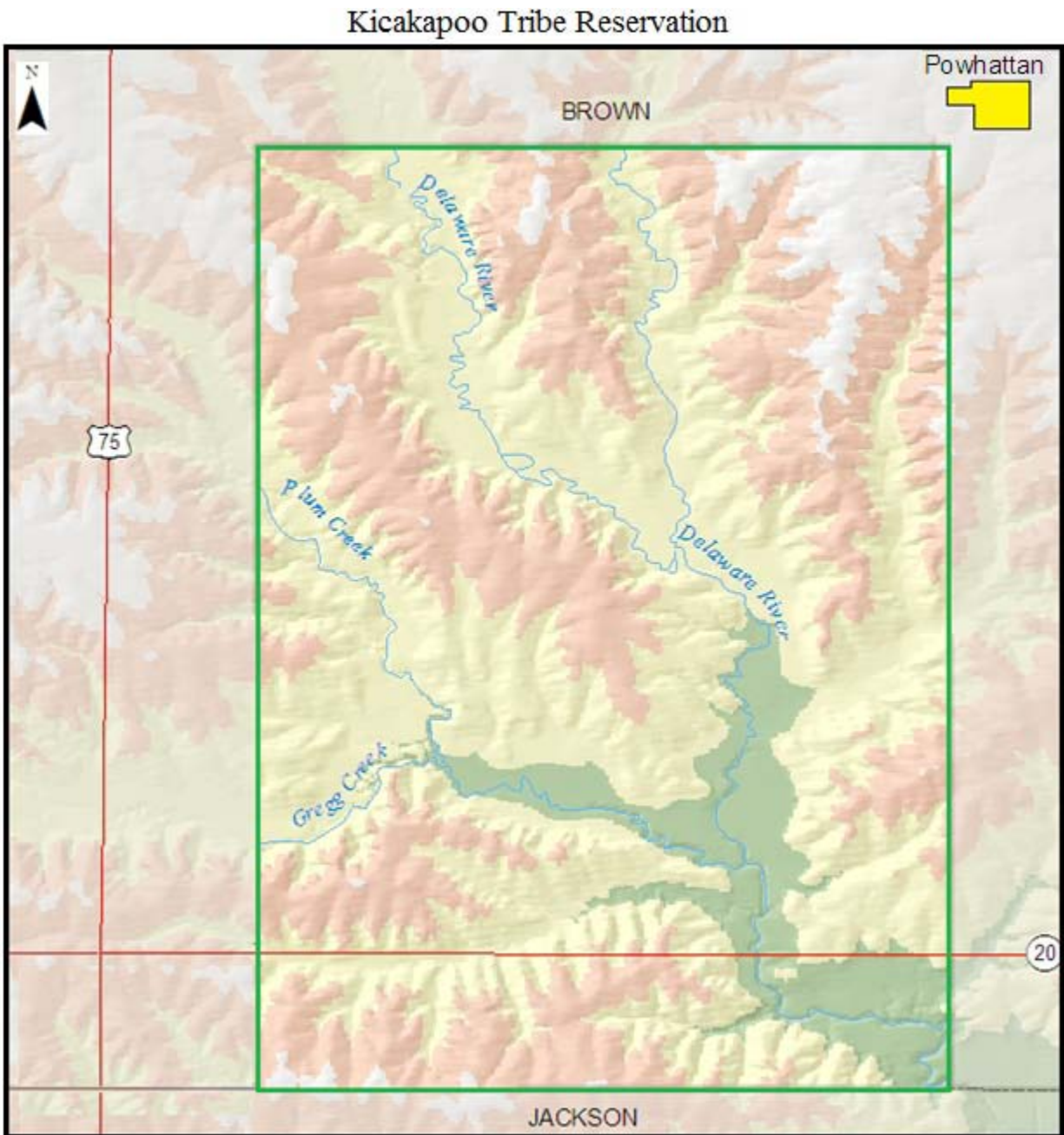
Kickapoo Tribe

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.



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, and based on a discussion with the Kickapoo Tribe HMPC representative, often inaccurate. 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 and 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.



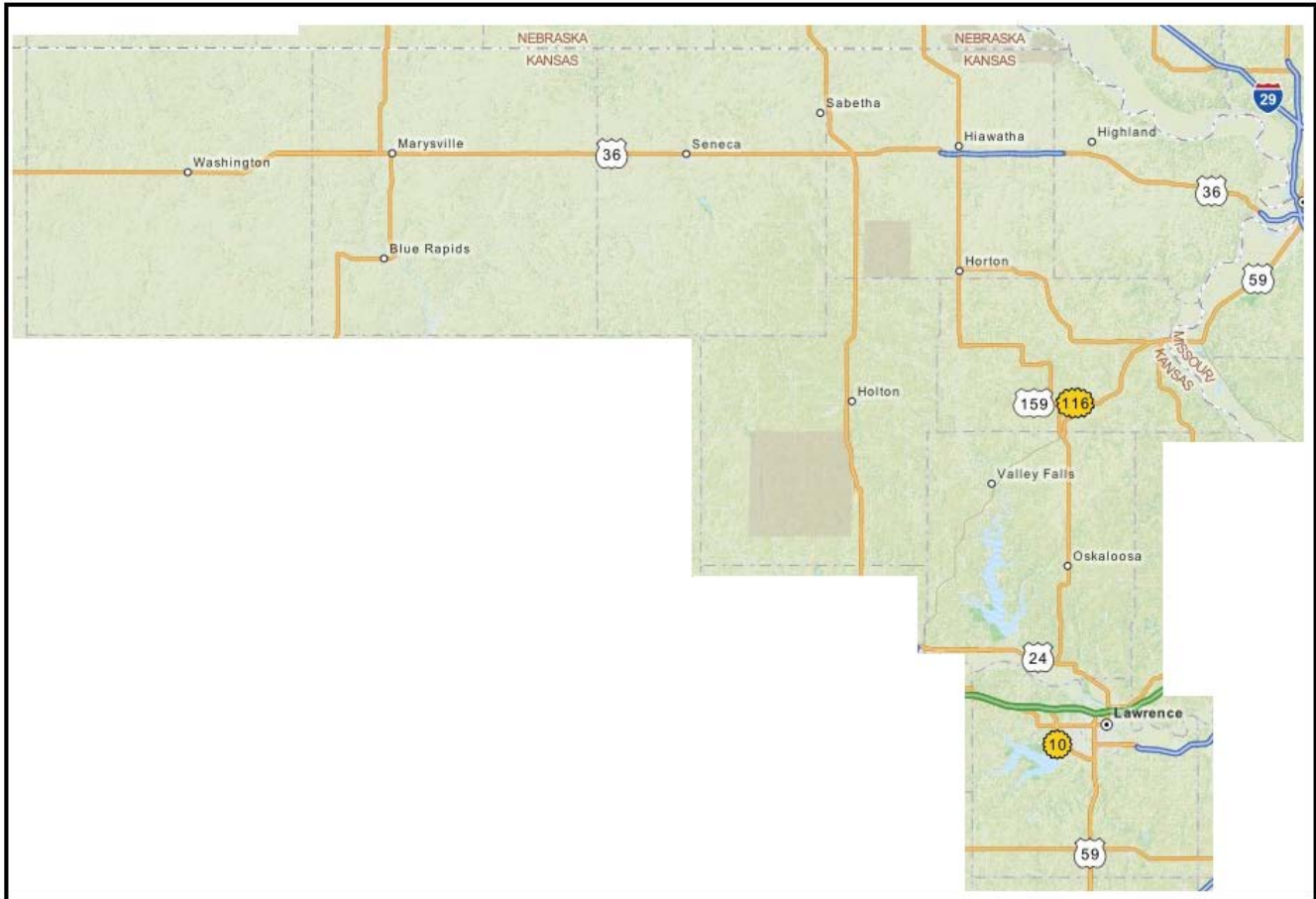
Washington County was organized in 1873 with the City of Washington as the county seat. The county was named in honor of George Washington, the first president of the United States.

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 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 Pottawatomie 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 at 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.

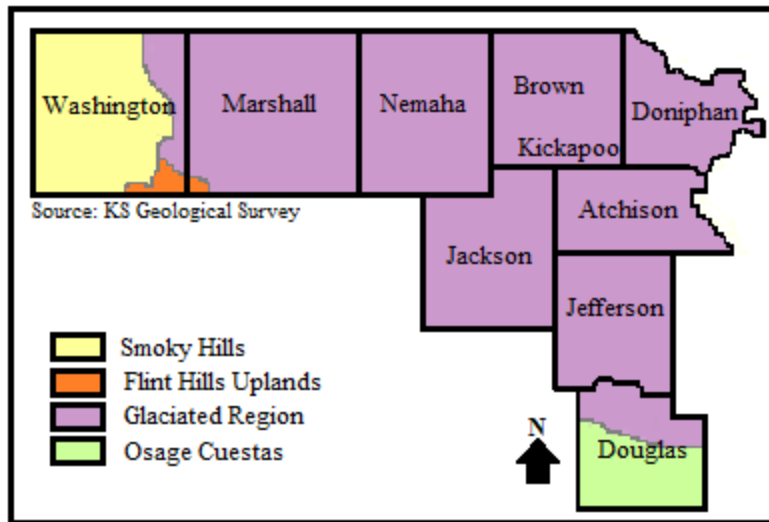
Vining is located in the southwest corner of the county, along Highway 9. The 2010 Census indicates the city has a total area of 0.22 square miles and a population of 45.

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.

Kansas Geological Survey Generalized Physiographic Map of Kansas



The region known as the **Smoky Hills** occupies the northern part of the region. It is delineated by outcrops of Cretaceous-age rocks and takes its name from the early morning haze that often gathers in the valleys. The sandstones of the Dakota Formation crop out in a wide belt from Rice and McPherson counties. They are the remains of beach sands and sediments dumped by rivers draining into the early Cretaceous seas. The hills and

buttes in this part of the Smoky Hills are capped by this sandstone and rise sharply above the surrounding plains.

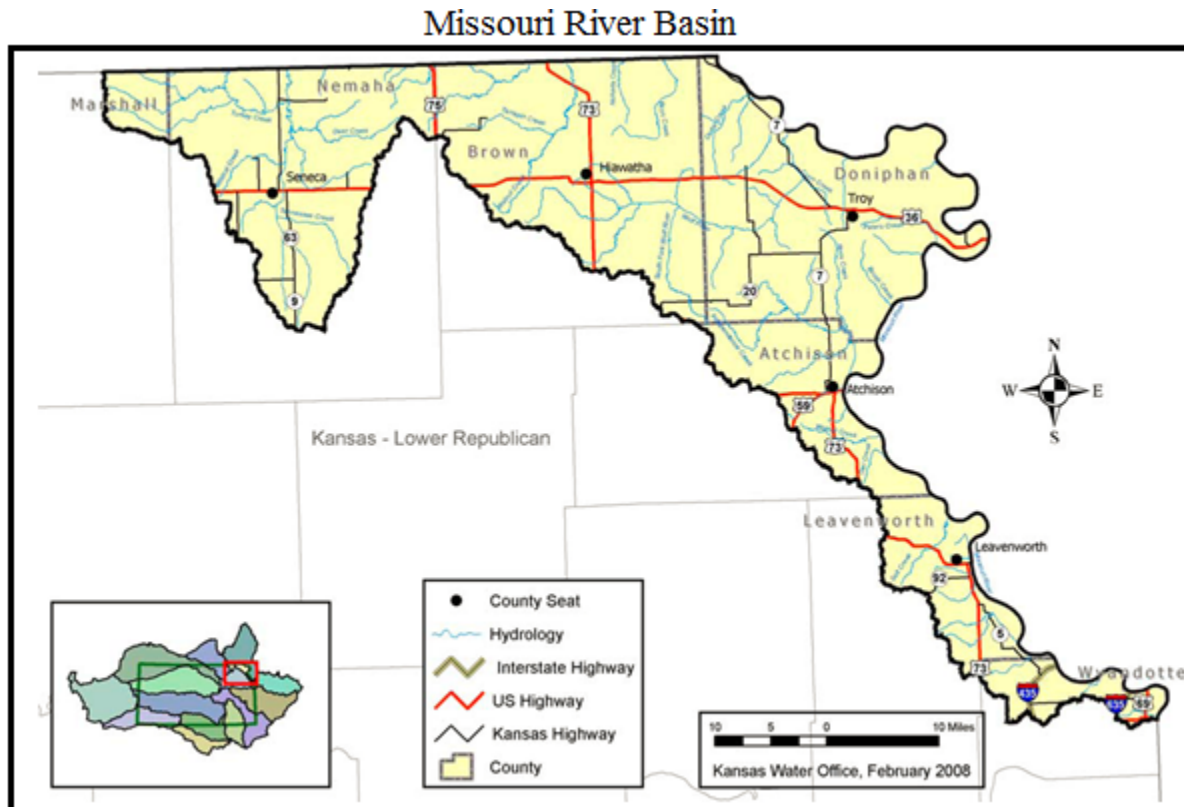
The **Flint Hills Uplands** were formed by the erosion of Permian-age limestone and shale when shallow seas covered much of the state. Because much of the limestone in the region contains bands of flint, which is much less soluble than the limestone, weathering has resulted in a clayey soil full of flinty gravel. This gravelly soil generally tends to make the land in this region better suited to ranching rather than farming. As a result, the region is still largely native prairie grassland, one of the last great preserves in the country.



The **Glaciated Region** was covered by at least two of the eight or nine glaciers that encroached upon much of the northern United States during the Pleistocene Epoch, between 1.6 million and 10 thousand years ago. The underlying bedrock is generally limestone and shale. These rock have been covered by thick glacial deposits, or glacial drift, including silt and loose rock referred. These glacial drifts tend to form deep soils.

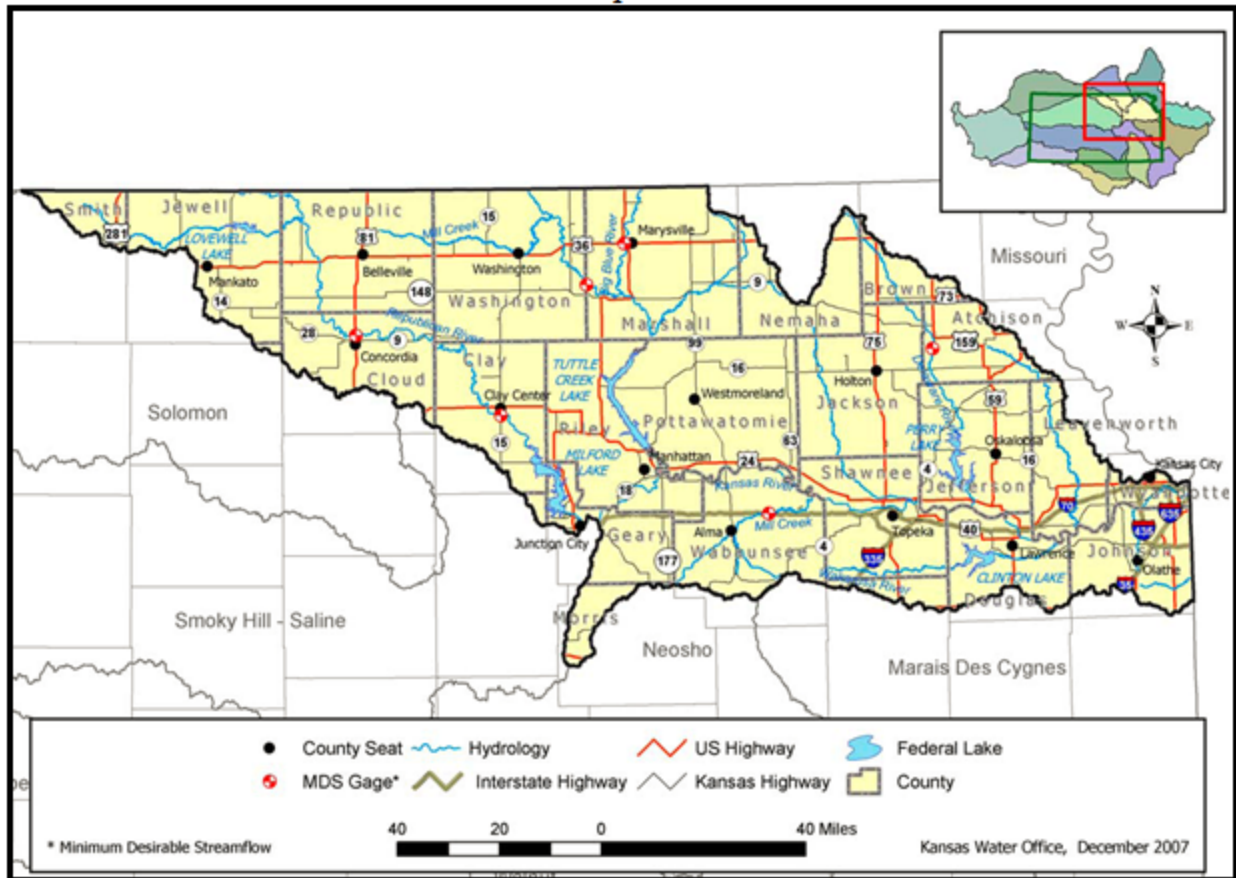
activities. Unfortunately, soils are not easily renewed and it takes about 500 years for an inch of topsoil to develop under prairie grasses.

Two river basins cover northeast Kansas, the Missouri and the Kansas-Lower Republican, Basins. Brief descriptions of each of these basins are presented below.



According to the Kansas Water Office (KWO), the **Missouri Basin** covers approximately half of the planning region, and is the smallest major basin in the state covering approximately 2% of the land area. Tributary streams include the South Fork of the Big Nemaha River which along with other tributaries in Washington, Nemaha and part of Brown County drains northward into Nebraska as part of the Big Nemaha River watershed which enters the Missouri River just upstream of the Kansas border. Tributaries of the Missouri River include the Wolf River and numerous smaller creeks. There are no federal reservoirs in the basin. There were an estimated 143,000 residents in the basin in the year 2000 (KWO estimate). By 2040, the population is projected to decrease by approximately eight percent. The topography of the Missouri basin is influenced by glacial deposits of the Pleistocene age. The area is part of the glaciated region physiographic province and is also described as the Dissected Till Plains section of the Central Lowlands. In the upland areas between major streams, the land surface is flat to undulating with rounded hills and resembles the unaltered drift topography left after the last period of glaciation. The valleys of the smaller streams tend to be narrow and deep. Adjacent to the Missouri River, loess deposits replace the glacial drift and later erosion of this material created hilly terrain and steep bluffs.

Kansas-Lower Republican River Basin



According to the KWO, the **Kansas-Lower Republican River Basin** covers nearly 10,500 square miles of northeast Kansas and includes portions drained by the Republican River downstream of Harlan County Dam in Nebraska and the Kansas River which originates at the junction of the Republican and Smoky Hill rivers. Major rivers and streams within the basin are: the Upper Kansas, including Vermillion, Mill and Soldier Creeks; Lower Republican; Blue, including the Little Blue River; Delaware; and Lower Kansas, including the Wakarusa River and Stranger Creek. Major reservoirs in the basin are Lovewell, Milford, Tuttle Creek, Perry and Clinton. The basin has the largest population of all the twelve major river basins, estimated 1,025,644 residents in the year 2000. This population is projected to grow to nearly 1,583,584 in the year 2040. However, regional county population trends indicate that rural counties are shrinking while urban counties are growing. There are 65 soil associations occurring in the basin. In general, the more coarsely textured soils occur in the floodplains of the larger rivers. Finer soils are found in the uplands, particularly in the Glaciated Region and Flint Hills uplands physiographic regions.

2.5 REGIONAL CLIMATE

The Midwest climate region is known for extremes in both temperature and precipitation. In particular, Kansas lacks any mountain ranges that could act as a barrier to cold air masses from the north or hot, humid air masses from the south or any oceans or large bodies of water that

could provide a moderating effect on the climate. The polar jet stream is often located over the region during the winter, bringing frequent storms and precipitation. In the summer the jet stream migrates north, resulting in the collision of air masses with differing temperatures and moisture levels. The result if this is often severe thunderstorms, high winds and tornados, with peak severe weather season from May to June.

Kansas summers are generally warm and humid due to the clockwise air rotation caused by Atlantic high pressure systems bringing warm humid air up from the Gulf of Mexico. In general, summer also tends to have the most rain. Historically, precipitation has been reasonably predicable and adequate, however the region is noted for severe droughts such as is occurring now. Winter months can bring severe weather in the form of snow and ice storms. All seasons are noted for damaging high winds.

Data from the following High Plains Regional Climate Center weather stations from the first available date (in parenthesis) to 2012 was obtained to create a regional average:

- Atchison, Atchison County (1893)
- Hiawatha, Brown County (1947)
- Troy, Doniphan County (1948)
- Lawrence, Douglas County (1894)
- Holton, Jackson County (1902)
- Valley Falls, Jefferson County (1950)
- Marysville, Marshall County (1941)
- Centralia, Nemaha County (1909)
- City of Washington, Washington County (1893)

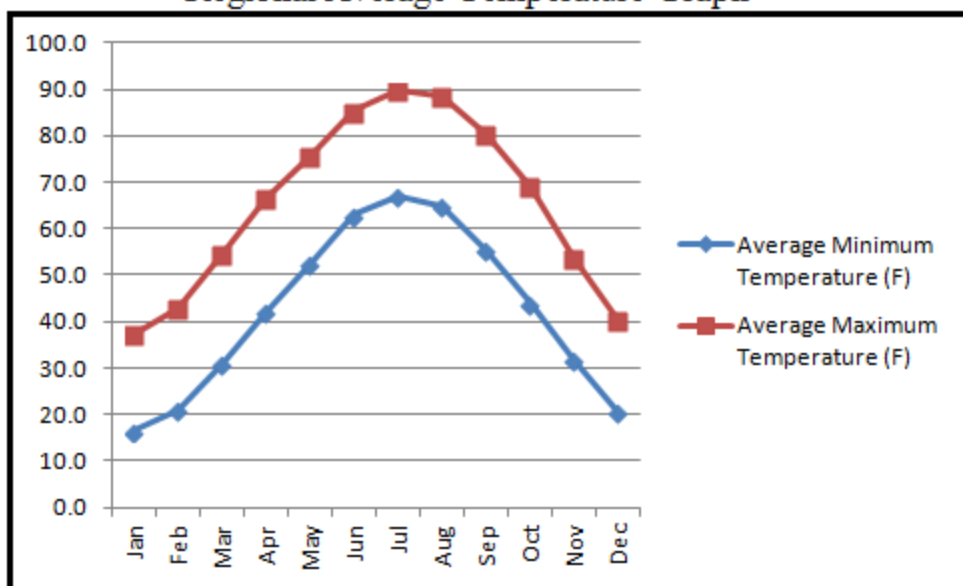
The following tables and charts present average climate data for northeast Kansas.

Regional Average Temperatures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Minimum Temperature (F)	16.5	21.0	31.0	42.1	52.5	62.9	66.9	65.0	55.5	44.0	31.6	20.6	42.5
Average Maximum Temperature (F)	37.2	43.0	54.4	66.6	75.5	85.3	89.7	88.5	80.5	69.3	53.7	40.4	65.3

Source: High Plains Regional Climate Center

Regional Average Temperature Graph



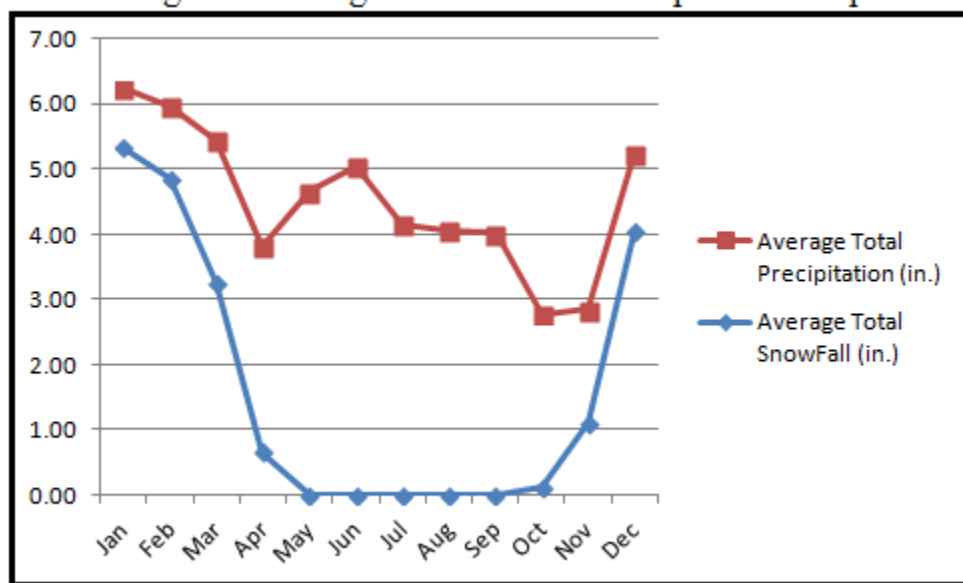
Source: High Plains Regional Climate Center

Regional Average Snowfall and Precipitation

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Total Snowfall (in.)	5.32	4.86	3.26	0.66	0.00	0.00	0.00	0.00	0.00	0.11	1.10	4.03	1.61
Average Total Precipitation (in.)	0.91	1.10	2.20	3.15	4.66	5.04	4.14	4.07	4.01	2.67	1.74	1.20	2.91

Source: High Plains Regional Climate Center

Regional Average Snowfall and Precipitation Graph



Source: High Plains Regional Climate Center

When discussing weather patterns climate change should be taken into account as it may markedly change future weather related events. There is a scientific consensus that climate change is occurring, and recent climate modeling results indicate that extreme weather events may become more common. Rising average temperatures produce a more variable climate system which may result in an increase in the frequency and severity of some extreme weather events including longer and hotter heat waves (and by correlation, an increased risk of wildfires), higher wind speeds, greater rainfall intensity, and increased tornado activity. As climate modeling improves, future plan updates should include climate change as a factor in the ranking of natural hazards as these are expected to have a significant impact on northeast Kansas communities.

2.6 REGIONAL POPULATION AND DEMOGRAPHICS

In general, northeast Kansas is a rural area with a few larger metropolitan areas. According to the United States Census Bureau, the estimated regional population for 2012 is 205,728 persons. This represents a 5.5% regional increase from the 2000 census.

The region accounts for approximately 7.1% of the State of Kansas' 2012 estimated population. Additionally, the region occupies approximately 5,715 square miles (representing 7.0% of the total land area of the state, at 81,759 square miles). The 2012 regional population density is calculated at 36 people per square mile. It should be noted that the high population density of Douglas County (202 people per square mile) skews the regional average. Excluding Douglas County, the regional average population density is 16 people per square mile.

Please note that specific information relating to the Kickapoo Tribe is included where available. However, discussions with the Kickapoo Tribe HMPC representative have indicated that the Census information relating to the tribe is viewed as inaccurate and non-reflective of the Tribe's demographics.

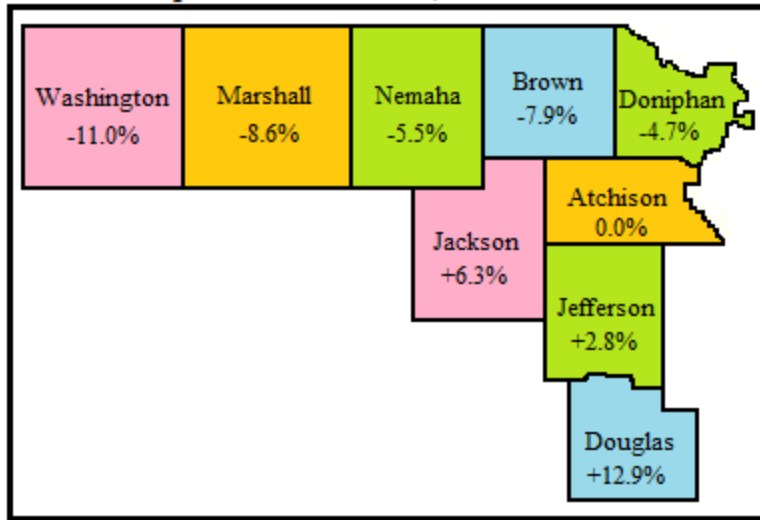
Regional Population Data

County	Population (2000)	Population (2012 Estimate)	Percentage Change (2000-2012)	Population (2040 Projection)
Atchison	16,774	16,813	Statistically Unchanged	16,565
Brown	10,724	9,881	-7.9%	7,198
Doniphan	8,249	7,864	-4.7%	6,622
Douglas	99,962	112,864	+12.9%	152,442
Jackson	12,657	13,449	+6.3%	16,030
Jefferson	18,426	18,945	+2.8%	20,638
Kickapoo	-	771*	-	Slight Increase*
Marshall	10,965	10,022	-8.6%	8,048
Nemaha	10,717	10,132	-5.5%	9,379
Washington	6,483	5,758	-11.0%	3,969
Kansas	2,688,418	2,885,905	7.4%	3,238,356

Source: United States Census Bureau

*- Tribal reported data, Census data determine inaccurate

Population Variance, 2000 - 2012



Source: United States Census Bureau

The following table indicates the levels of education for citizens of the region.

Regional Educational Data

County	High school graduate or higher, age 25+ (2007-2011)	Bachelor's degree or higher, age 25+ (2007-2011)
Atchison	88.80%	21.40%
Brown	89.10%	16.30%
Doniphan	88.00%	18.30%
Douglas	95.30%	48.80%
Jackson	93.40%	18.70%
Jefferson	92.80%	22.80%
Marshall	90.20%	12.80%
Nemaha	90.80%	19.40%
Washington	88.60%	17.30%
Kansas	89.50%	29.70%

Source: United States Census Bureau

The following information provides a snapshot of regional housing trends. In general, the region enjoys a high percentage of home ownership. Additionally, available data indicates a small proportion of available housing units are in the form of multi-unit spaces.

Housing Data

County	Housing Units (2000)	Housing Units (2011)	Multi Unit Percentage (2007-2011)	Homeownership Rate (2007-2011)	Households (2007-2011)	Persons per Household (2007-2011)	Issued Building Permits, All Categories (2011)
Atchison	6,818	6,978	15.30%	69.10%	6,096	2.58	5
Brown	4,815	4,754	12.90%	67.30%	4,133	2.37	1
Doniphan	3,489	3,574	8.40%	74.00%	3,108	2.36	4
Douglas	40,250	46,999	32.70%	51.90%	43,238	2.34	471
Jackson	5,094	5,817	6.10%	77.50%	5,336	2.47	15
Jefferson	7,491	8,157	4.00%	85.20%	7,401	2.54	36
Marshall	4,999	4,828	6.40%	76.10%	4,309	2.29	7
Nemaha	4,340	4,570	9.50%	79.90%	4,040	2.4	8
Washington	3,142	2,920	6.40%	79.70%	2,496	2.28	3
Kansas	1,131,200	1,237,651	17.60%	69.00%	1,104,479	2.49	5,386

Source: United States Census Bureau

2.7 REGIONAL ECONOMY

Data from the University of Kansas Institute for Policy and Social Research Kansas County Profile reports indicate that in general, the number of business establishments in northeast region are decreasing on a yearly basis. From 2000 to 2010 the average rate of decrease for the region was -3.6%. Major sources of employment include construction, manufacturing, retail, transportation, health care, and utilities. The average regional unemployment rate of 6.11% in 2011 was lower than the average State of Kansas unemployment rate of 6.5%.

Regional Business and Unemployment Data

County	Total Number of Business (2000)	Total Number of Business (2010)	01 - 19 Staff (2010)	20 - 99 Staff (2010)	100+ Staff (2010)	Average Wage (2010)	Unemployment Rate (2011)
Atchison	400	368	319	42	7	\$33,302	8.30%
Brown	269	247	214	27	6	\$31,498	5.60%
Doniphan	181	163	155	5	3	\$32,522	8.00%
Douglas	2,624	2,628	2,260	313	55	\$32,318	6.00%
Jackson	285	270	250	16	4	\$28,943	6.80%
Jefferson	375	321	301	17	3	\$32,108	7.50%
Marshall	388	379	344	32	3	\$31,722	4.60%
Nemaha	390	374	339	26	9	\$29,663	3.70%
Washington	239	217	199	18	0	\$25,066	4.50%
Regional Total	5,151	4,967	4,381	496	90	\$30,794	6.11%

Source: University of Kansas Institute for Policy and Social Research Kansas County Profile

2.8 REGIONAL AGRICULTURE AND LIVESTOCK

Agriculture is a major component of the economy of northeast Kansas. According to the Kansas Department of Agriculture (KDA):

- Kansas farmers typically produce more wheat than any other state in the nation.
- In 2009, Kansas wheat accounted for more than 16 percent of all wheat produced.
- Kansas ranks first in grain sorghum produced.
- Kansas ranks second in cropland.
- Kansas ranks sixth in hay produced.
- One in five Kansans work in jobs related to agriculture and food production.

The following table presents information from the USDA National Agricultural Statistics Service relating to farm totals and agricultural acreage for northeast Kansas.

Regional Farm Data, 2002 to 2007

County	Number of Farms, 2002	Number of Farms, 2007	Percent Change	Farm Acreage, 2002	Farm Acreage, 2007	Percentage Change
Atchison	619	711	15.00%	226,807	254,101	12.00%
Brown	591	637	8.00%	324,016	346,758	7.00%
Doniphan	469	573	22.00%	205,680	247,815	20.00%
Douglas	874	1,040	19.00%	201,358	220,636	10.00%
Jackson	1,099	1,217	3.00%	337,418	339,291	1.00%
Jefferson	1,041	1,137	9.00%	279,780	285,803	2.00%
Marshall	954	913	-4.00%	581,100	514,818	-11.00%
Nemaha	1,020	1,054	3.00%	416,500	450,508	8.00%
Washington	796	817	3.00%	496,849	548,034	10.00%
Regional Total	7,463	8,099	9%	3,069,508	3,207,764	6.56%

Source: United States Department of Agriculture National Agricultural Statistics Service

Regional Cropland and Pastureland Information

County	Percentage Cropland	Cropland Acreage	Percentage Pastureland	Pasture Acres
Atchison	68%	172,789	21%	53,361
Brown	73%	253,133	15%	52,014
Doniphan	73%	180,905	13%	32,216
Douglas	61%	134,588	27%	59,572
Jackson	43%	145,895	47%	159,467
Jefferson	54%	154,334	32%	91,457
Marshall	66%	339,780	25%	128,705
Nemaha	64%	288,325	25%	112,627
Washington	59%	323,340	33%	180,851
Regional Total	62%	1,999,506	26%	848,275

Source: United States Department of Agriculture National Agricultural Statistics Service

Major production crops include corn, forage, soybeans, wheat, and sorghum. Information was obtained from the USDA National Agricultural Statistics Service for 2007, the latest year for which this data was available on a county basis.

Top Crop Items, 2007

County	Wheat	Sorghum	Soybeans	Forage	Corn
Atchison	10,541	-	59,821	25,495	63,531
Brown	12,163	-	98,331	17,426	11,508
Doniphan	2,536	750	62,421	10,154	85,285
Douglas	11,001	3,500	43,188	33,488	29,564
Jackson	10,118	2,354	28,456	53,175	23,091
Jefferson	13,423	2,295	38,227	46,448	38,278
Marshall	82,740	29,975	108,888	28,401	63,002
Nemaha	39,314	6,451	78,657	39,783	84,560
Washington	103,820	50,340	72,683	29,441	35,372
Regional Total	285,656	95,665	590,672	283,811	434,191

Source: United States Department of Agriculture National Agricultural Statistics Service

Additionally, the rearing of livestock play a major role in the regional economy. According to the Kansas Department of Agriculture (KDA):

- Kansas produces more than 19 percent of all U.S. beef.
- Kansas ranks third in cattle and calves on farms and third in cattle and calves on grain feed.
- Kansas ranks 16th in milk produced.

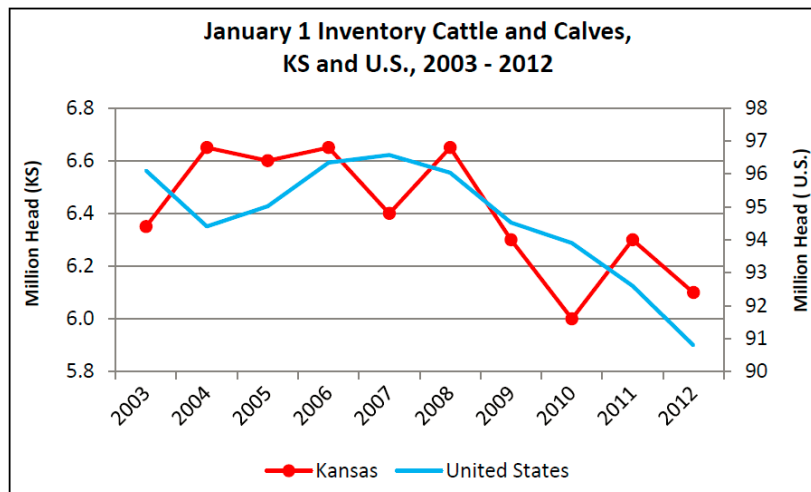
The following table presents information relating to livestock production in northeast Kansas, with data obtained from the USDA National Agricultural Statistics Service.

Top Livestock Inventory Items, 2007

County	Cattle and Calves	Hogs and Pigs	Horses and Ponies	Sheep and Lambs
Atchison	35,656	4,442	607	-
Brown	29,122	6,663	552	1,664
Doniphan	14,563	1,067	583	-
Douglas	22,642	4,310	1,946	-
Jackson	50,453	1,949	1,723	-
Jefferson	49,569	2,128	1,374	-
Marshall	60,831	9,994	-	635
Nemaha	66,730	121,191	429	607
Washington	75,725	125,191	-	807
Regional Total	405,291	276,935	7,214	3,713

Source: United States Department of Agriculture National Agricultural Statistics Service

Regional data indicate that the number of cattle has been falling over the past five years, following a trend in the State of Kansas and the United States as a whole. The following chart from the USDA National Agricultural Statistics Service Kansas Field Office produced in 2012 indicates this trend.



Source: US Department of Agriculture National Agricultural Statistics Service, Kansas Field Office, 2012

Regional data indicate that the number market value of agricultural products sold has increased dramatically over the past five years, following a trend in the State of Kansas. The following data from the USDA National Agricultural Statistics Service Kansas Field Office produced in 2012 indicates this trend.

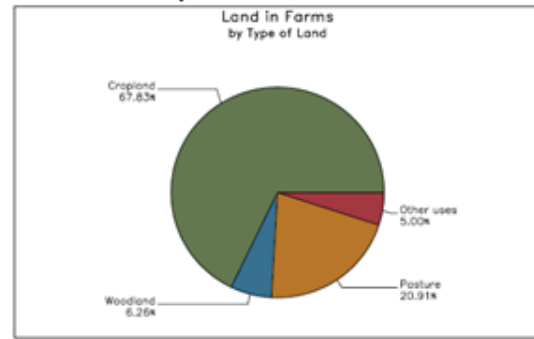
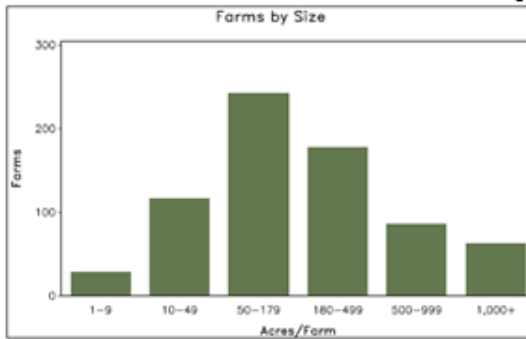
Market Value of Agricultural Products Sold

County	Market Value of Products Sold (2002)	Market Value of Products Sold (2007)	Percentage Change
Atchison	\$32,144,000	\$63,982,000	99.00%
Brown	\$52,653,000	\$116,368,000	121.00%
Doniphan	\$32,101,000	\$74,956,000	134.00%
Douglas	\$23,988,000	\$41,262,000	72.00%
Jackson	\$27,782,000	\$51,998,000	87.00%
Jefferson	\$34,835,000	\$61,344,000	76.00%
Marshall	\$64,350,000	\$111,011,000	73.00%
Nemaha	\$79,398,000	\$146,896,000	85.00%
Washington	\$81,748,000	\$151,846,000	86.00%
Regional Total	\$428,999,000	\$819,663,000	93%

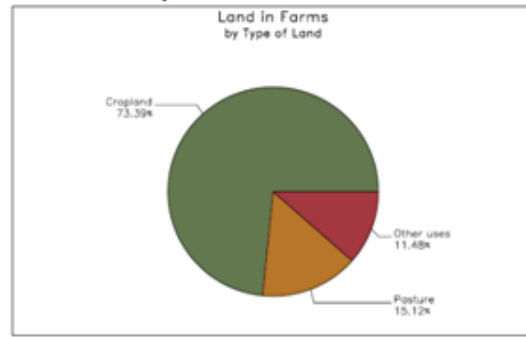
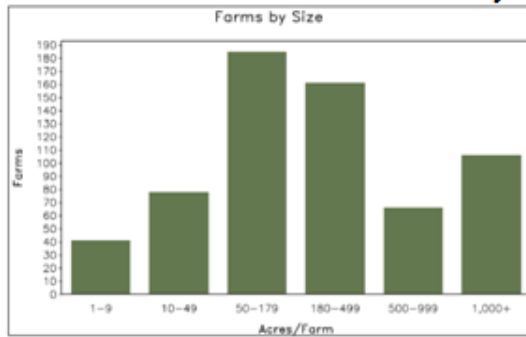
Source: USDA National Agricultural Statistics Service

The following charts present an overview of agricultural production for each county in the region. Information comes from the USDA National Agricultural Statistics Service 2007 Crop Year County Farm Facts booklet.

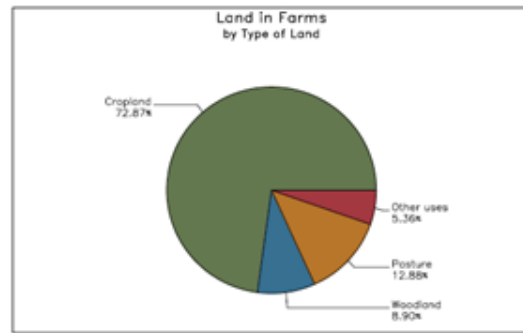
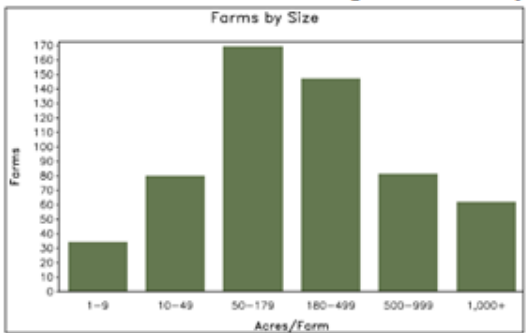
Atchison County Farm Information, 2007



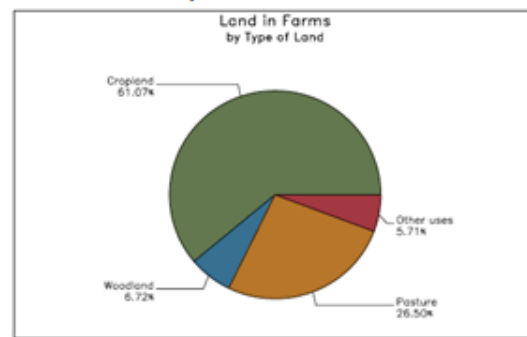
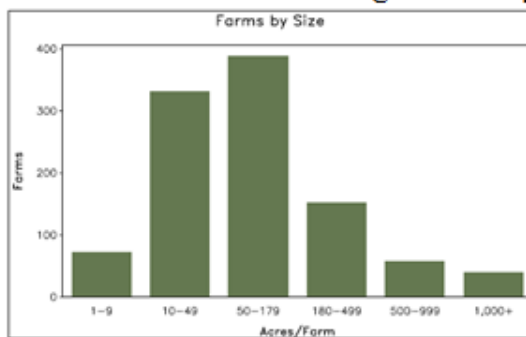
Brown County Farm Information, 2007



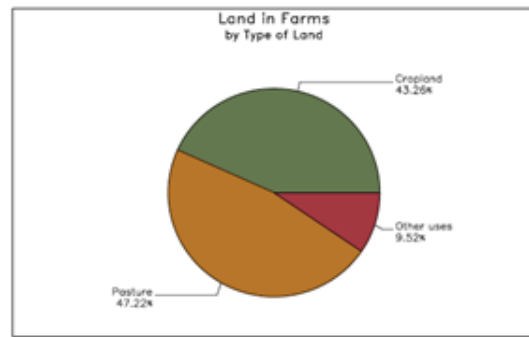
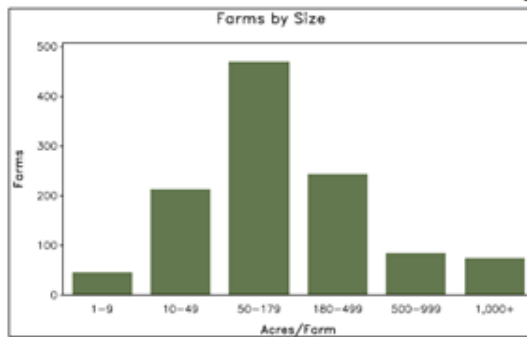
Doniphan County Farm Information, 2007



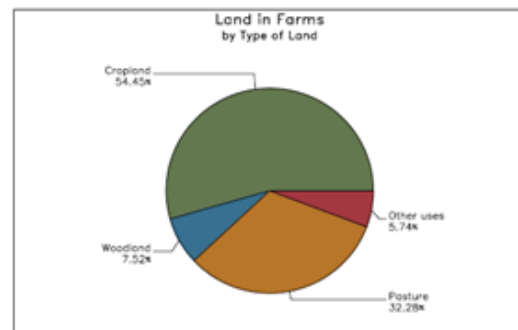
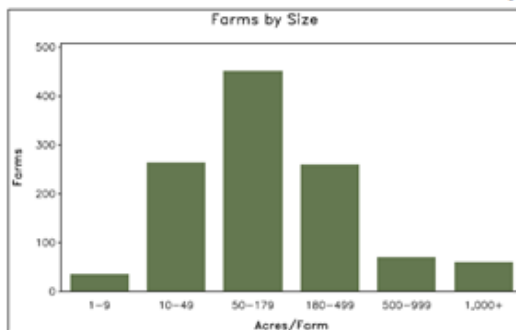
Douglas County Farm Information, 2007



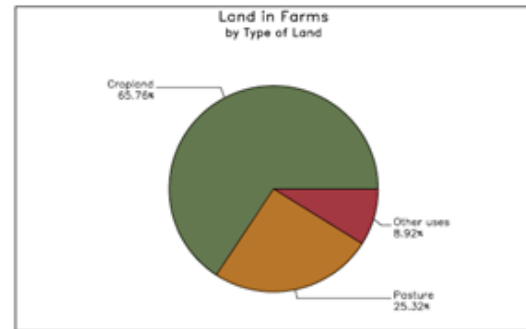
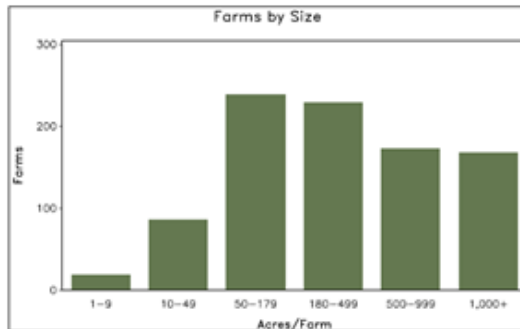
Jackson County Farm Information, 2007



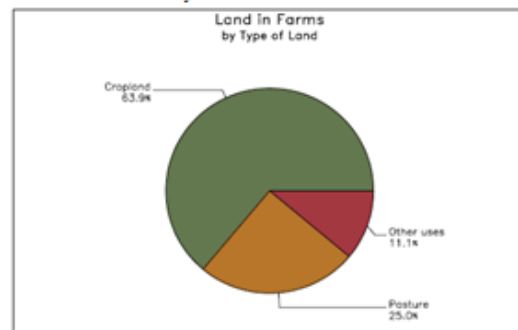
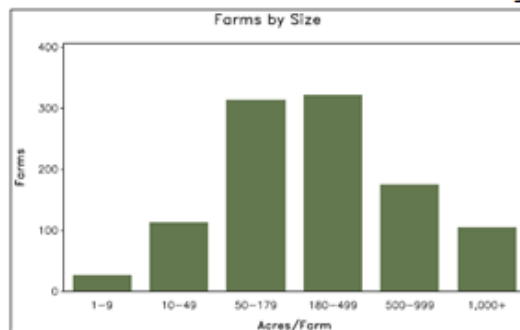
Jefferson County Farm Information, 2007



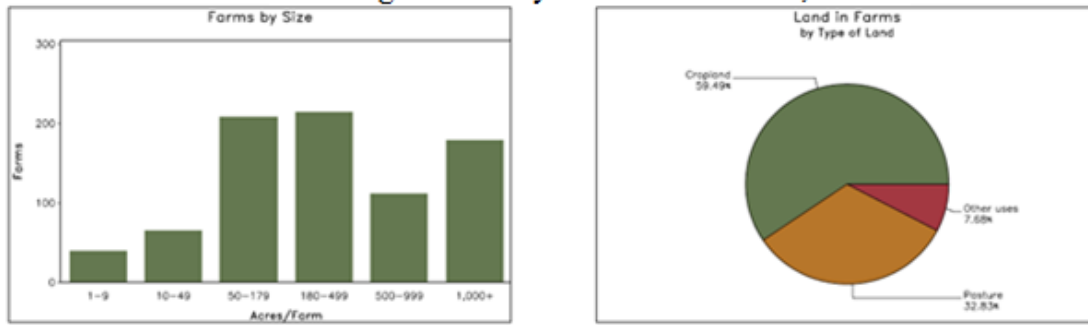
Marshall County Farm Information, 2007



Nemaha County Farm Information, 2007



Washington County Farm Information, 2007

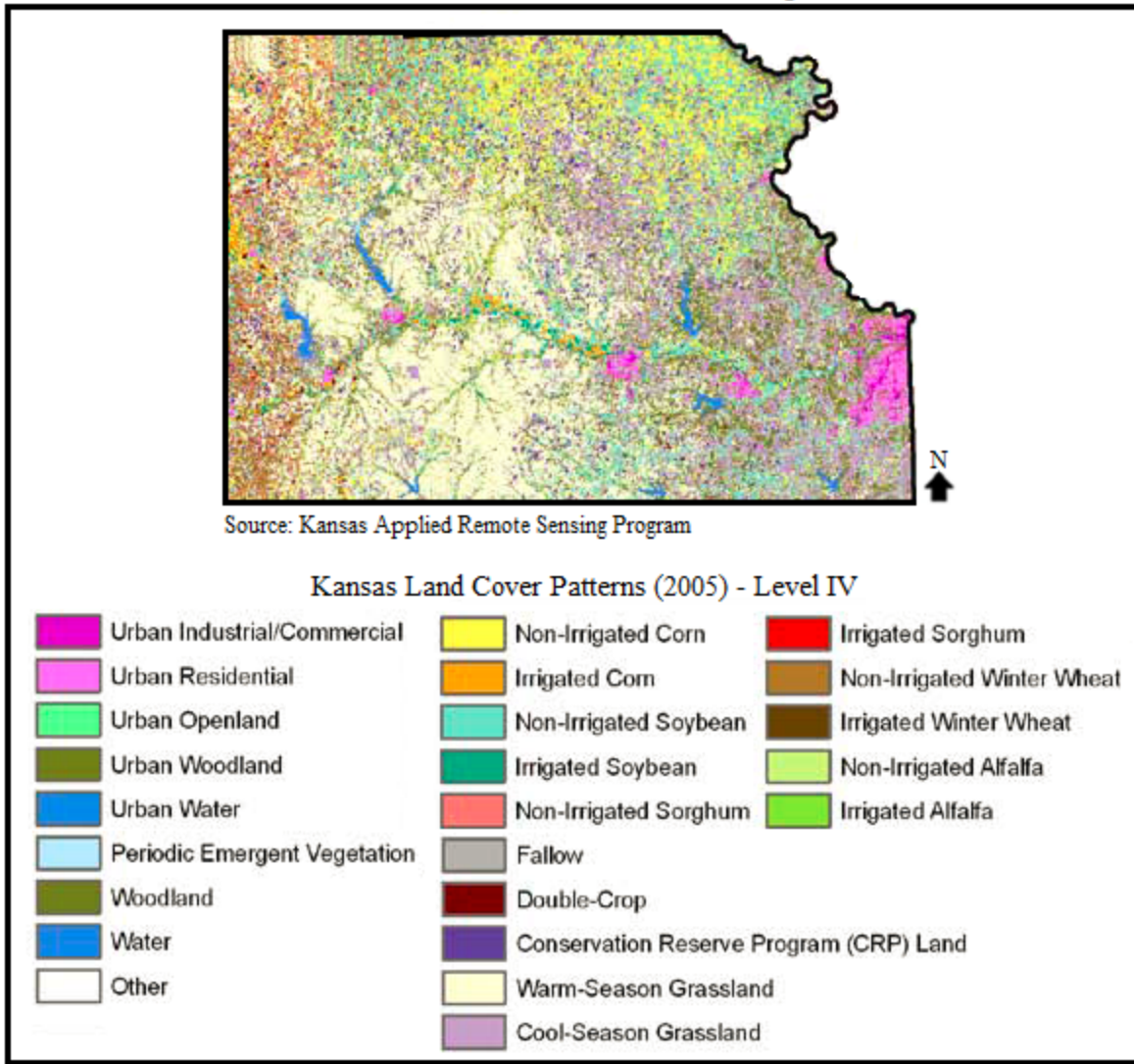


2.9 REGIONAL LAND USE AND DEVELOPMENT TRENDS

44 CFR 201.6 (C) Plan Content. The plan shall include the following: (2)(ii)(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.

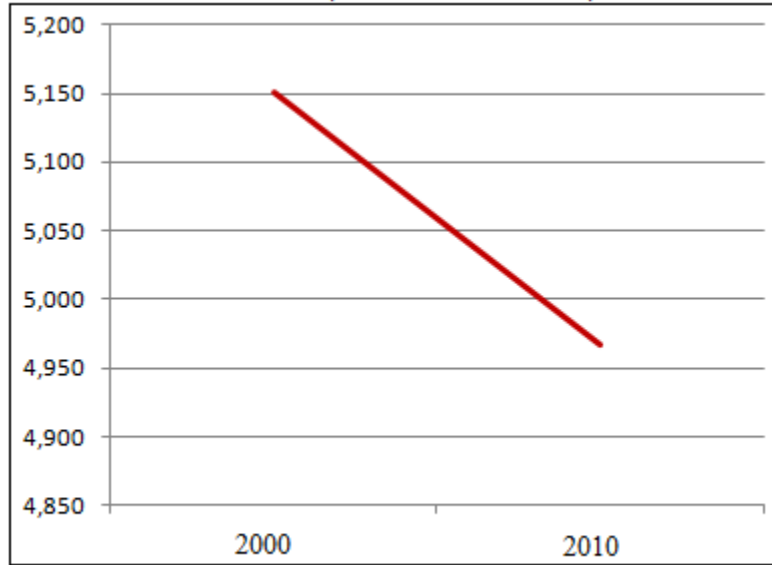
Land use patterns in north-east Kansas have remained relatively stable over many years. The 2005 Kansas Applied Remote Sensing Kansas Land Cover Patterns map shows the majority of the region is covered by cropland and grassland. Urban, residential, commercial and industrial uses comprise a small percentage of the land cover and are primarily found around the major towns and cities. In general, most development is regulated by local entities. However, it should be noted that large sections of the region are unregulated as to building and development.

Northeast Kansas Land Cover Map



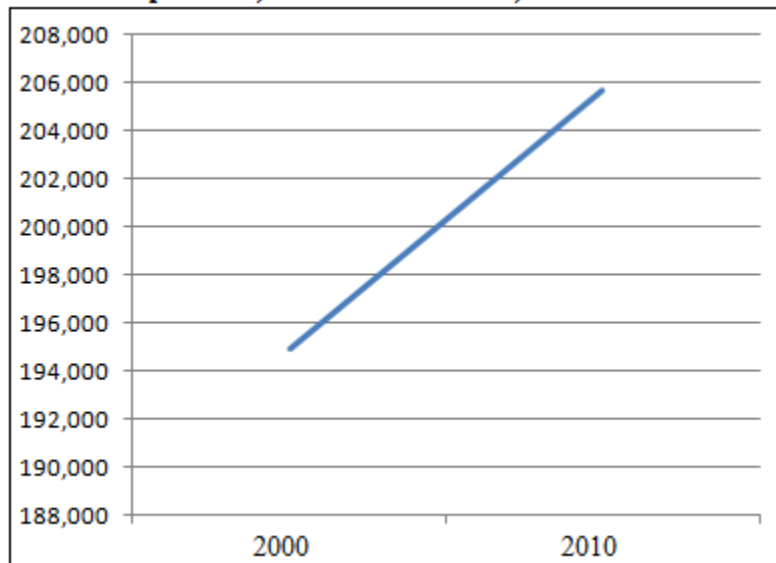
Northeast Kansas has experienced an overall increase in population, with a 7.2% regional increase from the 2000 to estimated 2012 census. In addition, the region has seen the number of businesses hold steady from 200 to 2010 at around 19,000. While forecasting future population movement and growth is challenging, past trends can be used to assist in predicting future development. The following graphs indicate total number of business in the region and regional population using data from the above referenced tables.

Number of Businesses, Northeast Kansas, 2000 - 2010



Source: University of Kansas Institute for Policy and Social Research
Kansas County Profile

Population, Northeast Kansas, 2000 - 2012



Source: United States Census

Based on these historical rates, it is possible that that minor land use changes and minor land development initiatives will be completed to accommodate the increasing population in the region.

Data was obtained from the Office of Local Government, Kansas State Research and Extension office concerning capital expenditures on infrastructure. The data indicates that there is a general regional trend in increased spending. However, where the capital expenditures have

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.

2.12.1 ATCHISON COUNTY

Name of Historic Property	Address or Location	City
Schmitt House	1110 W. Division St.	Atchison
Atchison Santa Fe Freight Depot	200 S. Tenth St.	Atchison
Atchison County Courthouse	SW corner of 5th and Parallel Sts.	Atchison
Atchison County Memorial Hall	819 Commercial St.	Atchison
Atchison Post Office	621 Kansas St.	Atchison
Baker, Francis and Harriet, House	823 N. 5th St.	Atchison
Benedictine College North Campus Historic Complex	2nd and Division Sts.	Atchison
Bolman, George T. and Minnie Searles, House	418 N 4th St.	Atchison
Braun, Henry, House	1307 Division St.	Atchison
Brown, J. P., House	805 N. 4th St.	Atchison
Burnes Rental Houses Historic District	615, 617, and 621 N 3rd St.	Atchison
Campbell Chapel AME Church	715 Atchison St.	Atchison
Drimmel, John, Sr., Farm	16339 290th Rd.	Atchison
Earhart, Amelia, Birthplace	223 N. Terrace	Atchison
Earhart, Amelia, Historic District	115-125,200-227,302-315,318,324 2nd St, 203-305 North Ter, 124,200,300 3rd St, and 205,112 and 224 Santa Fe St.	Atchison
Ebenezer Baptist Church	826 Riley	Atchison
Edmiston, James M., House	311 S 7th St.	Atchison
Glancy/Pennell House	519 N. 5th St.	Atchison
Glick--Orr House	503 N. Second St.	Atchison
Harwi, A. J., House	1103 Atchison St.	Atchison
Hausner House	400 N. 3rd St.	Atchison
Hetherington, W. W., House	805 N. 5th St.	Atchison
Horan, Michael J. and Mattie, House	822 N 4th St.	Atchison
Howard, Frank, House	305 N. Terrace	Atchison
Howe, Edgar W., House	1117 N. 3rd St.	Atchison
Jansen House	806 N. 3rd St.	Atchison
Lanphear--Mitchell House	417 N. 4th St.	Atchison
Lincoln School	801 Division St.	Atchison
McInteer Villa	1301 Kansas St.	Atchison
Mount St. Scholastica Convent	801 S. 8th St.	Atchison
Muchnic, H. E., House	704 N. 4th St.	Atchison
Pease, Robert L., House	203 N. 2nd St.	Atchison
Price Villa	801 S. 8th St.	Atchison

Name of Historic Property	Address or Location	City
Ramsay, Ronald and Dorcas, House	1415 Riverview Dr.	Atchison
St. Patrick's Catholic Church	234th Rd. 2 mi. W of US 73	Atchison
Stein, Frederick W., House	324 Santa Fe	Atchison
Trinity Episcopal Church	300 S. 5th St.	Atchison
Waggener, B. P., House	819 N. 4th St.	Atchison
Waggener, Balie P., House	415 W. Riley St.	Atchison
Wherrett--Mize Drug Company Building	201 Main St	Atchison
Stranger Creek Warren Truss Bridge	On Haskell Rd., 0.8 mi. S of the jct. with 262 Rd., 0.5 mi. S of town of Farmington	Farmington

2.12.2 BROWN COUNTY

Name of Historic Property	Address or Location	City
Delaware River Warren Truss Bridge	Coyote Rd., 190th St., 4.1 mi. S, 0.5 mi. E of Fairview	Fairview
Bethany Brethren Church	121 1st St.	Hamlin
Bierer, Samuel, House	410 N 7th St	Hiawatha
Davis Memorial	0.1 mi. E of Hiawatha, Mt. Hope Cemetery	Hiawatha
Eicholtz, A.J., House	406N. 7th St.	Hiawatha
Graham, Seward, House	115 Miami St.	Hiawatha
Hiawatha Courthouse Square Historic District	520-819 Oregon, 101-123 S6, 108-124 S7, 601-613 Utah	Hiawatha
Hiawatha Memorial Auditorium	611 Utah St.	Hiawatha
Hiawatha National Guard Armory	108 N. 1st. St.	Hiawatha
US Post Office--Horton	825 1st Ave. E.	Horton
Site No. RH00-062	6 1/2 mi. SE of Rulo; 200 ft. W of rd. between Rulo, NE and White cloud, KS	Rulo

2.12.3 DONIPHAN COUNTY

Name of Historic Property	Address or Location	City
St. Benedict's Church	5 mi. SW of Bendena	Bendena
Symns, J. A., Barn	KS 7	Bendena
White, T. L., Barn	KS 7	Bendena
Williams, M. D. L., Barn	3 mi. S of KS 20	Bendena
Eylar, Mathew, Barn No. 1	S of Denton off KS 20	Denton
Eylar, Mathew, Barn No. 2	SE of Denton off KS 20	Denton
Brenner Vineyards Historic District	SW of jct. of Mineral Point and 95th Rds.	Doniphan
Doniphan Archeological Site	Address Restricted	Doniphan

Name of Historic Property	Address or Location	City
Doniphan County Waddell	FAS 28, 1.7 mi. NE of Doniphan	Doniphan
Fanning Archeological Site	Address Restricted	Fanning
First National Bank Building	422-424 West Main St	Highland
Hale, John R., Barn	KS 120	Highland
Highland Christian Church	102 E. Main St.	Highland
Highland Presbyterian Church	101 South Ave.	Highland
Highland Water Tower	Jct. N. Genesee and W. Illinois Sts.	Highland
Iowa, Sac, and Fox Presbyterian Mission	1.5 mi. E of Highland on U.S. 36 and 0.2 mi. N on KS 136	Highland
Irvin Hall, Highland Community Junior College	Highland Community Junior College campus	Highland
Mission--Herring Barn	US 36	Highland
St. Martha's AME Church and Parsonage	SW corner of Main and Canada	Highland
Wynkoop, A.L., House	307 West Pennsylvania	Highland
Hanson, George, Barn	S of Leona	Leona
Streib, John, Barn	N of Leona	Leona
St. Mary's Catholic Church	446 KS 137	Purcell
Nuzum, Godfrey, Barn	KS 7	Sparkes
Bohr, Nicholas, Barn	SE of Troy	Troy
Doniphan County Courthouse	Courthouse Sq., bounded by Walnut, Liberty, Chestnut, and Main Sts.	Troy
Doniphan County Courthouse Square Historic District	Roughly bounded by E. Walnut, E Chestnut, S. Main, S. Liberty Sts.	Troy
Eclipse School	Off US 36 NE of Troy	Troy
Kinkhead, George, Barn	Off US 36	Troy
Chrystal, Herman, Barn	W of Wathena	Wathena
Harding, Benjamin, House	308 N. 5th	Wathena
Kienhoff, Fred W., Barn	W of Wathena	Wathena
Silvers, John, Barn	N of Wathena	Wathena
Wathena Fruit Growers' Association Building	104 3rd St.	Wathena
Dorland Building	Main St.	White Cloud
Poulet House	Poplar St. between 1st and 2nd Sts.	White Cloud
White Cloud Historic District	Roughly bounded by Poplar, 6th, Chesnut Sts. and KS7	White Cloud
White Cloud School	SW corner of 5th and Main Sts.	White Cloud

2.12.4 DOUGLAS COUNTY

Name of Historic Property	Address or Location	City
Black Jack Battlefield	US 56 and Cty Rd. 2000, 3.0 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	-	-

2.12.8 MARSHALL COUNTY

Name of Historic Property	Address or Location	City
St. Bridget Church	RR 2, 6.5 mi. N of Axtell, St. Bridget Township	Axtell
Alcove Springs	4 mi. N of Blue Rapids	Blue Rapids
Blue Rapids Library	E side of public square	Blue Rapids
Barrett Schoolhouse	4 mi. SW of Frankfort on KS 99	Frankfort
Frankfort School	400 Locust St.	Frankfort
Old Frankfort City Jail	Railway Ave.	Frankfort
Robidoux Creek Pratt Truss Bridge	Sunflower Rd., 0.8 mi. W of jct. with 21st Rd., NW of Frankfort'	Frankfort
Hutchinson, Perry, House	1 mi. NW of Marysville on U.S. 77	Marysville
Koester Block Historic District	Between 9th, 10th, Elm and Broadway Sts.	Marysville
Koester, Charles, House	919 Broadway	Marysville
Marshall County Courthouse	1207 Broadway	Marysville
Marysville High School--Junior High School Complex	1011-1111 Walnut St.	Marysville
Marysville Pony Express Barn	108 S. 8th St.	Marysville
Pusch--Randell House	1000 Elm St.	Marysville
Moore, Z. H., Store	State and Center Sts.	Oketo
Transue Brothers Blacksmith & Wagon Shop	309 Main St.	Summerfield
Powell, Samuel, House	108 W. Commercial St.	Waterville
Waterville Opera House	200 E. Front St.	Waterville
Weaver Hotel	126 S. Kansas St.	Waterville

2.12.9 NEMAHA COUNTY

Name of Historic Property	Address or Location	City
Clear Creek Camel Truss Bridge	Unnamed Rd., 0.5 mi. W of FAS 485, 6.8 mi. N of Baileyville	Baileyville
Marion Hall	Jct. of Main and First St.	Baileyville
St. Mary's Church	NE of Baileyville	Baileyville
Old Albany Schoolhouse	2 mi. N of Sabetha	Sabetha
US Post Office--Sabetha	122 S. 9th St.	Sabetha
Hand-Dug City Water Well	301 N. 11th St.	Seneca
Lake Nemaha Dam Guardrail	5.12 miles south of Seneca, KS on Hwy 63	Seneca
Nemaha County Jail and Sheriff's House	113 N. 6th St.	Seneca
Prairie Grove School	Township Rd., "H", SE of int with Township Rd.232	Seneca
Seneca Main Street Historic District	301-607, 304-612 Main, 25 N. 6th, 26 N. 4th	Seneca
US Post Office--Seneca	607 Main St.	Seneca

2.12.10 WASHINGTON COUNTY

Name of Historic Property	Address or Location	City
Washington County Kingpost	SE of Barnes	Barnes
Hollenberg Pony Express Station	1.5 mi E of Hanover	Hanover
Mahaska Rural High School #3	S. School St.	Mahaska
Washington County Courthouse	214 C St.	Washington
Washington County Jail and Sheriff's Residence	23 Commercial St.	Washington

2.13 REGIONAL AT RISK POPULATIONS

In general, at risk populations may have difficulty with medical issues, poverty, extremes in age, and communications due to language barriers. Several principles may be considered when discussing potentially at risk populations, including:

- Not all people who are considered at risk are at risk
- Outward appearance does not necessarily mark a person as at risk
- The hazard event will, in many cases, affect at risk population in differing ways

The National Response Framework defines at risk populations as "populations whose members may have additional needs before, during, and after an incident in functional areas, including but not limited to: maintaining independence, communication, transportation, supervision, and medical care."

The following tables present information on potential at risk populations within northeast Kansas.

Potential At Risk Population Data

County	2012 Population	Population 5 and Under (2012)	Population 18 and Under (2012)	Population 65+ (2012)	Population 85+ (2010)	Food Stamp Beneficiaries (2011)	Estimated People in Poverty (2011)	Person Speaking Language Other Than English At Home (2012)
Atchison	16,813	1,093	3,985	2,656	393	2,475	2,186	420
Brown	9,881	692	2,450	1,848	312	1,372	1,996	336
Doniphan	7,864	425	1,683	1,298	215	655	983	142
Douglas	112,864	5,982	21,106	10,948	1,583	8,181	21,444	10,609
Jackson	13,449	820	3,470	2,233	280	944	1,278	471
Jefferson	18,945	1,004	4,471	3,126	361	1,265	1,194	417
Marshall	10,022	611	2,265	2,135	405	710	1,183	271
Nemaha	10,132	659	2,594	2,047	459	430	1,135	111
Washington	5,758	351	1,307	1,330	249	334	708	161

Source: University of Kansas Institute for Policy and Social Research Kansas County Profile and the United States Census Bureau

Potential At Risk Population Data, Care Facilities

County	Number of Hospitals (2011)	Number of Hospital Beds (2011)	Adult Care Homes (2011)	Adult Care Beds (2011)	Assisted Living Homes (2011)	Assisted Living Beds (2011)	Child Care Facilities (2011)
Atchison	2	25	3	162	2	73	27
Brown	2	50	2	111	3	84	33
Doniphan	0	0	2	104	0	0	21
Douglas	1	152	5	398	7	263	232
Jackson	1	12	2	70	1	51	40
Jefferson	1	81	3	139	3	44	34
Marshall	1	25	2	161	2	46	45
Nemaha	2	49	5	267	4	92	43
Washington	2	50	2	101	0	0	26

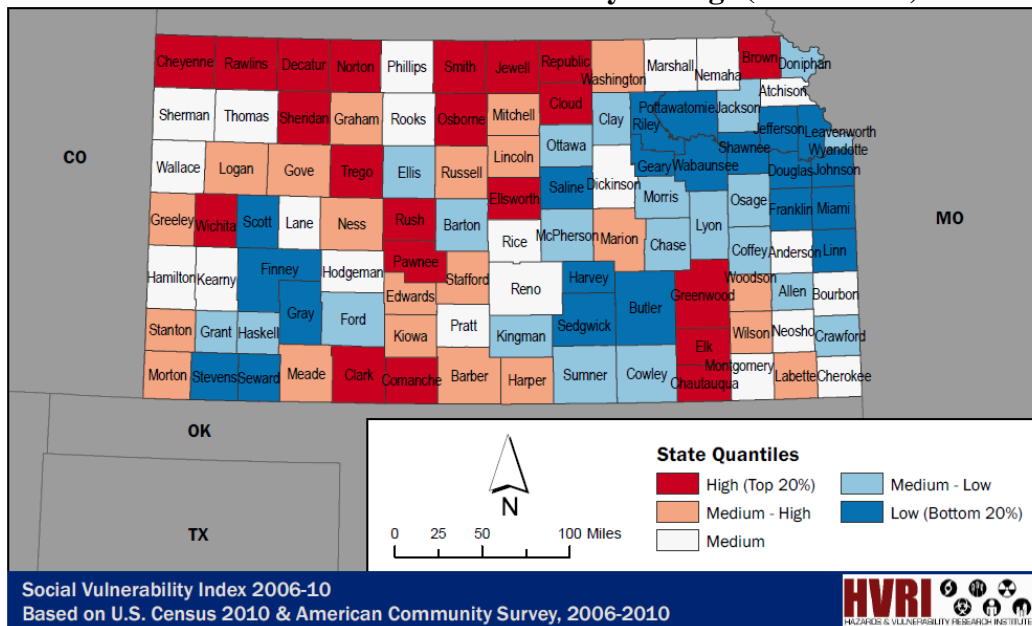
Source: University of Kansas Institute for Policy and Social Research Kansas County Profile and the United States Census Bureau

The Social Vulnerability Index (SoVI) 2006 - 2010 compiled by the Hazards and Vulnerability Research Institute in the Department of Geography at the University of South Carolina measures the social vulnerability of counties to environmental hazards. The index synthesizes 30 socioeconomic variables, including social, economic, demographic, and housing characteristics, which may contribute to reduction in a community's ability to prepare, respond and recover from a hazard. The major data source for this index is primarily the United States Census Bureau.

After obtaining the relevant data, a principle components analysis is used to reduce the data into set of components. All components are added together to determine a numerical value that represents the social vulnerability for each county. Scores in the top 20% of the United States are more vulnerable counties (red) and scores in the bottom 20% of the United States indicate the least vulnerable counties (blue).

The following map illustrates social vulnerability ratings for Kansas counties.

State of Kansas Social Vulnerability Ratings (2006 - 2010)



The following table presents the SoVi rating and national percentile for each county. In general, the higher the national percentile the higher the vulnerability.

County Social Vulnerability Ratings

County	SoVI Score (2006 - 2010)	National Percentile (2006 - 2010)
Atchison	0.399361	58.38 %
Brown	2.133771	81.29 %
Doniphan	-0.433752	41.52%
Douglas	-2.662403	13.68 %
Jackson	-0.495809	40.79 %
Jefferson	-2.174567	18.26 %
Marshall	0.522571	61.02 %
Nemaha	0.782358	65.26 %
Washington	1.910942	79.64 %

Source: Hazards and Vulnerability Research Institute, University of South Carolina

2.14 SCHOOL DISTRICT INFORMATION AND BOUNDARIES

The following tables present participating USD enrollment information, the number of staff and faculty, and the number of offices and schools.

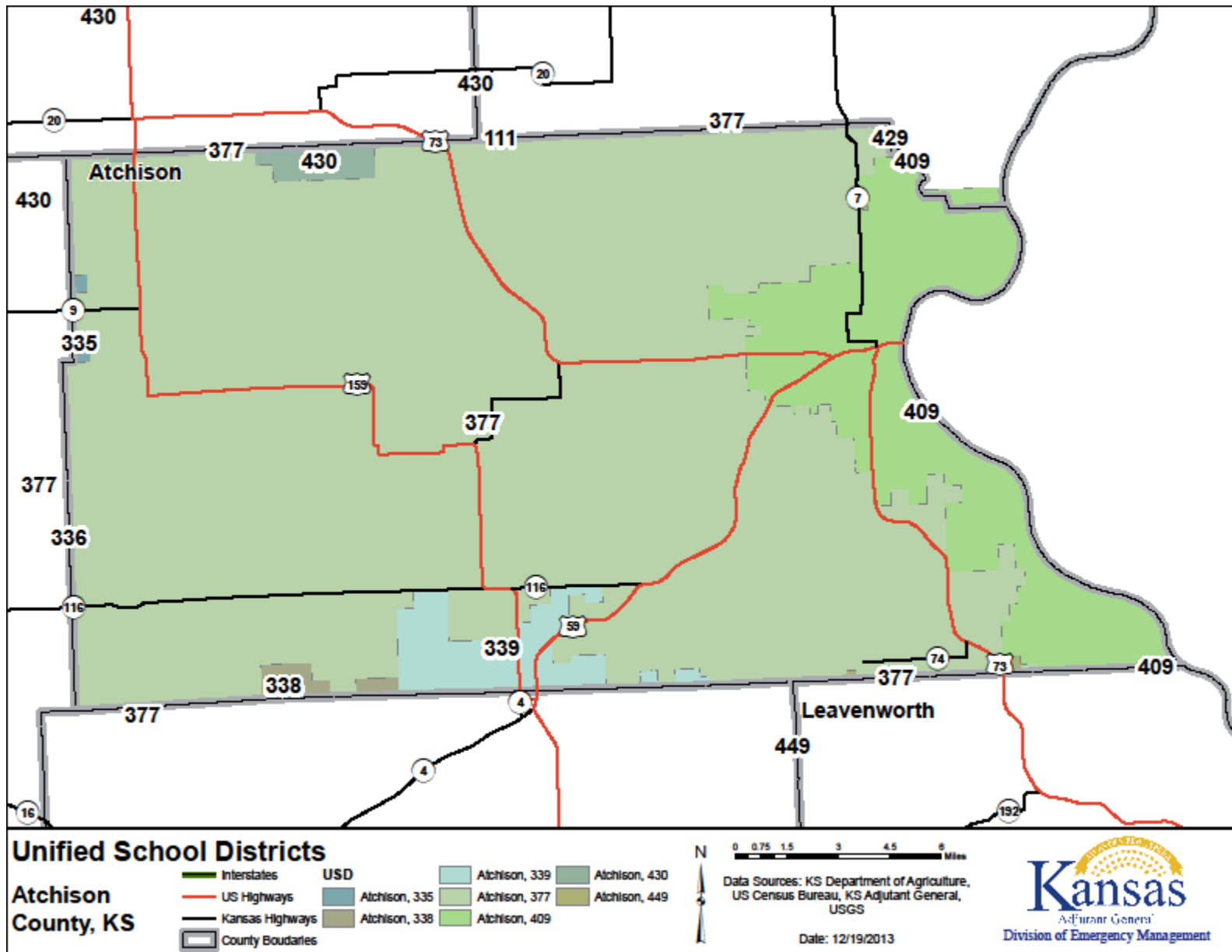
Participating USD Information

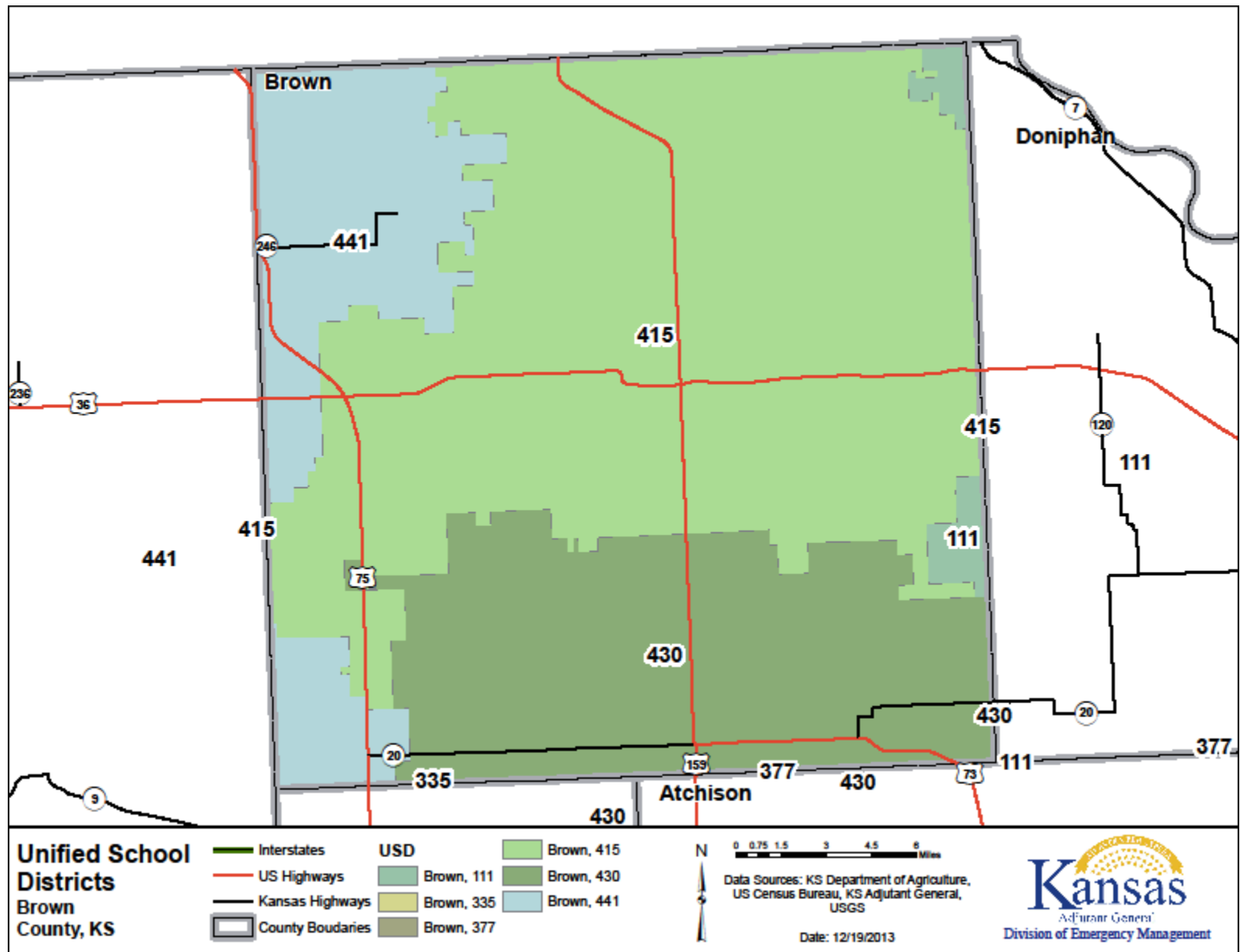
School , College or University	Total Enrollment (2013-2104)	Staff and Faculty (2011-2012)	Number of Offices and Schools (2013)
Atchison County			
USD #377 - Atchison County	629	52	8
USD #409 - Atchison	1,657	162	11
Brown County			
USD #415 - Hiawatha	860	79	11
USD #430 - Horton	592	61	9
Doniphan County			
USD #114 - Riverside	742	74	10
USD #429 - Troy	348	33	7
Douglas County			
USD #343 - Perry / Lecompton	850	71	8
USD #348 - Baldwin City	1,434	99	9
USD #491 - Eudora	1,666	119	8
USD #497 - Lawrence	11,967	940	35
Jackson County			
USD #335 - Jackson Heights	427	33	8
USD #336 - Holton	1,207	141	9
USD #337 - Royal Valley	951	79	10
Jefferson County			
USD #338 - Valley Falls	430	33	8
USD #339 - Jefferson County North	470	42	7
USD #340 - Jefferson West	886	63	8
USD #341 - Okaloosa	567	44	8
USD #342 - McLouth	555	44	8
USD #343 - Perry / Lecompton	850	71	8
Kickapoo Nation			
Kickapoo Nation Schools	55	-	2
Marshall County			
USD #113- Axtell	1,146	112	12
USD #364 - Maryville	780	73	9
USD #380 - Vermillion	611	58	10
Nemaha County			
USD #113 - Prairie Hills	1,146	112	12
USD #115 - Nemaha Central	674	80	9
USD #322 - Onaga/Havensville/Wheaton	324	29	7
USD #335 - Jackson Heights	427	33	8
USD #380 - Vermillion	611	58	10
USD #415 - Hiawatha	860	79	11

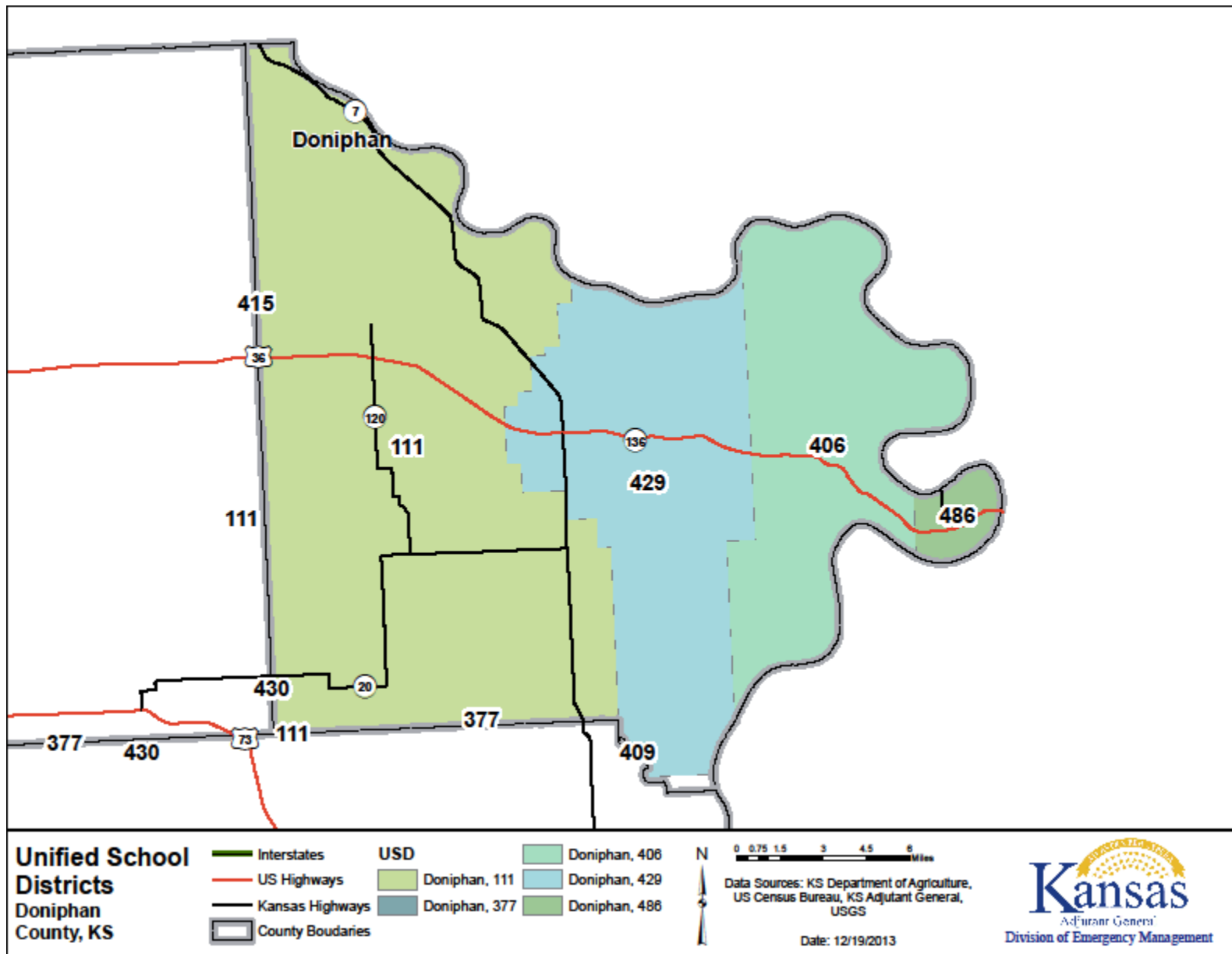
Participating USD Information, Continued

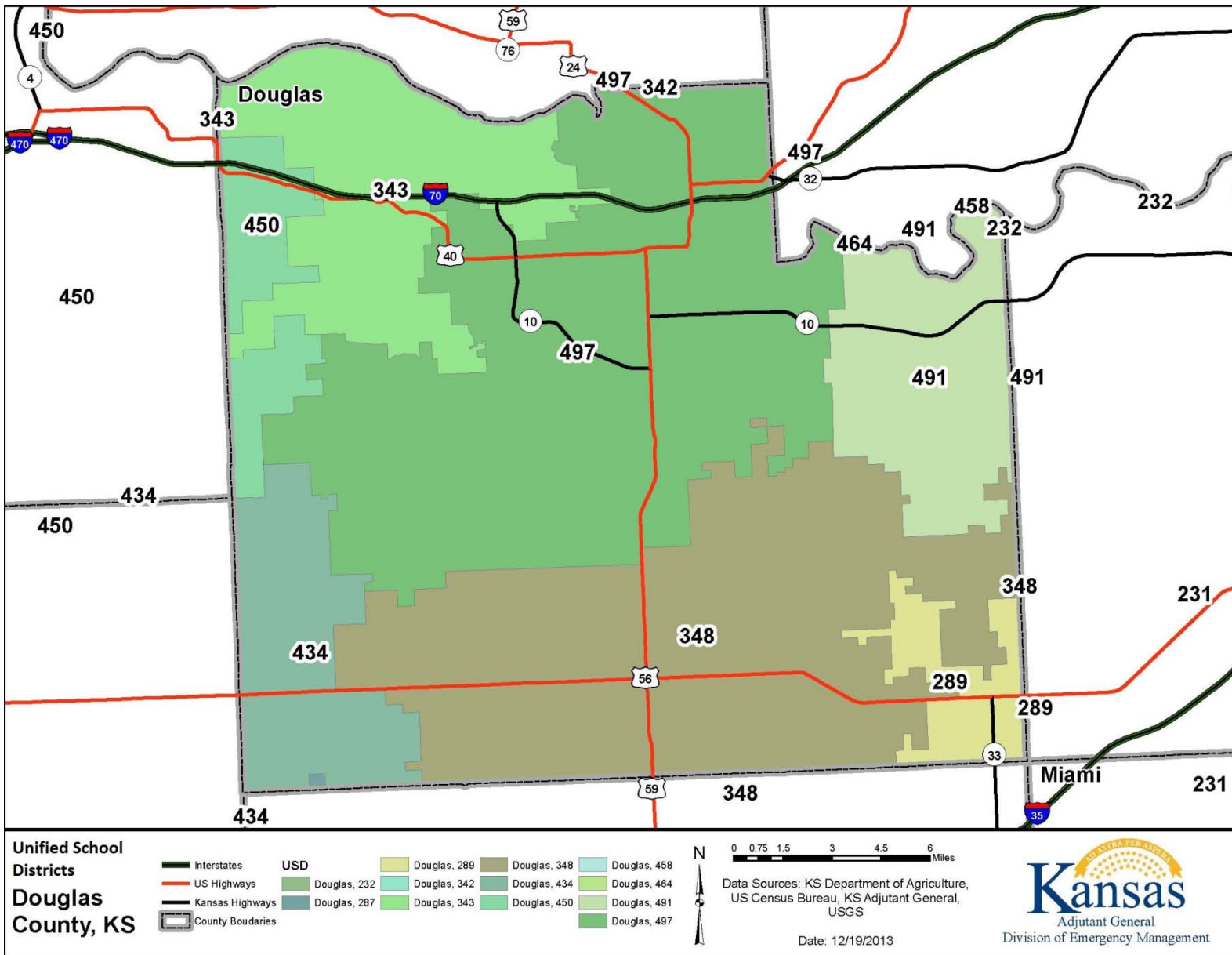
School , College or University	Total Enrollment (2013-2104)	Staff and Faculty (2011-2012)	Number of Offices and Schools (2013)
Washington County			
USD #108 - Washington County	359	41	7
USD #223 - Barnes / Hanover / Linn	481	42	8

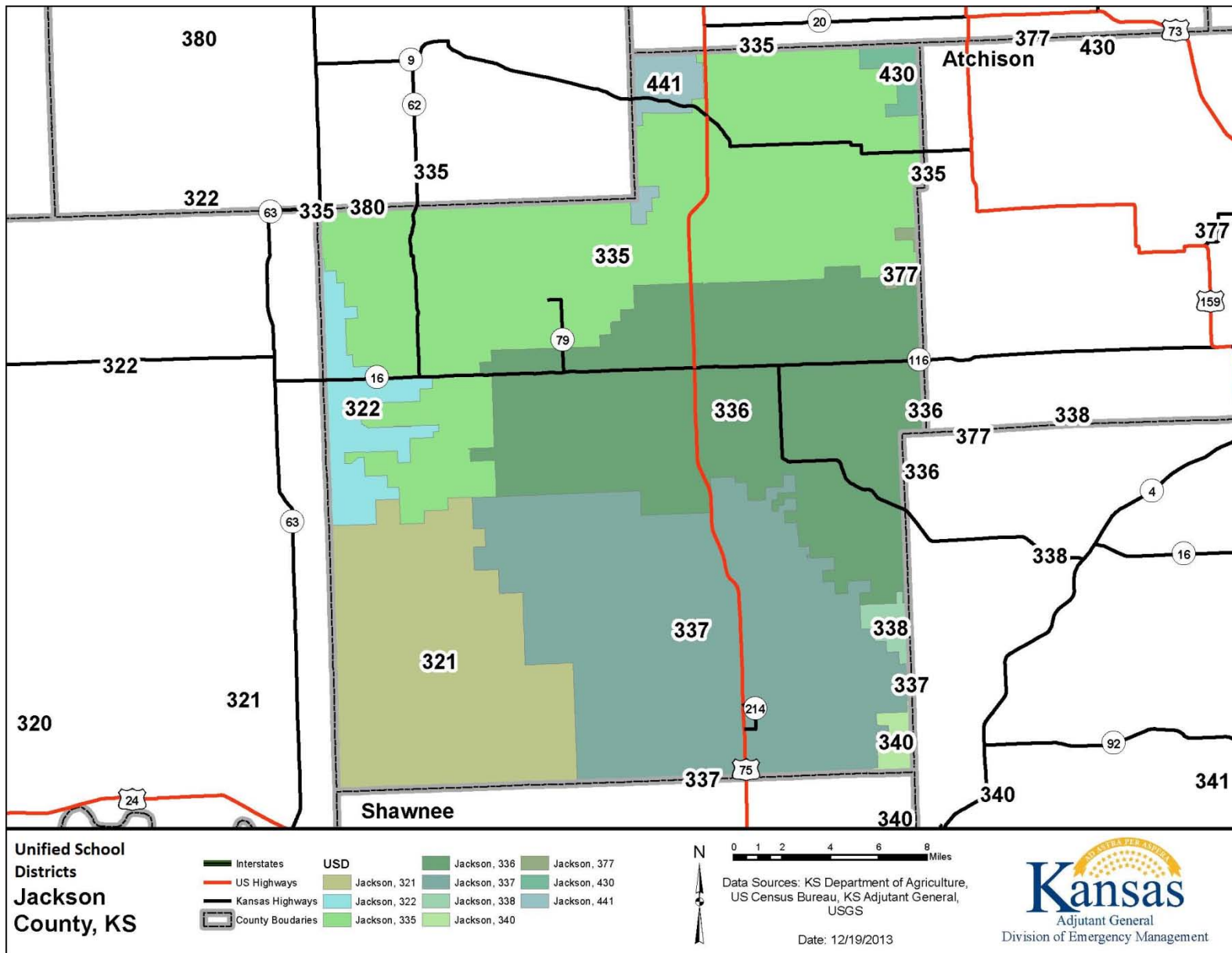
The following maps present regional school district boundaries by county. Capability information for each participating district is presented Section 4.

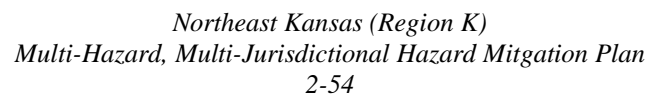


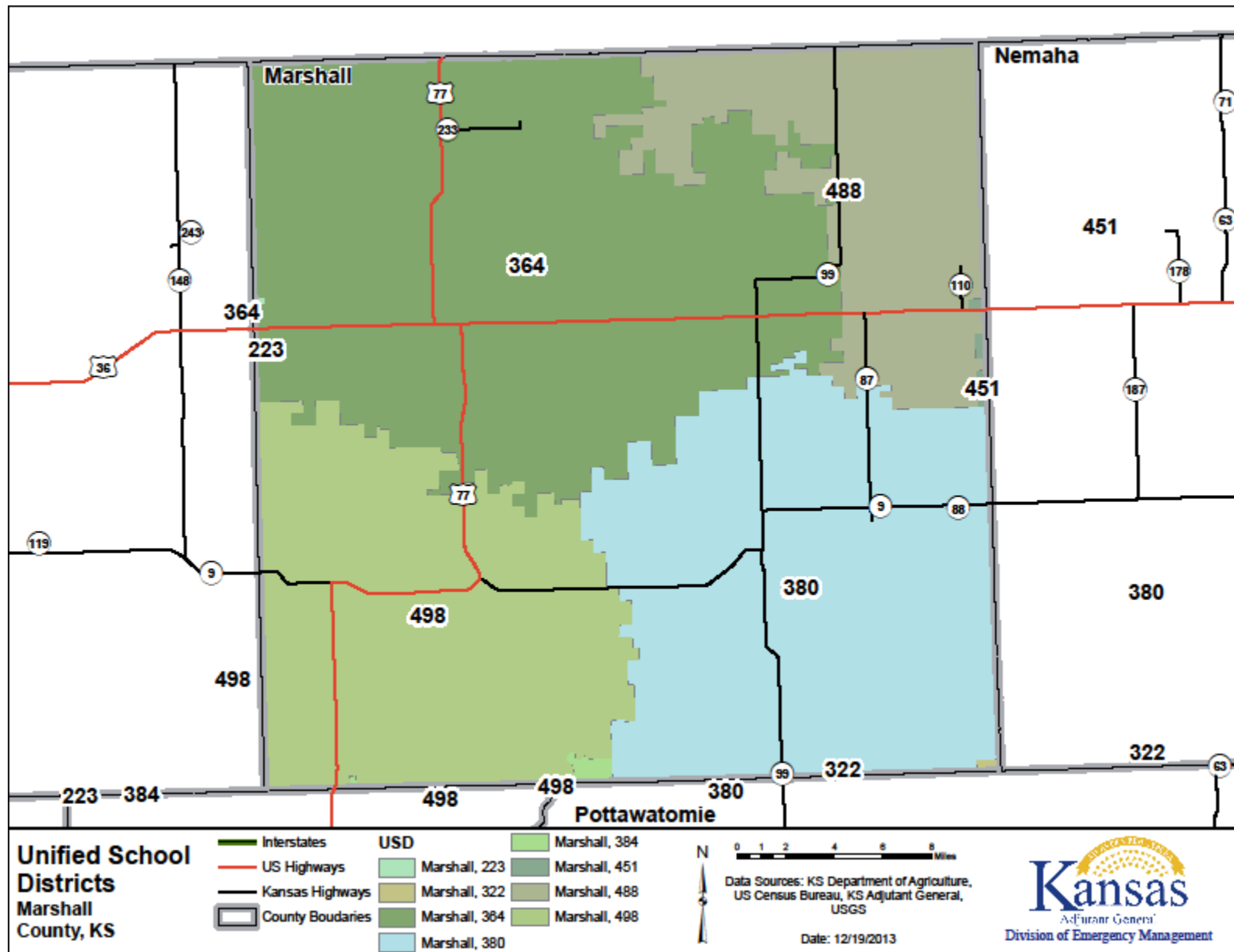


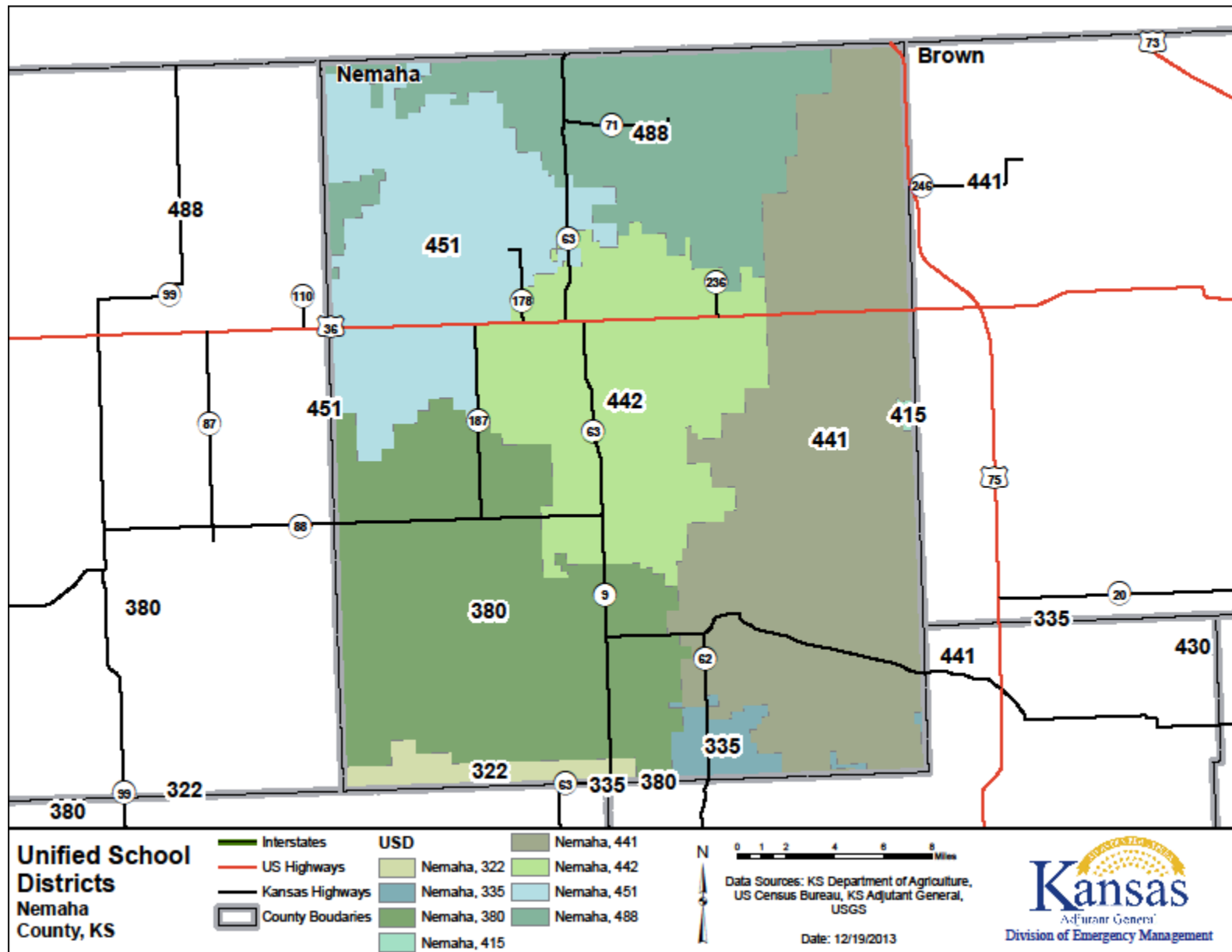


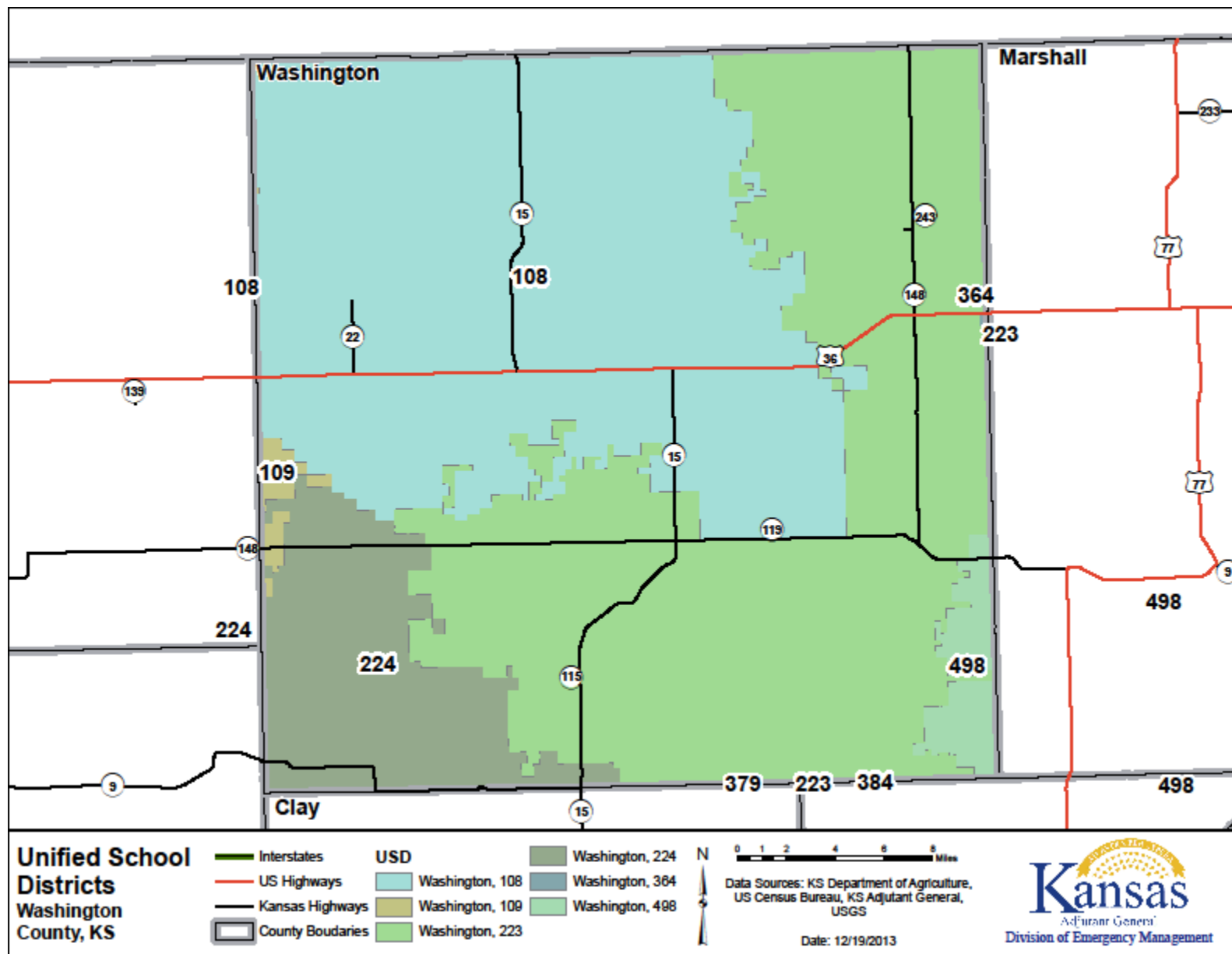






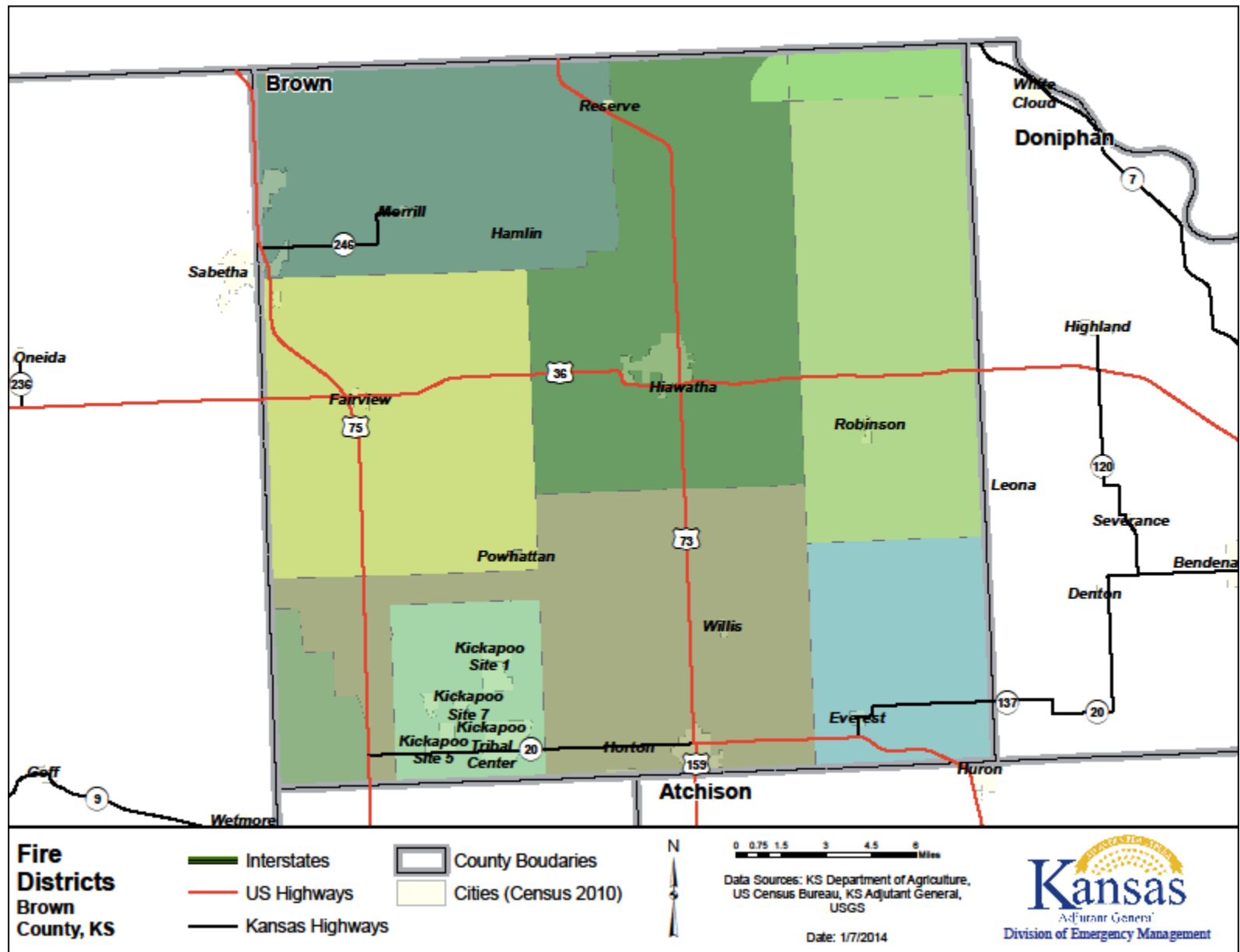


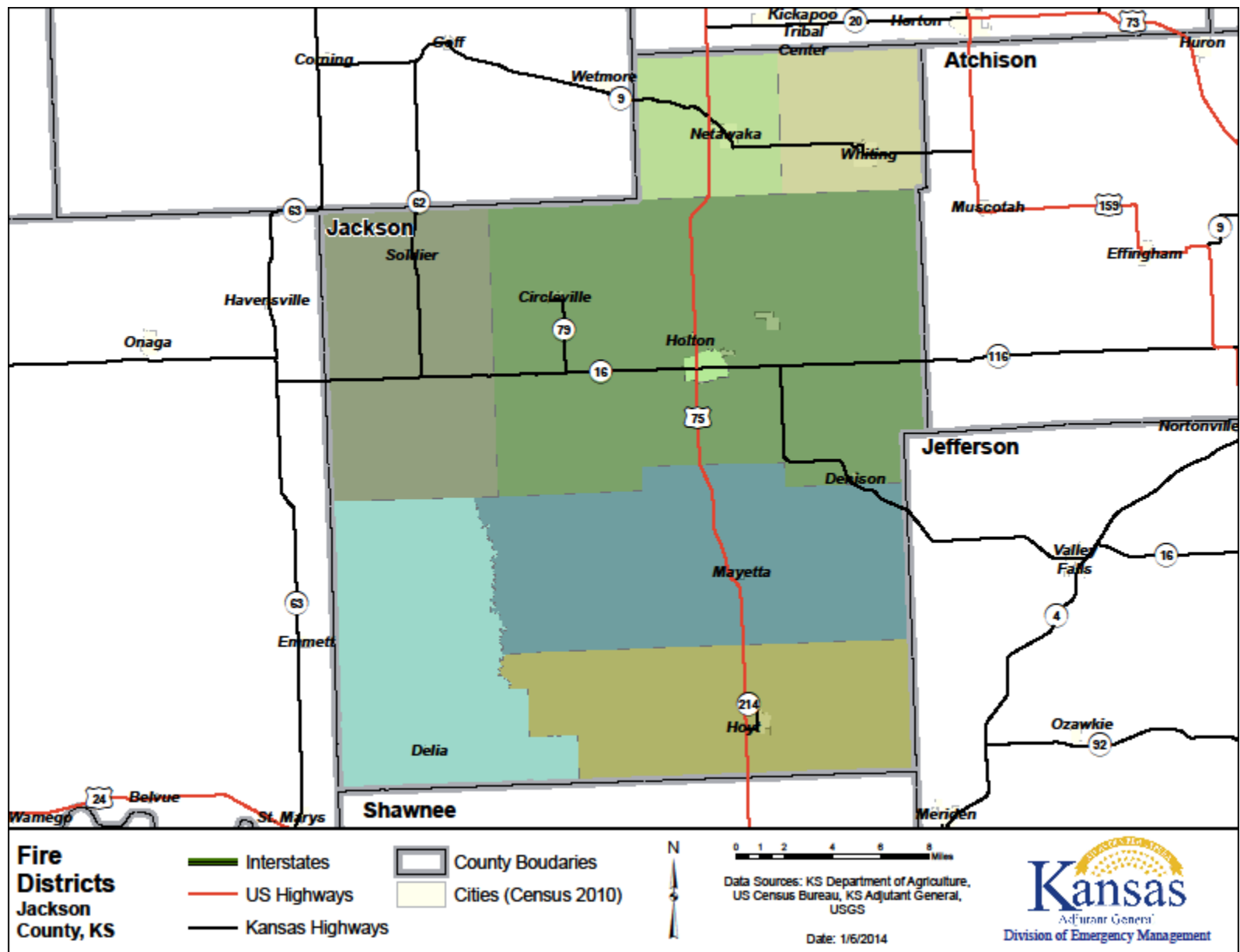


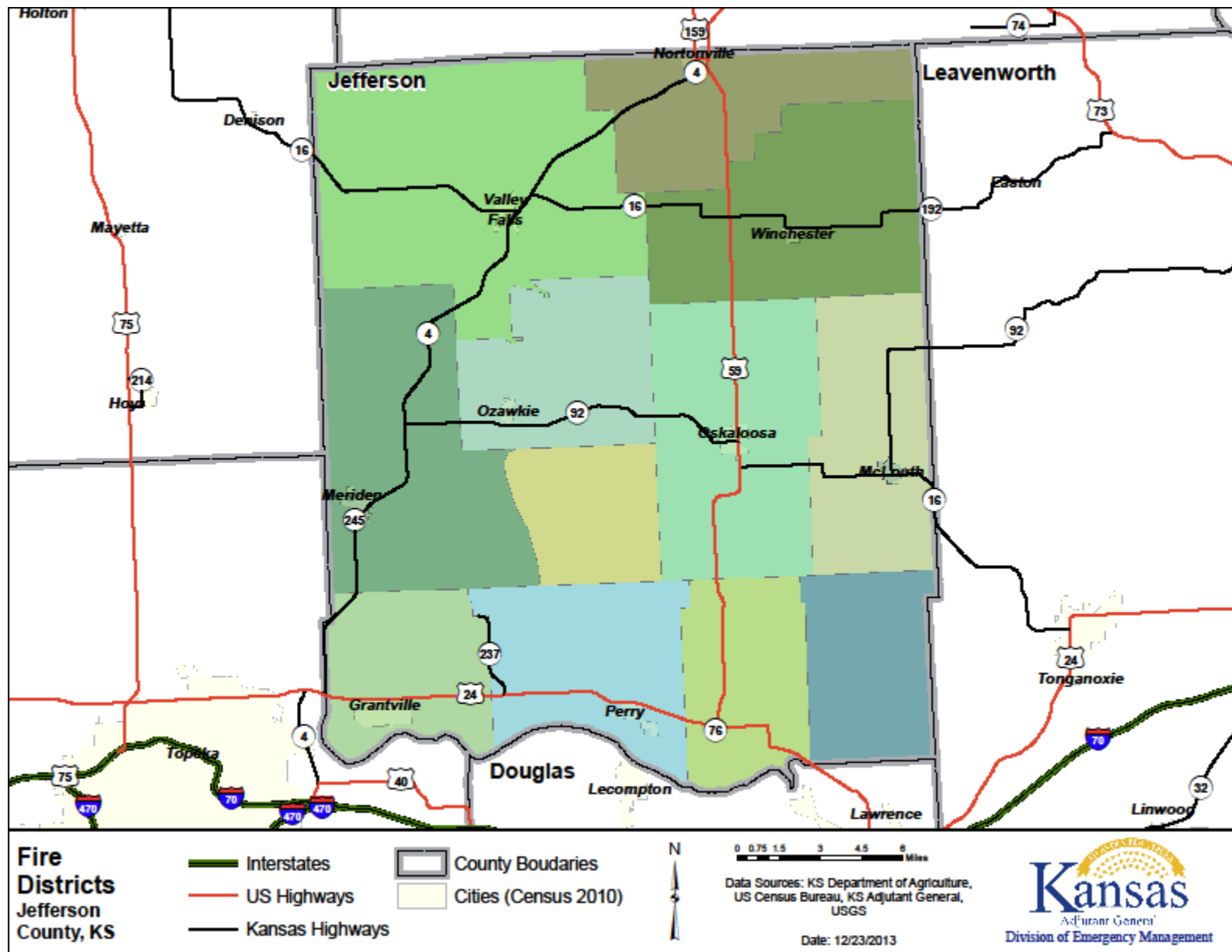


2.15 FIRE DISTRICT BOUNDARIES

The following maps present regional fire district boundaries by county. Note that not all participating counties and jurisdictions had this information available for use.

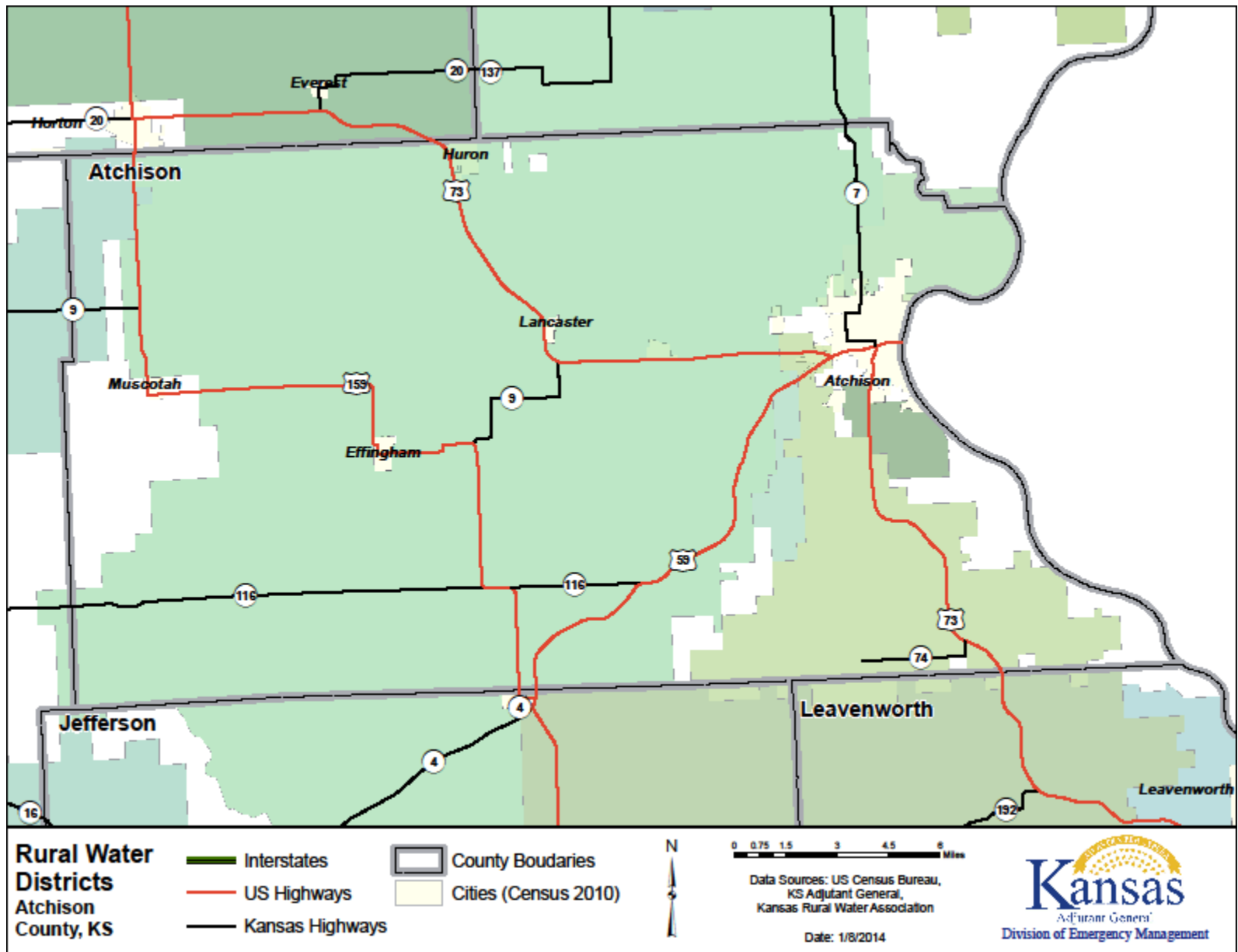


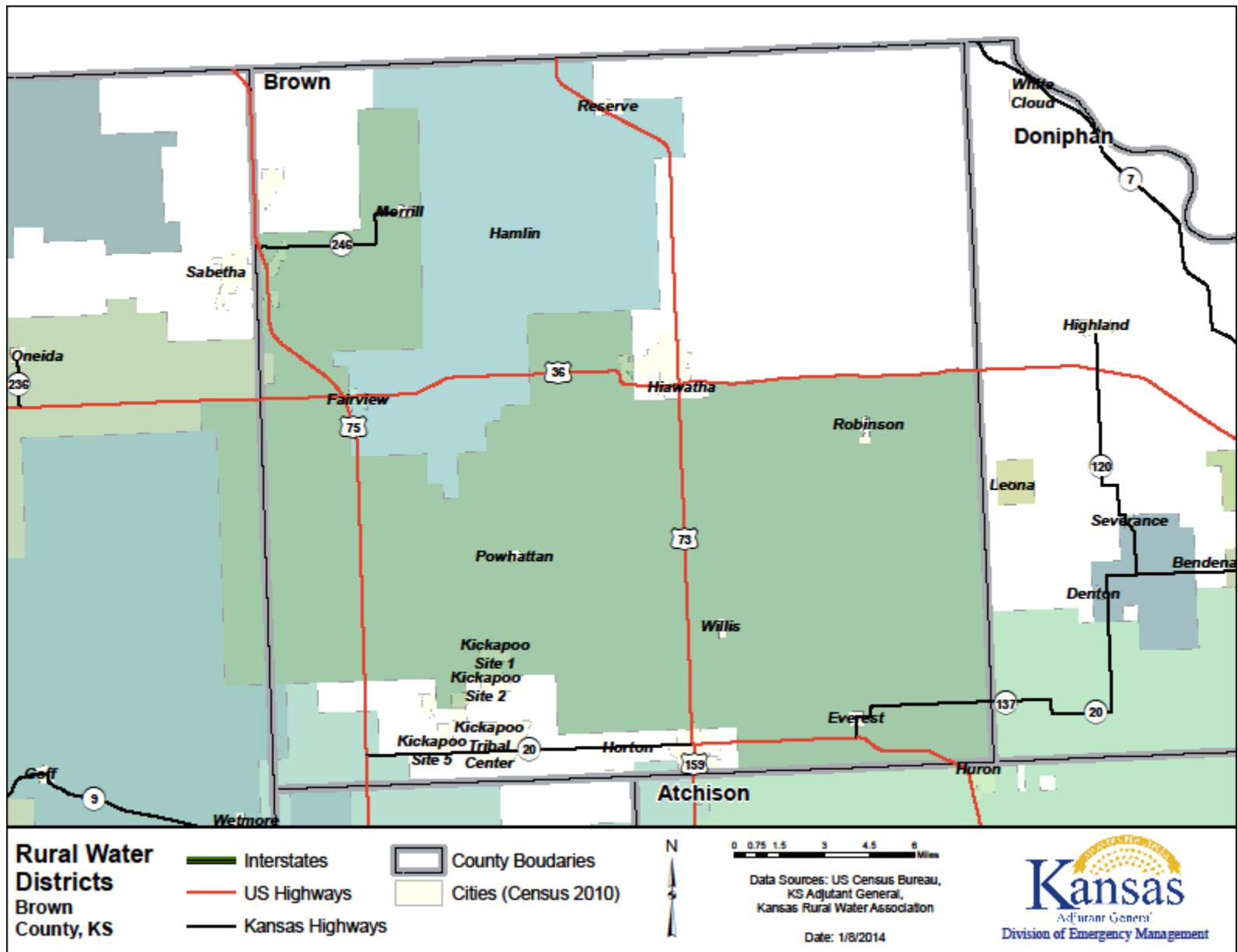


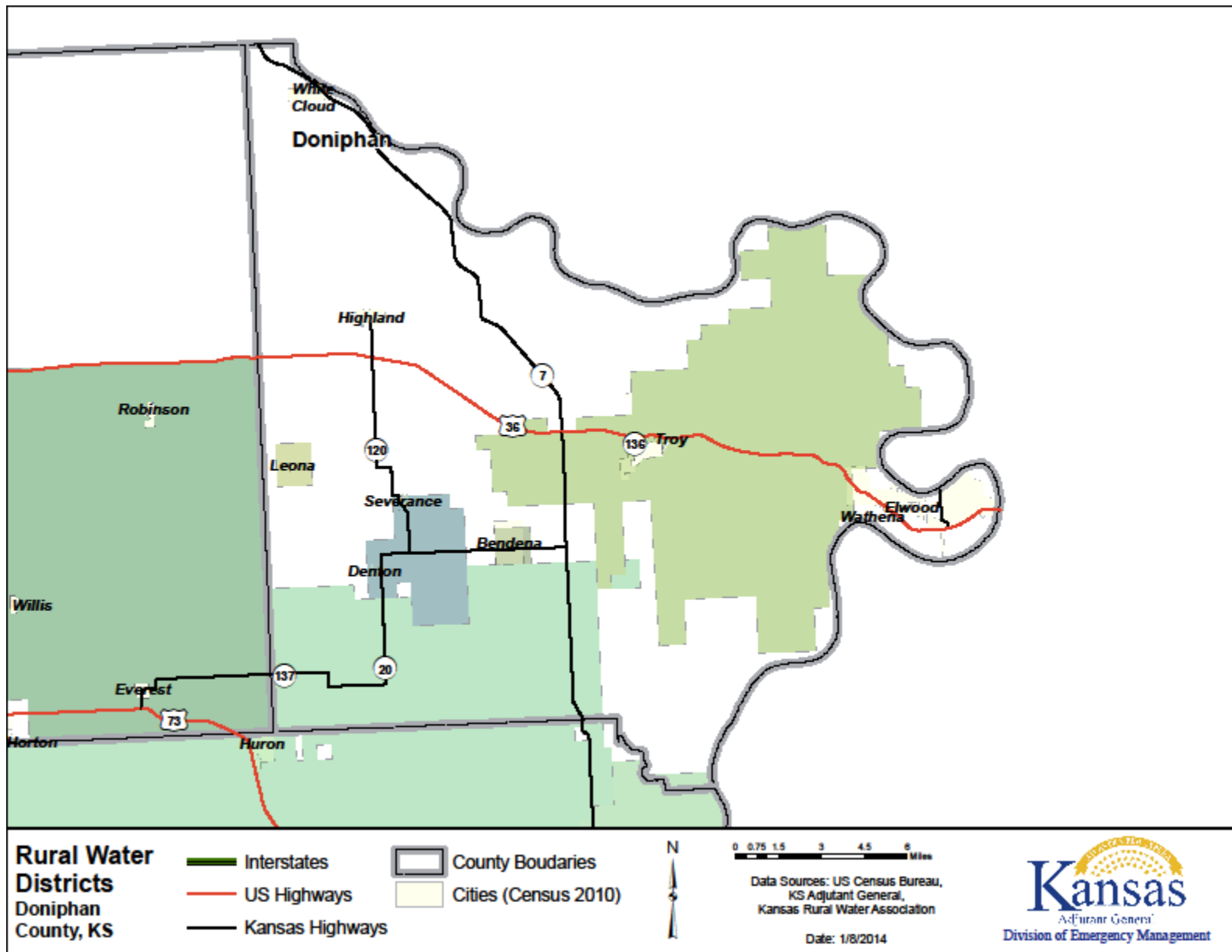


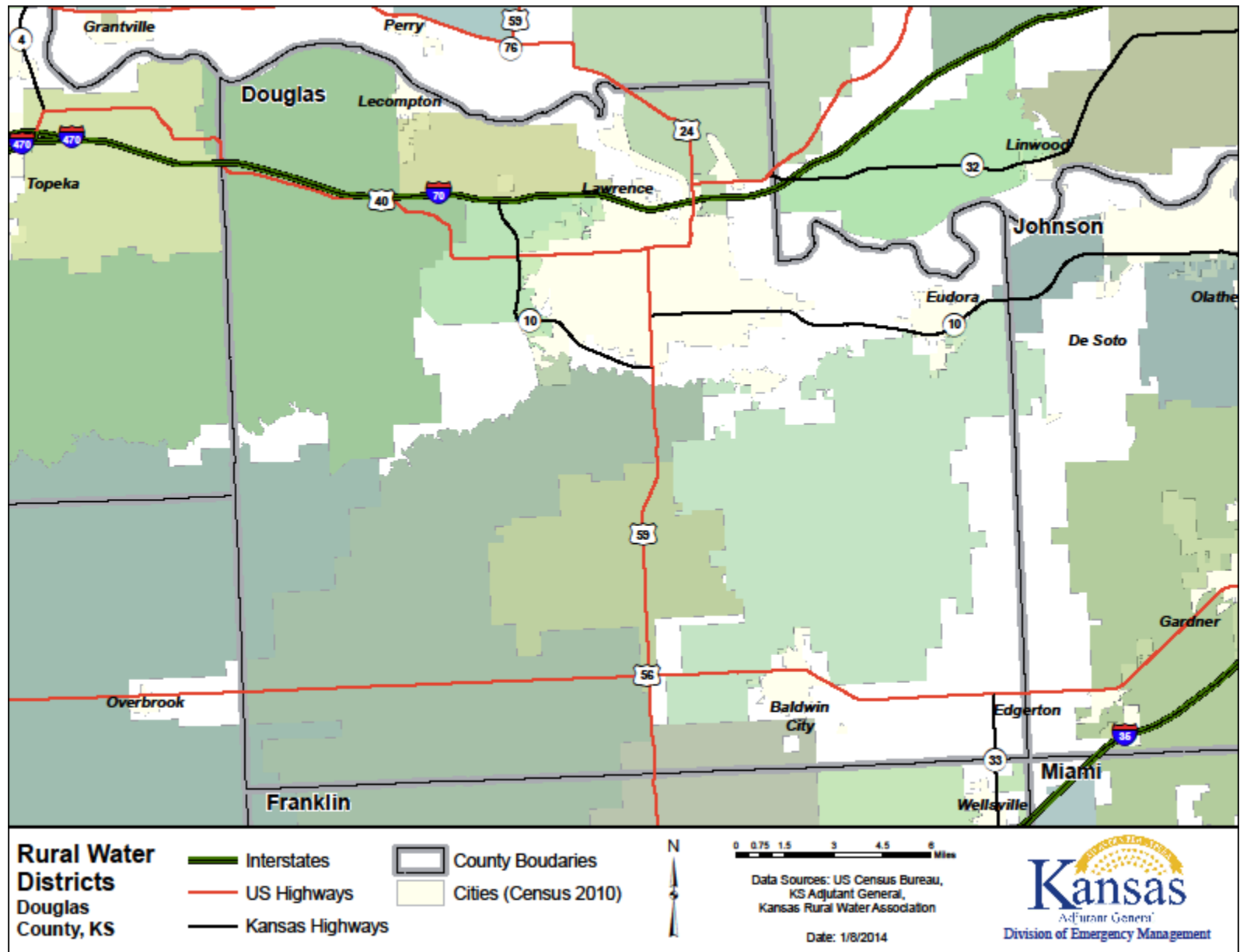
2.16 WATER DISTRICT BOUNDARIES

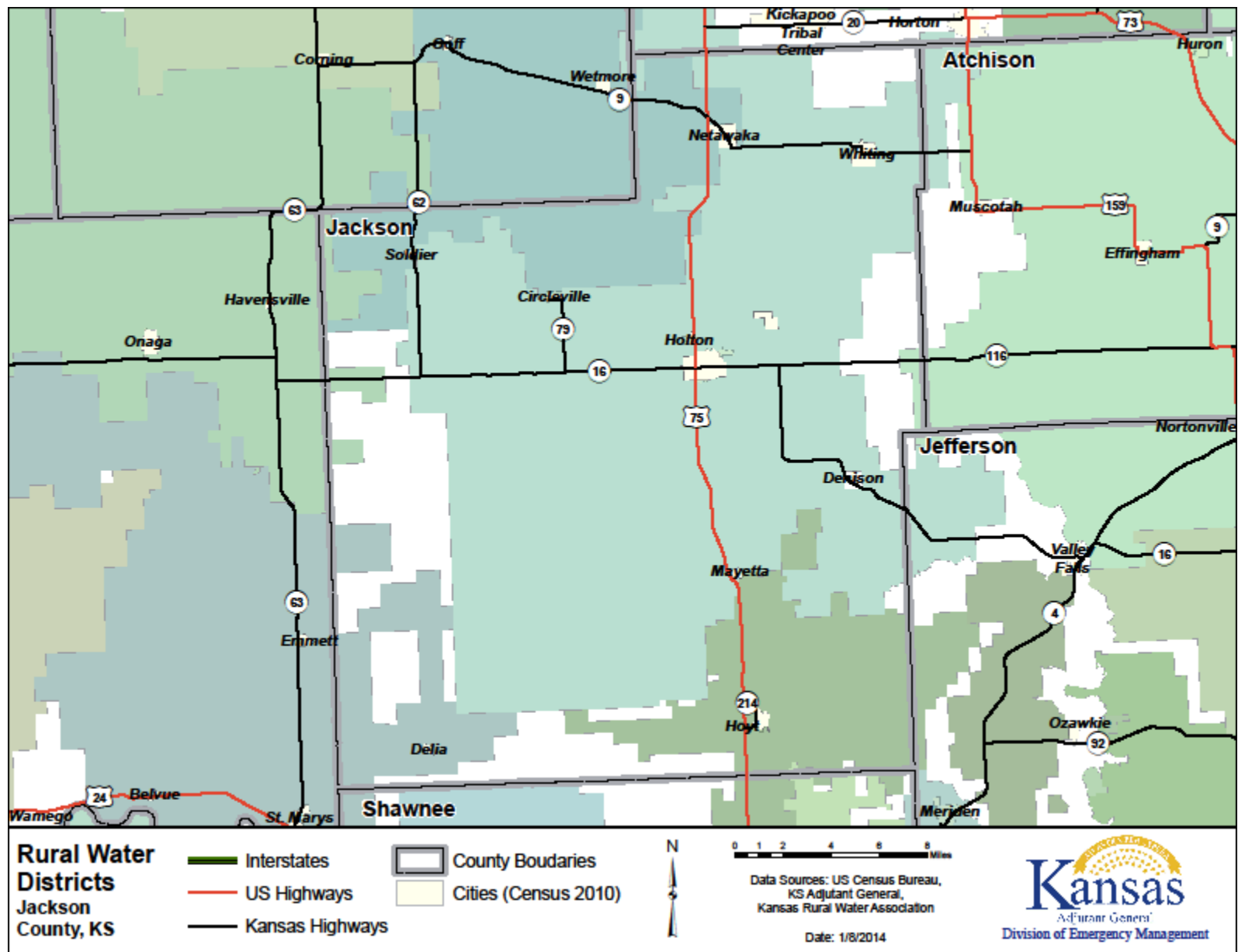
The following maps present water district boundaries by county.

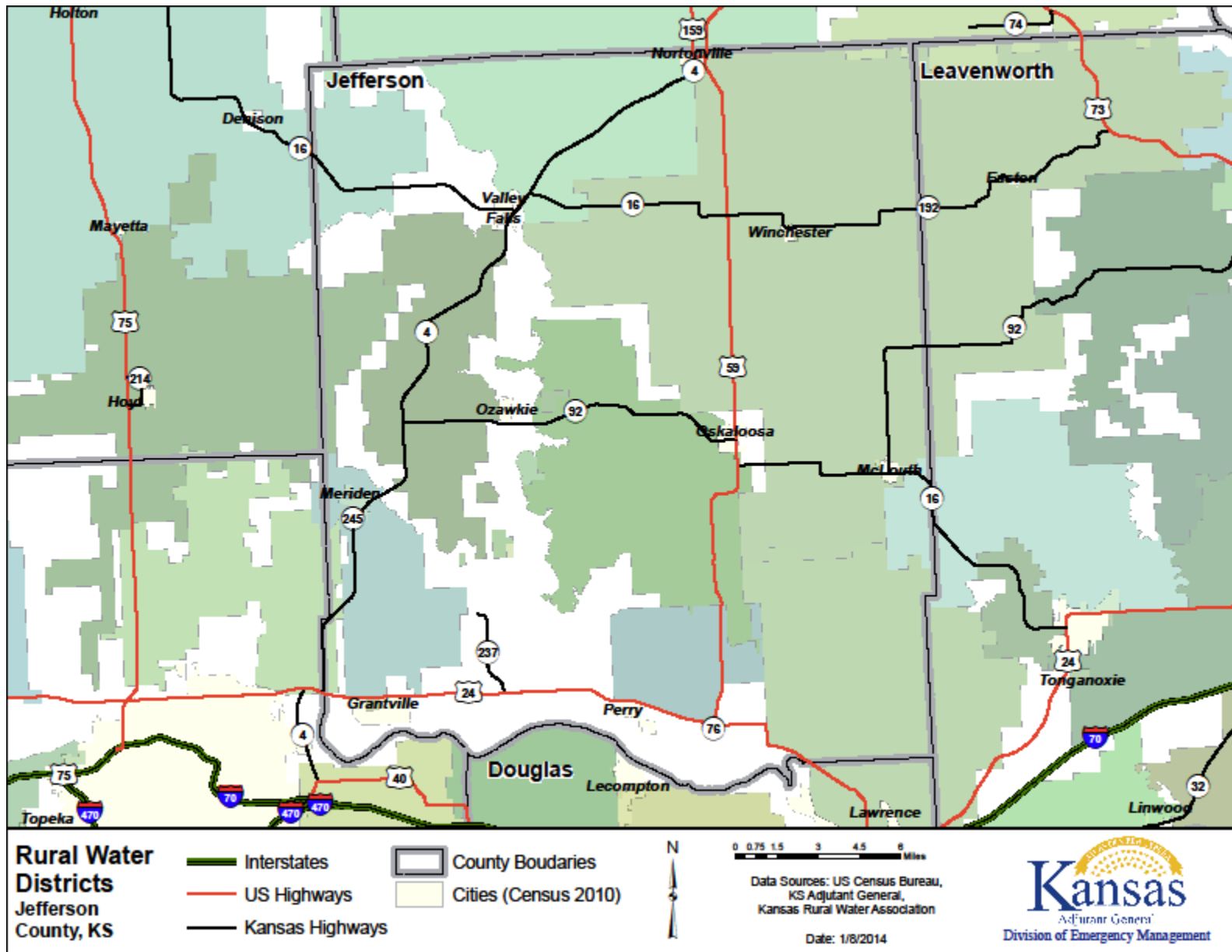


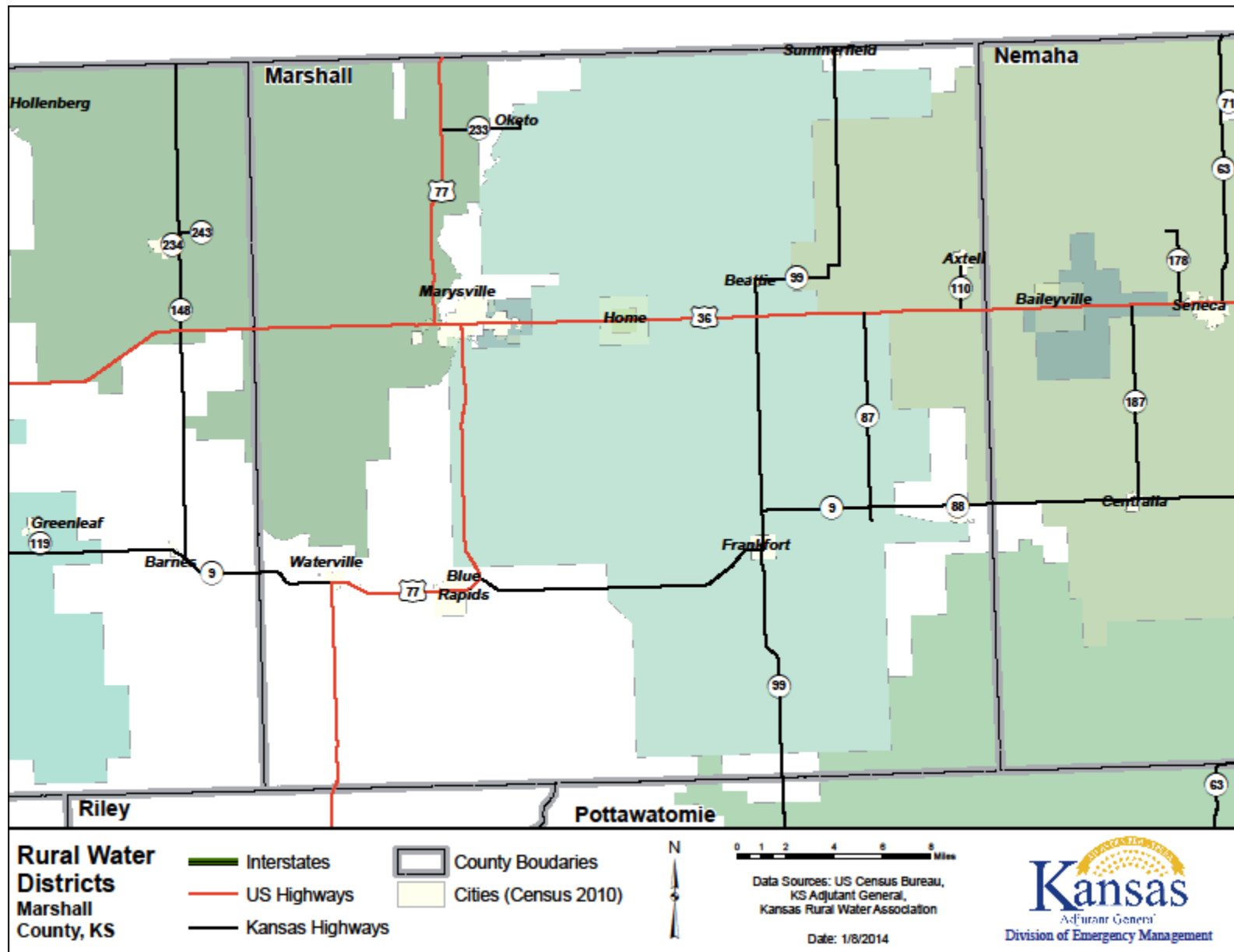


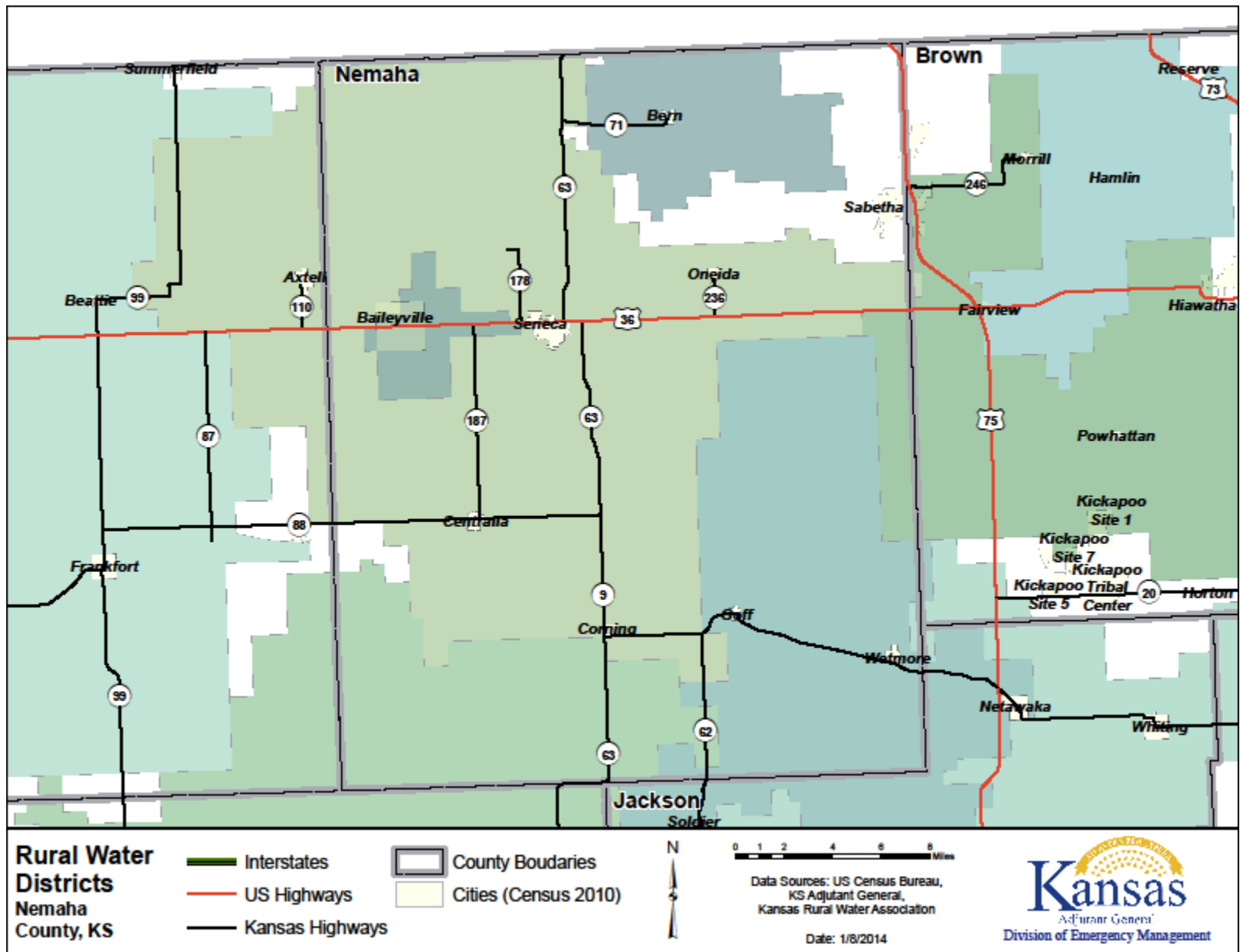


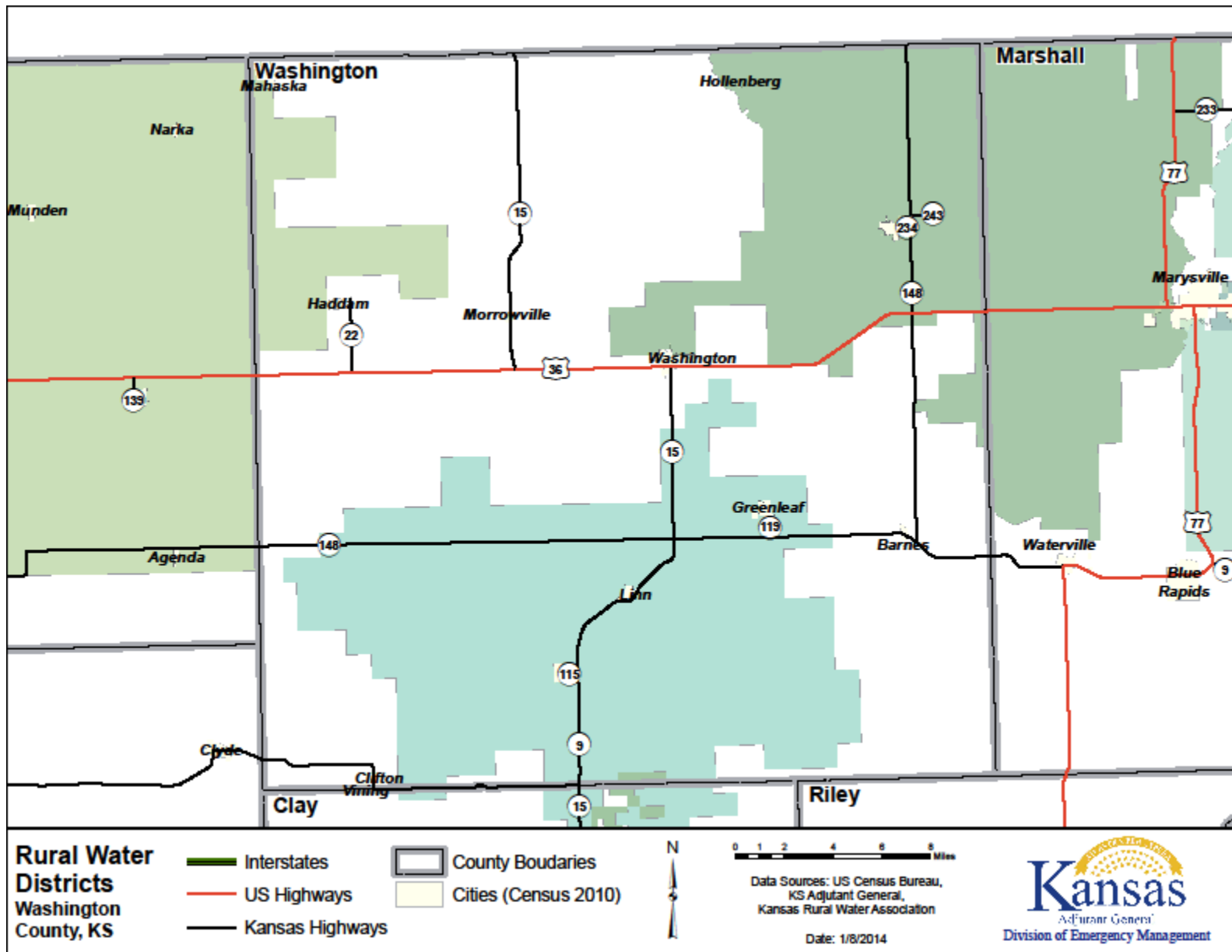












2.17 REGIONAL THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) established a Federal program to conserve, protect, and restore threatened or endangered plants and animals, as well as their habitats. ESA specifically charges Federal agencies with the responsibility of using their authority to conserve threatened or endangered species. Jurisdictions using funding from the Federal government cannot authorize any actions that jeopardize the existence of an endangered or threatened species, or result in the destruction of habitats for these species. The following provide definitions for endangered and threatened species:

- **Endangered species:** any species of wildlife whose continued existence as a viable component of the state's wild fauna is determined to be in jeopardy. That term shall also include any species of wildlife determined to be an endangered species pursuant to Pub. L. No. 93-205 (December 28, 1973), the Endangered Species Act of 1973, and amendments thereto
- **Threatened species:** any species of wildlife which appears likely, within the foreseeable future, to become an endangered species. That term shall also include any species of wildlife determined to be a threatened species pursuant to Pub. L. No. 93-205 (December 28, 1973), the Endangered Species Act of 1973, and amendments thereto.

The following table is a list of the endangered or threatened species for the region.

- Pallid sturgeon (*Scaphirhynchus albus*)
- Mead's milkweed (*Asclepias meadii*)
- Western prairie fringed Orchid (*Platanthera praeclara*)
- Topeka shiner (*Notropis topeka*)

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.

Probability	Rating	Rating Parameters
	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

Magnitude /Severity	Rating	Rating Parameters
	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

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

Duration	Rating	Rating Parameters
	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:

$$(\text{Probability} \times 0.45) + (\text{Magnitude/Severity} \times 0.30) + (\text{Warning Time} \times 0.15) + (\text{Duration} \times 0.10)$$

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

Planning Significance	CPRI Range	
	Low CPRI	High CPRI
High	3.0	4.0
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 CPRI's 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 CPRI, 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	3.00
Hailstorm	3.80	2.40	3.10	1.00	3.00
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	3.02
Windstorm	3.70	2.40	3.00	1.90	3.03
Winter Storm	3.90	2.50	1.90	3.20	3.11

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 CPRI 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)(i)(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, Tornadoes 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, Tornadoes and Flooding	Washington	\$8,259,620
1932	08/10/2010 (6/7-7/21/2010)	Severe Storms, Flooding and Tornadoes	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 Tornadoes	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, Tornadoes, and Flooding	Brown, Doniphan, Douglas, Jackson, Marshall, Nemaha and Washington	\$117,565,269
1638	4/14/2006 (3/12-13/2006)	Severe Storms, Tornadoes, 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 Tornadoes	Douglas	\$2,103,376
1462	5/6/2003 (5/4-30/2003)	Severe Storms, Tornadoes, 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 Tornadoes	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, Tornadoes, 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, Tornadoes	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, Tornadoes, 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	Tornadoes, 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

3.7 HAZARD PROFILES

Each identified hazard is profiled in this section, with the level of detail varying based on available information. Sources of information have been generally cited in the above sections and are specifically cited in the detailed hazard profiles below.

Each profile describes the hazard and its location, previous occurrences, potential impact, and its probability of future hazard events. Additionally, the profiles explore regional vulnerability analysis, estimates of potential losses, development in hazard prone areas and the hazard impact overview. The magnitude of the impact caused by a hazard event (actual and perceived) is related directly to the vulnerability of the people, property, and the environment. This is a function of when the event occurs, the jurisdictions and community sectors affected, the resilience of the community, and the effectiveness of the emergency response and disaster recovery efforts.

As this is an update and consolidation of previous planning efforts, for this 2014 Hazard Mitigation update each hazard from each participating jurisdiction was reviewed and updated as indicated and required. For the update, each profile was updated with additional historical impact information, where available. The vulnerability assessment and estimates of potential losses have been expanded for all hazards addressed in the plan where sufficient data is available. In addition, statewide flood and earthquake losses have been quantified using HAZUS-MH 2.1.

Information for the Kickapoo Nation, except where explicitly stated or provided, is included in the information for Brown County as limited data was available concerning solely the tribal reservation.

With each update of this plan, new information will be incorporated to provide for better evaluation and prioritization of the hazards that affect northeast Kansas.

The following hazards are presented in alphabetical order, and not by CPRI planning significance rating, for ease of reference.

3.7.1 AGRICULTURAL INFESTATION

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Agricultural Infestation	1.30	2.00	1.00	4.00	1.74

Description

Agricultural infestation is a naturally occurring infection of crops or livestock that may cause them to be unusable. Numerous factors influence the severity and longevity of agricultural infestations, including rainfall amount, drought conditions, seasonal patterns, and movement of materials. Typical causes can include:

- Fungus
- Insects
- Rodents and vermin
- Transmissible animal diseases

A reasonable level of agricultural infestation is expected by regional farmers and ranchers who have readily available methods to mitigate against the impact. However, if levels of routine infestation rapidly increase, or a novel form of infestation were to appear, normal methods of mitigation may fail to control the outbreak.

The onset of agricultural infestation can be rapid and controlling the rate of spread is important to limiting impacts. Methods to limit the rate of spread include:

- Early harvest
- Crop destruction
- Culling of a herd
- Quarantine

The duration of an infestation depends on the degree to which the infestation is controlled from the onset, but is generally over a period of weeks and months. The warning time of an infestation is affected by the timely monitoring and reporting of potential outbreaks by both the community, industry groups and governmental agencies.

Animal Disease

The northeast region has a moderate number of cattle, 405,291 as of 2007 according to the USDA National Agricultural Statistics Service. Because cattle are both raised locally and imported into the region from other localities within Kansas and other states the potential for highly contagious diseases poses a threat to the regional economy. Currently the northeast region, and the state of Kansas, is Brucellosis, Tuberculosis and Pseudorabies free. However, of concern are two economically devastating animal diseases, foot and mouth disease and bovine spongiform encephalopathy (BSE). Infection with these, and other animal diseases, could result in a decline in milk production, spontaneous abortion, and animal death. It would not only affect

farmer and ranchers, but support and related industries as well. With a medium sized agricultural industry throughout the region, the potential for infestation of livestock poses a moderate risk to the regional economy.

According to the Kansas Department of Health & Environment, Bureau of Water, Livestock Waste Management the northeast region has 191 confined animal feeding operation (CAFOs) facilities with 300 or more animal units. There have been substantial changes in the animal production industry over the past several decades, with the total number of CAFOs decreasing through consolidation resulting in operations of increasing size. This is a potential concern as high concentration of animals in proximity enhances potential transmission of disease among members of the group. Many experts fear that intentional, criminal introduction of a disease such as foot and mouth would result in very rapid spread of the disease throughout the nation and could have very severe economic consequences to the industry. The following is a list of the number of CAFOs per county in the region:

- Atchison: 3
- Brown: 15
- Doniphan: 2
- Douglas: 2
- Jackson: 4
- Jefferson: 1
- Marshall: 16
- Nemaha: 82
- Washington: 66

Knowing where diseased and at-risk animals are, where they've been and when, is important to ensuring a rapid response when animal disease events take place. The Kansas Department of Agriculture, Division of Animal Health monitors and reports on animal reportable diseases. Producers are required by state law to report any of the reportable animal diseases. Additionally, the USDA and the Kansas Department of Agriculture (KDA), Division of Animal Health have implemented the Animal Disease Traceability system. In order to aid in rapid reporting and identification of animal borne disease, this system establishes minimum national official identification and documentation requirements for the traceability of livestock. Animals moved interstate, unless otherwise exempt, must be officially identified and accompanied by an interstate certificate of veterinary inspection.

There are also several fatal diseases that can affect the deer or captive elk population in Kansas. These disease include Chronic Wasting Disease and Hemorrhagic Disease. There have been 48 positive cases of Chronic Wasting Disease found in Kansas since surveillance started in 1996. The exact number of deaths caused by Hemorrhagic Disease is not known, but generally 25 percent of the deer population affected with this disease die. There are no wildlife management tools or strategies available to prevent or control of these diseases other than the prevention of transport of infected deer.

Other diseases such as bovine tuberculosis and a host of detrimental parasites such as exotic lice, meningeal worms, flukes, and stomach worms are fatal to deer and are transmitted more efficiently when deer are concentrated in a small area. These diseases can seriously damage the populations of the captive deer and elk farms and the wild deer populations but also affect the annual \$350 million dollar hunting economy in Kansas.

Crop Disease and Insect Infestation

The University of Kansas Institute of Policy and Social Research reports that the value of field crops in the region averaged approximately \$495 million for the year 2007. This accounts for approximately 10% of the state of Kansas average of \$4,900,000,000 year.

Field crops can be subject to infestation, including leaf rust, wheat streak mosaic, barley yellow dwarf virus, strawbreaker, and tan spot. According to the KDA, Plant Protection and Weed Control Division, the following are the highest risk crop pests to Kansas:

- Corn – Aspergillus Ear Rot (Alfatoxin)
- Soybean – Austro-Asian Rust
- Wheat – Black Stem Rust, Blast – South American strains, Stripe Rust, Leaf Rust, Karnal Bunt

Additionally, both crops in the field and harvested crops may be subject to insect infestation. The estimated damage to stored grain from the lesser grain borer, rice weevil, red flour beetle, and rusty grain beetle in the United States is approximately \$500,000,000 annually.

Tree Pests

According to the KDA, Plant Protection and Weed Control Division, the following are the highest risk plant pests by host to Kansas:

- Ash Trees – Emerald Ash Borer
- Maple, Birch, Willow, Mimosa, Ash, Sycamore & Poplar Trees – Asian Longhorned Beetle
- Walnut Trees – Thousand Cankers

The Emerald Ash Borer, a emerald green beetle that is ½ inch long, is a pest of ash trees. This pest is responsible for the destruction of approximately 20 million ash trees in the United States and Canada. In 2012 the pest was confirmed at the Wyandotte County Lake in Wyandotte County, Kansas. Immediately after confirmation by USDA, the Kansas Secretary of Agriculture implemented an emergency intrastate quarantine for Wyandotte County. Financially, the United States risks an economic loss of \$20 billion to \$60 billion because of this pest. According to the 2011 Kansas Forest Action Plan ash trees are the third most common species of trees, with 56.1 million (60.8 million cubic feet) green and white ash found in Kansas.

The Asian Longhorned Beetle is an exotic insect that threatens a wide variety of hardwood trees. It has not been detected in Kansas yet.

The Thousand Cankers is newly recognized disease in 2008 and first noticed in the western U.S. Currently it is located in both the east and western parts of the United States. It has not been detected in Kansas. This disease is caused by a combination of a fungus and the walnut twig beetle. There are an estimated 26.2 million (35.3 million cubic feet) black walnut trees in Kansas.

Wildlife Pests

Kansas farmers also lose a significant amount of crops each year as a result of wildlife foraging. This can be particularly problematic in areas where natural habitat has been diminished or in years where weather patterns such as early/late frost deep snow, or drought has caused the wild food sources to be limited. Wildlife pests can include:

- Birds
- Deer
- Hogs
- Rodents

Many of these wildlife pests can be controlled through simple measures including fencing, netting, baiting, and herd management through culling. According to the USDA, a particular success story has been the control of feral hogs. Feral hogs caused an estimated \$1.6 billion in damage to crops, lawns, wildlife habitat and by introducing diseases to domestic animals in 2011. It is estimated that in 2006, there were 2,500 feral hogs in Kansas. As of 2012 that figure has dropped to 1,000.

	Warning Time
Agricultural Infestation	1.00

	Duration
Agricultural Infestation	4.00

Hazard Location

The entire planning area may be affected by agricultural infestation. The following table presents regional information on farms, agricultural acreage and cattle.

Farm, Crop and Livestock Information, 2007

	Number of Farms	Total Farm Acreage	Total Cropland Acreage	Pasture Acres
Region	7,463	3,069,508	1,999,506	848,275

Source: United States Department of Agriculture National Agricultural Statistics Service

Livestock Information, January 1, 2012

	Cattle	Hogs and Pigs	Horses and Ponies	Sheep and Lamb
Region	405,291	276,935	7,214	3,713

Source: United States Department of Agriculture National Agricultural Statistics Service

While rural areas within the region are more susceptible to crop and livestock infestation, urban and suburban areas are also at risk. Agricultural infestation does not cause damage to buildings or critical facilities.

Previous Occurrences and Extent

The following is a list of notable agricultural infestation events in northeast Kansas.

Summer 2012: Scrapie was found in two sheep at a regulatory slaughter test in Kansas. The sheep were from two unrelated flocks. There had not been any cases in Kansas for more than two years.

August 29, 2012: The emerald ash borer pest was confirmed at the Wyandotte County Lake in Wyandotte County, Kansas. Immediately after confirmation by USDA, the Kansas Secretary of Agriculture implemented an emergency intrastate quarantine for Wyandotte County.

2001: A major infestation of webworms attacked the State's alfalfa crop, particularly in eastern Kansas.

1989: Gray leaf spot of corn was first identified in the State in the Republican River Valley. The disease reached economic threshold levels by 1992 and has caused economic damages somewhere in the State every year from 1992 to 1998. In 1998, it was the most severe in northeast Kansas and in the irrigated areas of south central and southwest Kansas.

Hazard Vulnerability and Impact

The following table provides an indication of the potential magnitude of agricultural infestation northeast Kansas.

Total Insured Crop Insurance Paid per County from 2002-2011, Top Livestock Inventory Number and Top Crop in Acres from USDA Census 2007

County	Annualized Crop Insurance Paid for Infestation Damages	All Goats Inventory	Cattle & Calves Inventory	Hogs & Pigs Inventory	Horses & Ponies Inventory	Sheep & Lambs, Inventory, Wool Production	Corn Harvested in Acres	Forage Harvested in Acres	Sorghum for Grain Harvested in Acres	Soybeans for Beans Harvested in Acres	Wheat Harvested in Acres
Atchison	\$2,677	32	35,656	4442	607	-	63,531	25,495	-	59,821	10,541
Brown	\$6,916	197	29,122	6,663	552	1664	11508	17,426	-	98,331	12,163
Doniphan	\$2,450	194	14,563	1067	583	-	85,285	10,154	750	62,421	2,536
Douglas	\$5,646	466	22,642	4,310	1946	-	29,564	33,488	3,500	43,188	11,001
Jackson	\$9,998	694	50,453	1,949	1,723	-	23,091	53,175	2,354	28,456	10,118
Jefferson	\$2,641	948	49,569	2,128	1374	-	38,278	46,448	2,295	38,227	13,423
Marshall	\$64,987	364	60,831	9,994	-	635	63,002	28,401	29,975	108,888	82,740
Nemaha	\$46,396	89	66,730	121,191	429	607	84,560	39,783	6,451	78,657	39,314
Washington	\$78,779	220	75,725	125,191	-	807	35,372	29,441	50,340	72,683	103,820
Regional Total	\$220,490	3,204	405,291	276,935	7,214	3,713	434,191	283,811	95,665	590,672	285,656

Source: USDA Risk Management Agency, 2012; and USDA National Agricultural Statistics Service, 2007

This table only reflects insured losses that were claimed. According to the 2011 Kansas Crop Insurance profile Report issued by the USDA Risk Management Agency, 82 percent of Kansas row crops were insured in 2011 (there is no information available for the 18 percent of uninsured crop losses). Data regarding the number or value of livestock and wildlife lost to disease or infestation was not available for this planning effort.

	Magnitude/Severity
Agricultural Infestation	2.00

Future Development

Data suggests that the acres of land in farms is slightly increasing in northeast Kansas. The average regional farm acreage from 2002 to 2007 had a 6.56% increase. However, the amount of land in the region is a fixed amount, and already a large percentage is used for agricultural purposes. As such, it is believed that the increase in farm acreage will slow over the coming years.

Probability of Future Occurrences

The region experiences agricultural losses every year as a result of naturally-occurring diseases that impact animals/livestock and crops. However, the occurrence of large scale, economically

impactful infestations has not been documented in the region. The probability of this hazard occurring is unlikely.

	Probability
Agricultural Infestation	1.30

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Agricultural Infestation Consequence Analysis

Subject	Ranking	Impacts of Agricultural Infestation
Health and Safety of Persons in the Area of the Incident	Minimal	Impact for this incidence on the Health and Safety of Persons in the area would be minimal. If the infestation is unrecognized, then there is the potential for the food supply to be contaminated.
Responders	Minimal	Impact to responders would be minimal with protective clothing, gloves, etc as these diseases cause no risk to humans.
Continuity of Operations	Minimal	Minimal expectation of execution of the COOP.
Property, Facilities, and Infrastructure	Minimal	Localized impact to facilities and infrastructure in the incident area is minimal to non-existent.
Delivery of Services	Minimal	Impacts to the delivery of services would be non-existent to minimal. Impact could be larger depending on the extent of the contaminated crop/crop loss.
Environment	Minimal to Severe	Impact could be severe to the incident area, specifically, plants, trees, bushes, and crops.
Economic Conditions	Minimal to Severe	Impacts to the economy will depend on the severity of the infestation. The potential for economic loss to the community and state could be severe if the infestation is hard to contain, eliminate, or reduce. Impact could be minimized due to crop insurance.
Public Confidence in Governance	Minimal to Severe	Confidence could be in question depending on timeliness and steps taken to warn the producers and public, and treat/eradicate the infestation.

3.7.2 CIVIL DISORDER

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Civil Disorder	1.15	2.10	3.80	1.20	1.84

Description

Civil disorder is a term that generally refers to a public disturbance by three or more people involving acts of violence that cause immediate danger, damage, or injury to others or their property. However, it is important to remember that gatherings in protest are recognized rights of any person or group, and this right is protected under the United States Constitution.

Civil disorder can take many shapes, including demonstrations, civil unrest, public disorder, and riots. These event may happen for a number of reasons, including:

- Economic hardships
- Social injustices
- Objections to organizations or governments
- Political grievances
- Ideological grievances

An event can be triggered by a single or combination of causes, with demonstrations ranging from simple, nonviolent protests to events that turn into full-scale riots. Most protesters are law-abiding citizens who intend that their protests be nonviolent, but some individuals or groups within an organized demonstration may have the intent to cause disruption, incite violence, destroy property, and/or provoke the authorities. Violence is often the result of demonstrators beginning to conduct unlawful or criminal acts and authorities enforcing the laws of the municipality, state, or nation.

A crowd is defined as a large number of persons gathered temporarily together. There are many types of crowds which are based on their reasons for getting together

- **Causal crowds:** This type has no common bond other than the immediate reason for being present. An example would be a football game or a symphony orchestra performance where the only bond is enjoyment.
- **Planned crowds:** Planned crowds are likely to be more organized. A leader will call a meeting to establish a goal in which members have a common interest.
- **Mob:** The extreme crowd behavior is a mob. A mob is a crowd whose members have lost their concern for law and authority and follow their leaders into unlawful and disruptive acts.

Normally, when a crowd is orderly, not violating any laws and not causing a threat to life or property it does not represent a problem. Crowds, however, are subject to control by skillful troublemakers and therefore capable of violence and disregard for law and order. If problems exist, they usually fall into the following three categories:

- **Public disorder:** Public disorder is a basic breach of civic order. Individuals or small groups assembling have a tendency to disrupt the normal flow of things around them.
- **Public disturbance:** Public disturbance is designed to cause turmoil on top of the disruption. Individuals and groups assembling into a crowd begin chanting, yelling, singing, and voicing individual or collective opinions.
- **Riot:** A riot is a disturbance that turns violent. Assembled crowds become a mob that violently expresses itself by destroying property, assaulting others, and creating an extremely volatile environment.

In general, civil disorder has some important similarities. Most disturbances start from minor incidents and can spread quickly and gain in strength and force. Any crowd, regardless of its purpose, is a potentially violent group. As such, there is very little warning time for a crowd to turn violent. However, with effective law enforcement the duration of a civil unrest event would likely be very short.

	Warning Time
Civil Disorder	3.80

	Duration
Civil Disorder	1.20

Hazard Location

In the United States, civil disorder has been most commonly associated with urban areas and college campuses. And while the entire planning area may be affected by civil disorder, with its generally small population and low population density, the magnitude of such an event would likely be limited to the major cities within the region.

With human-caused hazards such as this that can have multiple variables involved, increases in development and increases in the replacement cost of the built environment can be factors that increase the cost of the event. The cost for such an event is largely related to the location and the level of violence the crowd chooses.

Previous Occurrences and Extent

There have been no notable previous occurrences in northeast Kansas which could be described as Civil Disorder.

Hazard Vulnerability and Impact

Economic impacts and human injury or death are the primary concern with civil disorder. Increases in population or the hosting of major political, economic or social events could increase the likelihood and severity of a civil disturbance.

In general, it is difficult to quantify potential losses of Civil Disorder due to the many variables and human elements and lack of historical precedence. Therefore, for the purposes of this plan, the loss estimates will take into account a hypothetical scenario. **Please note that the hypothetical scenario is included for illustrative purposes only.**

Event: City organizers set up a two-block long fan zone near the local sporting arena. Two big screen TVs were set up for fans to watch the game. Temporary fences and gates were set up to provide checkpoints where police could control access to the area and check for alcohol. Crowds, estimated to be at 15,000 people, had been generally well-behaved in the fan zone, however people found ways to enter the zone without being checked for alcohol. Planned corridors to allow movement of emergency vehicles became impassable.

Riot: The riot began to take shape as the game came to a close, with some spectators throwing bottles and other objects at the large screens in the viewing area. Flags and jerseys were set alight, and soon some rioters overturned a vehicle. A group was heard chanting "let's go riot" as early as the first period of the game were among those responsible for flipping the first car. People began jumping on the car that had been first overturned, and then it was set afire. Fist fights broke out when people standing on porta-potties fell when others tipped them over. With a crowd of onlookers chanting "burn the truck", a second vehicle in the same area was set on fire. Firemen were able to put it out, but the truck was again set alight after it was overturned. In a nearby parking lot, two police cars were later also set on fire. Riot police eventually managed to disperse the rioters.

Results: Thirty people required hospitalization for non-life threatening injuries. Numerous rioters had injuries that did not require hospitalization. The Police Department made 300 arrests during the riot. The majority were arrested for disturbing the peace, with additional arrests for public intoxication, breaking and entering, assault and theft. In total, 27 cars were burned, including police cars. Windows were smashed in local businesses along the fan zone corridor, some of which were also looted. After event estimates suggested the losses due to vandalism, theft, and damage to property to be nearly \$5 million.

	Magnitude/Severity
Civil Disorder	2.10

Future Development

Future development and population increases would tend to increase the likelihood of a civil disorder event. In addition, future migration to larger cities, such as Lawrence in Douglas County, may also increase the likelihood of a civil disorder event. Finally, the growth of major universities within the region could potentially serve to increase the likelihood of a civil disorder event.

Probability of Future Hazard Events

While civil disorder is a fairly rare event, when they do occur they are extremely disruptive and difficult to control. The City of Lawrence in Douglas County is particularly susceptible due to its venues for large gatherings and events and the presence of a large University. It is possible that northeast Kansas will experience marches, protests, demonstrations, and gatherings in various cities and communities that could lead to some type of civil disorder. However, based on the region's general lack of history of civil disturbance and the various human factors noted above, the probability that such incidents will develop into full-scale riots is considered unlikely.

	Probability
Civil Disorder	1.15

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Consequence Analysis of Civil Disorder

Subject	Ranking	Impacts of Civil Disorder
Health and Safety of Persons in the Area of the Incident	Severe	Impact could be severe for persons in the incident area.
Responders	Minimal to Severe	Impact to responders could be severe if not trained and properly equipped. Responders that are properly trained and equipped will have a low to moderate impact.
Continuity of Operations	Minimal to Severe	Depending on damage to facilities/personnel in the incident area, re-location may be necessary and lines of succession execution.
Property, Facilities, and Infrastructure	Severe	Impact within the incident area could be severe for explosion, moderate to low for Hazmat.
Delivery of Services	Minimal to Severe	Delivery of services could be affected within and around the affected area especially if communications, road and railways, and facilities incur damage.
Environment	Minimal to Severe	Localized impact within the incident area could be severe depending on the type of human caused incident.
Economic Conditions	Minimal to Severe	Economic conditions could be adversely affected and dependent upon time and length of clean up and investigation.
Public Confidence in Governance	Minimal to Severe	Impact will be dependent on whether or not the incident could have been avoided by government or non-government entities, clean-up and investigation times, and outcomes.

3.7.3 DAM AND LEVEE FAILURE

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Dam and Levee Failure	1.40	2.70	2.10	3.50	2.11

Description

A dam is defined by the National Dam Safety Act as an artificial barrier that impounds or diverts water and is more than 6 feet high and stores 50 acre feet or more or is 25 feet or more high and stores more than 15 acre feet. Dams are usually engineered to withstand a flood with a computed risk of occurrence. If a larger flood occurs, then that structure will likely be overtopped. If during the overtopping the dam fails or is washed out, the water behind it is released as a flash flood. Failed dams can create floods that are catastrophic to life and property because of the tremendous energy of the released water. However, dams are complicated structures, and it can be difficult to predict how a structure will respond to distress. Dams can fail for one or a combination of the following reasons:

- Overtopping caused by floods that exceed the capacity of the dam.
- Deliberate acts of sabotage.
- Structural failure of materials used in dam construction.
- Movement and/or failure of the foundation supporting the dam.
- Settlement and cracking of concrete or embankment dams.
- Piping and internal erosion of soil in embankment dams.
- Inadequate maintenance and upkeep.

There are two categories to describe dam failure.

- **Rainy day failure** involves periods of excessive precipitation leading to an unusually high runoff. This high runoff increases the reservoir of the dam and if not controlled, the overtopping of the dam or excessive water pressure can lead to dam failure. Normal storm events can also lead to rainy day failures if water outlets are plugged with debris or otherwise made inoperable.
- **Sunny day failures** occur due to poor dam maintenance, damage/obstruction of outlet systems, or vandalism. This is the worst type of failure and can be catastrophic because the breach is unexpected and there may be insufficient time to properly warn downstream residents.

Even though both types of failures can be disastrous, it can be assumed that a sunny day failure would be more catastrophic due to its unanticipated occurrence and the lack of time to warn residents downstream.

Over 95 percent of dams are non federal, with most being owned by state governments, municipalities, watershed districts, industries, lake associations, land developers, and private citizens. Dam owners have primary responsibility for the safe design, operation, and

maintenance of their dams. They also have responsibility for providing early warning of problems at the dam, for developing an effective emergency action plan, and for coordinating that plan with local officials.

State-Regulated Dams

In Kansas, the State has regulatory jurisdiction over non-federal dams that meet the following definition of a “jurisdictional” dam as defined by K.S.A. 82a-301 et seq, and amendments thereto:

- *any artificial barrier including appurtenant works with the ability to impound water, waste water or other liquids that has a height of 25 feet or more; or has a height of six feet or greater and also has the capacity to impound 50 or more acre feet. The height of a dam or barrier shall be determined as follows: (1) A barrier or dam that extends across the natural bed of a stream or watercourse shall be measured from the downstream toe of the barrier or dam to the top of the barrier or dam; or (2) a barrier or dam that does not extend across a stream or watercourse shall be measured from the lowest elevation of the outside limit of the barrier or dam to the top of the barrier or dam.*

The Kansas Department of Agriculture, Division of Water Resources (KDA-DWR) is the State agency responsible for regulation of jurisdictional dams. Within the Division of Water Resources, the Water Structures Program has the following Responsibilities: reviewing and approving of plans for constructing new dams and for modifying existing dams, ensuring quality control during construction, and monitoring dams that, if they failed, could cause loss of life, or interrupt public utilities or services

Dam classifications have been developed to describe the level of risk associated with dam failure. These classifications do not reflect the physical condition of the dams, but rather describe areas downstream of the dams that could be impacted in the event of failure, which is generally unlikely. The KDA-DWR classifies jurisdictional dams as follows:

- **Class A (low hazard):** A dam located in an area where failure could damage only farm or other uninhabited buildings, agricultural or undeveloped land including hiking trails, or traffic on low-volume roads that meet the requirements for hazard class A dams.
- **Class B (significant hazard):** A “hazard class B dam” means a dam located in an area where failure could endanger a few lives, damage an isolated home, damage traffic on moderate volume roads that meet the requirements for hazard class B dams, damage low-volume railroad tracks, interrupt the use or service of a utility serving a small number of customers, or inundate recreation facilities, including campground areas intermittently used for sleeping and serving a relatively small number of persons.
- **Class C (high hazard):** A “hazard class C dam” shall mean a dam located in an area where failure could result in any of the following: extensive loss of life, damage to more than one home, damage to industrial or commercial facilities, interruption of a public

utility serving a large number of customers, damage to traffic on high-volume roads that meet the requirements for hazard class C dams or a high-volume railroad line, inundation of a frequently used recreation facility serving a relatively large number of persons, or two or more individual hazards described in hazard class B. Emergency Action Plans (EAPs) are required for all High Hazard Dams.

Levees

A levee is an artificial barrier, usually an earthen embankment, constructed along rivers to protect adjacent lands from flooding. Generally, a levee is subjected to water loading (a high water event) only a few days or weeks each year, unlike a dam that is retaining water most of the year. Floodwalls are concrete structures, often components of levee systems, designed for urban areas where there is insufficient room for earthen levees.

Levees are usually engineered to withstand a flood with a computed risk of occurrence. When a larger flood occurs and/or levees and floodwalls and their structures are stressed beyond their capabilities to withstand floods, levee failure can result in loss of life and injuries as well as damages to property, the environment, and the economy.

A levee breach results when a portion of the levee breaks away, providing an opening for water to flood the landward side of the structure. Such breaches can be caused by surface erosion due to water velocities, or they can be the result of subsurface actions. Levee overtopping is similar to dam overtopping in that the flood waters simply exceed the design capacity of the structure. Such overtopping can lead to erosion on the land side which can lead to breaching. In order to prevent this type land side erosion, many levees are reinforced with rocks or concrete.

For purposes of the levee failure hazard profile and risk assessment in this hazard mitigation plan, levees in Kansas will be discussed in four categories:

1. Levees in the United States Army Corps of Engineers (USACE) Levee Safety Program
2. FEMA Accredited Levees
3. Levees that are both in the USACE Levee Safety Program and Accredited by FEMA
4. All other levees

In terms of assessing risk, levees in categories 1, 2, and 3 all undergo or have undergone some sort of inspection, certification, or accreditation that indicates the level of protection and/or structural integrity of the levee system. However, the levees in the category 4 may not be regularly monitored or inspected.

Levees in the USACE Levee Safety Program

The USACE created the Levee Safety Program (LSP) in 2006 to assess the integrity and viability of levees and to make sure that levee systems do not present unacceptable risks to the public, property, and environment. Under the Levee Safety Program, USACE conducts levee inspections (routine, periodic and special event). During these inspections, deficiencies may be identified

such as unsatisfactory culverts, non-compliant vegetation, encroachments, and animal burrows. USACE uses inspection findings to “rate” levee systems to determine compliance with operation and maintenance requirements, understand the overall levee condition, and determine eligibility for federal rehabilitation assistance under P.L. 84-99.

According to the National Levee Database (NLD) managed by USACE, there are currently 42 identified levees in northeast Kansas. Twenty-nine of the identified levees are not rated, 1 is rated as acceptable, and 12 are rated Minimally Acceptable.

FEMA Accredited Levees

Many levees shown on effective Flood Insurance Rate Maps (FIRM) were mapped in the 1970s and 1980s and have never been remapped by FEMA. Prior to 1986, levees were shown on FIRMs as providing protection from the base flood when they were designed and constructed in accordance with sound engineering practices. Since 1986, levees have been shown as accredited on FIRMs only when they meet the requirements of 44 CFR 65.10 “Mapping Areas Protected by Levee Systems”, including certification by a registered professional engineer or a Federal agency with responsibility for levee design.

Levees that do not meet the requirements of 44 CFR 65.10 cannot be shown as accredited on a FIRM. Furthermore, floodplain areas behind the levee are at risk to base flood inundation and are mapped as high risk areas subject to FEMA’s minimum floodplain management regulations and mandatory flood insurance purchase requirement.

In 2004, as it initiated work under the Flood Map Modernization Initiative (Map Mod), FEMA determined that analysis of the role of levees in flood risk reduction would be an important part of the mapping efforts. A report issued in 2005 noted that the status of the nation’s levees was not well understood and the condition of many levees and floodwalls had not been assessed since their original inclusion in the NFIP. As a result, FEMA established policies to address existing levees.

FEMA Accredited levees generally fall into two types:

- Levees mapped on Digital Flood Insurance Rate Maps (DFIRM) since the Flood Map Modernization Initiative
- Levees, mapped prior to the Flood Map Modernization Initiative and are not mapped on DFIRMs.

As DFIRMs are developed, levees fall under one of the three following categories:

- **Accredited Levee** : With the exception of areas of residual flooding (interior drainage), if the data and documentation specified in 44 CFR 65.10 is readily available and provided to FEMA, the area behind the levee will be mapped as a moderate-risk area. There is no mandatory flood insurance purchase requirement in a moderate-risk area, but flood insurance is strongly recommended.

- **Provisionally Accredited Levee (PAL):** If data and documentation is not readily available, and no known deficiency precludes meeting requirements of 44 CFR 65.10, FEMA can allow the party seeking recognition up to two years to compile and submit full documentation to show compliance with 44 CFR 65.10. During this two-year period of provisional accreditation, the area behind the levee will be mapped as moderate-risk with no mandatory flood insurance purchase requirement.
- **De-Accredited Levees:** If the information established under 44 CFR 65.10 is not readily available and provided to FEMA, and the levee is not eligible for the PAL designation, the levee will be de-accredited by FEMA. If a levee is de-accredited, FEMA will evaluate the level of risk associated with each non-accredited levee through their Levee Analysis Mapping Procedures (LAMP) criteria to consider how to map the floodplain and which areas on the dry side of the levee will be shown as high risk. The mapping will then be updated to reflect this risk..

According to the Mid-Term Levee Inventory, the following counties have accredited levees in DFIRM:

- Atchison County
- Doniphan County
- Douglas County
- Jefferson County
- Marshall County

FEMA Accredited Levees not Mapped on DFIRMs

Throughout the early days of the National Flood Insurance Program (NFIP), little guidance was available associated with the inclusion of existing levees. Decisions were made on whether to accredit hundreds of levees across Kansas. Because there were no levee standards and accreditation of a levee was left largely to the judgments of the study contractors, many levees were accredited as providing flood protection even though they would not meet the current NFIP levee standards as stated in 44 CFR 65.10.

During subsequent re-mapping, many of these levees were re-evaluated and accredited as providing flood protection, but do not meet the standards of 44 CFR 65.10. Additionally, some levees, originally indicated as accredited have never been re-evaluated. If levees are depicted on the paper FIRMS in counties that have not been re-mapped on DFIRMs, their protection level has not been re-evaluated. Until re-evaluation occurs, these levees are considered accredited.

This information was obtained by comparing the levees in the Mid-term Levee Inventory indicated as showing protection on the FIRM against the list of counties that have effective DFIRMs.

All Other Levees

There are also levees throughout the State that are intended to mitigate low-level flooding and/or protect agricultural land that are not in the USACE Levee Safety program. Additionally, since these levees are not intended to protect populations or development from flooding from the 1% annual chance flood, they are not, nor seek to be accredited by FEMA for flood insurance purposes. These levees may provide a false sense of security to residents behind these levees. Additionally, these levees may not be routinely inspected by levee owners. There is no agency with regulatory authority over these levees.

According to comparative analysis of the MLI and NLD, there are currently 39 levees that are not accredited by FEMA or in the USACE Levee Safety Program. Atchison county has been identified as having some of these unaccredited levees. There are also likely many more levees, such as agricultural levees that have not been inventoried. Populations and development behind these levees could be considered to be at a higher risk since there are no requirements for these levees to be routinely inspected and/or certified.

The inventory of levees has been compiled from the USACE NLD as well as the FEMA MLI. Please note that there may be some duplication as the names of the levees as well as the segmentation of the levees is not consistent in both inventories.

In general, dam and levee failures occur with some warning, with the exception of sunny day failures. Additionally, while the effects can be catastrophic, the duration is generally short.

	Warning Time
Dam and Levee Failure	2.10

	Duration
Dam and Levee Failure	3.50

Hazard Location

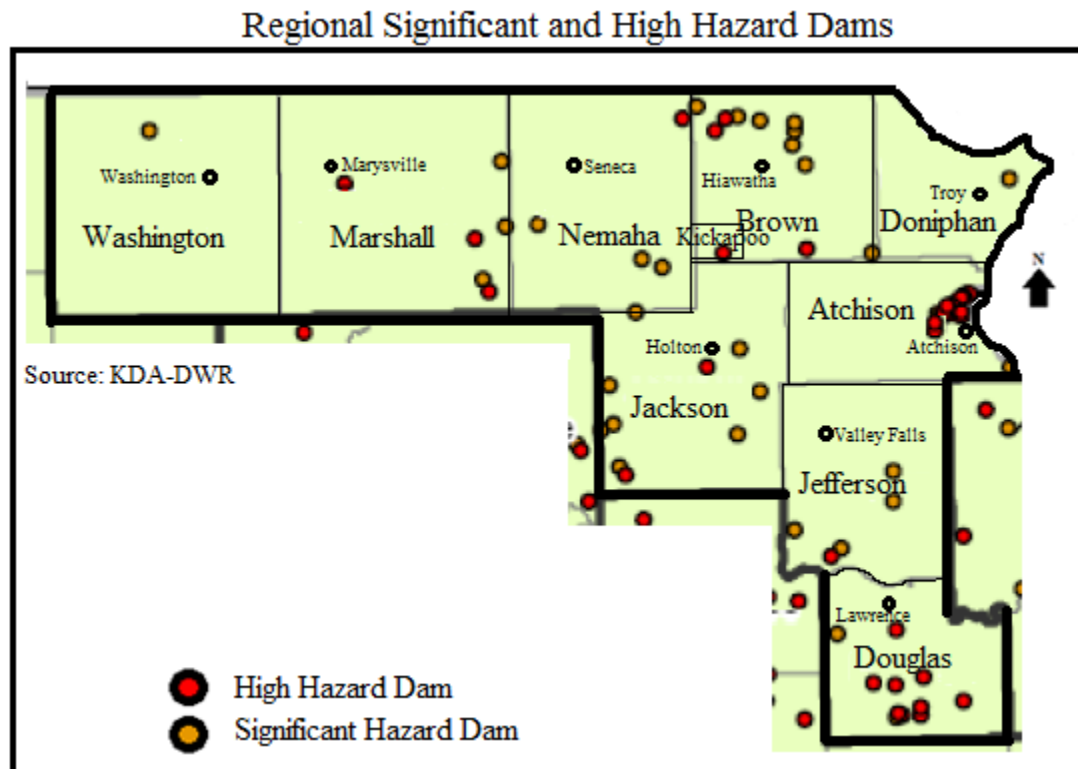
At the time this plan was developed there were 1,540 state-regulated jurisdictional dams in northeast Kansas. Of those, 41 were Class C (High Hazard Dams), 41 were Class B (Significant Hazard Dams), and 1,458 were Class A (Low Hazard Dams).

Number of State Regulated Dams by Hazard Class in Region

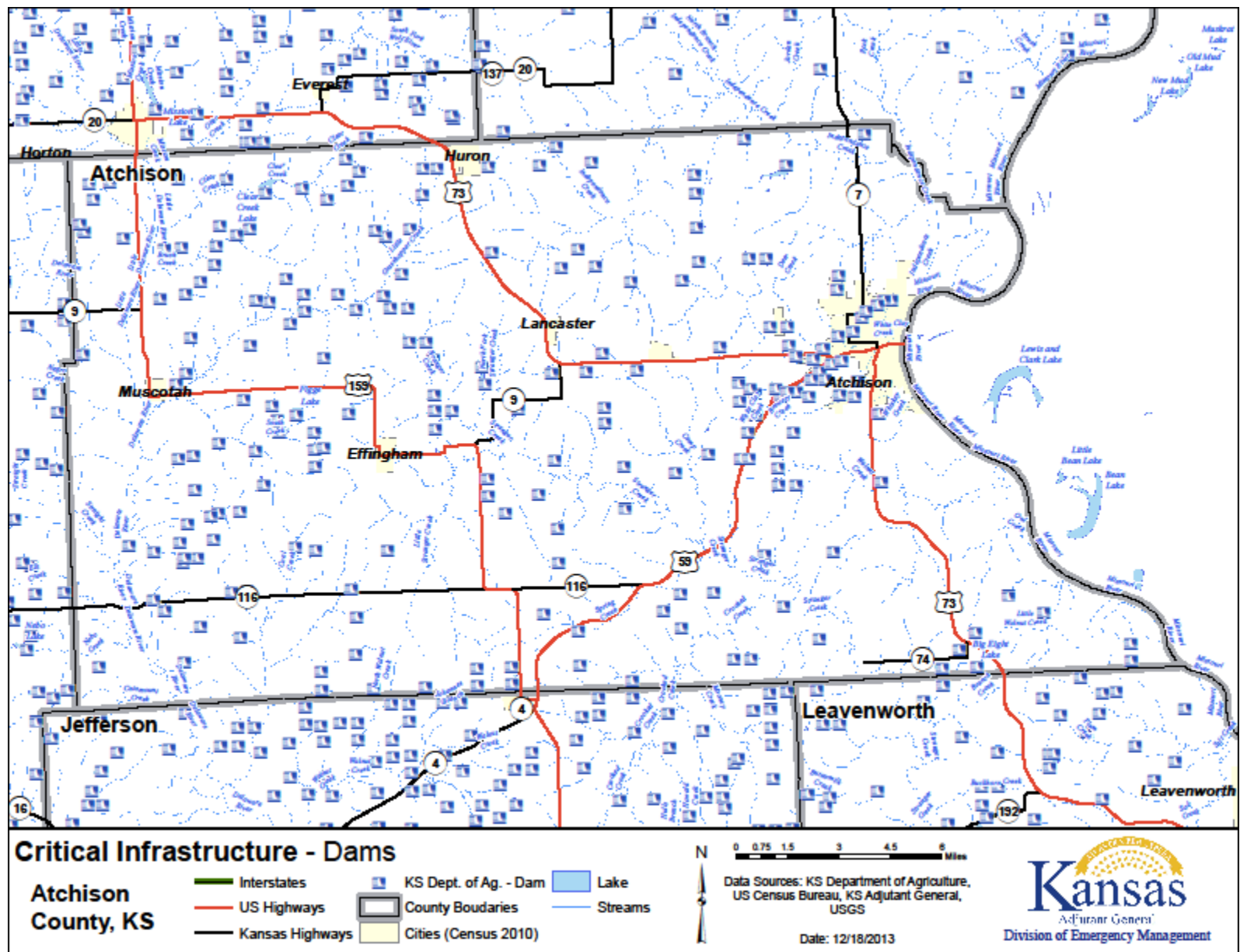
County	Low Hazard Dams	Significant Hazard Dams	High Hazard Dams	High Hazard Dams Without Emergency Action Plan	Total Dams
Atchison	149	7	20	1	176
Brown	211	9	4	1	224
Doniphan	100	1	0	0	101
Douglas	90	3	9	2	102
Jackson	241	9	2	1	252
Jefferson	309	5	1	1	315
Marshall	120	3	4	3	127
Nemaha	195	3	1	1	199
Washington	43	1	0	0	44
Regional Total	1,458	41	41	10	1,540

Source: Kansas Department of Agriculture, Division of Water Resources, Water Structures Program, 2012

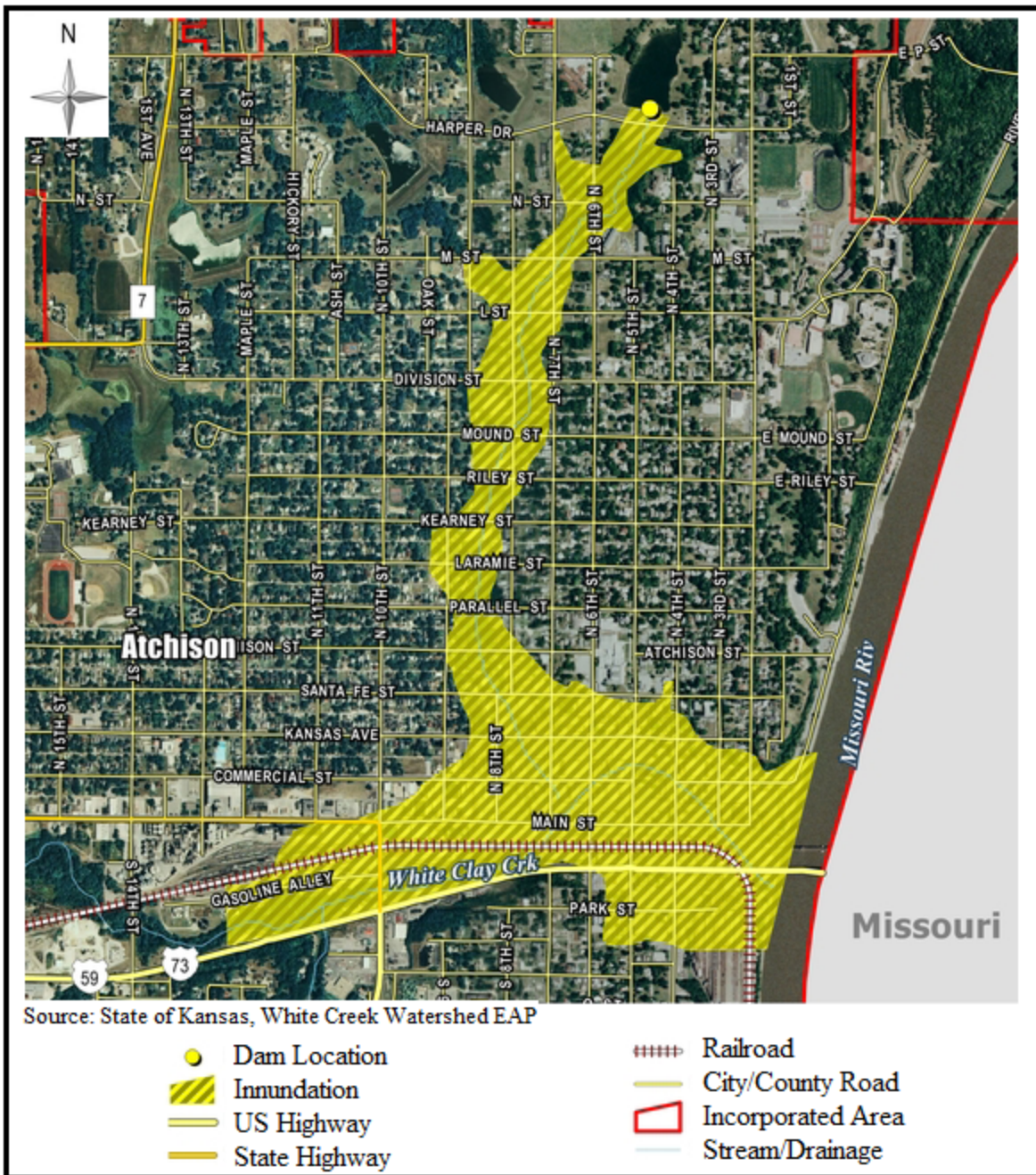
The following maps shows significant and high hazard dams within northeast Kansas.



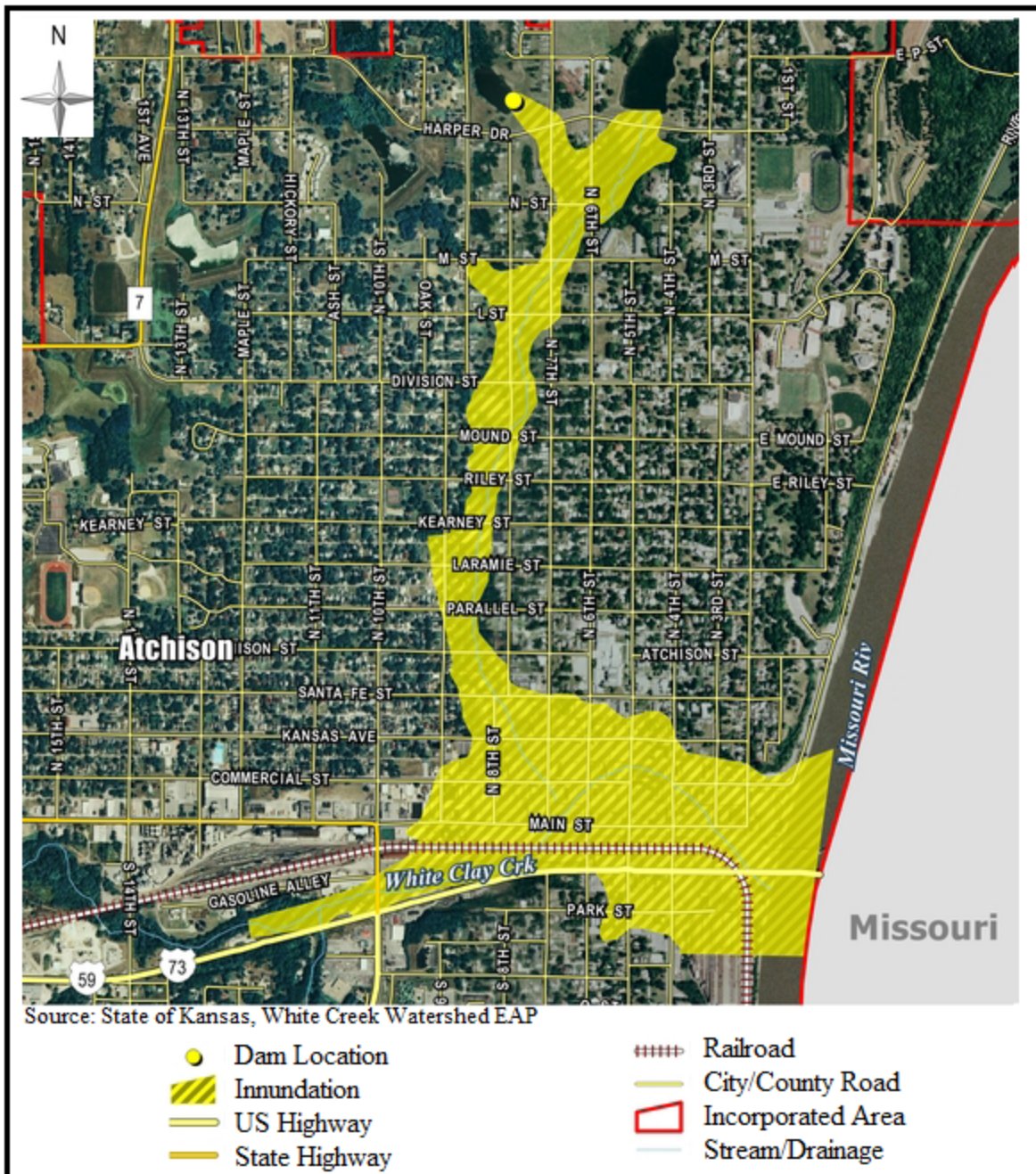
The following maps shows dam locations in participating counties within northeast Kansas.



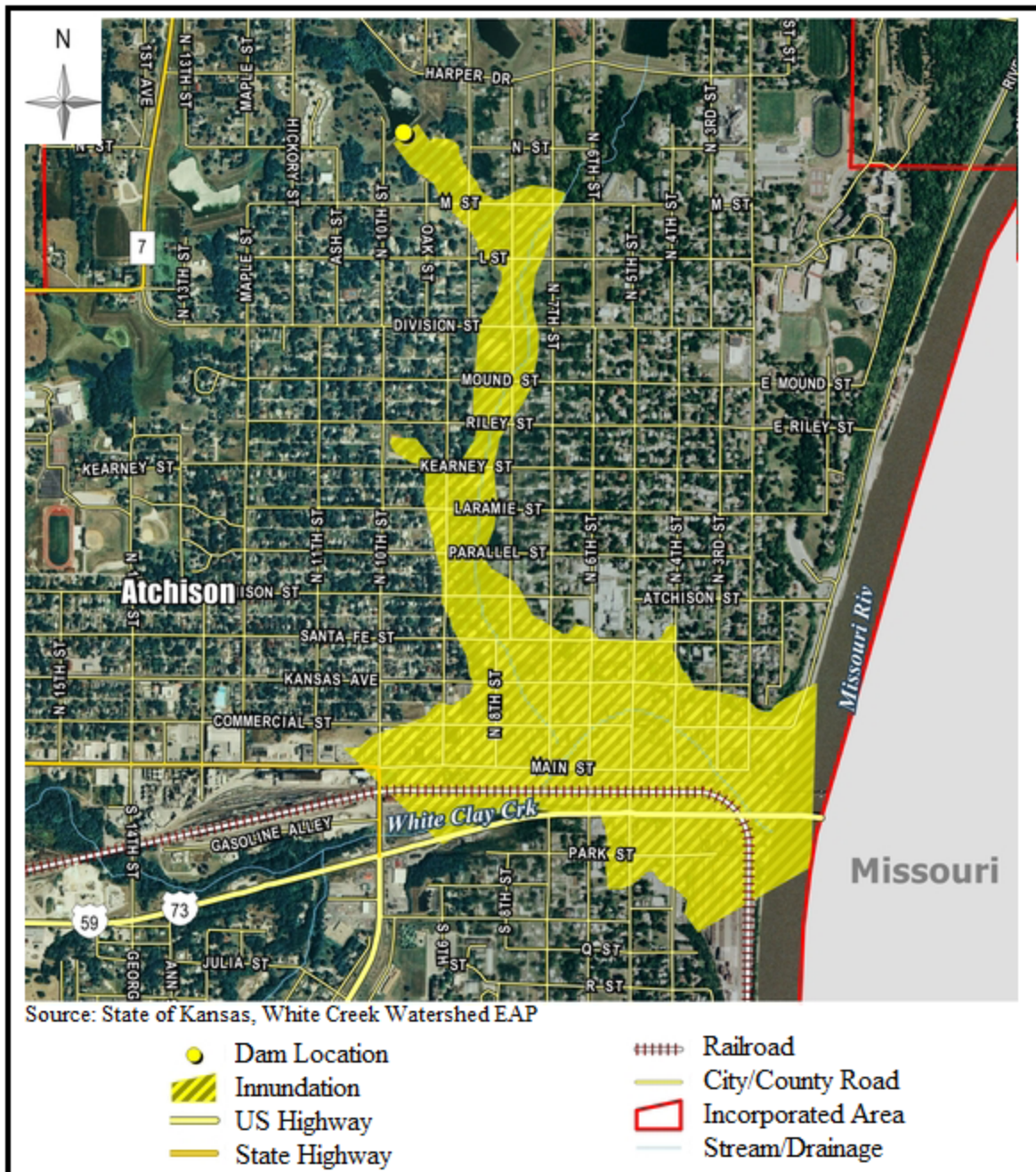
City of Atchison Dam #1 Inundation Map, Atchison County



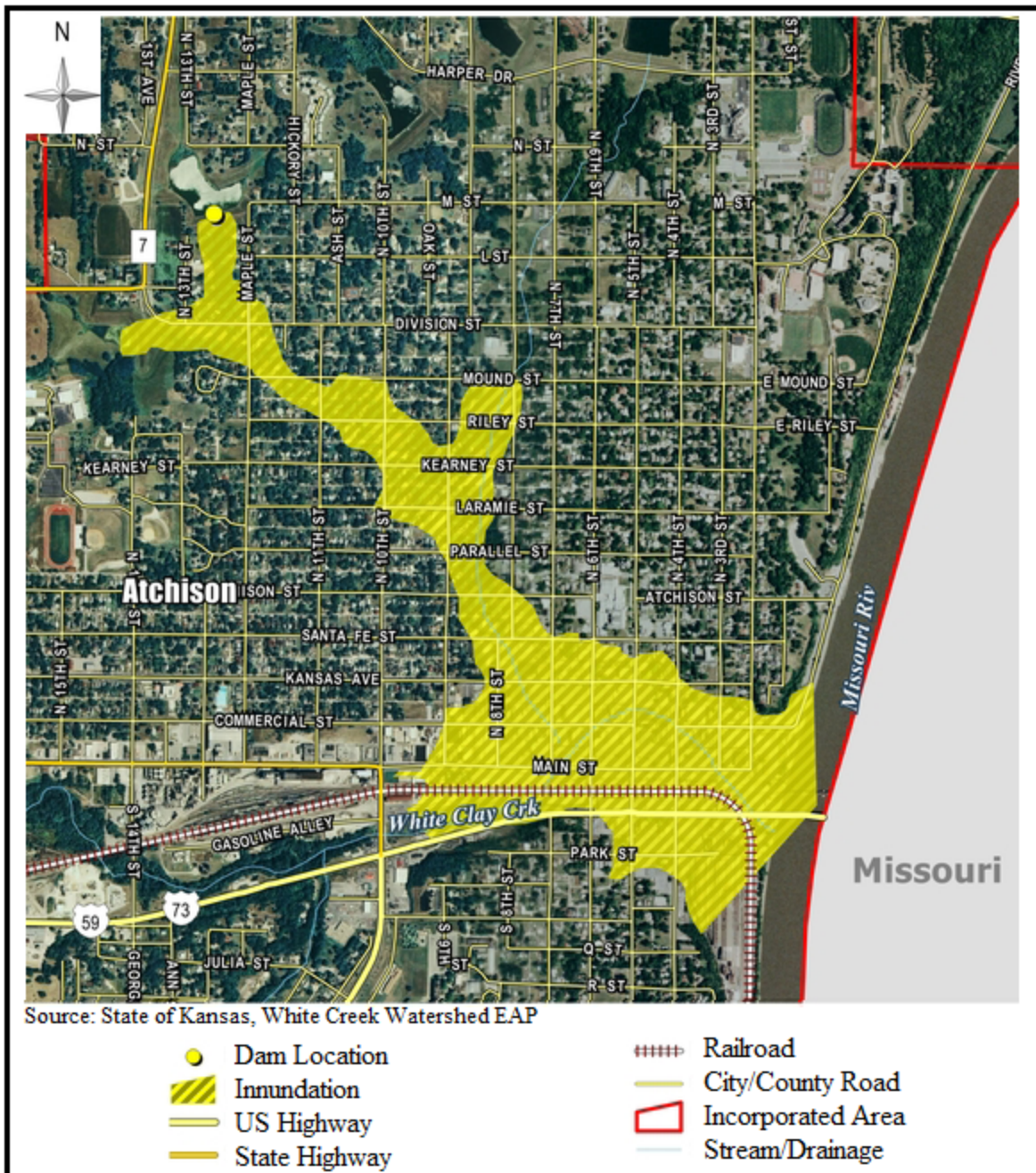
City of Atchison Dam #2 Inundation Map, Atchison County



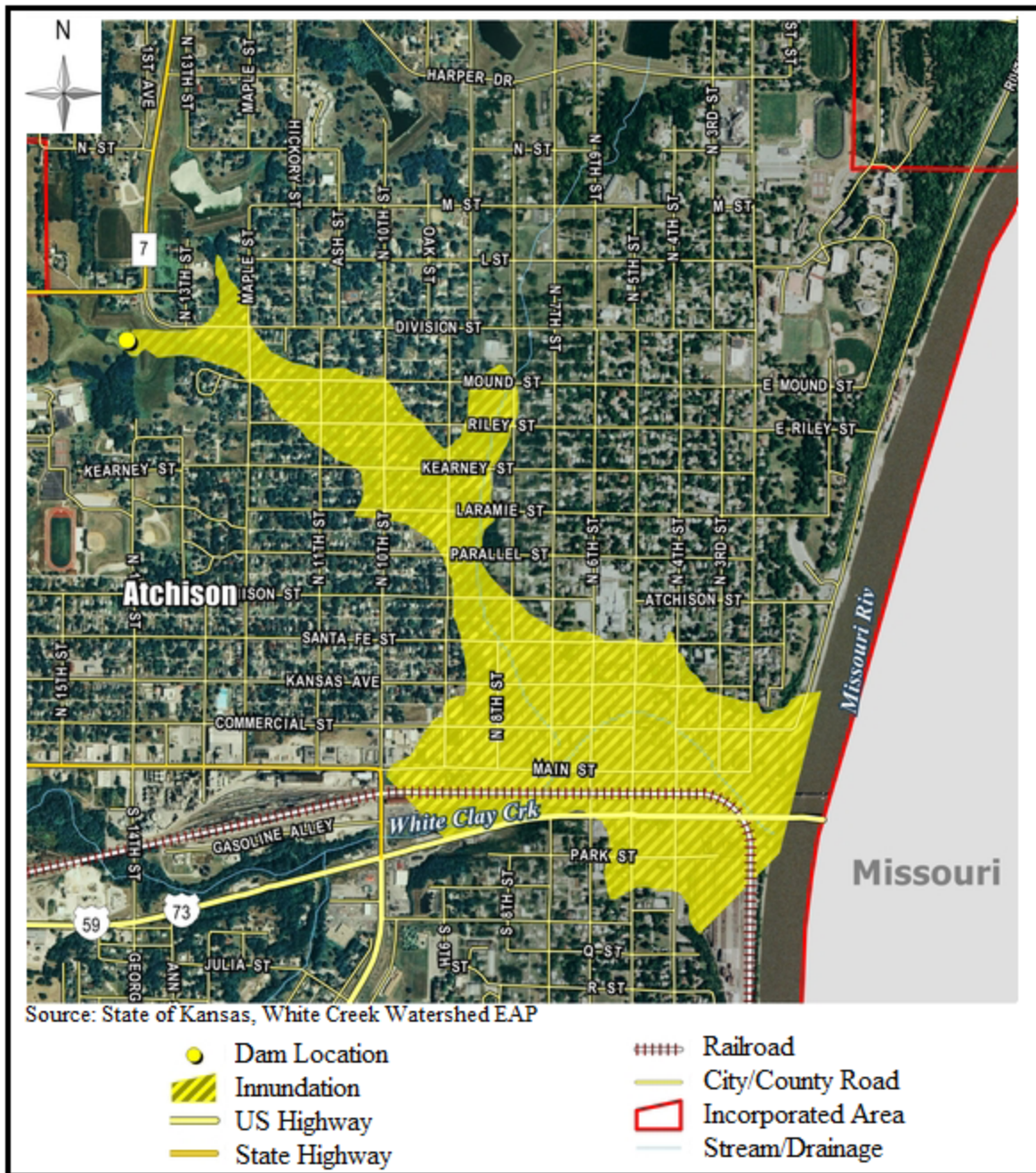
City of Atchison Dam #3 Inundation Map, Atchison County



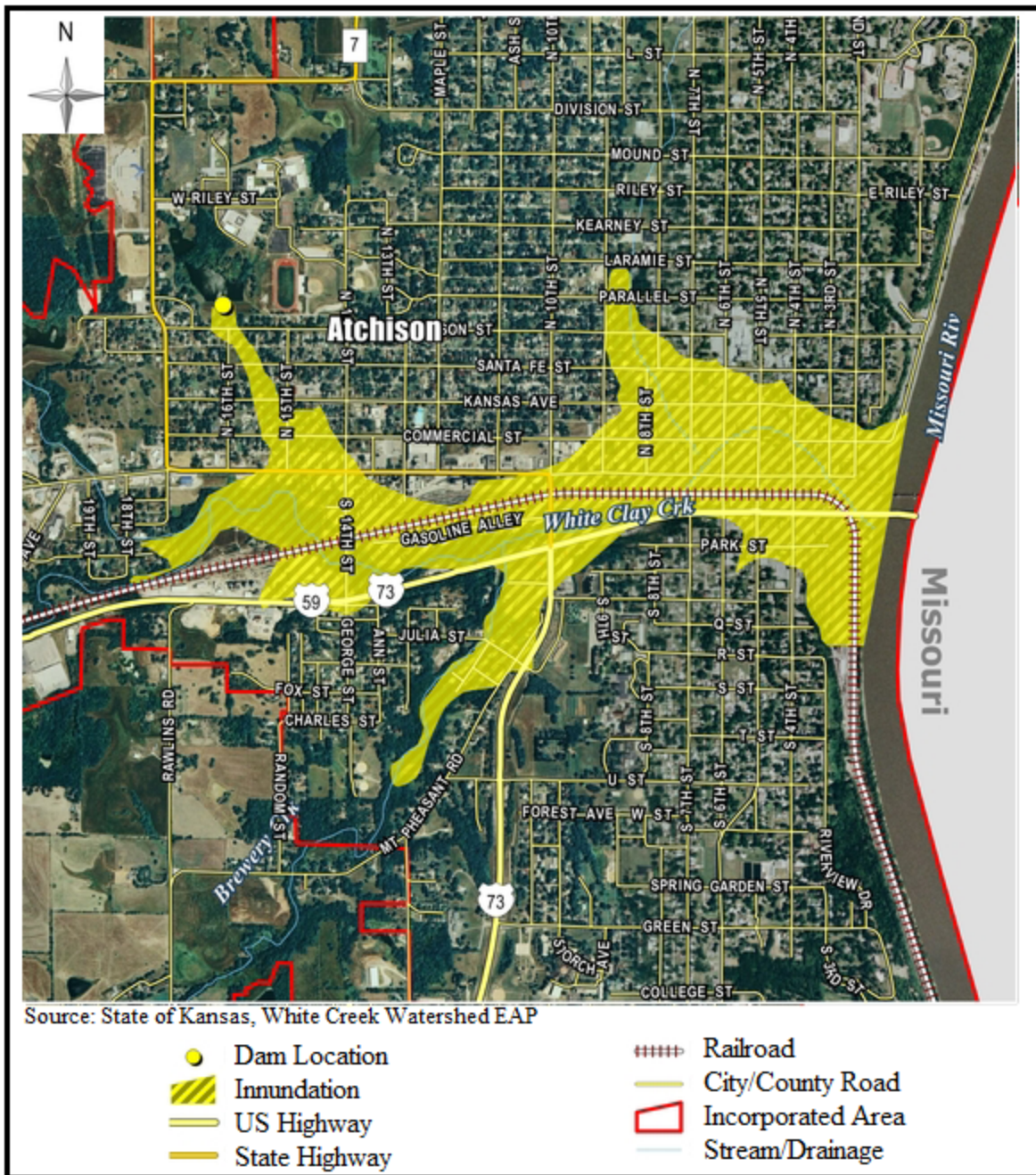
City of Atchison Dam #4 Inundation Map, Atchison County



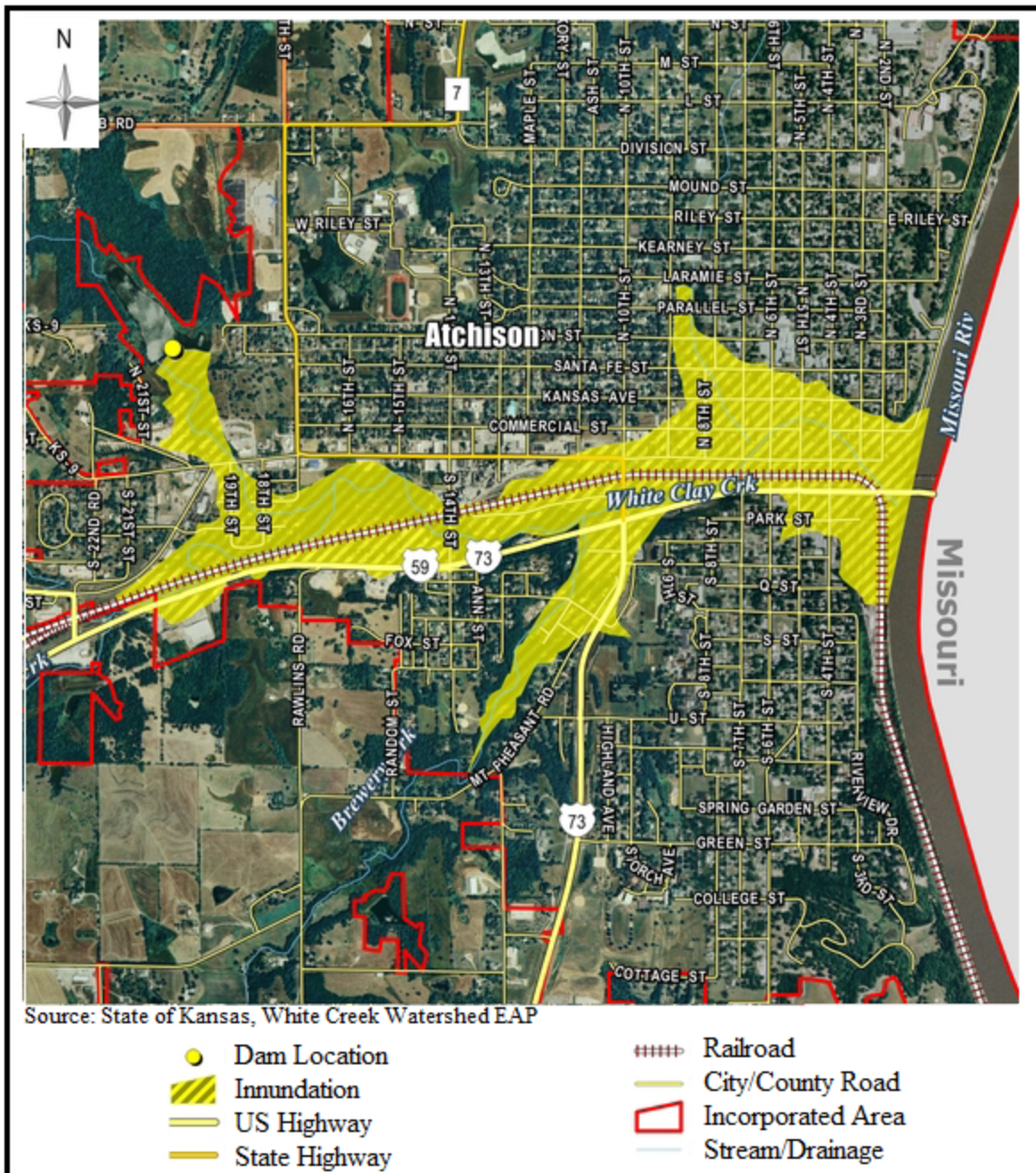
City of Atchison Dam #5 Inundation Map, Atchison County



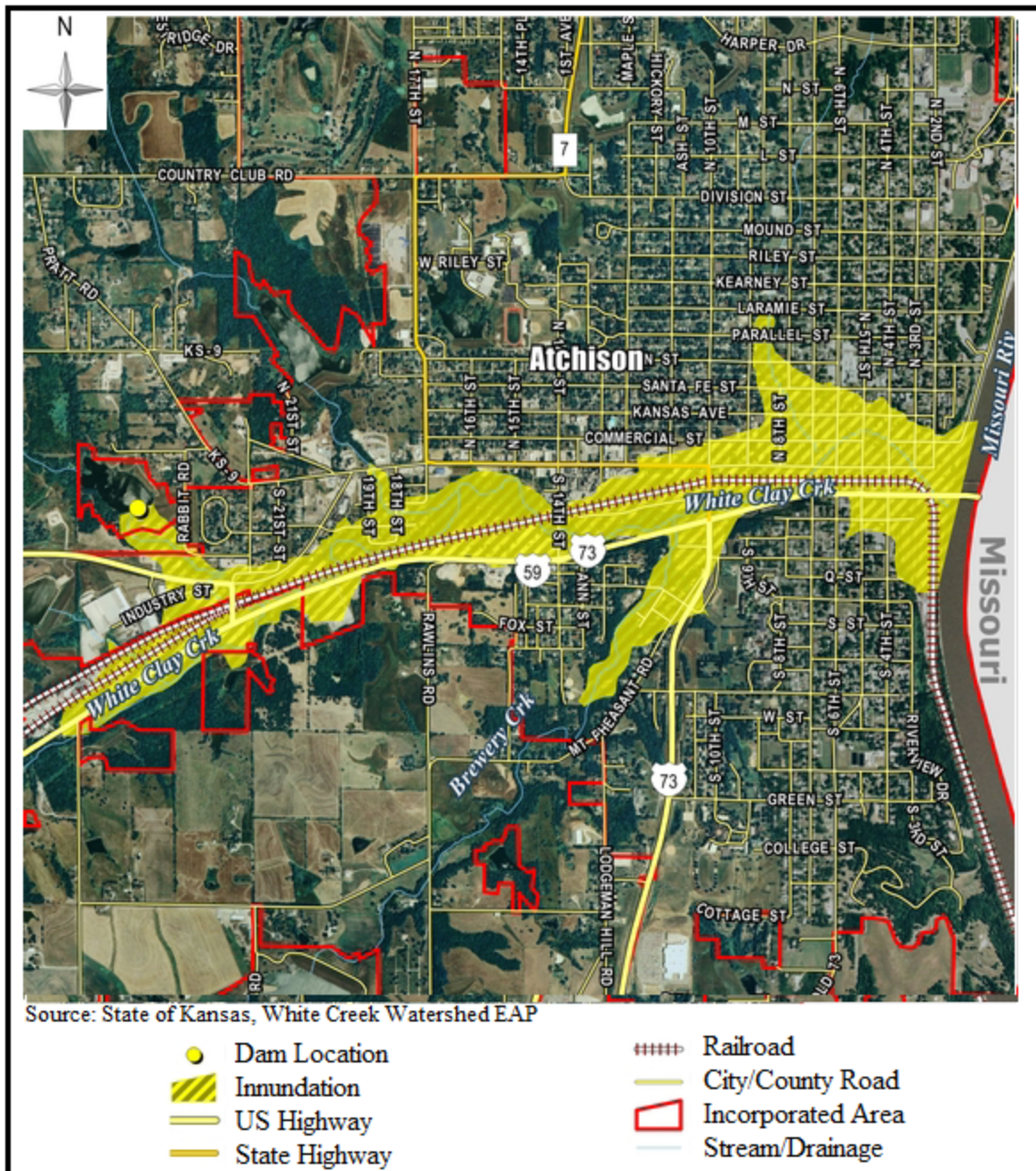
City of Atchison Dam #6 Inundation Map, Atchison County

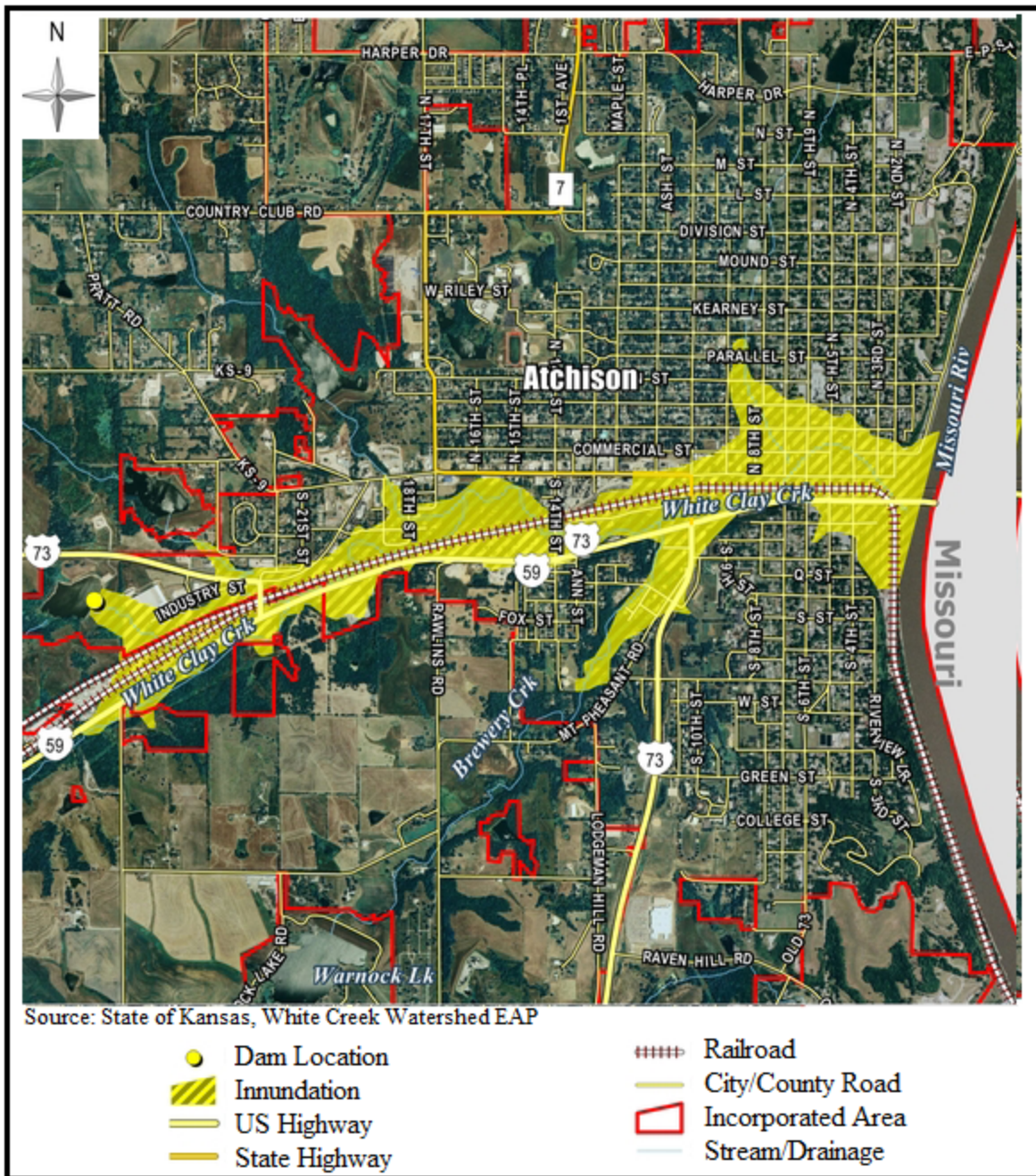


City of Atchison Dam #7 Inundation Map, Atchison County

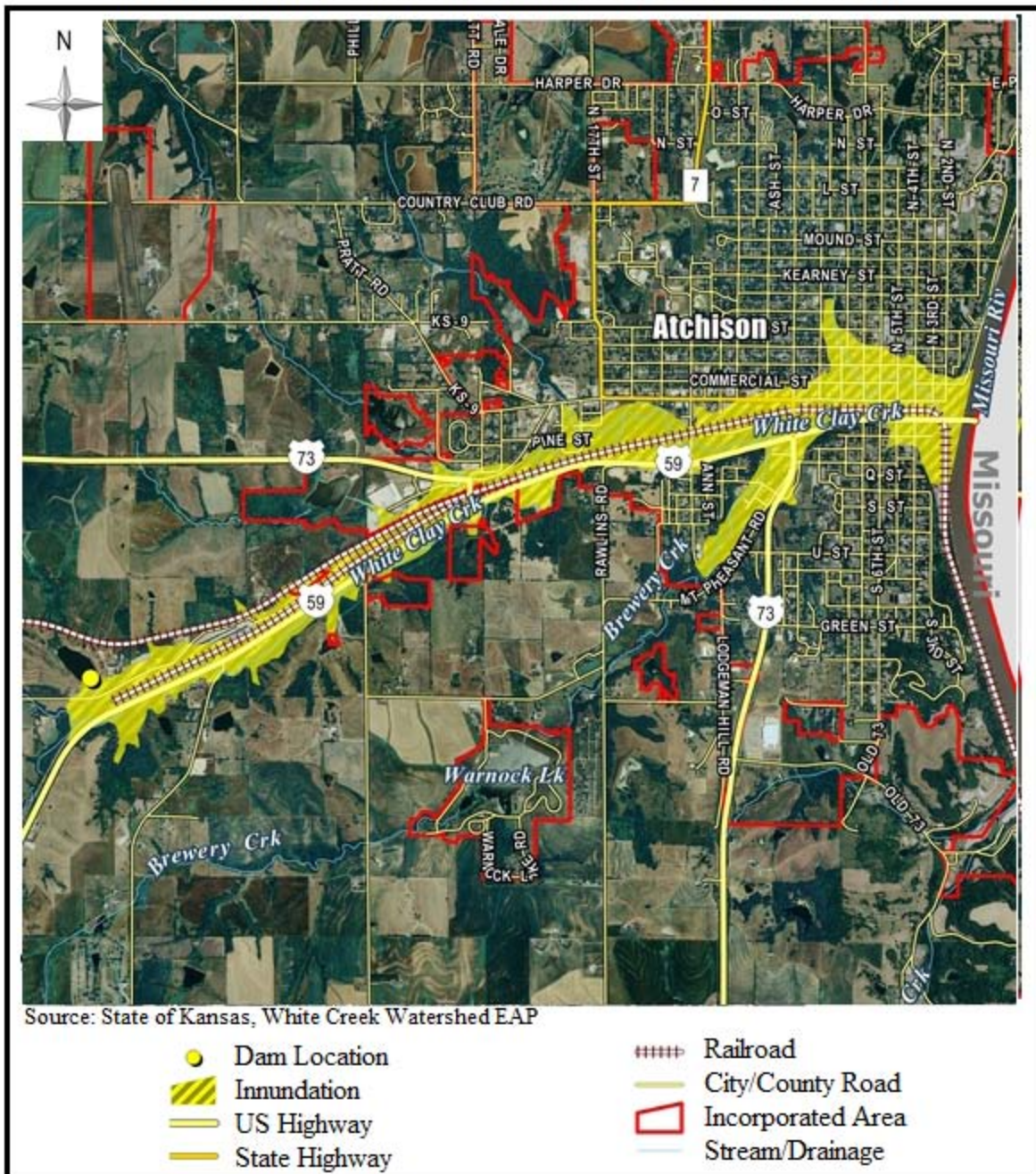


City of Atchison Dam #8 Inundation Map, Atchison County

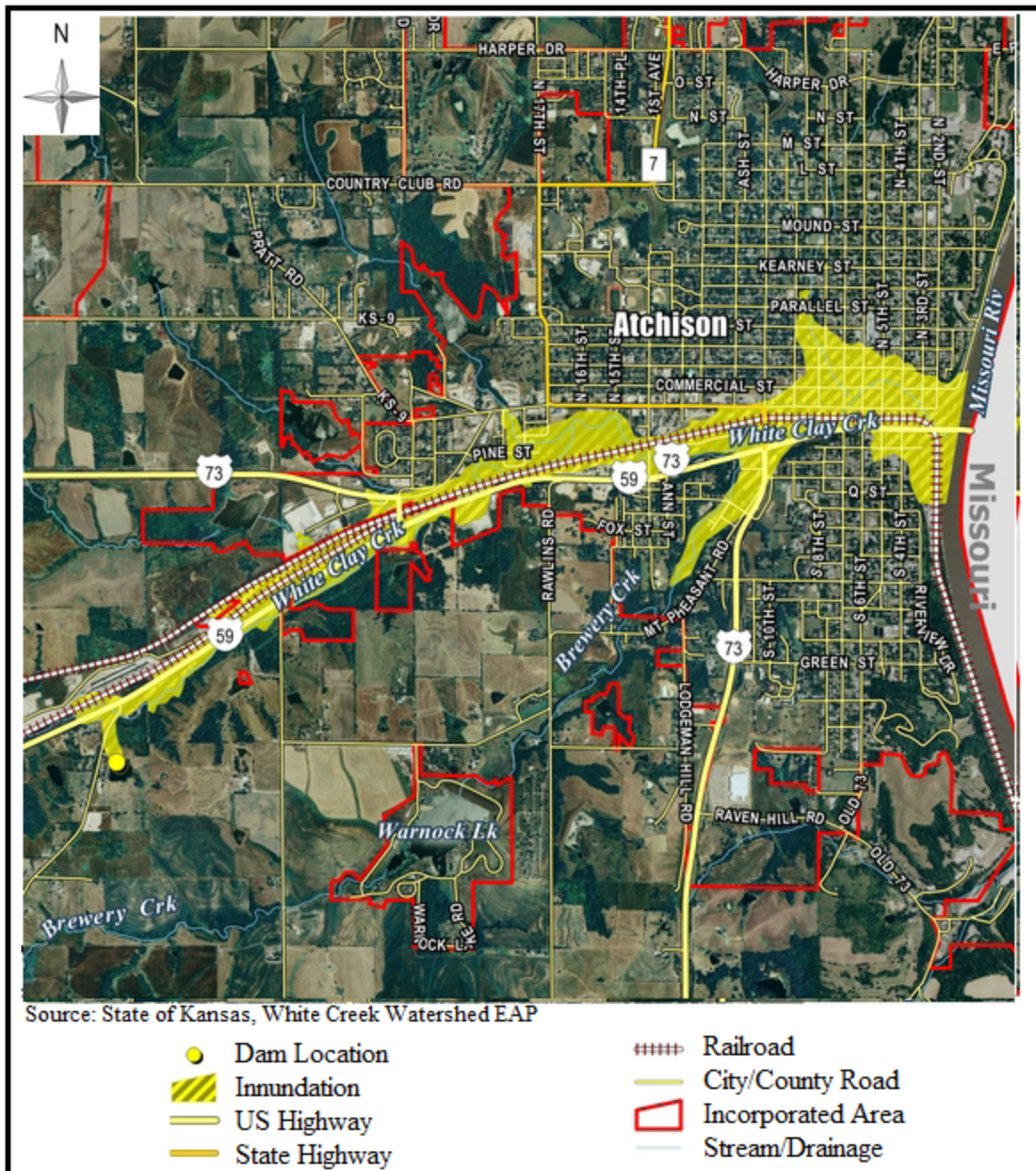




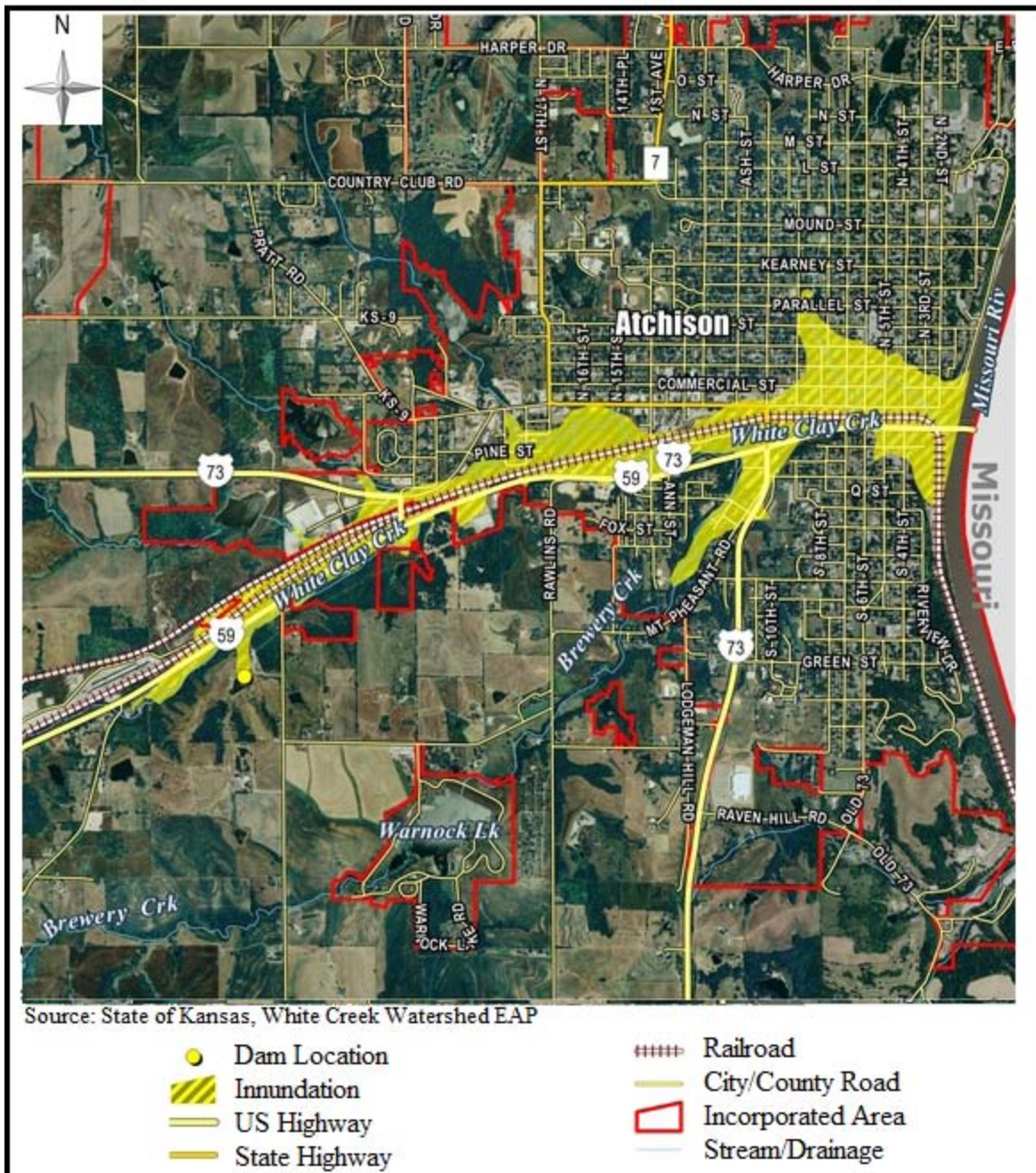
City of Atchison Dam#10 Inundation Map, Atchison County



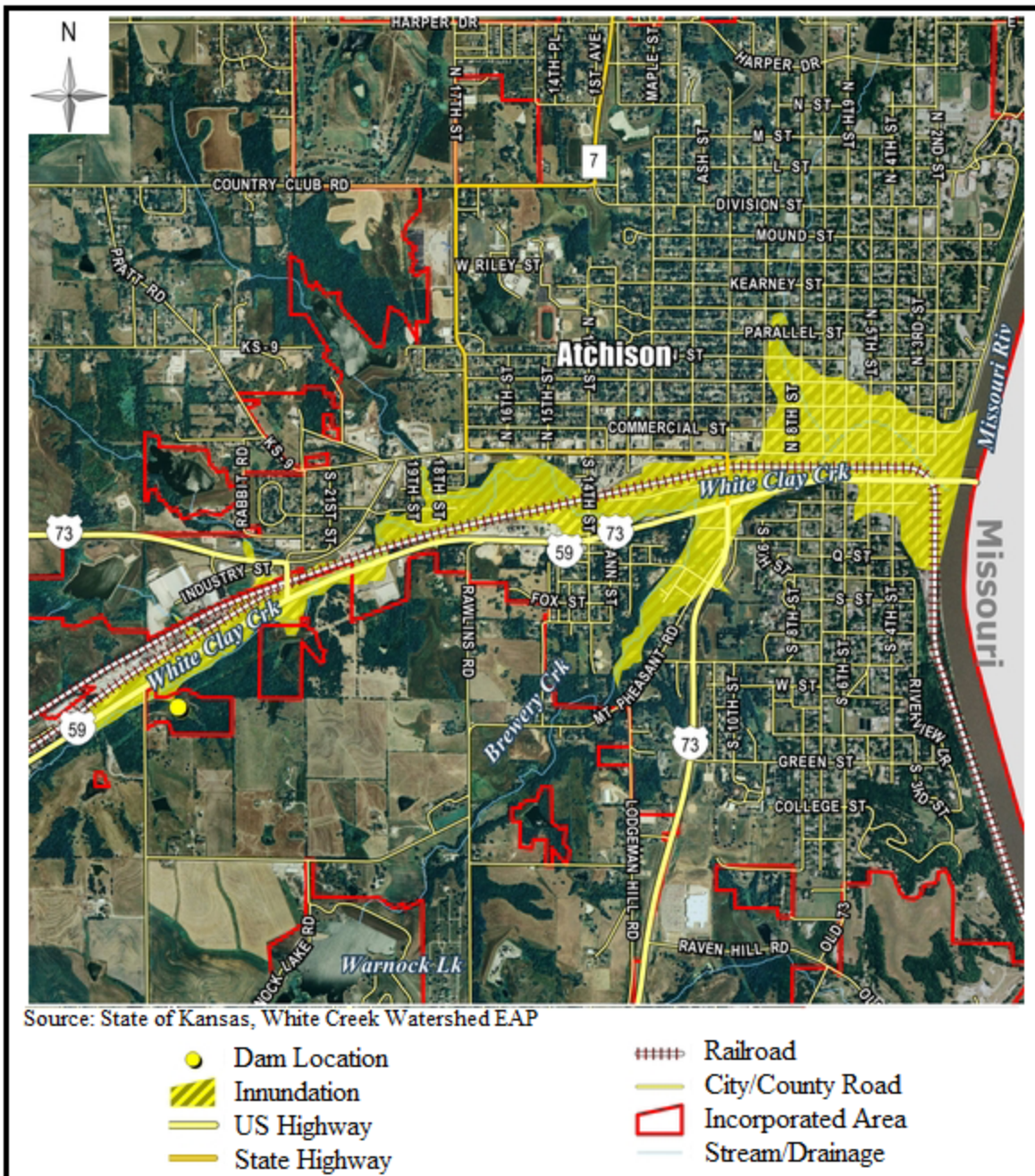
City of Atchison Dam#19 Inundation Map, Atchison County



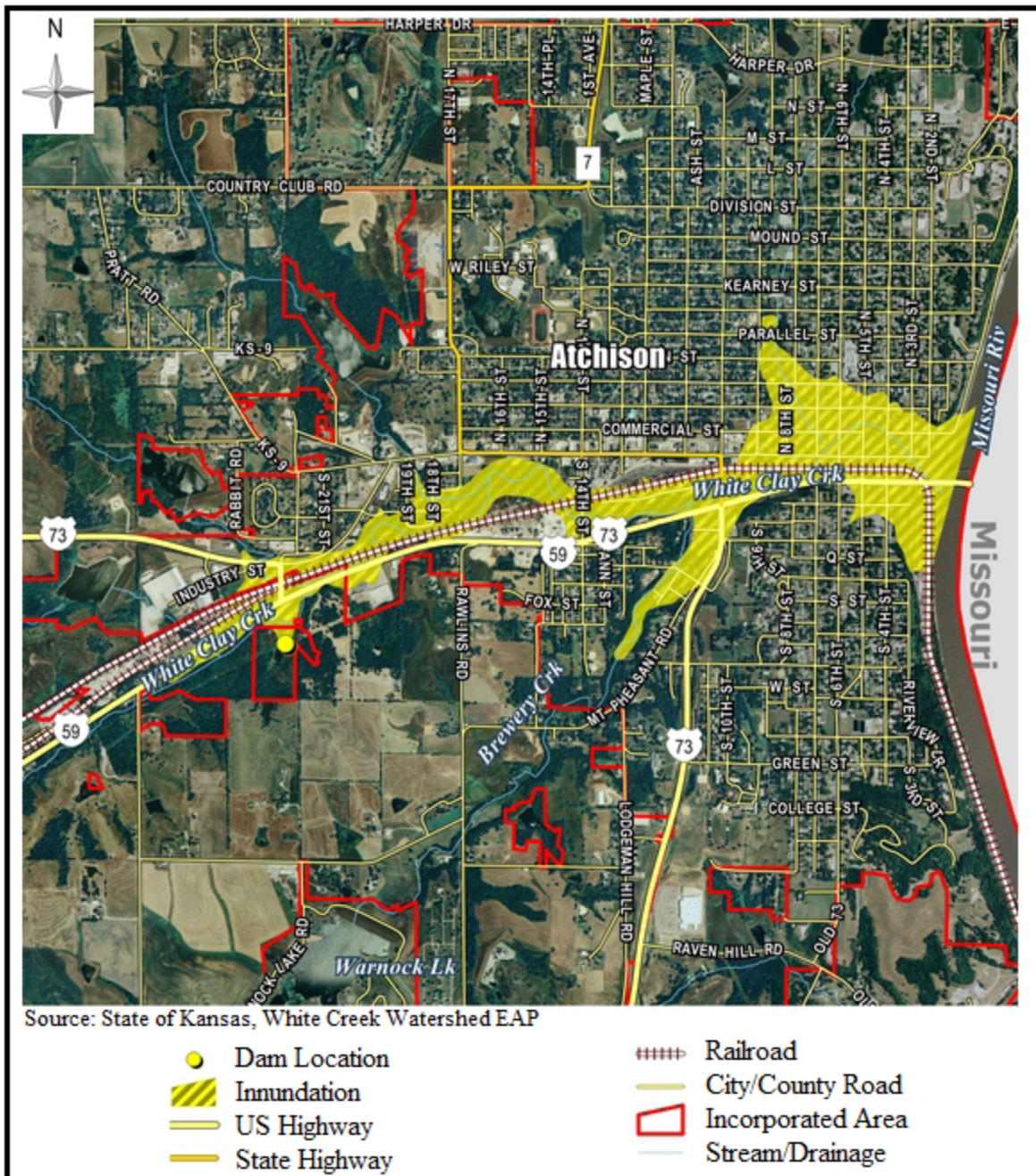
City of Atchison Dam#20 Inundation Map, Atchison County



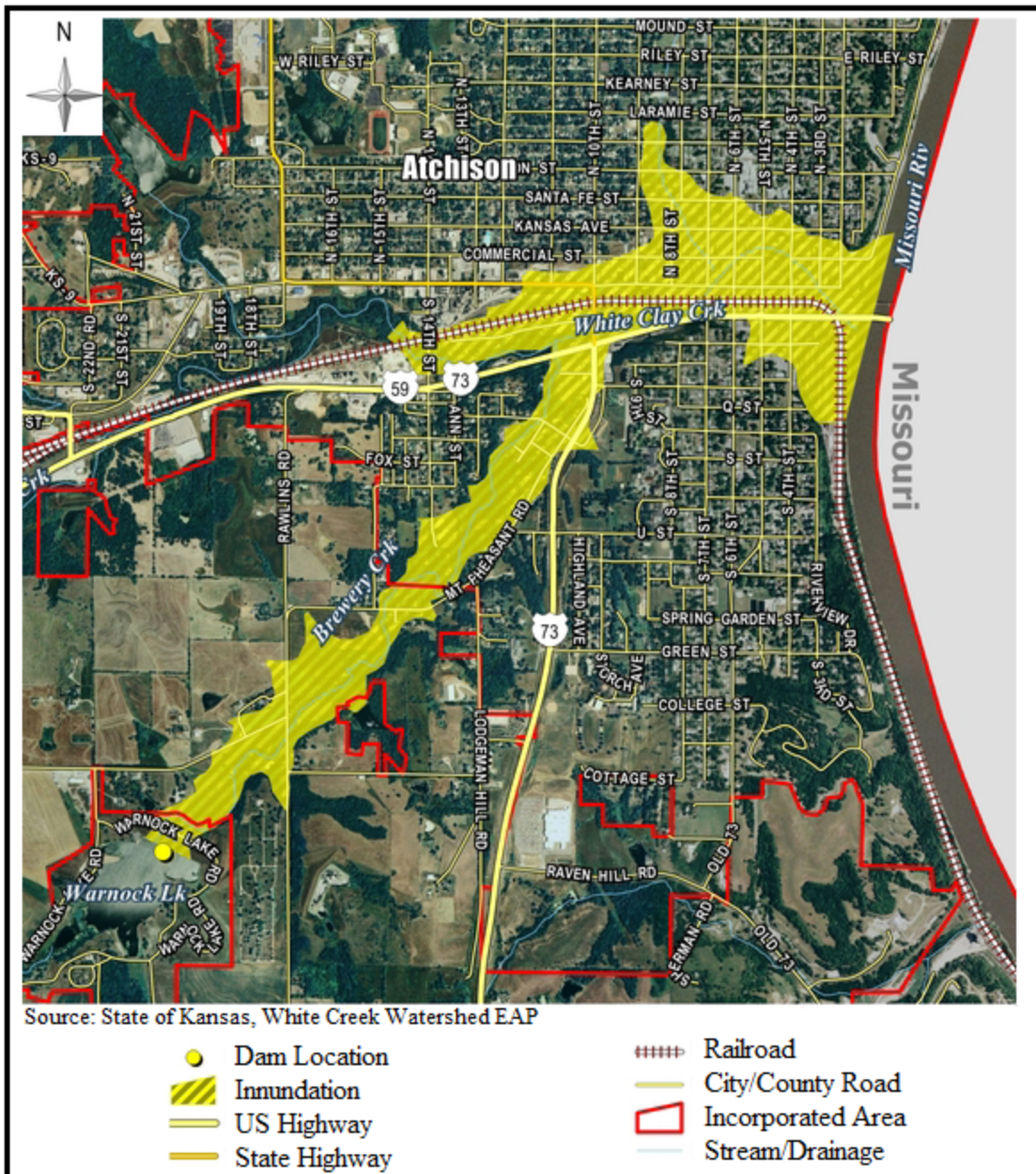
City of Atchison Dam#21 Inundation Map, Atchison County



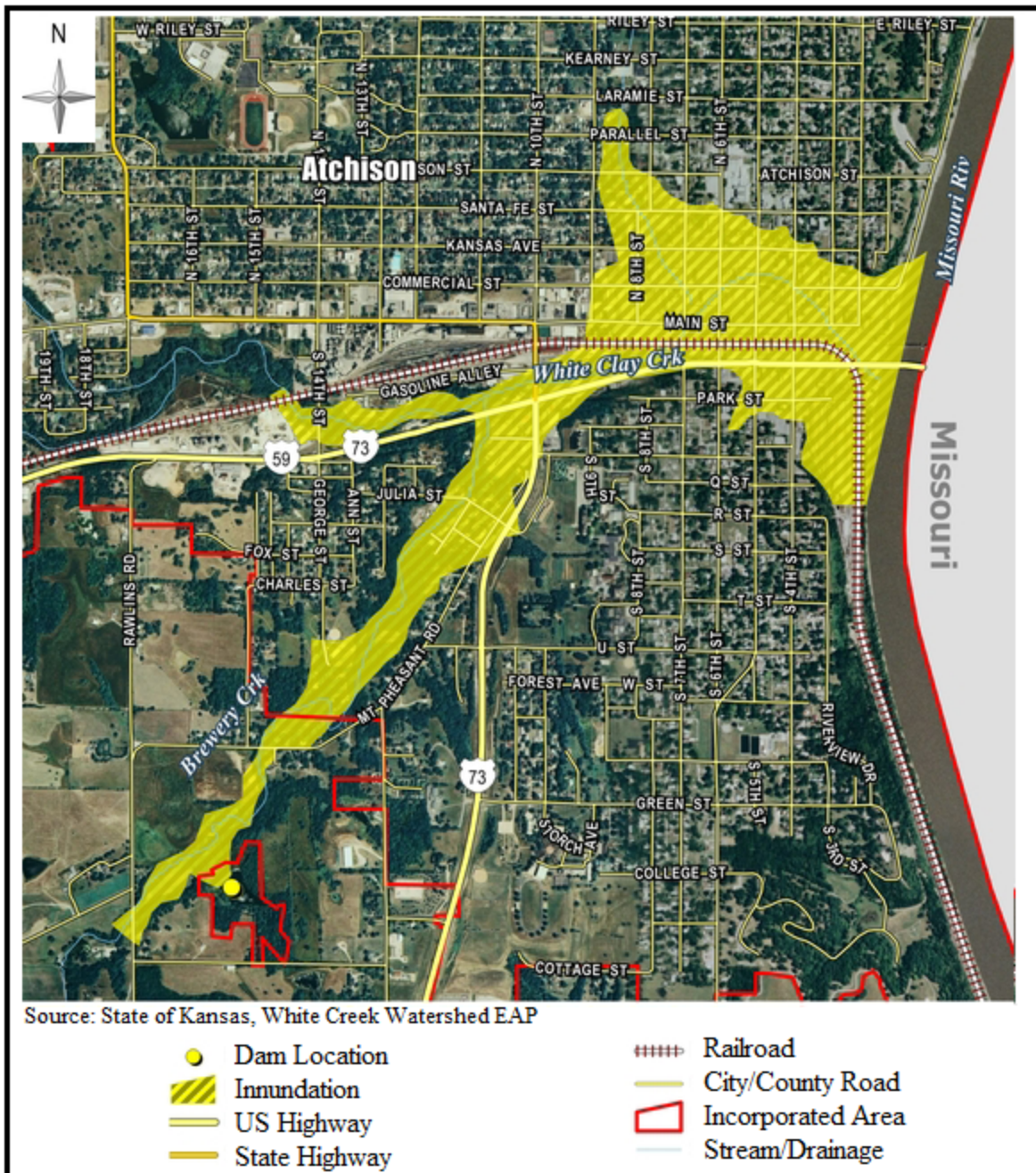
City of Atchison Dam#22 Inundation Map, Atchison County



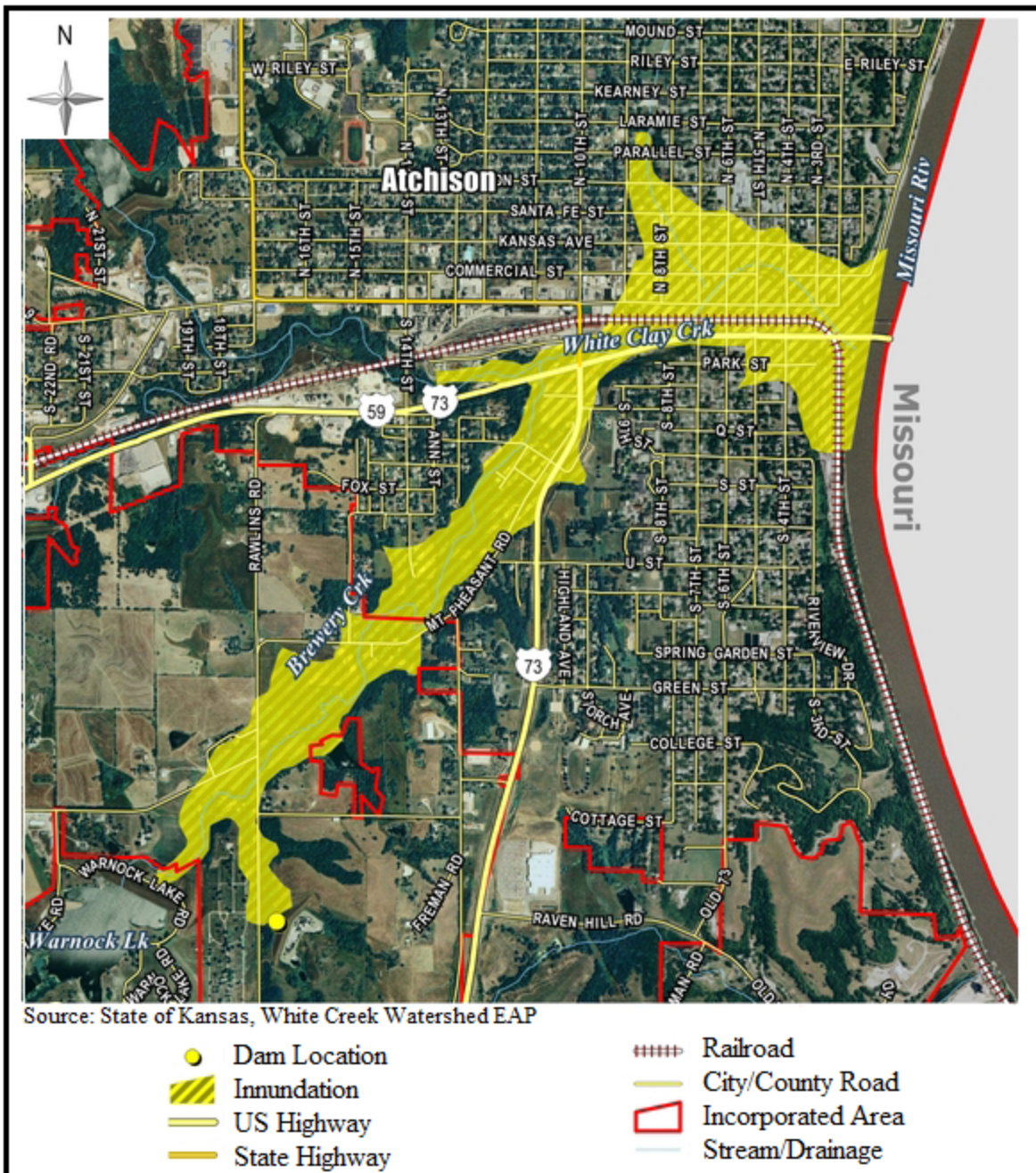
City of Atchison Dam#23 Inundation Map, Atchison County

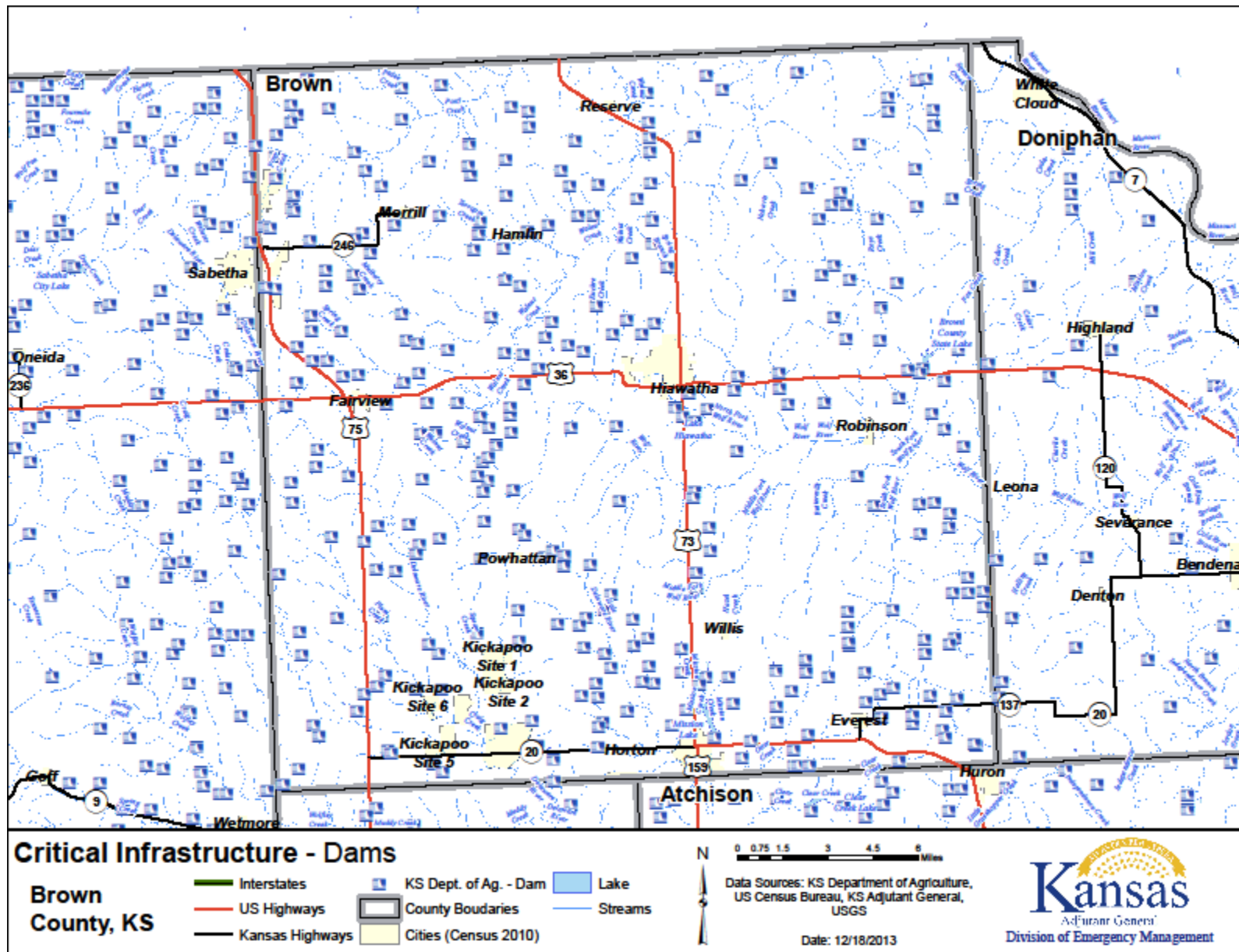


City of Atchison Dam #24 Inundation Map, Atchison County

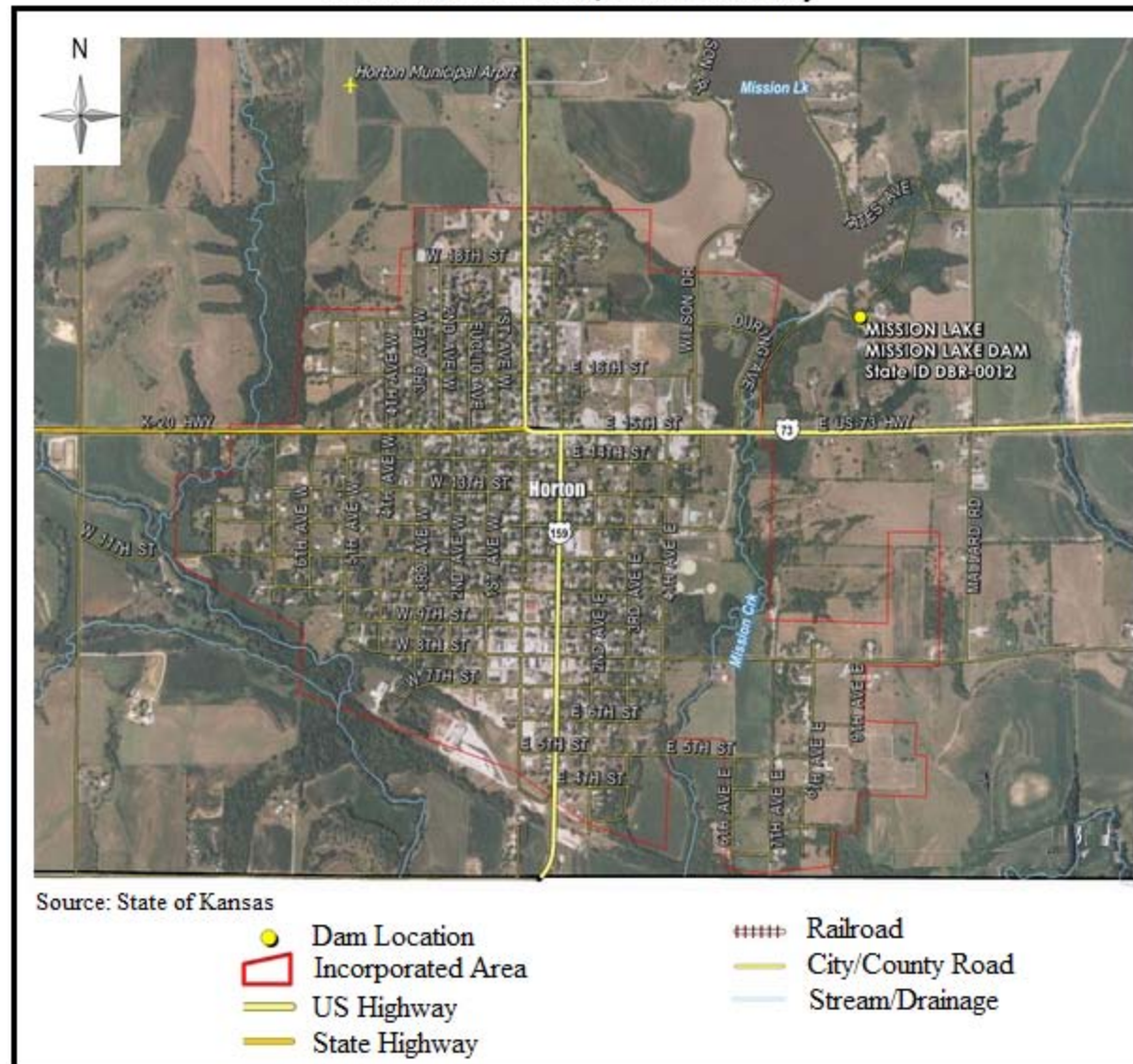


City of Atchison Dam#25 Inundation Map, Atchison County

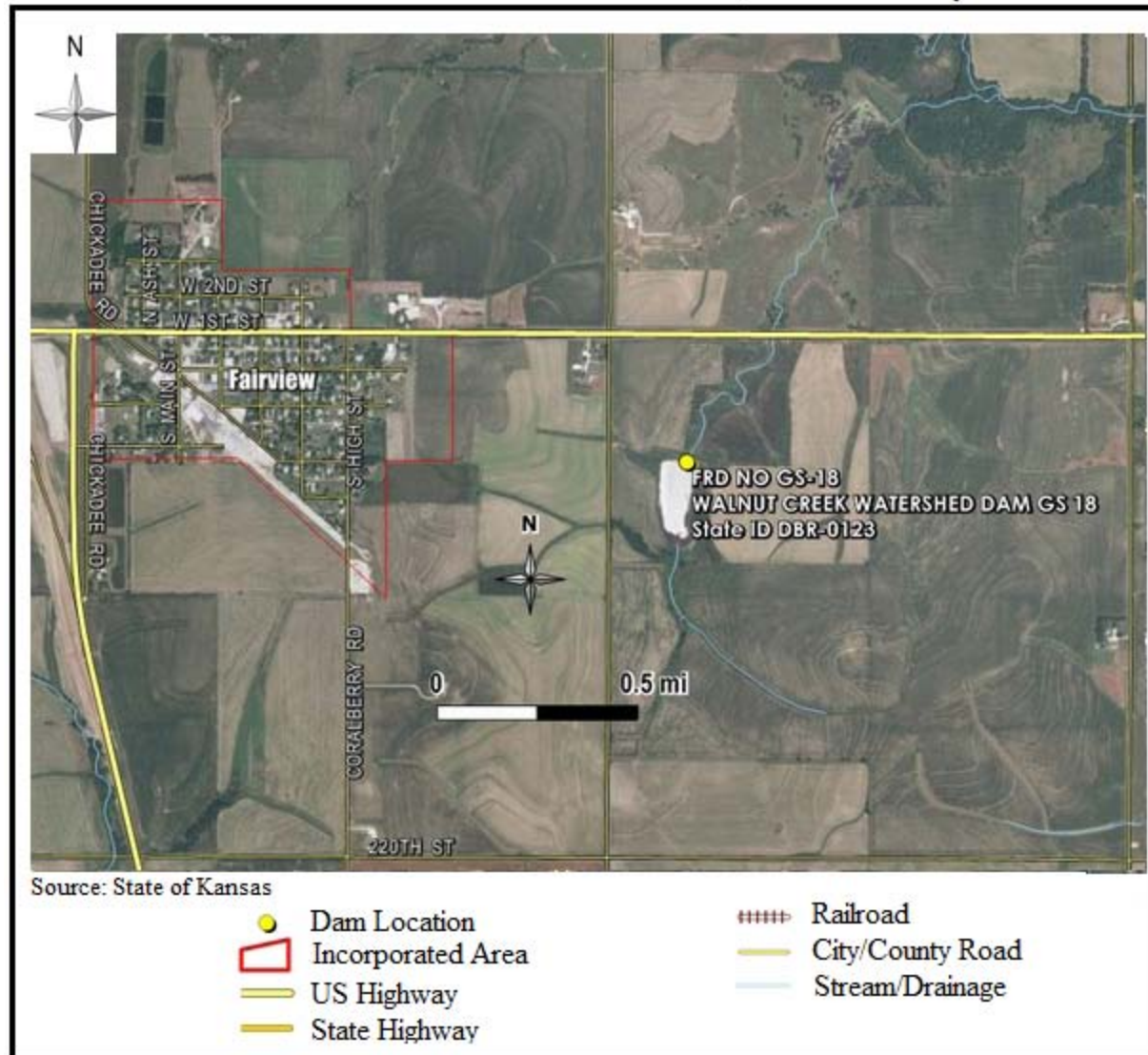




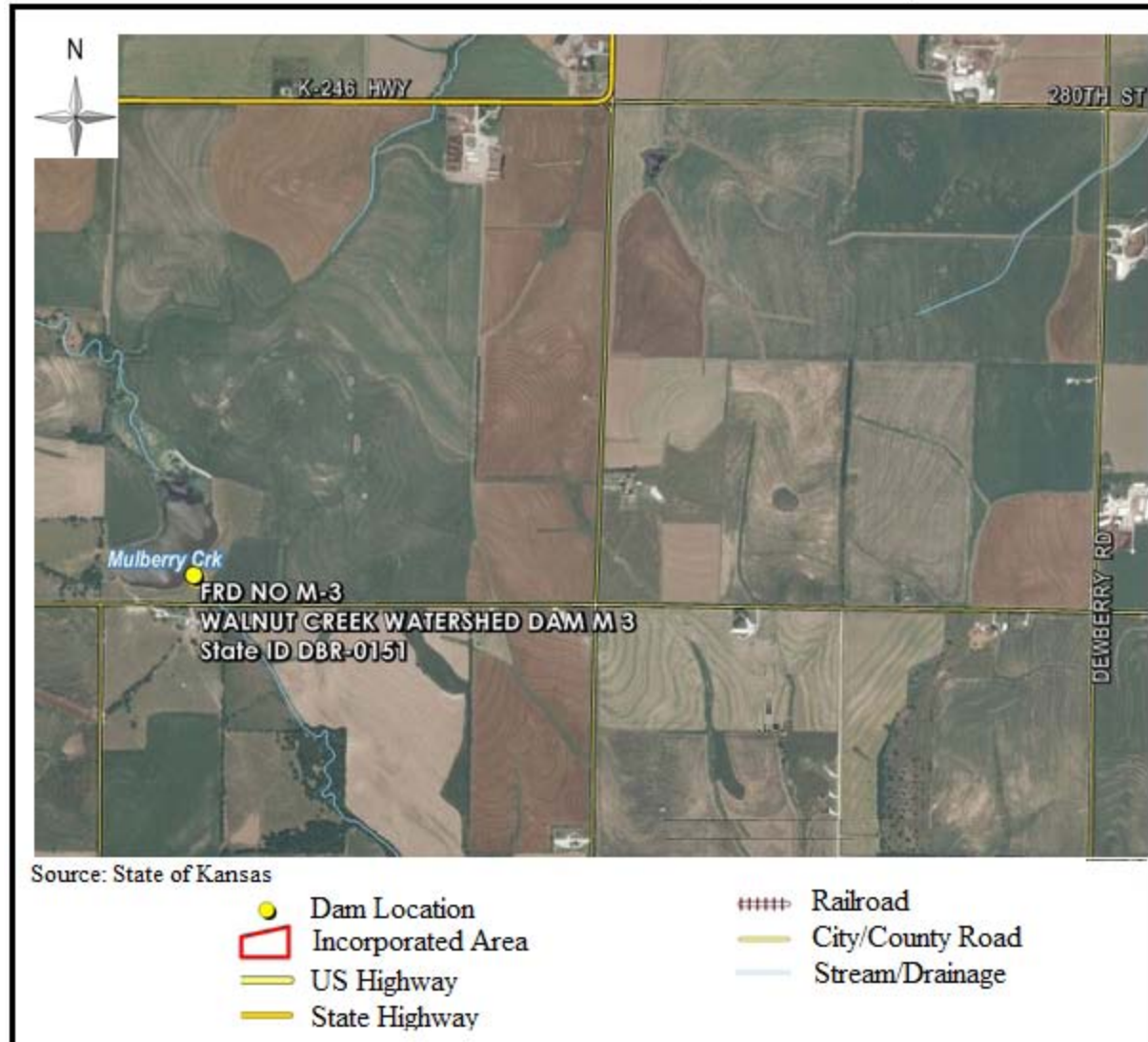
Mission Lake Dam, Brown County



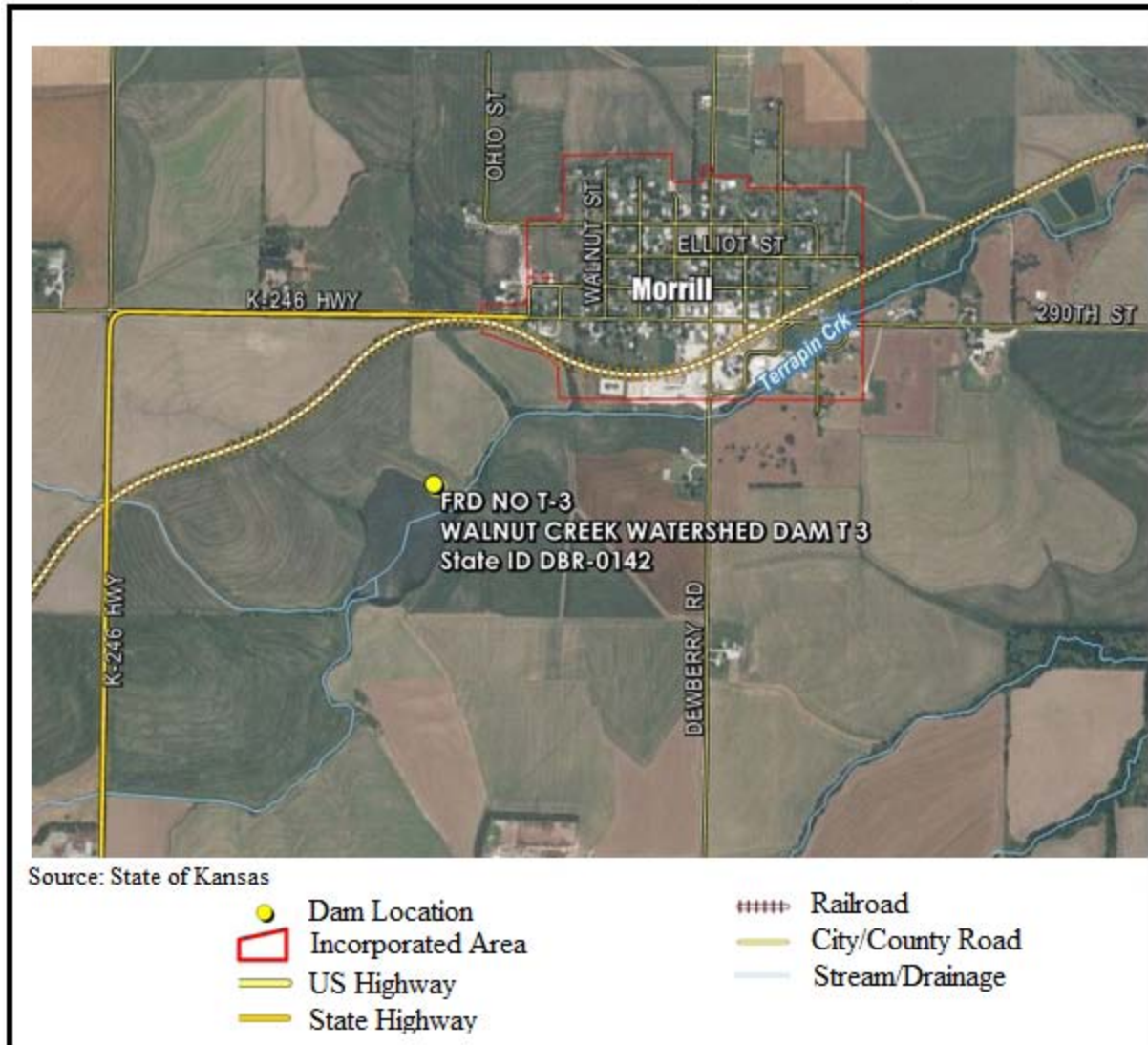
Walnut Creek Watershed Dam GS-18, Brown County

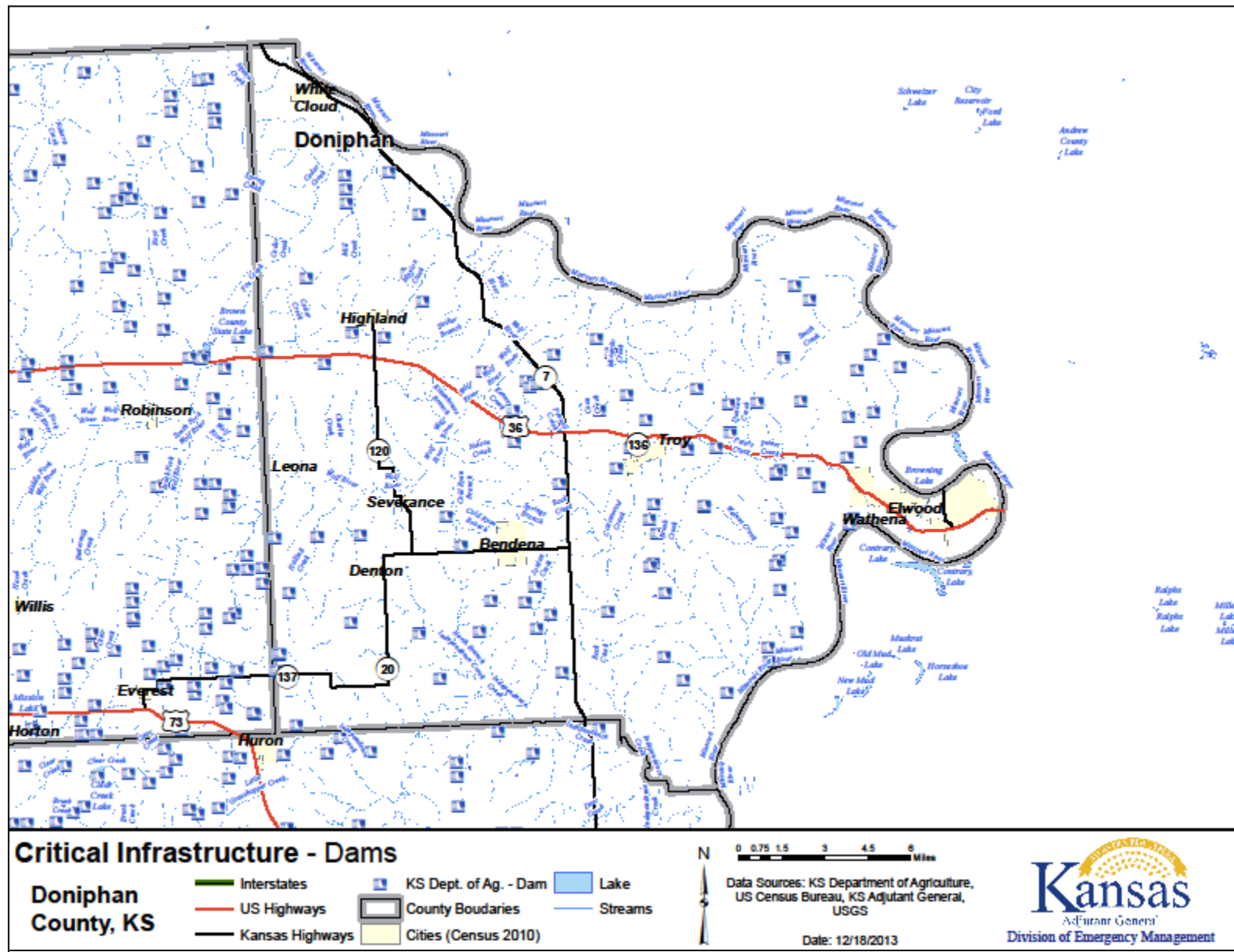


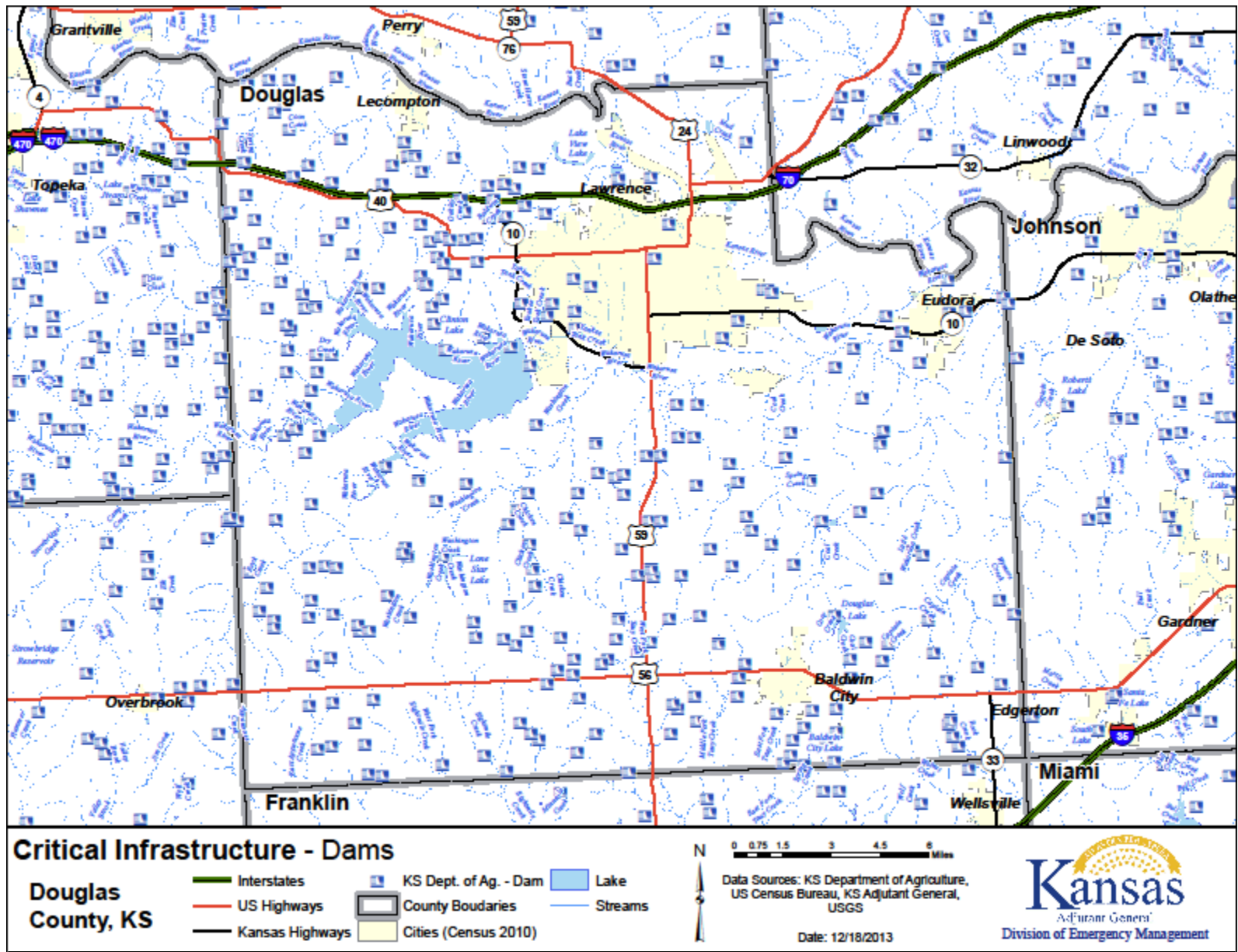
Walnut Creek Watershed Dam M-3, Brown County



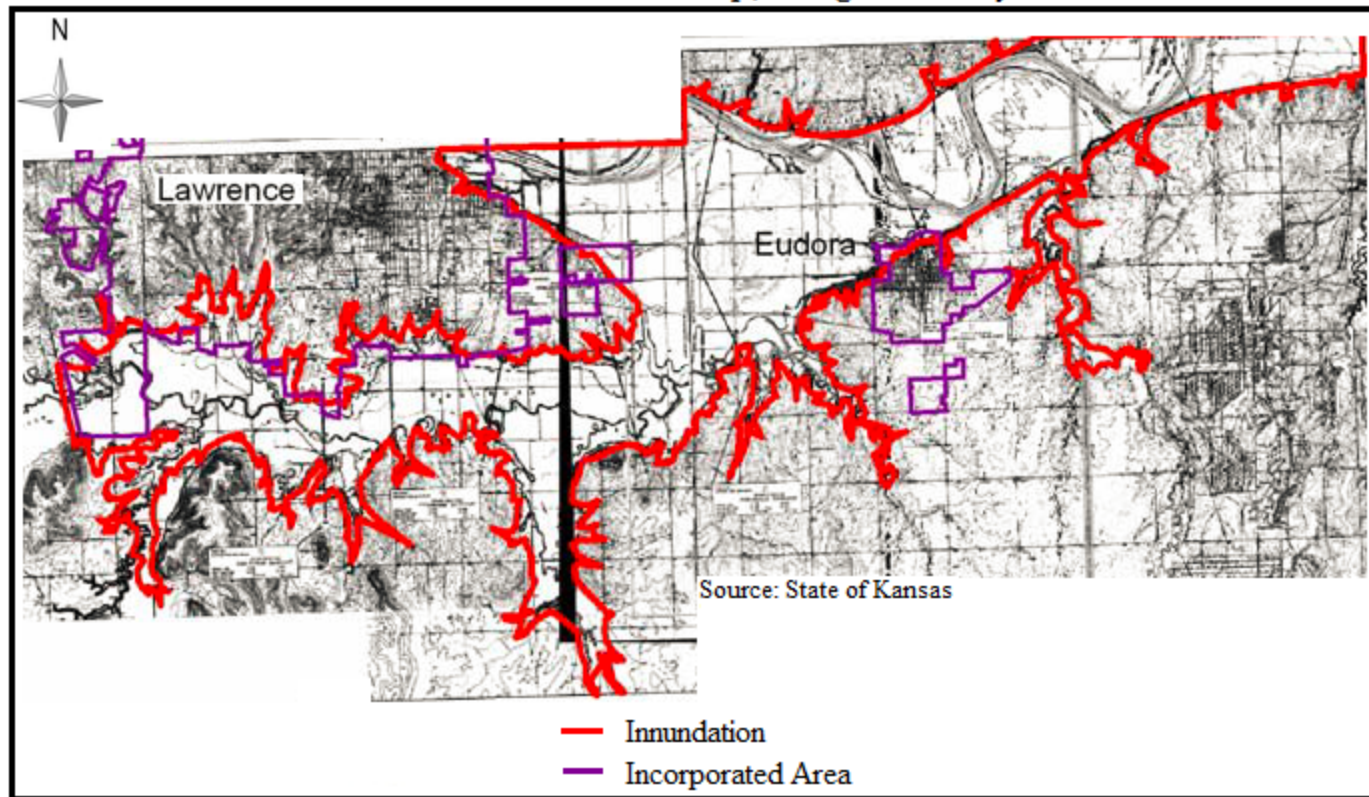
Walnut Creek Watershed Dam T-3, Brown County







Clinton Dam Inundation Map, Douglas County



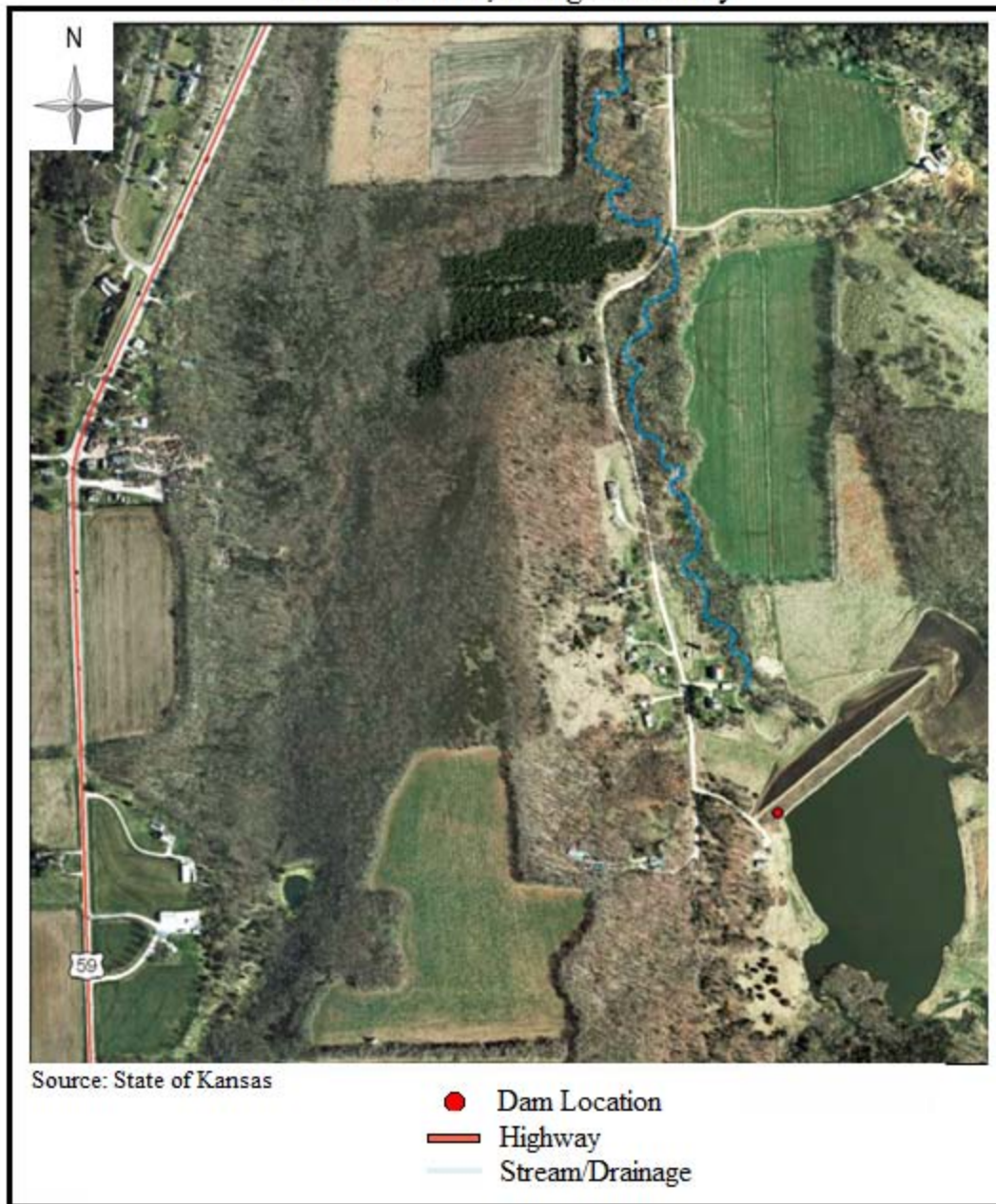
Dam FRD #24, Douglas County



Lonestar Lake Dam, Douglas County



Dam FRD #31, Douglas County

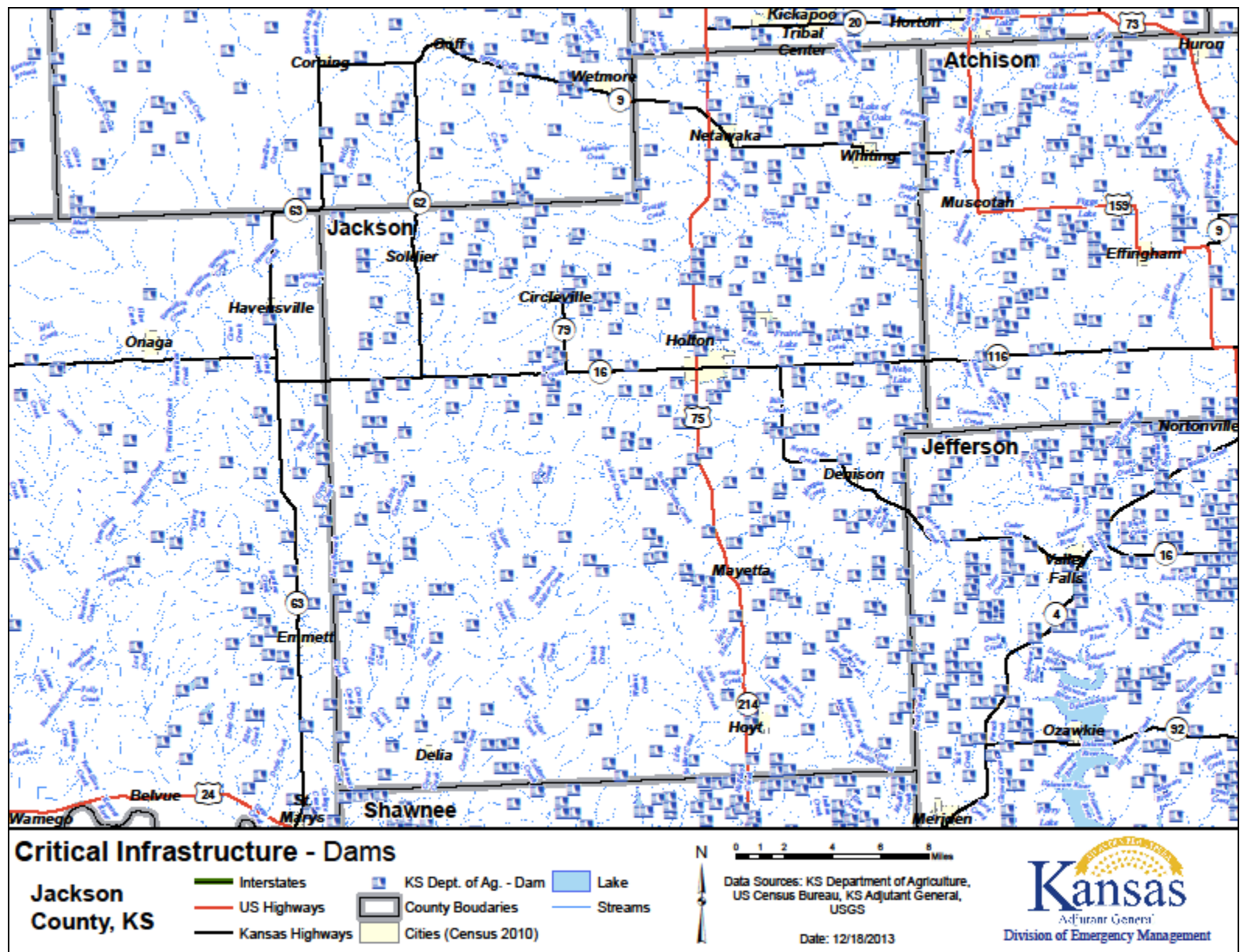


Dam DD #7-35, Douglas County

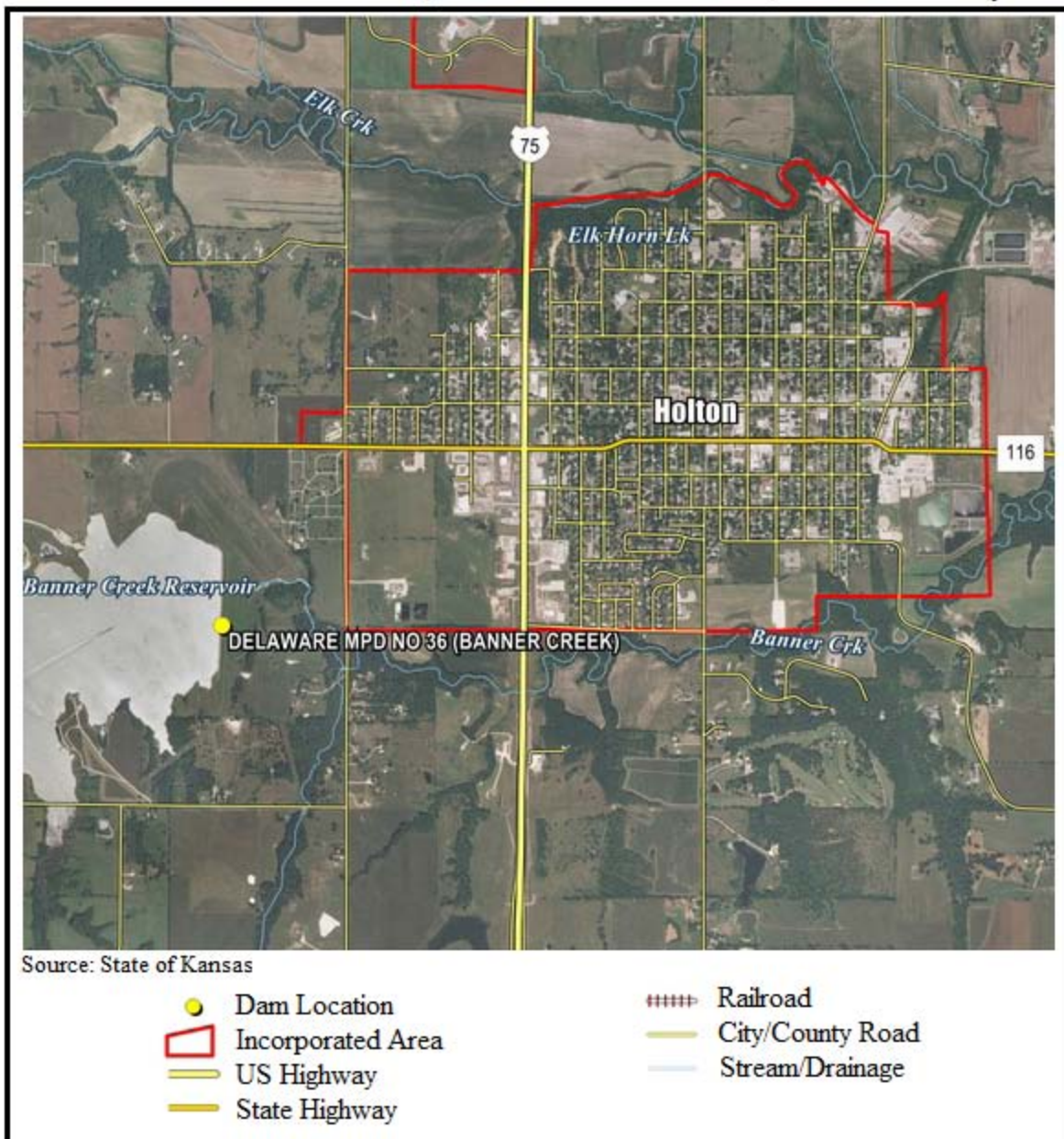


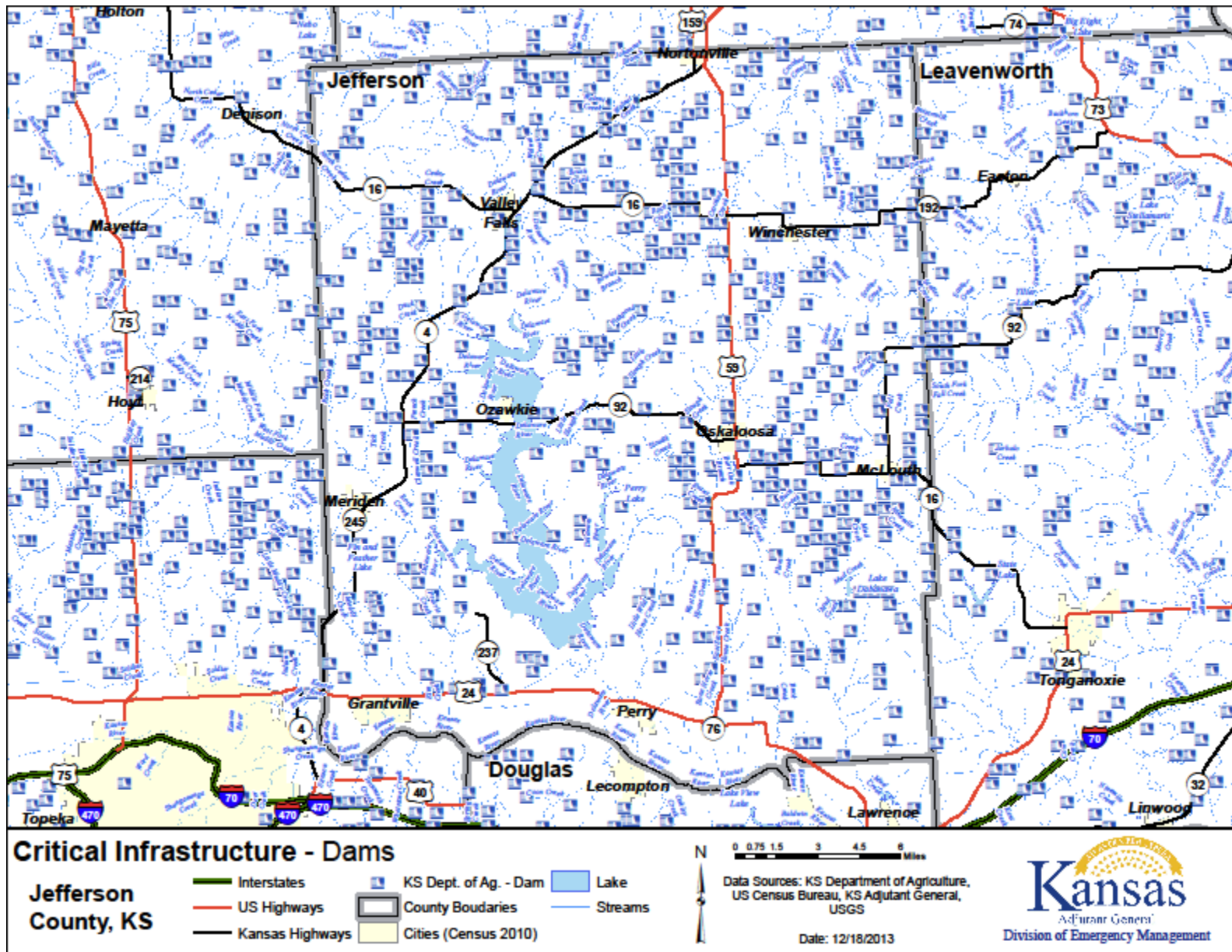
Dam FRD #26, Douglas County





Delaware MPD #36 Dam, Banner Creek Reservoir, Jackson County

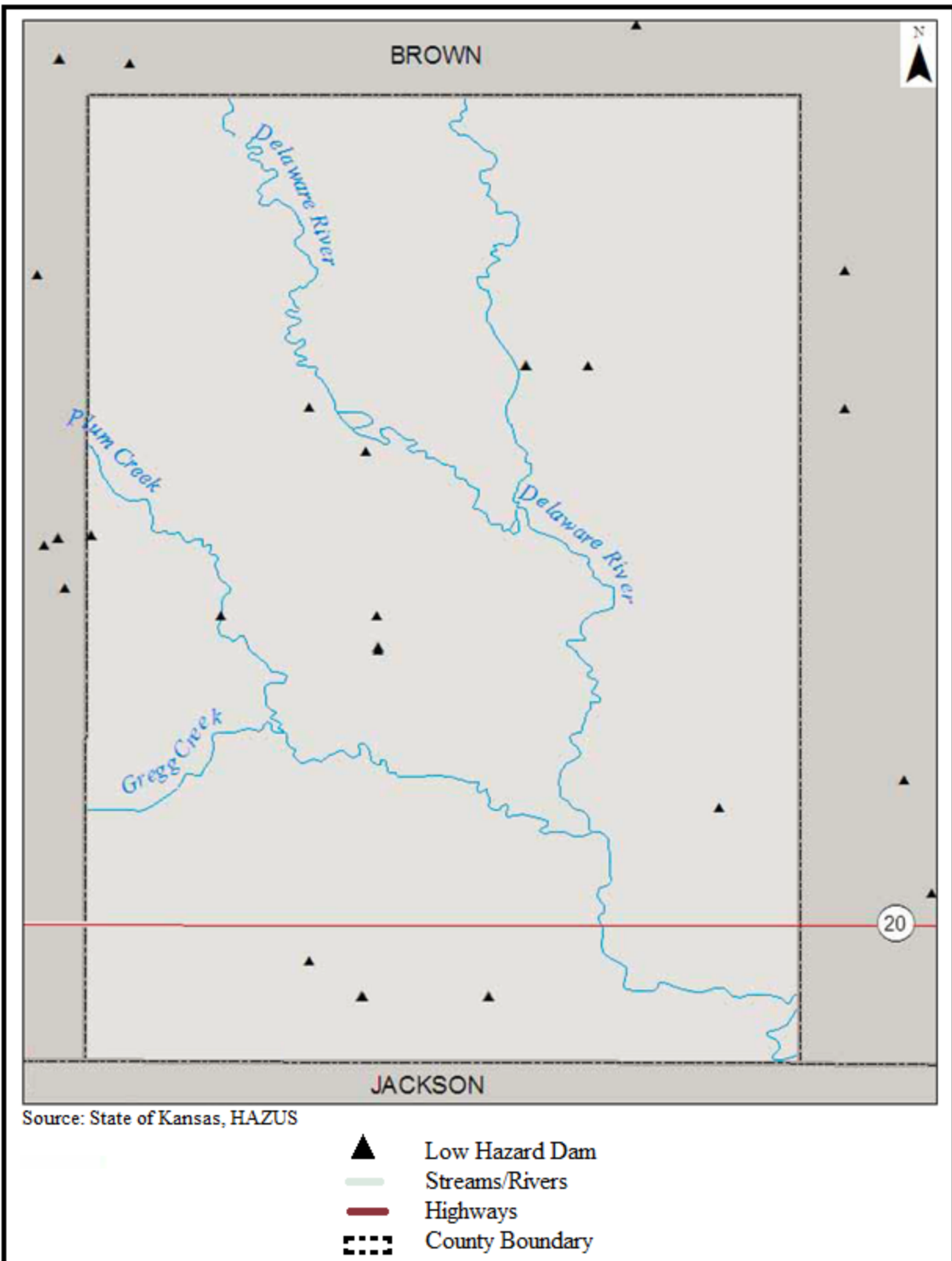


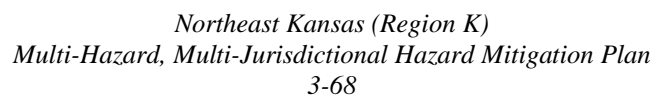


Perry Dam, Jefferson County

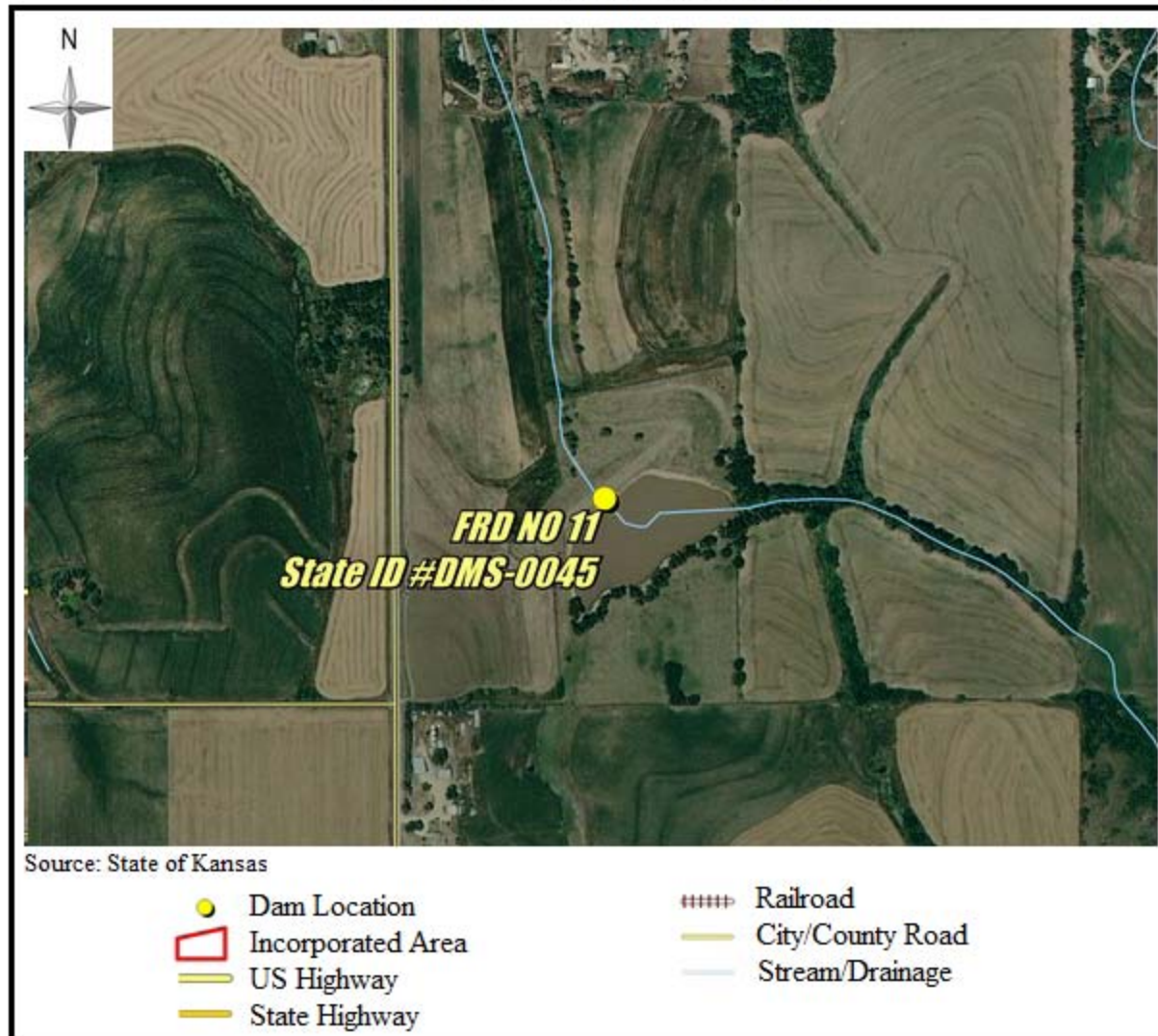


Kickapoo Tribe Dam Location Map



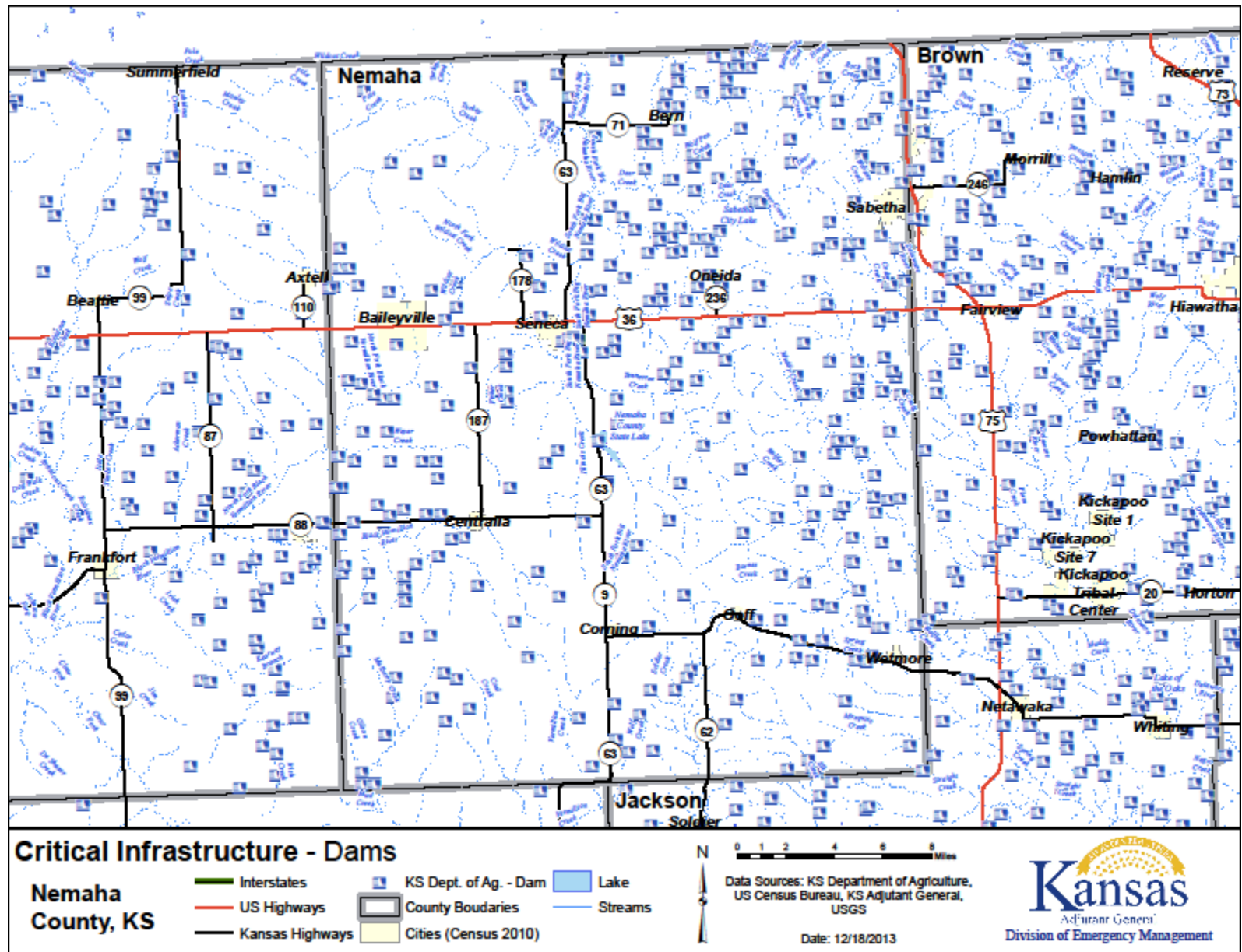


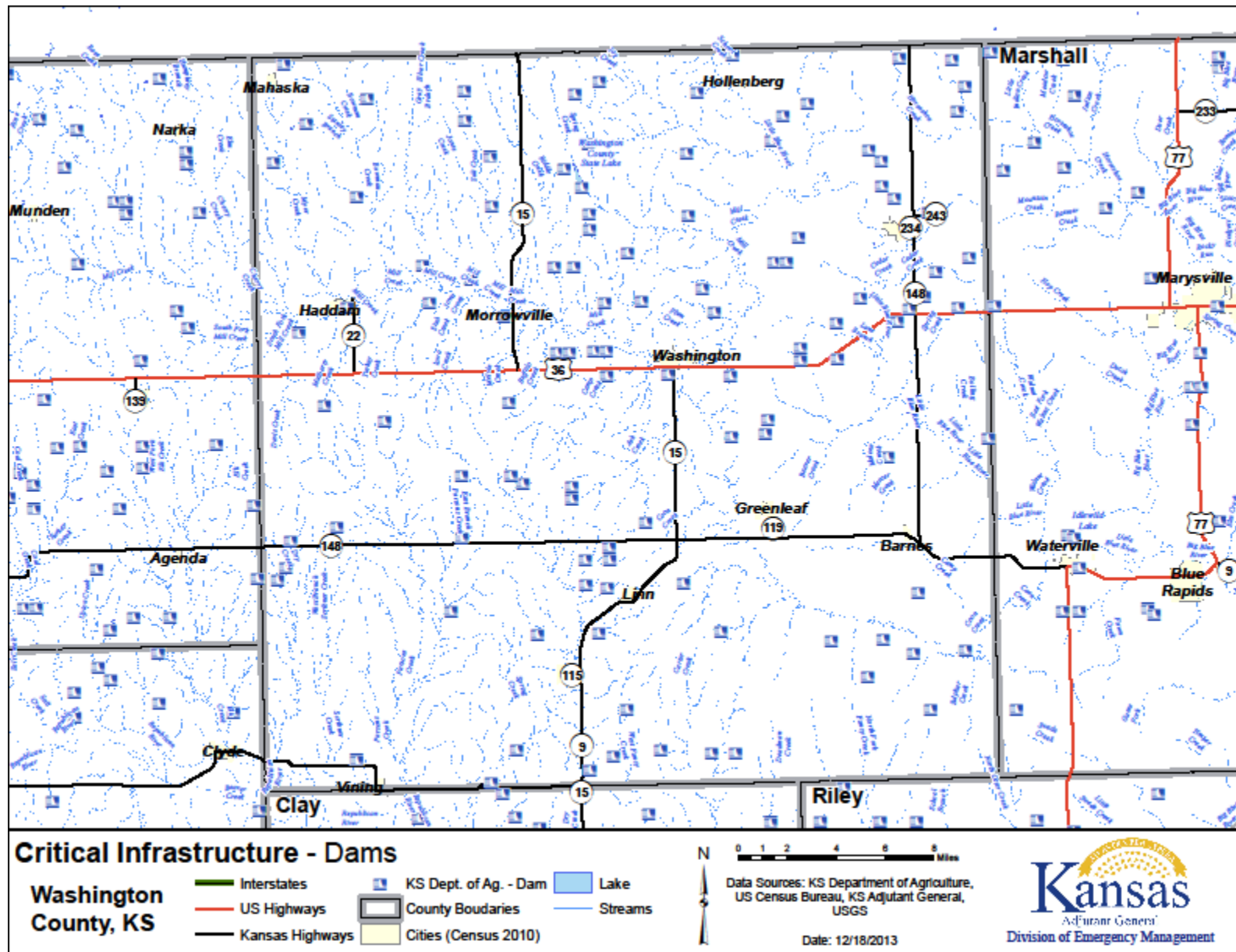
Dam FRD #68, Marshall County



Dam FRD #68, Marshall County







Federal Dams and Reservoirs

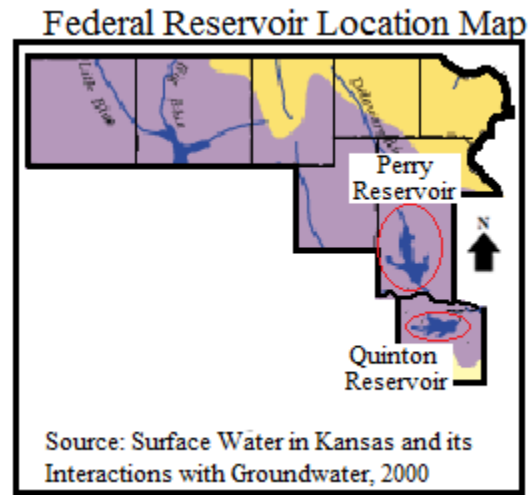
There are also two dams in northeast Kansas that are maintained and operated by the federal government. Both are maintained by the USACE Kansas City District. The following table shows the Federal reservoirs within the region.

Federal Reservoirs in Region

Reservoir	County	Year Storage Began	Operating Agency	River Basin	Contributing Drainage Area (Square Miles)	Surface Area (Acres)	Estimated Storage Capacity (Acre Feet)
Clinton	Douglas	1977	USACE-KC	Missouri	367	7,120	120,643
Perry	Jefferson	1966	USACE-KC	Missouri	1,117	10,447	199,824

Source: Kansas Water Office and Kansas Department of Agriculture, Division of Water Resources

The following map shows the location of federal reservoirs within northeast Kansas and in adjacent counties.



Dams in Adjacent States

There are three high hazard dams located in bordering Nebraska counties. These dams are:

- Gage County - Little Indian Creek 15A Dam
- Gage County - Upper Big Nemaha 25C Dam
- Gage County - Mud Creek 2A Dam
- Gage County - Big Indian Creek 14B Dam
- Richardson County-Long Branch 21 Dam
- Thayer County - Hebron Dam

Levees

In Kansas, there are hundreds of levees ranging in size from small agricultural levees that were constructed primarily to protect farmland from high frequency flooding to large urban levees that were constructed to protect people and property from larger, less frequent flooding events, such as the 100-year and 500-year flood events. Levees have been constructed across the State by public and private entities with varying levels of protection, inspection oversight, and maintenance. Currently there is no one comprehensive database of all levees in the State. However, significant strides have been made toward compiling such an inventory. In 2010, FEMA published the MLI database of levees. The MLI contains levee data gathered primarily for structures that were designed to provide protection from at least the base (1-percent-annual-chance) flood. Levees that provide protection for less than the base flood event are included, but only where data was readily available. The MLI was developed to complement the USACE NLD. During development of this plan update, USACE was in the process of integrating the MLI with the NLD to provide a more comprehensive database of levees. Every effort was made during development of this plan to consider all known levees from both databases.

Regional Levees

County	Levee Name	USACE LSP	USACE District	USACE Inspection Rating	MLI	Flooding Source	Accredited	DFIRM	Design Frequency
Atchison	Corkill	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Atchison	Grape-Bollin-Schwartz Levee Association-Atchison	Yes	KC	Not Reported	Yes	Missouri River	No	Yes	< 1% Annual Chance
Atchison	Henry Pohl Levee	Yes	KC	Not Reported	Yes	Missouri River	No	Yes	< 1% Annual Chance
Atchison	Hundley	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Atchison	Kemig	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Atchison	Millard-Overton	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Atchison	Mrls 440-R-Atchison	Yes	KC	Minimally Acceptable	Yes	Missouri River	No	Yes	Unknown
Atchison	Hundley	Yes	KC	Not Reported	No	Not Reported	No	-	Unknown
Atchison	Kemig	Yes	KC	Not Reported	No	Not Reported	No	-	Unknown
Atchison	Millard-Overton	Yes	KC	Not Reported	No	Not Reported	No	-	Unknown
Atchison	Schrader	Yes	KC	Not Reported	No	Not Reported	No	Unknown	Unknown
Brown	Mrls 512-513-R	Yes	Kc	Minimally Acceptable	Yes	Roys Creek	No	No	< 1% Annual Chance
Doniphan	Cook	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance

Regional Levees, Continued

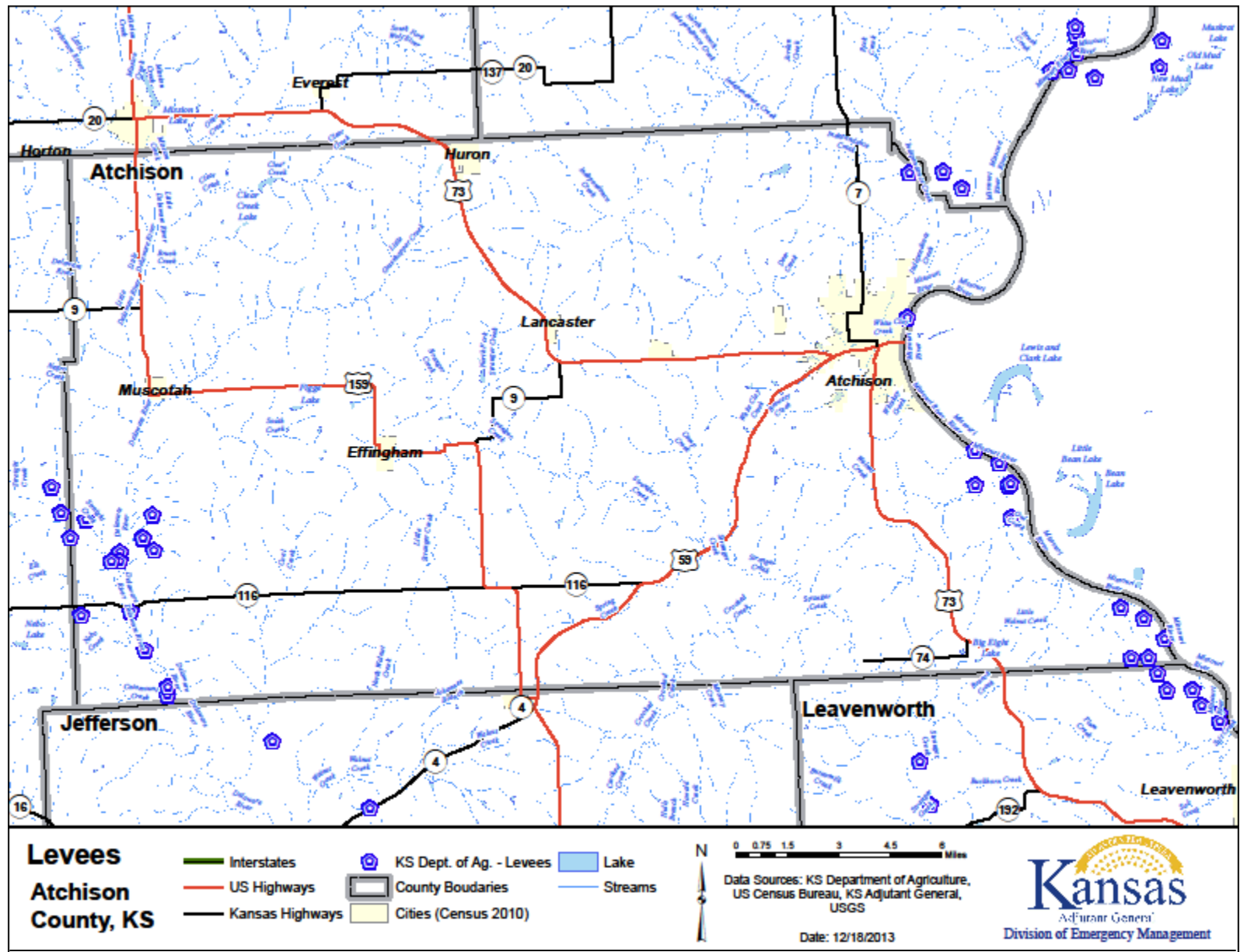
County	Levee Name	USACE LSP	USACE District	USACE Inspection Rating	MLI	Flooding Source	Accredited	DFIRM	Design Frequency
Doniphan	Earle Cole	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Cook	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Earle Cole	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Jones (Scholz)	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Kirkland Kuebler-Miller	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Mrls 440-R-Doniphan	Yes	KC	Minimally Acceptable	Yes	Independence Creek	Yes	Yes	1% Annual Chance
Doniphan	Mrls 471-460-R	Yes	KC	Minimally Acceptable	Yes	Missouri River	Yes	Yes	< 1% Annual Chance
Doniphan	Mrls 471-460-R Elwood-Gladden	Yes	KC	Minimally Acceptable	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Mrls 482-R Doniphan-Burr Oak	Yes	KC	Not Reported	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Mrls 500-R	Yes	KC	Minimally Acceptable	Yes	Missouri River	Yes	Yes	1% Annual Chance
Doniphan	Mrls 500-R Iowa Point	Yes	KC	Minimally Acceptable	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Roundy	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual
Doniphan	Ryan	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance
Doniphan	Steanson-McDonough	No	N/A	N/A	Yes	Missouri River	No	Yes	< 1% Annual Chance

Regional Levees, Continued

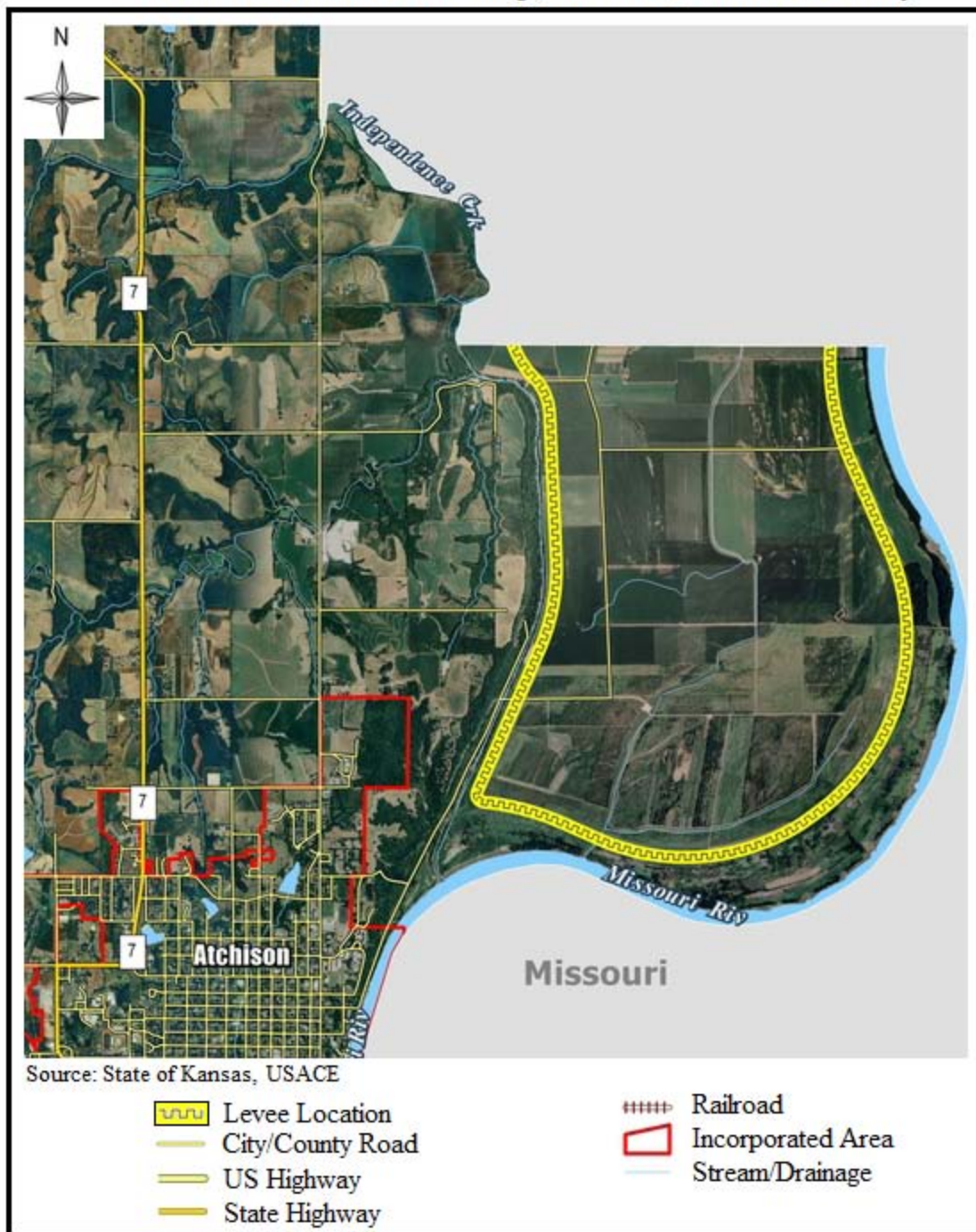
County	Levee Name	USACE LSP	USACE District	USACE Inspection Rating	MLI	Flooding Source	Accredited	DFIRM	Design Frequency
Doniphan	Cook	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Doniphan	Earle Cole	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Doniphan	Jones (Scholz)	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Doniphan	Kirkland Kuebler-Miller	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Doniphan	Roundy	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Doniphan	Ryan	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Doniphan	Steanson-Mcdonough	Yes	KC	Not Reported	No	Not Reported	No		Unknown
Douglas	Douglas County Drainage District	Yes	KC	Acceptable	Yes	Kansas River	No	Yes	<1% Annual Chance
Douglas	Lawrence Unit-Douglas	Yes	KC	Minimally Acceptable	Yes	Kansas River	Yes	Yes	1% Annual Chance
Douglas	Mud Creek Levee	No	N/A	N/A	Yes	Mud Creek	Yes	Yes	1% Annual Chance
Jefferson	Lawrence Unit-Jefferson	Yes	KC	Minimally Acceptable	Yes	Kansas River	Yes	Yes	1% Annual Chance
Jefferson	Stonehouse Creek Drainage District No. 1	Yes	KC	Minimally Acceptable	Yes	Kansas River	No	Yes	1% Annual Chance
Marshall	Frankfort, Kansas	Yes	KC	Minimally Acceptable	Yes	Black Vermilion River	Yes	Yes	1% Annual Chance
Marshall	Marysville, Kansas Levee	Yes	KC	Not Reported	Yes	Big Blu River	Yes	Yes	1% Annual Chance
Marshall	Tuttle Creek Dam Blue Rapids	Yes	KC	Not Reported	Yes	Blue River	No	Yes	Unknown

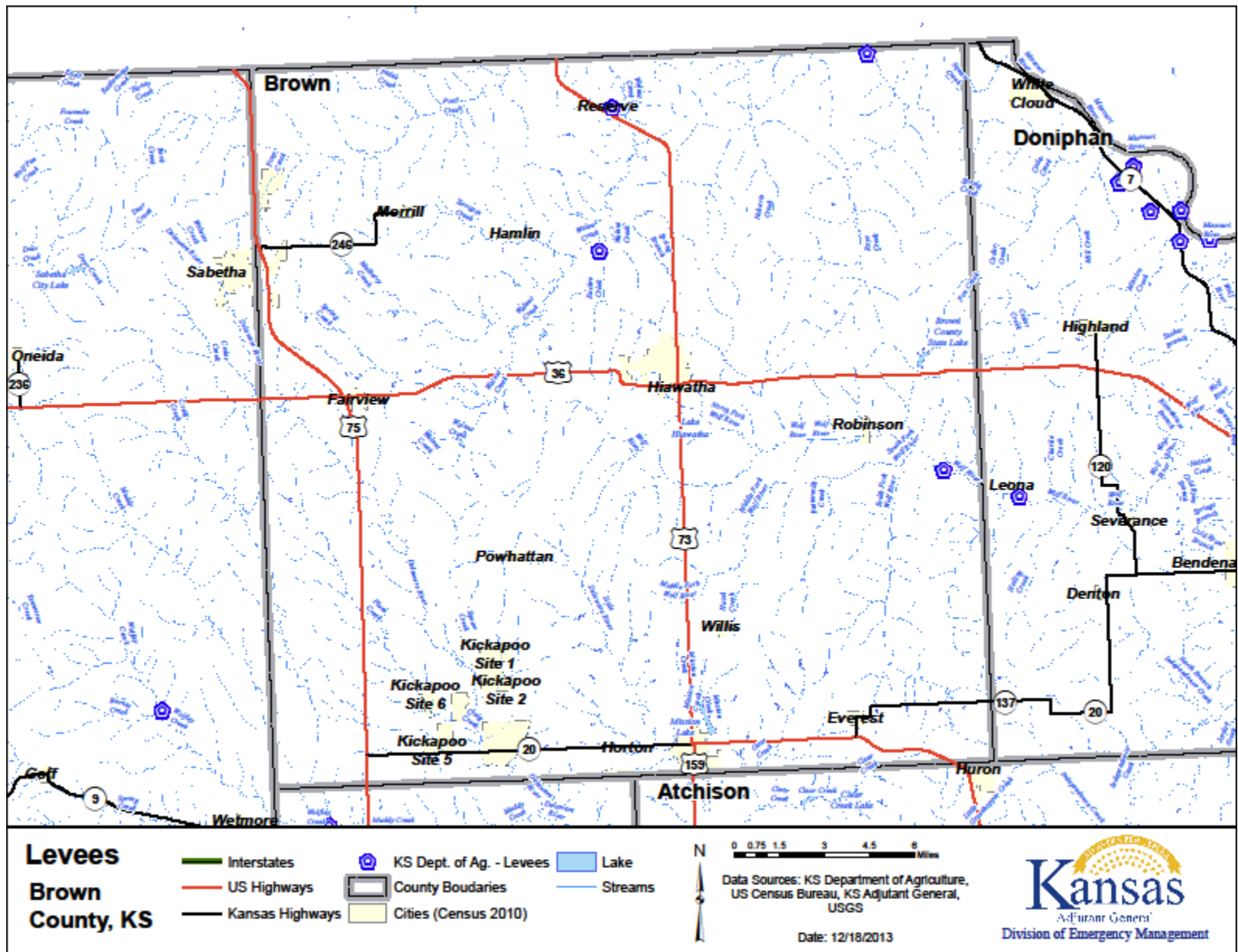
Compiled from the USACE NLD as well as the FEMA MLI

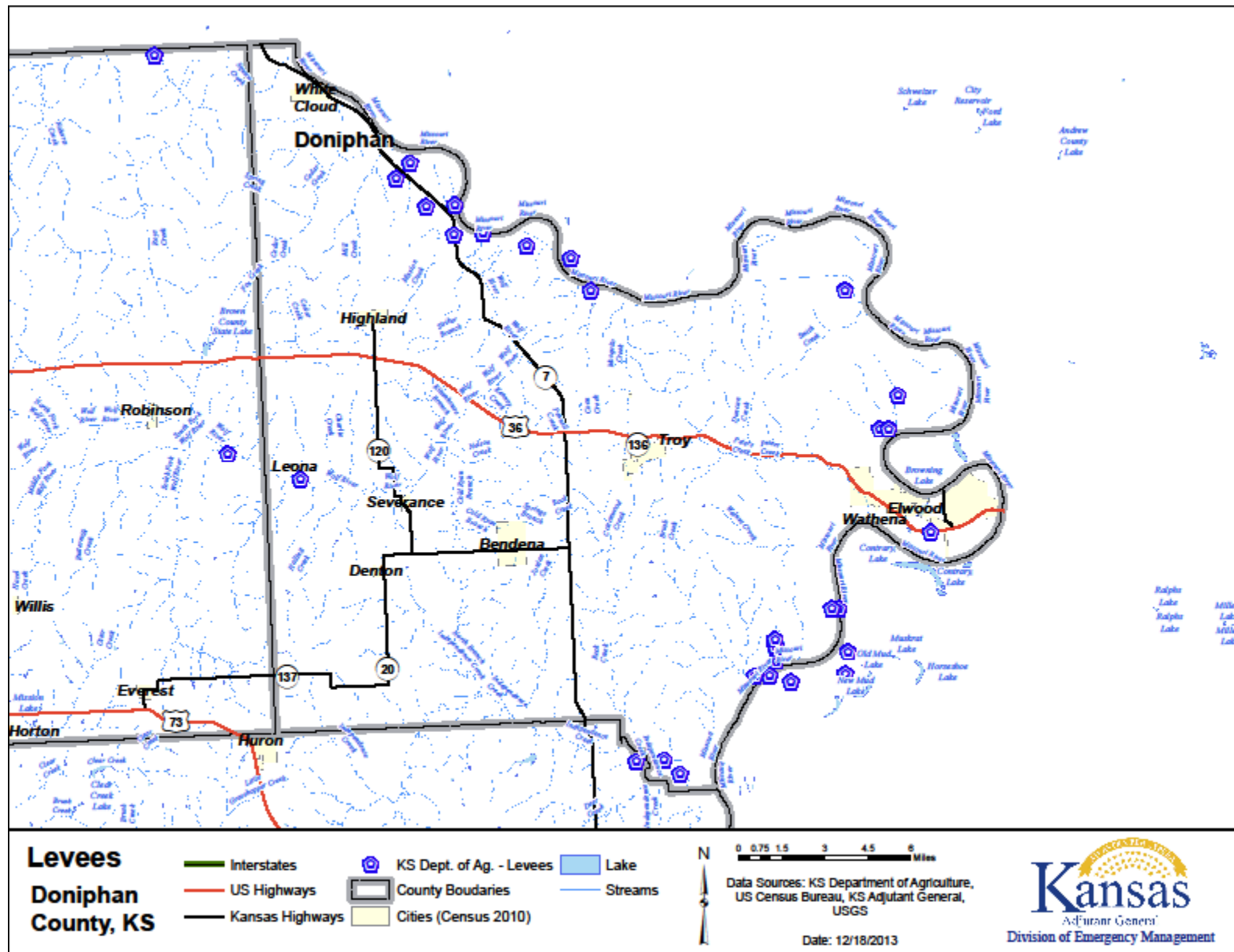
The following maps show identified levee protected areas and identified levees within the northeast Kansas region.



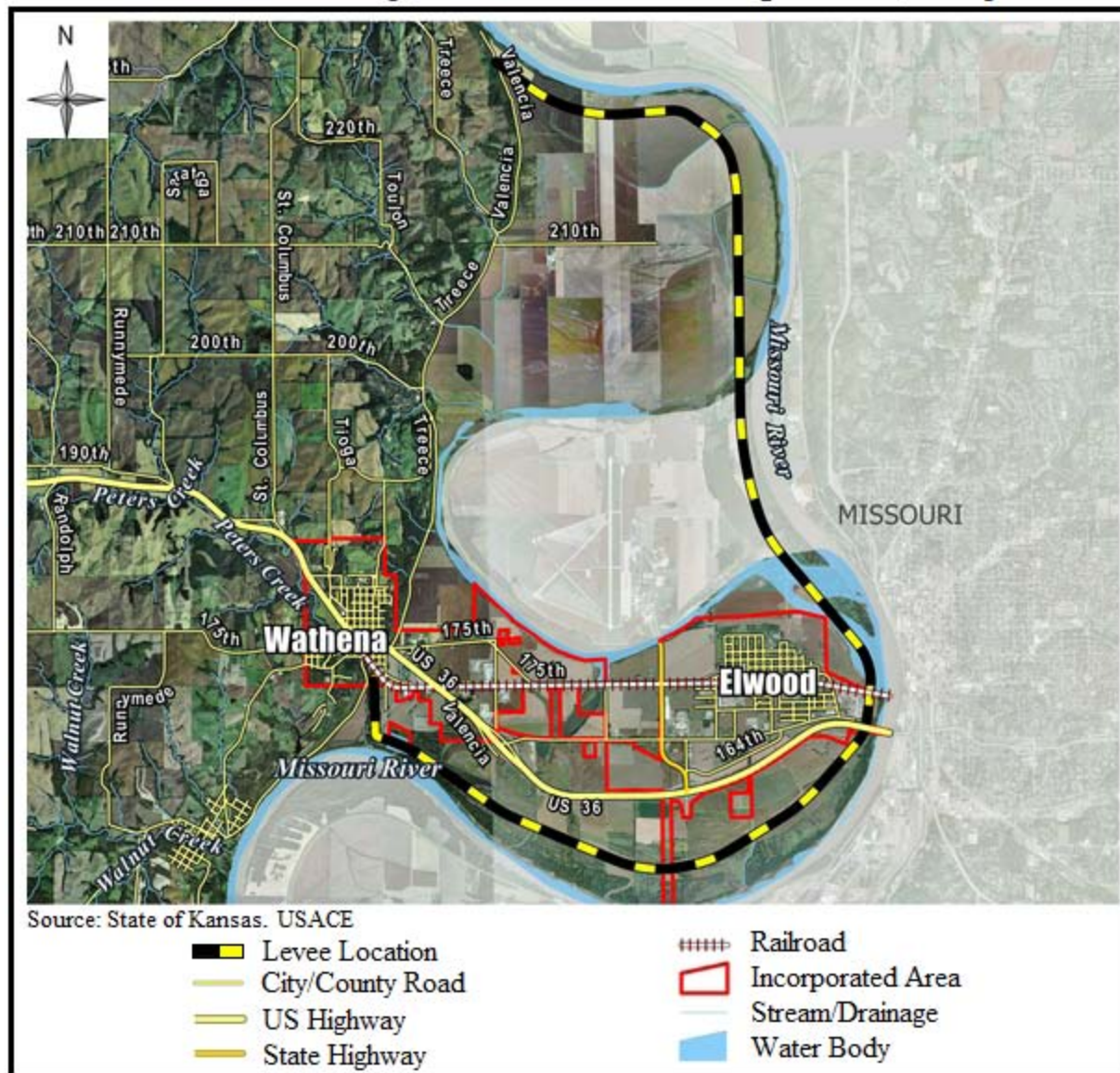
Levee LAT-0021 Location Map, Atchison, Atchison County

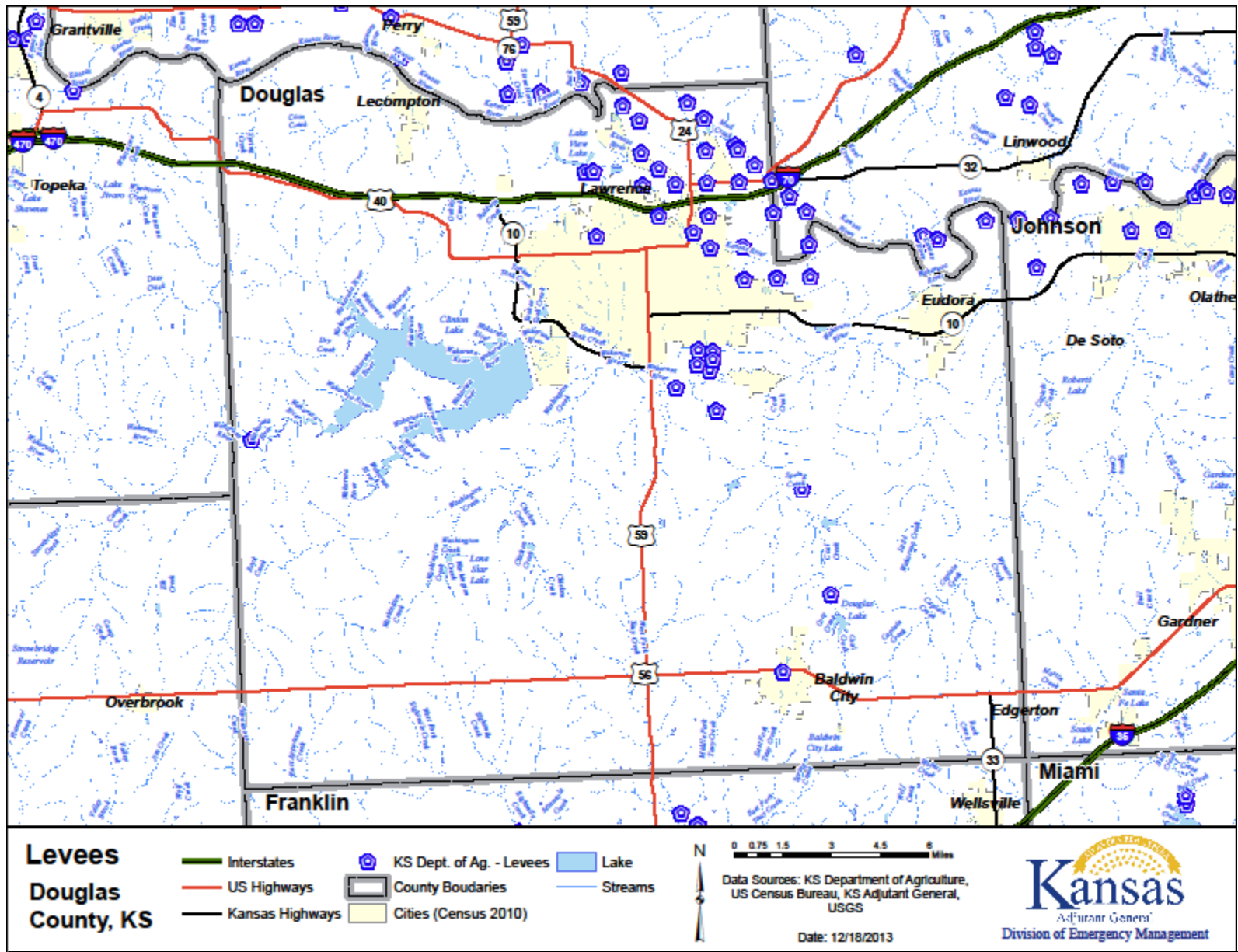






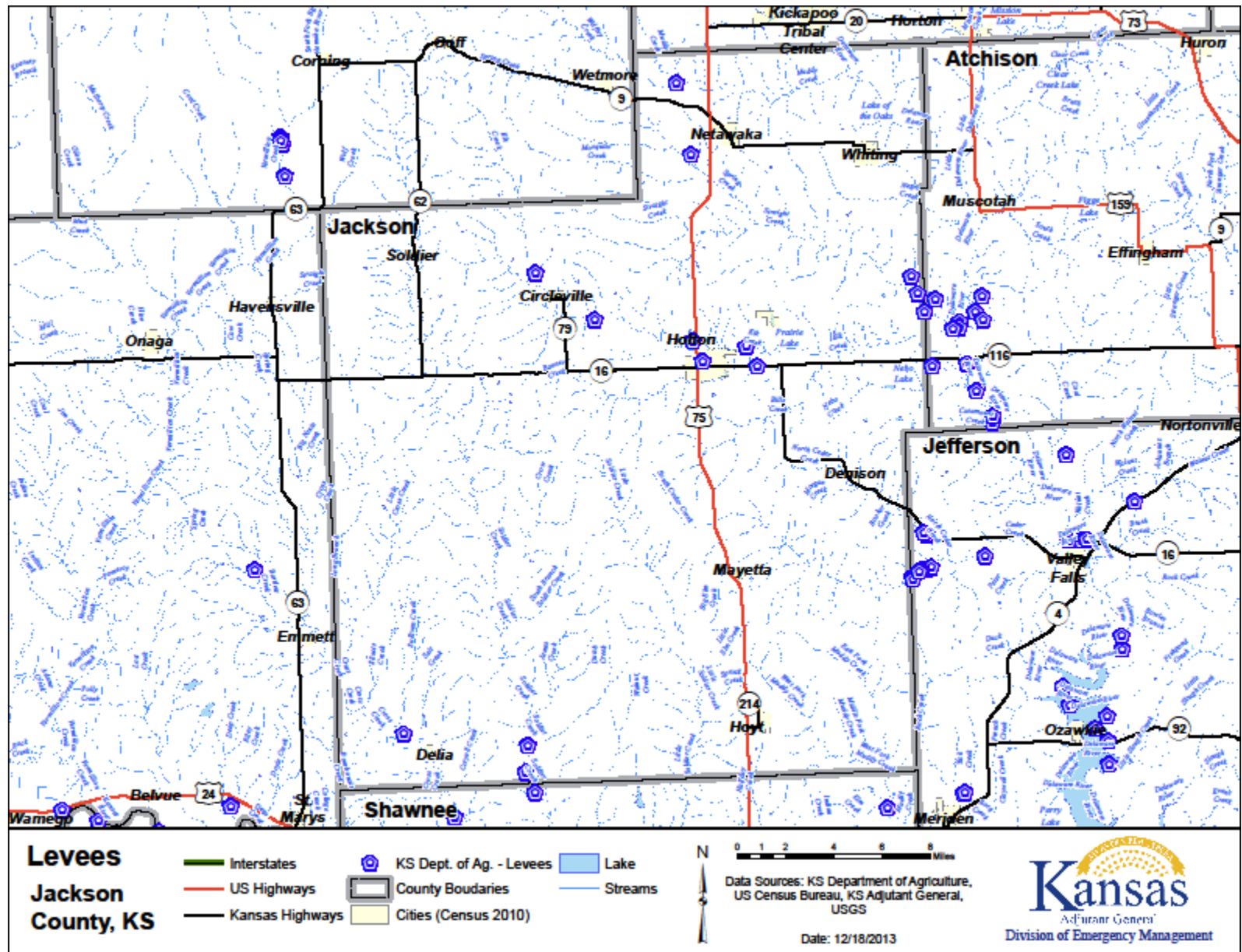
Levee #R471-460 Location Map, Elwood Gladden Drainage District, Doniphan County

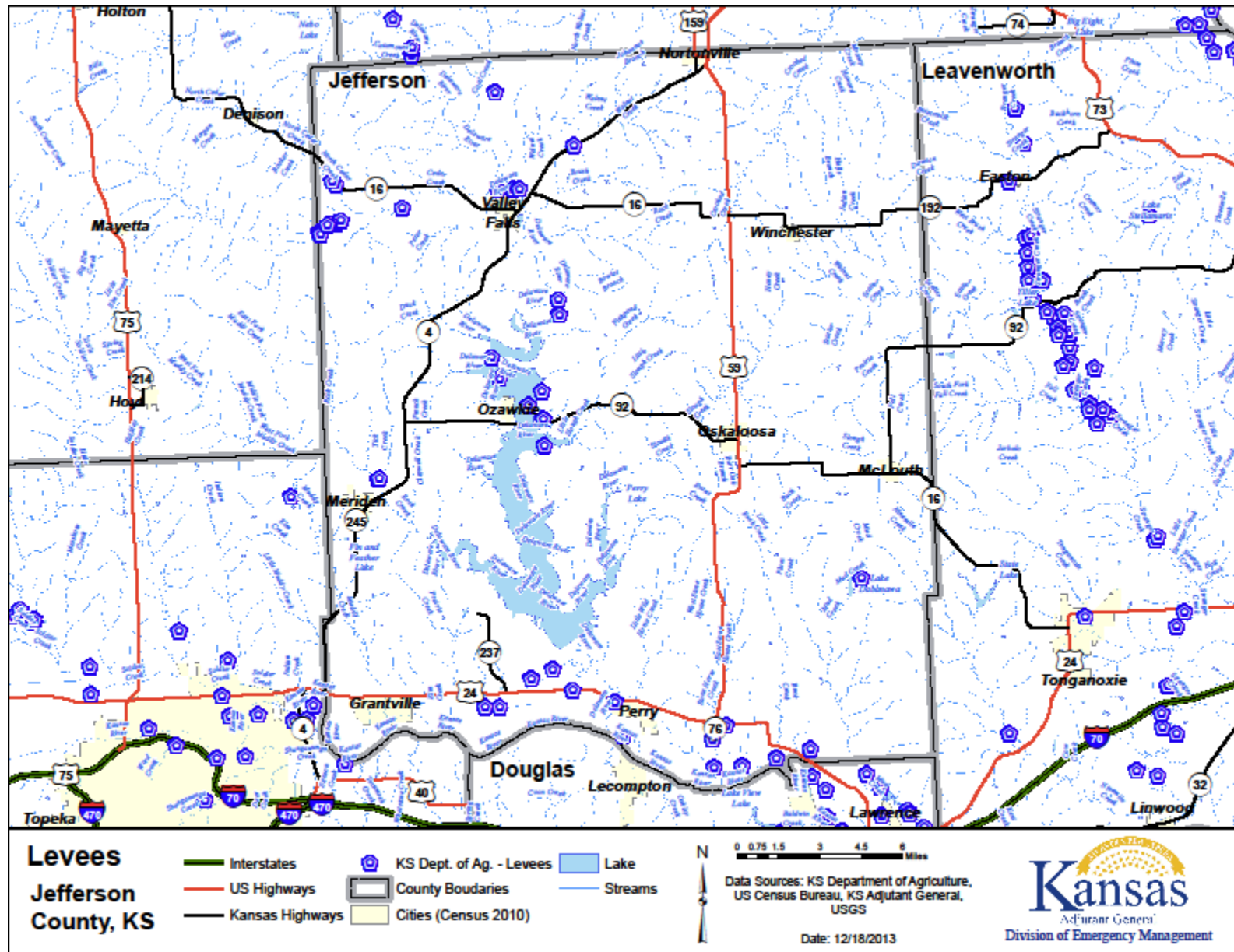


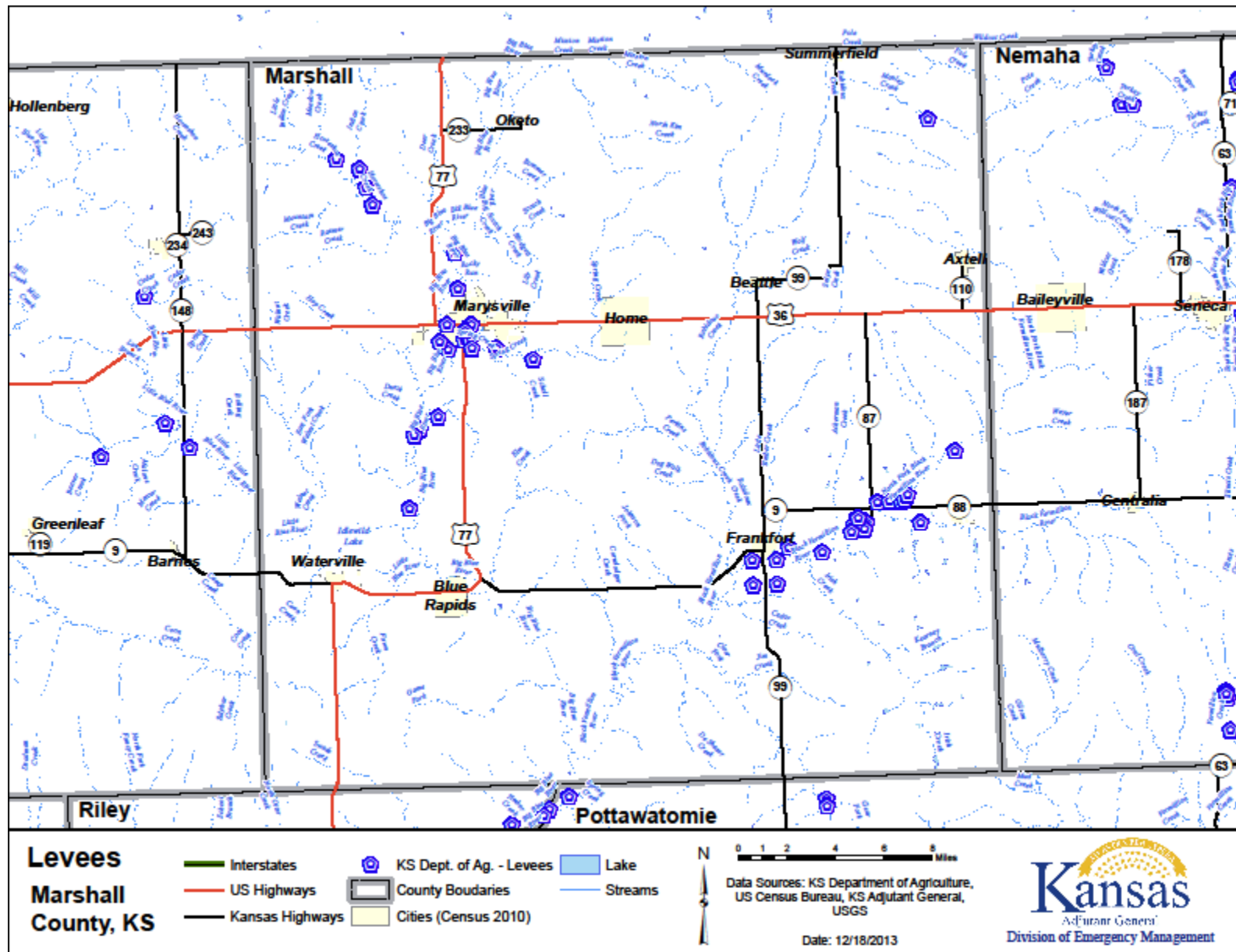


Kansas River Levee, Douglas County

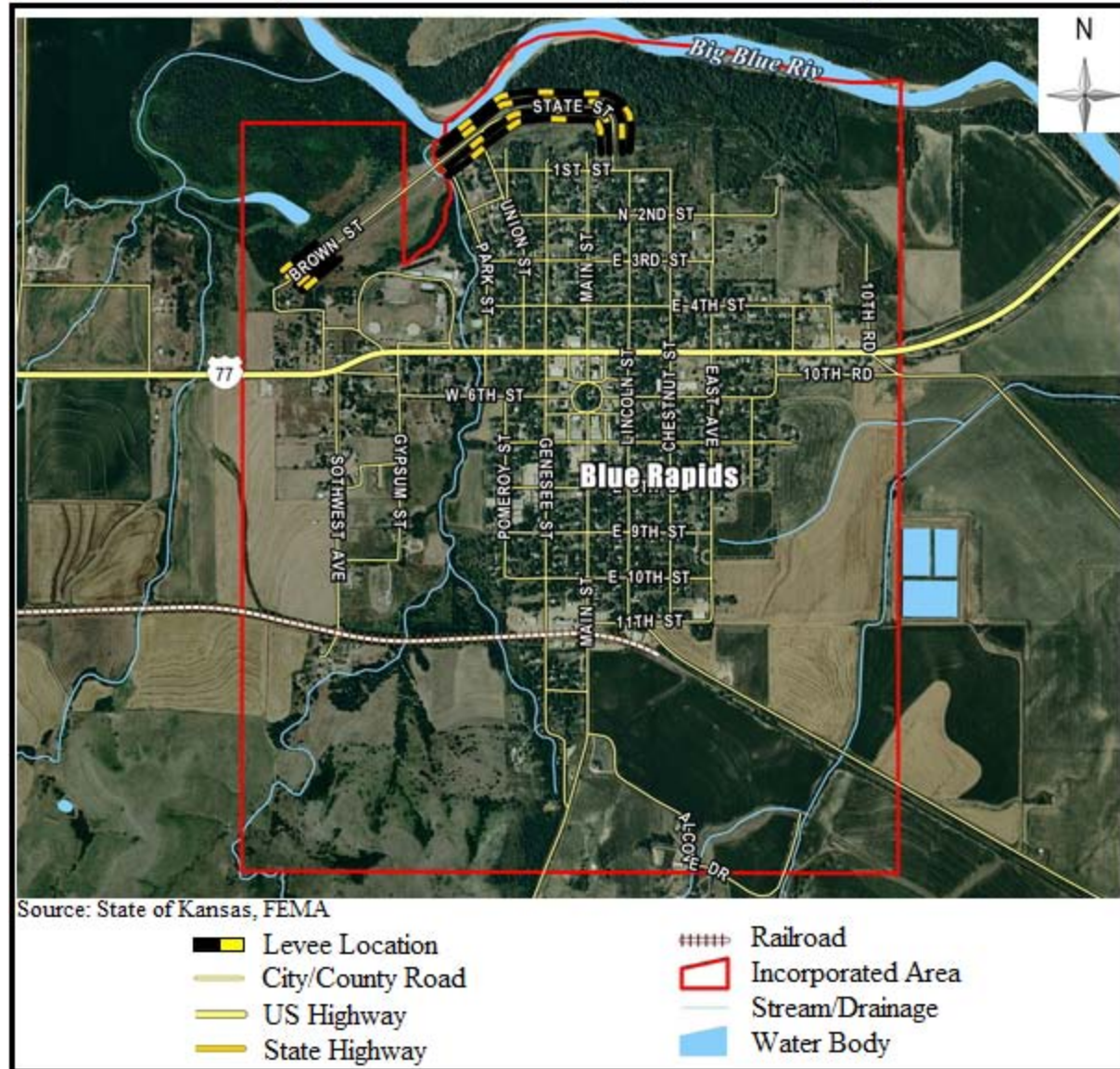




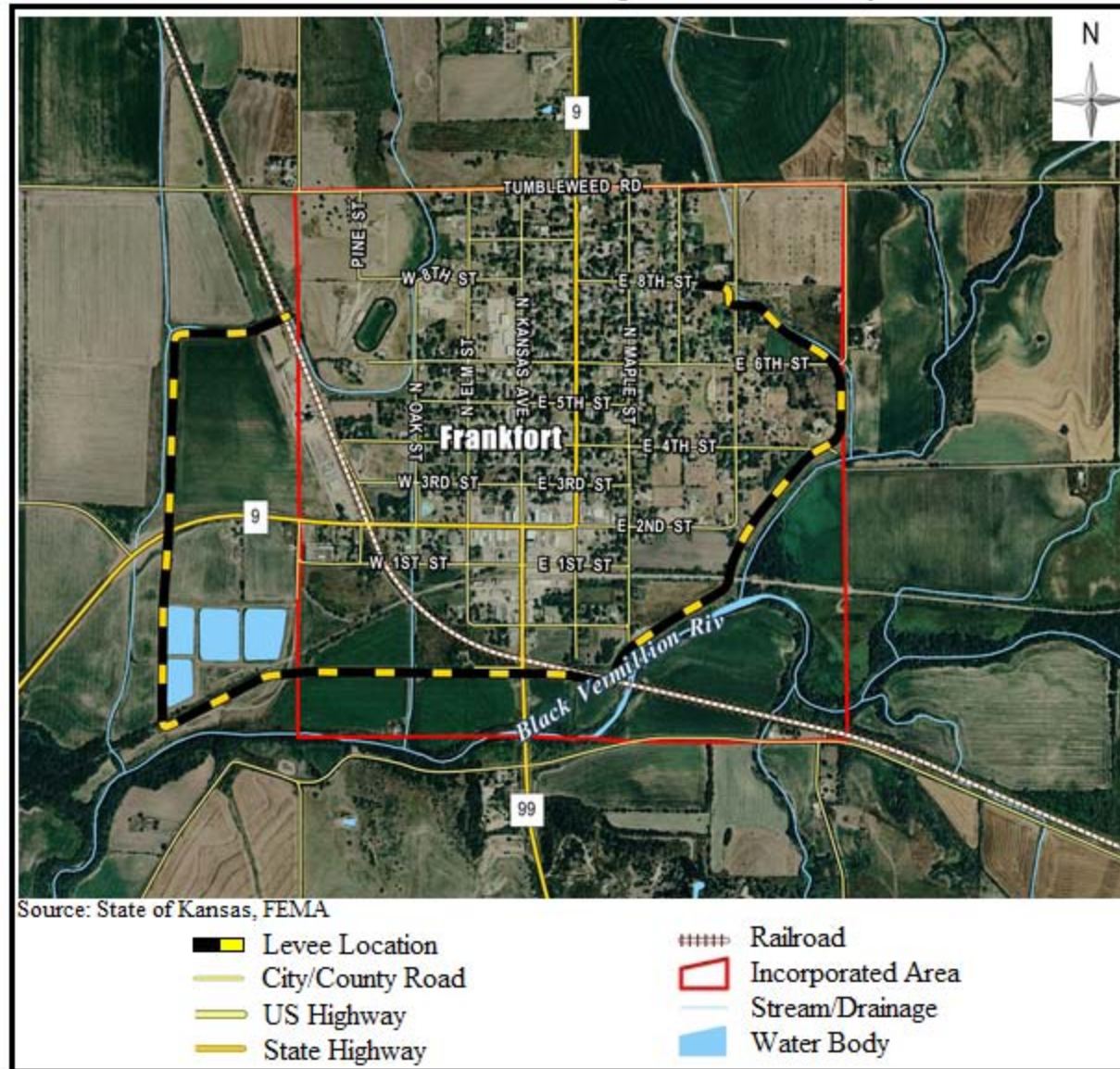




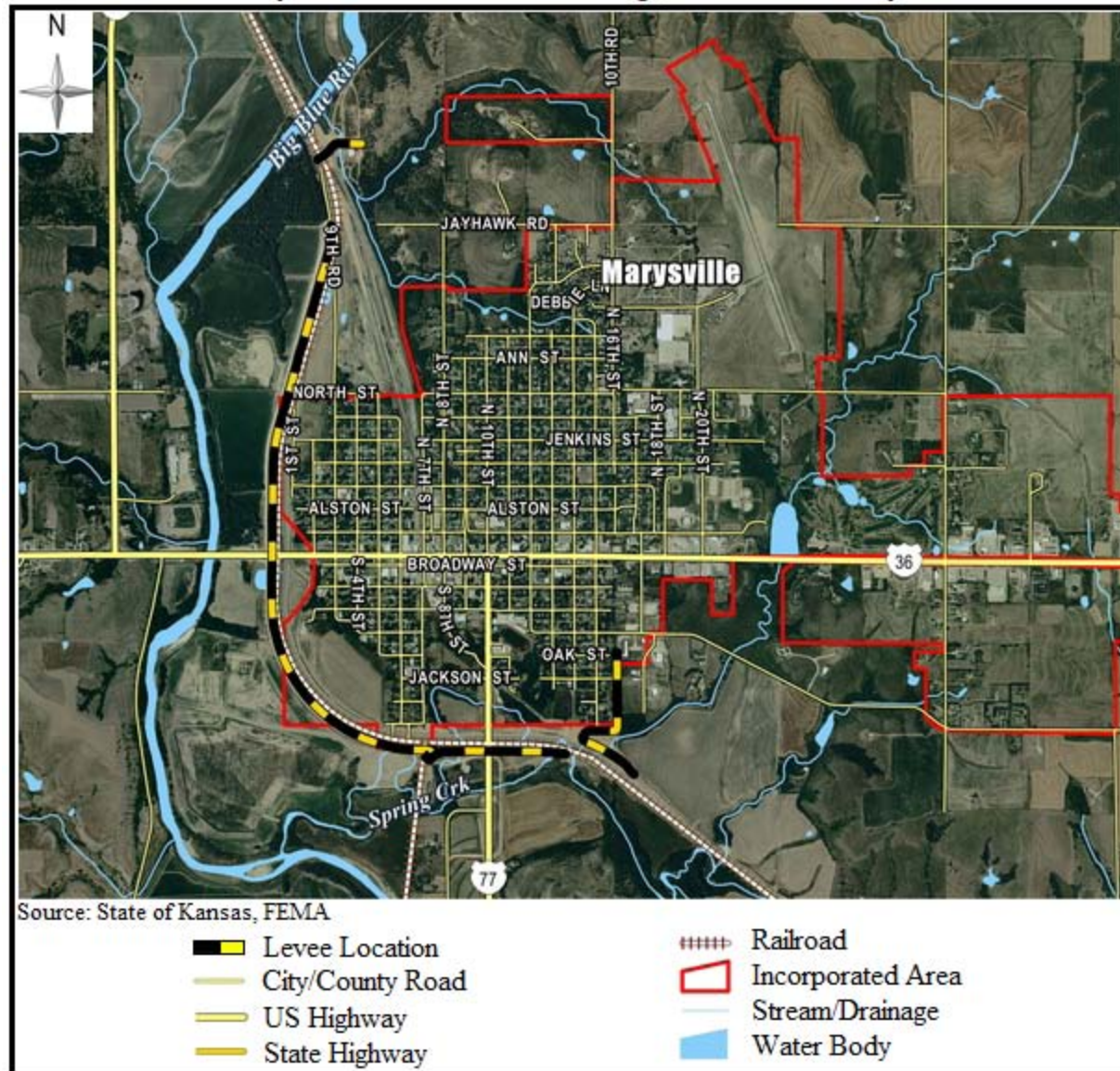
Blue Rapids Levee Location Map, Marshall County

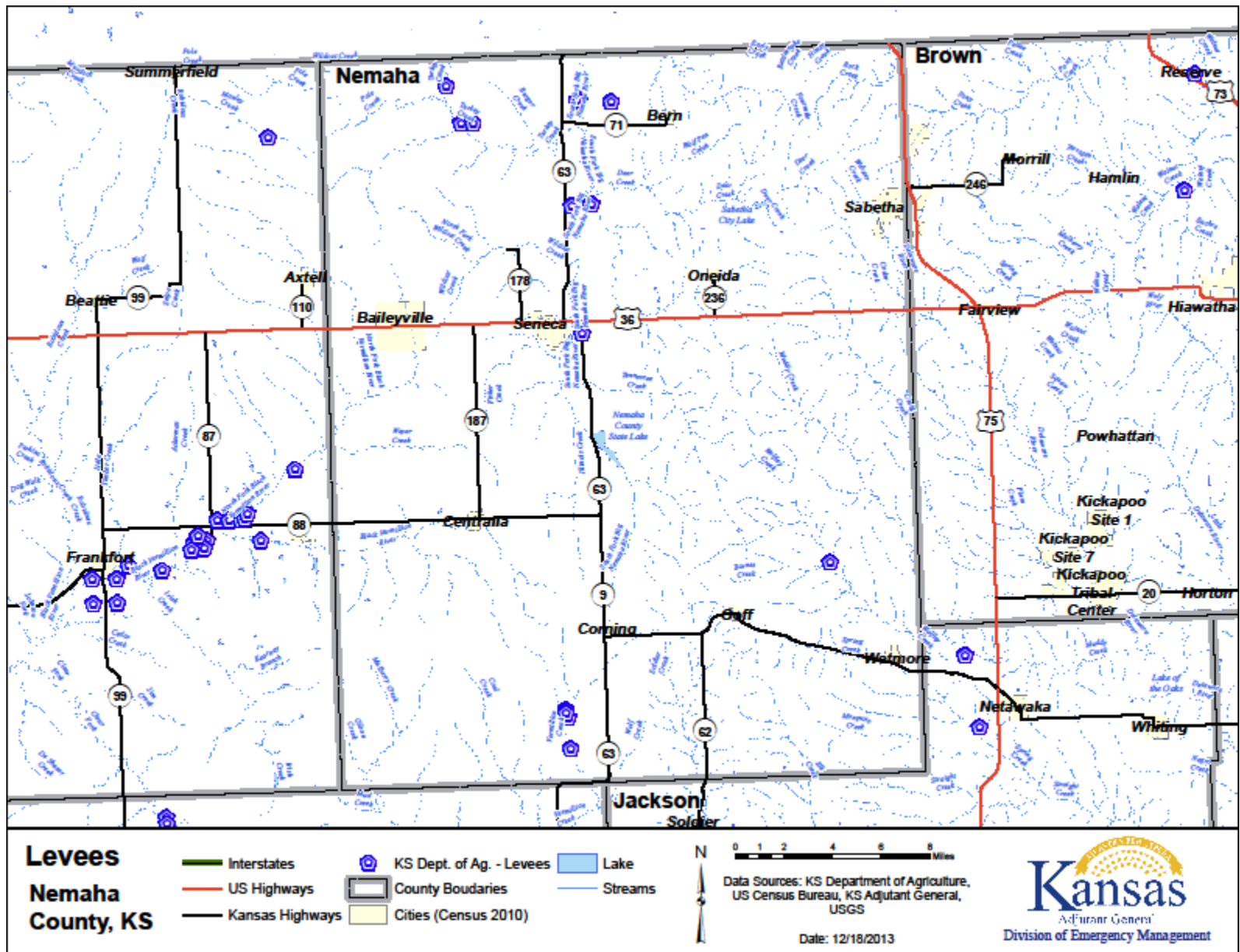


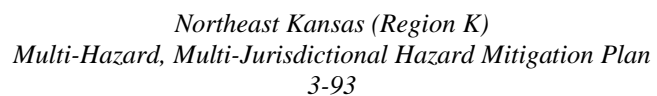
Frankfort Levee Location Map, Marshall County



Marysville Levee Location Map, Marshall County







Previous Occurrences and Extent

Notable previous dam and levee failures in northeast Kansas are listed below.

May 1978: Atchison County: Maur Hill Prep School Dam (Low Hazard Dam) on a tributary of Whisky Creek failed when a slide occurred on the downstream face to the top of the dam, centered near the outlet pipe.



June 1924: Brown County: The Mission Lake Dam and Spillway, in Horton, Kansas, was completed in 1924. During the period of June 7-8 and 15-18, 1925, heavy rainfall caused the dam to overtop and a section just west of the spillway washed out. Total rainfall reports from the United States Weather Bureau for this period show a total of 14.30 inches over the 12-day period. No deaths, injuries, or property damage was indicated.

Regional Dam Incidents, 1925-2012

County	NID #	Dam Name	Incident Date	Incident Type	Dam Failure
Atchison	KS00180	Kansas F And Game Commission(Kansas Dept. Of Wildlife & Parks)	2/9/1998	Embankment Slide	No
Atchison	KS04490	Maur Hill Prep School, Inc.	May-78	Landslide	Yes
Brown	KS02458	Horton, City Of, Mission Lake Dam	1924	Not Known	Yes
Douglas	KS00310	Augusta, City Of, Santa Fe Lake Dam	3/8/2001	Erosion/Animal Burrows	No
Douglas	KS02540	Douglas County, Lone Star Lake	8/15/2001	Cracking; Embankment Erosion	No
Jackson	KS00955	Porter, John M.	5/12/1997	Seepage/Piping	No

Source: Stanford University's National Performance of Dams Program

May - August 2011: Regional: The USACE reported that every non-federal levee from Rulo, Nebraska to Wolcott, Kansas were either overtopped or breached on both sides of the Missouri River as a result of this flood. The Levee Repair Working Group of the Missouri River Flood Task Force, established in response to the Missouri River Basin flood of 2011, reported that the following federal and non-federal levees in Kansas were damaged by the flooding.

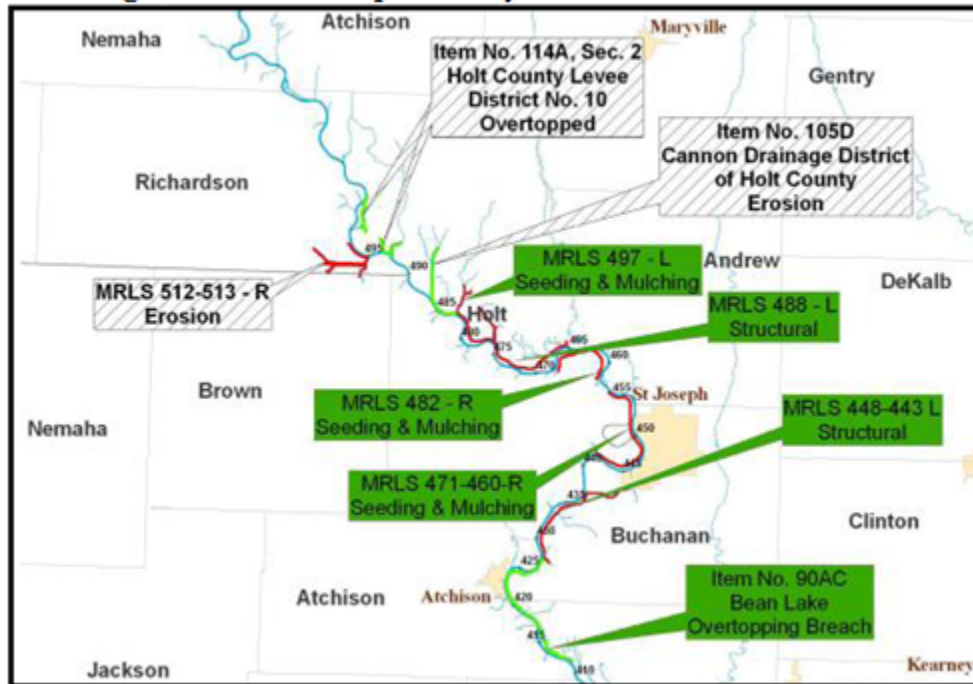
Regional Levees Impacted By 2011 Missouri River Flood

County	Project Type	Project Name	River Mile Markers
Atchison	Non-Federal	Henry Pohl Levee	412.3 to 409.9
Atchison	Federal	MRLS 440-R	401.35 to 391.2
Doniphan	Federal	MRLS 500-R	501.8 to 496.8
Doniphan	Federal	MRLS 482-R	467.0 to 458.0
Missouri	Federal	MRLS 471-460-R	456.6 to 441.7

Source: Missouri River Flood Task Force

June 2008: Regional: Flooding in 2008 caused minor damage to several Kansas Levees including MRLS 512-513 R, MRLS 482-R and MRLS 471-460. The following map details the locations of these damaged levees.

Regional Levees Impacted by 2008 Missouri River Flood



Source: USACE KC District Website

June and July 2007: Regional: Heavy rains in the region caused widespread flooding. The following map shows damaged regional levees in Kansas that are under the jurisdiction of the USACE Kansas City District.

Regional Levees Impacted by 2007 Flooding



Source: USACE KC District Website

1993: Regional: During the spring floods of 1993, which covered nine Midwest states, a high percentage of crop acres in the USACE Kansas City District floodplain areas suffered losses because of overtopping of nine of the 15 units in the federally constructed Missouri River Levee System and virtually all the nonfederal farm levees in the district.

Hazard Vulnerability and Impact

Dam Failure

The 2009 Kansas Water Plan states that some dams are exhibiting structural deficiencies because of age, while post-construction development downstream of others has raised their hazard class. Common problems with older dams include:

- Deteriorating metal pipes and structural components,
- Inadequate hydrologic capacity,
- Increased runoff because of upstream development, and
- Increased failure hazard because of downstream development.

To complete an analysis of vulnerability to dam failure as well as attempt to describe vulnerability in terms of the jurisdictions most threatened by dam failure, points were assigned to each type of dam and then aggregated for a total point score for each county. Points were assigned as follows for each dam: Low Hazard Dams, 1 point, Significant Hazard Dams, 2 points, High Hazard Dams, 3 points, High Hazard Dams without an Emergency Action Plan (EAP), an additional 2 points, Federal Reservoir Dams, 3 points. This analysis does not intend to demonstrate vulnerability in terms of dam structures that are likely to fail, but rather provides a

general overview of the counties that have a high number of dams, with weighted consideration given to dams whose failure would result in greater damages. The following table shows the results of this analysis.

Dam Failure Vulnerability Analysis

County	Low Hazard Dams	Significant Hazard Dams	High Hazard Dams	High Hazard Dams Without EAP	Federal Reservoirs	Vulnerability Rating	Vulnerability Level
Atchison	149	7	20	1	-	225	High
Brown	211	9	4	1	-	243	High
Doniphan	100	1	0	0	-	102	Medium High
Douglas	90	3	9	2	1	130	Medium High
Jackson	241	9	2	1	-	267	High
Jefferson	309	5	1	1	1	327	High
Marshall	120	3	4	3	-	144	Medium High
Nemaha	195	3	1	1	-	206	High
Washington	43	1	0	0	-	45	Medium Low
Regional Total	1,458	41	41	10	2	1,689	'-

Source: Analysis utilizing data from: Kansas Department of Agriculture, Division of Water Resources, Water Structures program; U.S. Army Corps of Engineers; Bureau of Reclamation; U.S. Army, U.S. Fish and Wildlife

Out of all Kansas counties, the following regional counties are on the top 10 for vulnerability to dam failure:

- Atchison
- Brown
- Jackson
- Jefferson
- Nemaha

During the development of this plan, the Kansas Department of Agriculture, Division of Water Resources was working on a project to complete dam inundation mapping for High and Significant hazard dams. This project is ongoing due to funding issues and a statewide dam inundation map does not exist at this time.

Levee Failure

To complete an analysis of vulnerability to levee failure as well as attempt to describe vulnerability in terms of the jurisdictions most threatened by levee failure, the MLI geodatabase along with census block data available in HAZUS MH 2.1 is used to determine the number of people and the value of development in these identified levee protected areas. This analysis does not attempt to evaluate which levees are more prone to overtopping or failure, but rather provide a general picture of those counties that have more people and property protected by levees and therefore the potential for more damage if failure or overtopping were to occur.

The following table presents the calculated value of structures and the contents of the structures protected by levees within the region, by applicable county. This data is to be used only for general determination of those areas of the state that could suffer the greatest losses in the event of levee failure events. Data limitations prevent a more accurate analysis including: lack of delineation of protected areas for all levees and, lack of statewide parcel-type data which would provide more accurate results in determining structures and values within levee protected areas.

Regional Populations and Values Protected by Levees

County	Structures Exposure	Contents Exposure	Total Exposure	Population Exposed
Atchison	\$2,514	\$1,378	\$3,892	25
Brown	\$3,522	\$1,764	\$5,286	74
Doniphan	\$124,737	\$97,152	\$221,889	1,983
Douglas	\$212,635	\$156,061	\$368,696	2,609
Jefferson	\$11,002	\$6,492	\$17,494	161
Marshall	\$145,529	\$102,086	\$247,615	1,785
Regional Total	\$499,939	\$364,933	\$864,872	6,637

Source: FEMA MLI, 2010

To estimate potential losses associated with levee failure, 20 percent loss was considered for all development (structure and contents) in levee protected areas as defined on the MLI. The 20 percent damage estimation is based on FEMA Flood Insurance Administration (FIA) depth-damage curves for a one-story structure with no basement flooded to two feet. Again, this analysis does not intend to make a determination as to specific levees that are prone to failure, but rather demonstrate an overall worst case scenario for those counties if they were all to fail in an event causing an average 20 percent in damages to the development protected by those levees.

Estimate of Potential Loss Due to Levee Failure

County	Value of Development in Levee Protected Areas	Loss Estimates at 20% Damage
Atchison	\$3,892	\$778
Brown	\$5,286	\$1,057
Doniphan	\$221,889	\$49,523
Douglas	\$368,696	\$73,739
Jefferson	\$17,494	\$3,499
Marshall	\$247,615	\$44,378
Regional Total	\$864,872	\$172,974

Economic impacts and human injury or death are the primary concern with dam and levee failure. The future construction of dams and levees within the region and/or the development of additional structures or infrastructure within areas with dams or protected by levees would likely increase the impact of an event. The following items are of additional concern:

- Private levees and dams are a consideration when the risk of failure is analyzed. These levees and dams are normally maintained by their owners, which can often cost a great deal of money.
- The USACE maintains many levees in and around the planning area, however, there are also levees that are not federally maintained, so local jurisdictions or private property owners are responsible for maintaining the structures. As the levees age, the costs to repair and rebuild them will increase.

	Magnitude/Severity
Dam and Levee Failure	2.70

Local Concerns

The following detail specific local concerns as related to dam and levee failure:

- In Atchison County 17 high hazard dams are located in the City of Atchison.
- In Brown County, the City of Horton is home to the Mission Lake Dam, High Hazard Class C structure. The Dam is owned by the City of Horton and is subject to state regulations.
- In Brown County, the cities of Elwood and Wathena are near a levee identified as LDP-0018, owned by the Elwood-Gladden Drainage District. This levee is located along the Missouri River.
- In Douglas County, the City of Lawrence is near the Clinton Lake Dam and the Wakarusa Reservoir Dam. A failure of these structures could potentially result in high monetary losses.
- In Douglas County, the city of Lawrence is protected from the Kansas River by a levee.
- In Jefferson County, the City of Williamstown, the town of Perry, and USD 343-Perry Lecompton Middle/High School would be impacted in the event of a failure of Perry Dam on the Perry Reservoir. Warning times were reported to be two hours for both communities and the school.
- In Marshall County, the city of Blue Rapids identified a USACE-owned levee located along a stretch of Brown Street in the northern portion of the city. It does not appear that this levee protects areas beyond Brown Street. The city of Marysville reported that they own and maintain the levee located on the south and west sides of the city. This levee borders areas along Spring Creek and the Big Blue River. The city of Marysville reported that the levee is inspected annually. The city of Frankfort owns a levee system located along the southern and eastern sides of the city.

Future Development

Future development and population increase would tend to increase the likelihood of the population being impacted by a dam or levee failure event. Atchison, Brown, Jackson, Jefferson and Nemaha Counties are in the top 10 statewide for vulnerability to dam failure, however only Jackson and Jefferson Counties are reporting population growth. It is not known if this growth is

being accommodated by building in potential inundation zones, however, if that is the case the vulnerability to this hazard also increases. Regionally, \$864,872 is currently protected by levees. In addition, regional population totals are estimated to rise from 205,728 persons in 2013 to 240,891 by 2040, with the increase seen in Douglas, Jackson and Jefferson counties. These increases and future vulnerabilities may be offset as many of the flood prone cities have enacted floodplain ordinances limiting development in hazardous areas and/or are members of the NFIP.

Probability of Future Occurrences

The variability of the size and construction of the dams in northeast Kansas makes estimating the probability of dam failure difficult on any scale less than a case-by-case basis. The limited data on previous occurrences indicates that in the last 87 years, there have been 7 recorded dam failure events in all of Kansas, which is less than 1 event in 10 years.

Although both federal and nonfederal levees have been damaged in previous regional flood events such as the floods in of 2007, 2008 and 2011, the damage has not resulted in catastrophic failure and/or damages. Levees in Kansas that have been constructed to protect development and populations from the 1-percent annual chance flood are routinely inspected and maintained. Based on current historical data pertaining to damaging/significant Levee Failure incidents in the State of Kansas, this hazard's CPRI probability is unlikely.

	Probability
Dam and Levee Failure	1.40

Consequence Analysis

When a dam fails, the stored water can be suddenly released and have catastrophic effects on life and property downstream. Homes, bridges, and roads can be demolished in minutes. Emergency plans written for dams include procedures for notification and coordination with law enforcement and other governmental agencies, information on the potential inundation area, plans for warning and evacuation, and procedures for making emergency repairs.

The impact of levee failure during a flooding event can be very similar to a dam failure in that the velocity of the water caused by sudden release as a result of levee breach can result in a flood surge or flood wave that can cause catastrophic damages. If the levee is overtopped as a result of flood waters in excess of the levee design, impacts are similar to flood impacts. The information in the following table provides the Consequence Analysis.

Dam Failure Consequence Analysis

Subject	Ranking	Impacts of Dam and Levee Failure
Health and Safety of Persons in the Area of the Incident	Severe	Localized impact expected to be severe for the inundation area and moderate to minimal for other affected areas.
Responders	Minimal	Impact to responders is expected to be minimal with proper training. Impact could be severe if there is lack of training.
Continuity of Operations	Minimal	Temporary relocation may be necessary.
Property, Facilities, and Infrastructure	Minimal to Severe	Localized impact could be severe in the inundation area of the incident to facilities and infrastructure. The further away from the incident area the damage lessens.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities. Minimal to severe depending on area size and location affected.
Environment	Severe	Impact will be severe for the immediate impacted area. Impact will lessen as distance increases.
Economic Conditions	Minimal to Severe	Impacts to the economy will depend on the scope of the inundation and the time it takes for the water to recede.
Public Confidence Governance	Minimal to Severe	Perception of whether the failure could have been prevented, warning time, and response and recovery time will greatly impact the public's confidence.

3.7.4 DROUGHT

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Drought	2.40	1.80	1.00	4.00	2.17

Description

In general, drought can be defined as a condition of moisture levels significantly below normal for an extended period of time over a large area that adversely affects plants, animal life, and humans. Because these dry conditions develop gradually, and impact regions differently, there is no standard way to determine when a drought begins or ends, or to objectively determine its severity.

Drought can also be defined in terms of meteorology, agricultural, hydrological and socio-economic. The first three definitions apply to ways to measure drought as a physical phenomenon. The last deals with drought in terms of supply and demand, tracking the effects on socioeconomic systems

- **Meteorological Drought:** The degree of dryness as related to an average amount of moisture, and the duration of the dry period. Definitions of meteorological drought must be considered as region specific since the atmospheric conditions that result in deficiencies of precipitation are highly variable.
- **Hydrological Drought:** The effects of periods of precipitation shortfalls on surface or subsurface water supply. The frequency and severity of hydrological drought is often defined on a watershed or river basin scale. Hydrological droughts are usually out of phase with or lag the occurrence of meteorological and agricultural droughts. It takes longer for precipitation deficiencies to show up in components of the hydrological system such as soil moisture, streamflow, and groundwater and reservoir levels.
- **Agricultural Drought:** Links the characteristics of meteorological and/or hydrological drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, reduced groundwater or reservoir levels, and so forth.
- **Socioeconomic Drought:** The lack of available water has a direct effect on the population. In general, this results in the demand for an economic good exceeding the supply as a result of a weather-related shortfall in water supply.

The impacts of drought can be categorized as economic, environmental, or social. Many economic impacts occur in agriculture and related sectors, including increasing food prices globally. In addition to obvious losses in yields in both crop and livestock production, drought is associated with increases in insect infestations, plant disease, and wind erosion. Droughts also bring increased problems with insects and disease to forests and reduce growth. The incidence of wildfires increases substantially during extended droughts, which in turn places both human and wildlife populations at higher levels of risk. Income loss is another indicator used in assessing the impacts of drought because so many sectors are affected.

Although environmental losses are difficult to quantify, increasing public awareness and concern for environmental quality has forced public officials to focus greater attention and resources on these effects. Environmental losses are the result of damages to plant and animal species, wildlife habitat, and air and water quality, wildfires, degradation of landscape quality, loss of biodiversity, and soil erosion. Some of the effects are short-term and conditions quickly return to normal following the end of the drought. Other environmental effects linger for some time or may even become permanent. Wildlife habitat, for example may be degraded through the loss of wetlands, lakes, and vegetation. However, many species will eventually recover from this temporary aberration. The degradation of landscape quality, with increased soil erosion, may lead to a more permanent loss of biological productivity of the landscape.

Periods of drought are normal occurrences in northeast Kansas. Drought in northeast Kansas is caused by severely inadequate amounts of precipitation that adversely affect farming and ranching, surface and ground water supplies, and uses of surface waters for navigation and recreation.

The most widely used tool to measure and report drought conditions is the Palmer Drought Severity Index (PDSI). The PDSI combines temperature, precipitation, evaporation, transpiration, soil runoff and soil recharge data for a given region to produce a single negative number representing conditions there. This index serves as an estimate of soil moisture deficiency, which roughly correlates with a drought's severity, and thus, its impacts.

The U.S. Drought Monitor, an organization run by government and academic partners that maintains a nationwide drought map, uses the PDSI to categorize dry weather into five levels of severity:

U.S. Drought Monitor Severity Rating

Designation	Category	PDSI Rating
Abnormally Dry	D0	-1.0 to -1.9
Moderate Drought	D1	-2.0 to -2.9
Severe Drought	D2	-3.0 to -3.9
Extreme Drought	D3	-4.0 to -4.9
Exceptional Drought	D4	-5.0 to -5.9

The effects range from slow crop and pasture growth to widespread crop failure and water emergencies. Additionally, the Drought Monitor defines droughts as either short-term, if they have lasted less than six months, and long-term for prolonged events.

The State of Kansas Operations Plan (June 30, 2012) utilizes a phased response to drought and identifies specific program actions related to each drought stage. The following provides a brief summary of this phased response approach.

- **Drought Watch** – Impacts include some damage to crops and pastures, high rangeland fire danger and a growing threat of public water supply shortages. The Governor is

notified and the Governor's Drought Response Team assembled. Open outdoor burning bans may be imposed. Public water systems may ask for voluntary water use restrictions.

- **Drought Warning** – Crop and pasture losses are likely with some stock water shortages and very high rangeland fire danger. Public water supply shortages are present and some stream flow targets are not being met. Public water systems may impose mandatory water use restrictions. Urgent Kansas Water Marketing Program surplus water supply contracts can be authorized for municipal and industrial users. The Governor may request emergency haying and grazing authorization for Conservation Reserve Program acres.
- **Drought Emergency** – Widespread major crop and pasture losses are accompanied by stock water shortages and extreme rangeland fire danger. Severe public water supply shortages are widespread with many stream flow targets not met. The Governor may declare an outdoor burning ban. Public water systems may impose additional mandatory water use restrictions. Emergency Kansas Water Marketing Program surplus water supply contracts can be authorized for municipal and industrial users. Emergency water withdrawals from Corps of Engineers reservoirs and state fishing lakes can be authorized. Corps of Engineers emergency water assistance to municipalities is available if needed. The Governor may request a USDA Secretarial disaster designation for drought.

	Warning Time
Drought	1.00

	Duration
Drought	4.00

Hazard Location

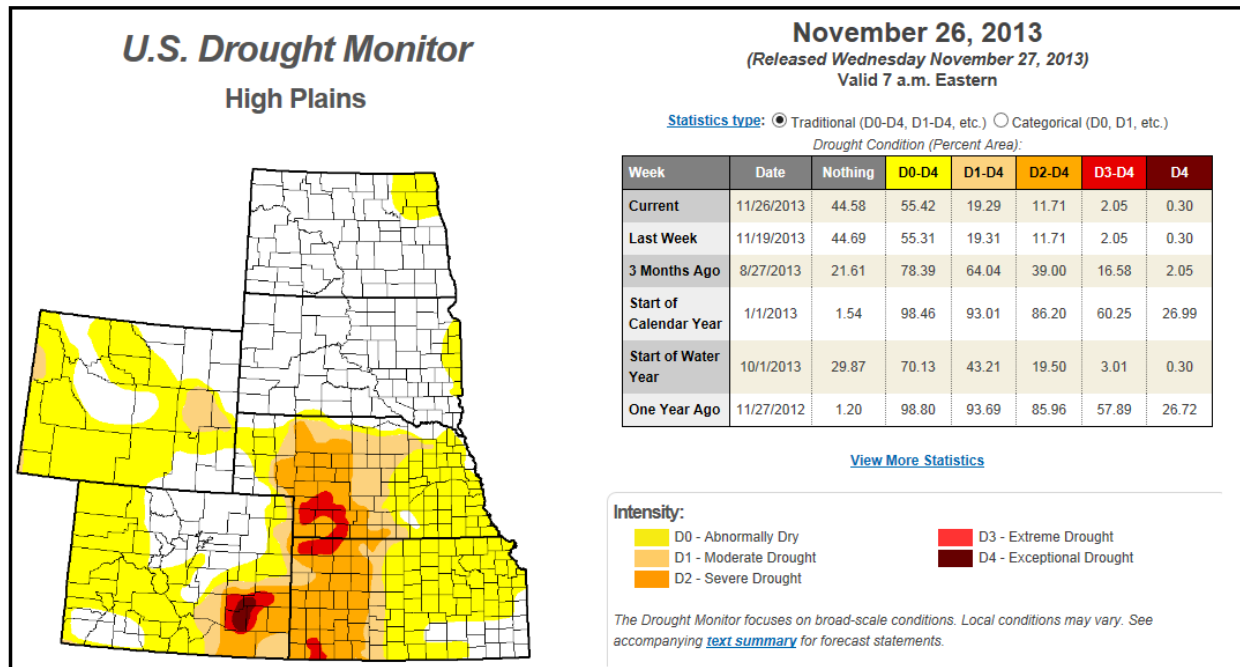
Drought tends to affect broad regions and the entire planning area is subject to drought occurrence at roughly equal probability. The impacts of prolonged drought are most significant in agricultural areas of the region. In addition to impacts on the region's agricultural areas, drought can affect cities by severely limiting public water supplies due to depletion of natural water sources and greatly increased demand.

As of November 22, 2013, the Kansas Water Office (KWO) has indicated the following drought conditions and advisories for the entire planning region.

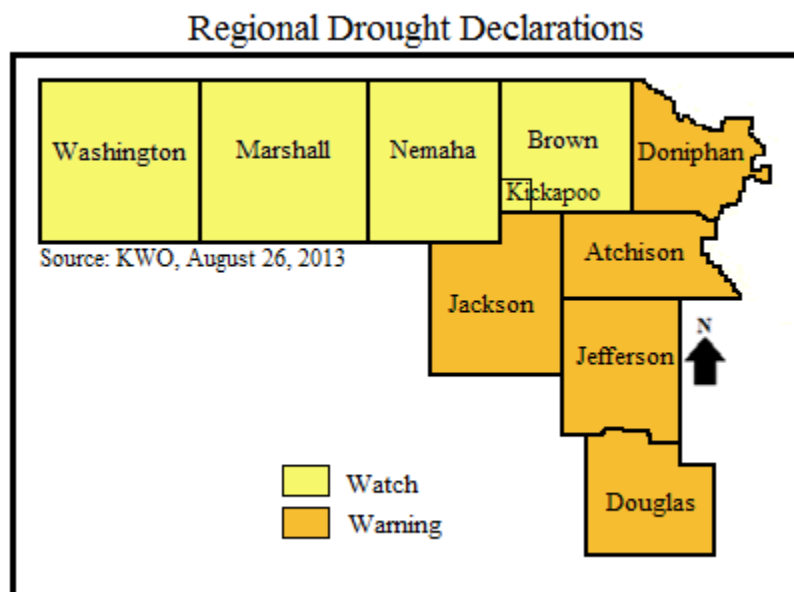
- Executive Order 13-02 remains in effect with all regional counties remaining under Warning or Watch.
- The US Drought Monitor has indicated conditions in Kansas have improved slightly so far in November. The Seasonal Drought Outlook through January 2014 (released October 17) indicates drought conditions to be gone in central and eastern Kansas.

- All 105 Kansas counties have been declared federal disaster areas due to drought in 2013, making producers (if they meet eligibility requirements) eligible for relief programs and assistance through USDA.

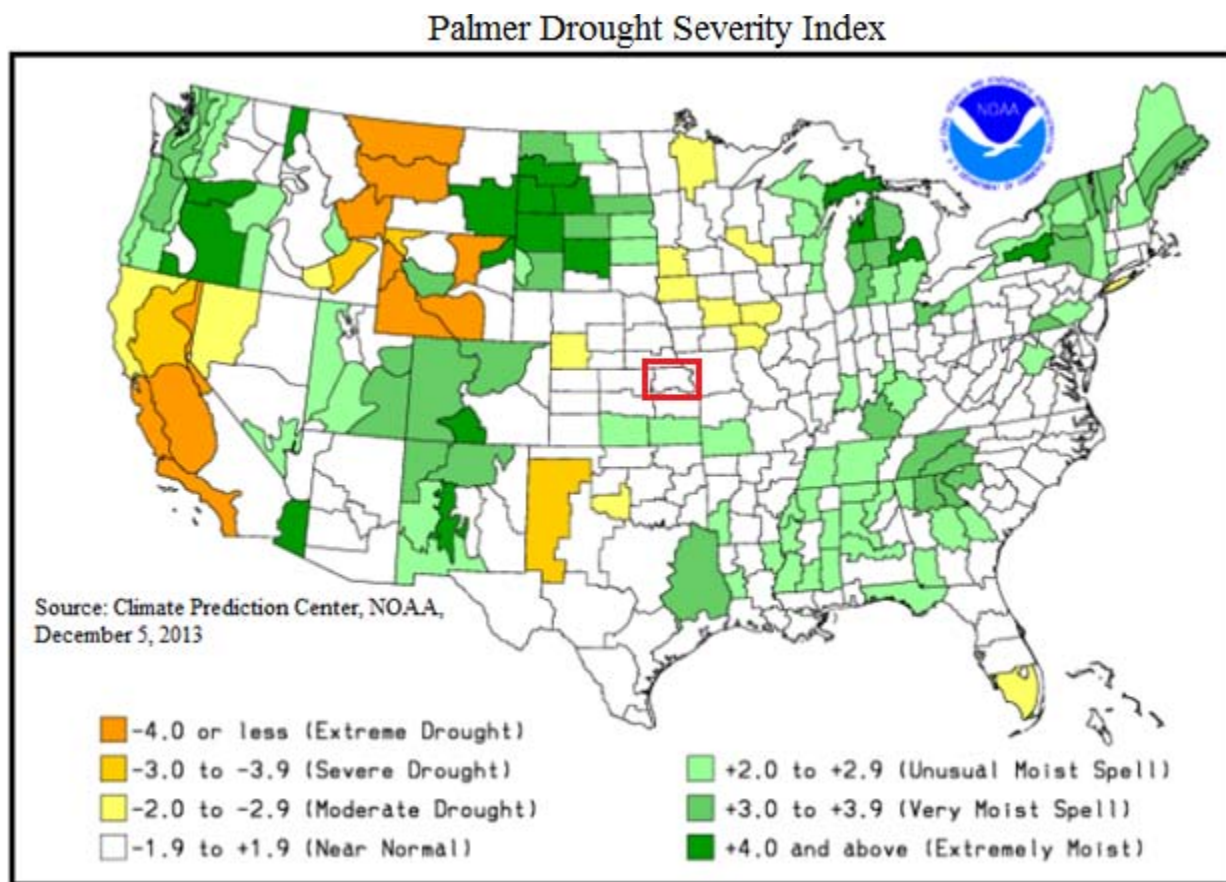
The following U.S. Drought Monitor map from November 26, 2013 shows that all of northeast Kansas is currently in drought conditions, classified as abnormally dry.



The following map August 26, 2013 from the KWO shows that all of northeast Kansas is under a Drought Watch or Warning.



The following map shows PSDI information and designations for the region.



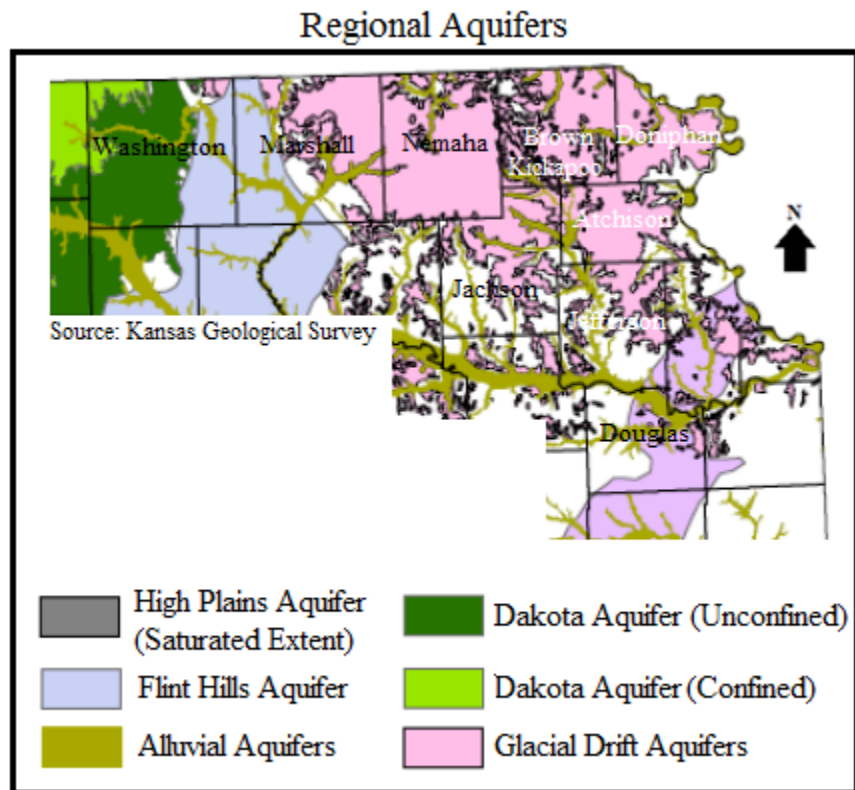
The following table provides the latest drought designations and seasonal outlooks for the region.

Regional Drought Designations and Outlooks

County	KWO Drought Designation	Kansas 2013 Secretarial Designations for Drought	PDSI - U.S. Drought Monitor	NWS Climate Prediction Center Seasonal Outlook through February 28, 2014
Atchison	Warning	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Brown	Watch	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Doniphan	Warning	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Douglas	Warning	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Jackson	Warning	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Jefferson	Warning	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Marshall	Watch	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Nemaha	Watch	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted
Washington	Watch	Primary	D0 (Abnormally Dry)	No Drought Posted/Predicted

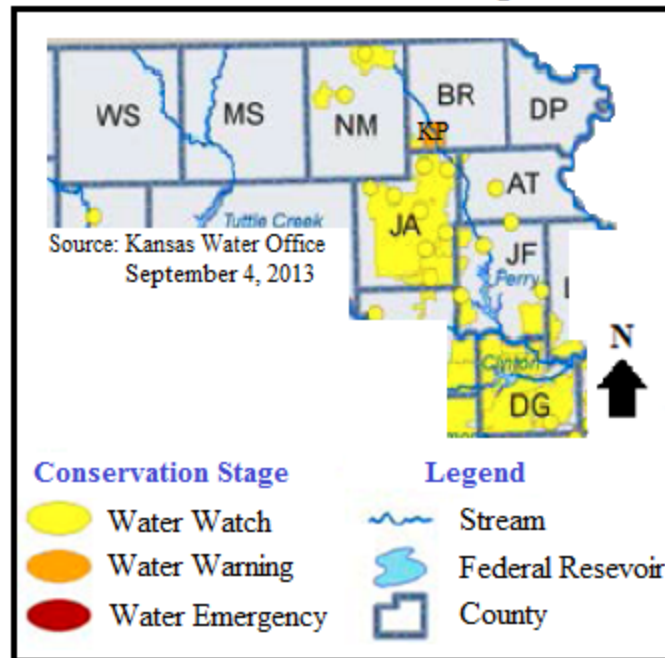
Source: KWO

In northeast Kansas, the primary source of water is surface water, including rivers, federal reservoirs, multipurpose small lakes, and municipal lakes. The following map shows the aquifers in northeast Kansas and adjacent counties.



The following map from the KWO shows public water suppliers water conservation stages as of January 23, 2013.

Public Water Suppliers Water Conservation Stages



The following tables provide information from the KWO Kansas 2013 Drought Update on Known Conservation Stages.

KWO, Kansas 2013 Drought Update, Known Conservation Stages

County	Public Water Supply	2013 Stage	Conservation Stage Designation
Atchison	Effingham	1	Water Watch
Douglas	Baldwin City	1	Water Watch
Douglas	Florence	1	Water Watch
Douglas	Douglas RWD 01	1	Water Watch
Douglas	Douglas RWD 02	1	Water Watch
Douglas	Douglas RWD 03	1	Water Watch
Douglas	Douglas RWD 04	1	Water Watch
Douglas	Douglas RWD 05	1	Water Watch
Douglas	Douglas RWD 06	1	Water Watch
Douglas	Lawrence	1	Water Watch
Jackson	Circleville	1	Water Watch
Jackson	Dennison	1	Water Watch
Jackson	Holton	1	Water Watch
Jackson	Hoyt	1	Water Watch
Jackson	Jackson RWD 01	1	Water Watch
Jackson	Jackson RWD 03	1	Water Watch
Jackson	Mayetta	1	Water Watch

KWO, Kansas 2013 Drought Update, Known Conservation Stages, Continued

County	Public Water Supply	2013 Stage	Conservation Stage Designation
Jackson	Netawaka	1	Water Watch
Jackson	PWWSD No. 18	1	Water Watch
Jackson	Soldier	1	Water Watch
Jackson	Whiting	1	Water Watch
Jefferson	Jefferson RWD 01	1	Water Watch
Jefferson	Jefferson RWD 08	1	Water Watch
Jefferson	Jefferson RWD 09	1	Water Watch
Jefferson	Jefferson RWD 13	1	Water Watch
Jefferson	McLouth	1	Water Watch
Jefferson	Meriden	1	Water Watch
Jefferson	Nortonville	1	Water Watch
Jefferson	Valley Falls	1	Water Watch
Nemaha	Bern	1	Water Watch
Nemaha	Nemaha RWD 01	1	Water Watch
Nemaha	Nemaha RWD 02	1	Water Watch
Nemaha	Seneca	1	Water Watch

Source: KWO Kansas 2013 Drought Update (November 22, 2013)

Drought can severely challenge a public water supplier through depletion of the raw water supply and greatly increased customer water demand. Even if the raw water supply remains adequate, problems due to limited treatment capacity or limited distribution system capacity may be encountered. A 2007 assessment of 800 city or rural water district drinking water systems by the KWO found 132 to be drought vulnerable.

The following table shows regional water suppliers that may be vulnerable to drought conditions. The following are the drought limitation categories associated with this information:

- **Basic Source Limitation** - The supplier's primary raw water source is particularly sensitive to drought as evidenced by depleted streamflow, depleted reservoir inflow and storage, or by declining water levels in wells. Restrictions imposed due to inability to use a well(s) because water quality problems were considered indicative of a basic source limitation.
- **Contractual Limitation** - The supplier's sole water source is purchased from another system that is drought vulnerable and there is a drought-cut-off clause in their water purchase contract. In such situations where there is not a drought cut-off clause, the purchaser is considered drought vulnerable under the same limitation category as the seller.
- **Distribution System Limitation** - The supplier has difficulty or is unable to meet drought-induced customer demand for water because of inadequate finished water storage capacity, inadequate finished water pumping capacity, or inadequate transmission line sizes.

- **Minimum Desirable Streamflow** - The supplier reported imposing restrictions because of minimum desirable streamflow administration. Water rights junior to those granted for maintenance of established minimum desirable flows are subject to such administration.
- **Single Well Source** - The supplier relies upon a single well as its sole source for raw water. Suppliers with one active well and one emergency well were considered drought vulnerable because emergency wells are not a dependable long-term water source. Excessive hours of operation to meet drought-induced customer demand for water will result in the increased likelihood of mechanical breakdown with no alternative water supply source available.
- **Treatment Capacity Limitation** - The supplier has difficulty or is unable to meet drought-induced customer demand for water due to inadequate raw water treatment capacity.
- **Water Right Limitation** - The supplier reported imposing restrictions because the quantity of water they are authorized to divert under their water right(s) was insufficient to meet customer demands.

Regional Drought Vulnerable Public Water Suppliers

County	Public Water Supplier	2007 Limitation Category List* and/or 2012 Conservation Stage**	2007 List	2013 Conservation Stage
Atchison	Effingham	Water Watch		1
Brown	Kickapoo Tribe	Basic Source, Water Warning	X	-
Brown	Willis	Unknown	X	-
Douglas	Baldwin City	Treatment Capacity, Contractual & Water Watch	X	1
Douglas	Douglas RWD 01	Water Watch	-	1
Douglas	Douglas RWD 02	Water Watch	-	1
Douglas	Douglas RWD 03	Water Watch	-	1
Douglas	Douglas RWD 04	Water Watch	-	1
Douglas	Douglas RWD 05	Water Watch	-	1
Douglas	Douglas RWD 06	Water Watch	-	1
Douglas	Lawrence	Water Watch	-	1
Jackson	Hoyt	Water Watch	-	1
Jackson	Jackson RWD 01	Unknown & Water Watch	X	1
Jackson	Soldier	Contractual	X	1
Jefferson	Jefferson RWD 01	Water Watch	-	1
Jefferson	Jefferson RWD 08	Water Watch	-	1
Jefferson	Jefferson RWD 09	Unknown	X	1
Jefferson	Jefferson RWD 13	Water Watch	-	1
Jefferson	McLouth	Water Watch	-	1
Jefferson	Meriden (Jefferson RWD 01 customer)	Water Watch	-	1
Jefferson	Nortonville	Water Watch	-	1
Jefferson	Prairie View	Unknown	X	-
Jefferson	Valley Falls	Basic Source & Water Watch	X	1
Marshall	Frankfort	Basic Source	X	-

Regional Drought Vulnerable Public Water Suppliers, Continued

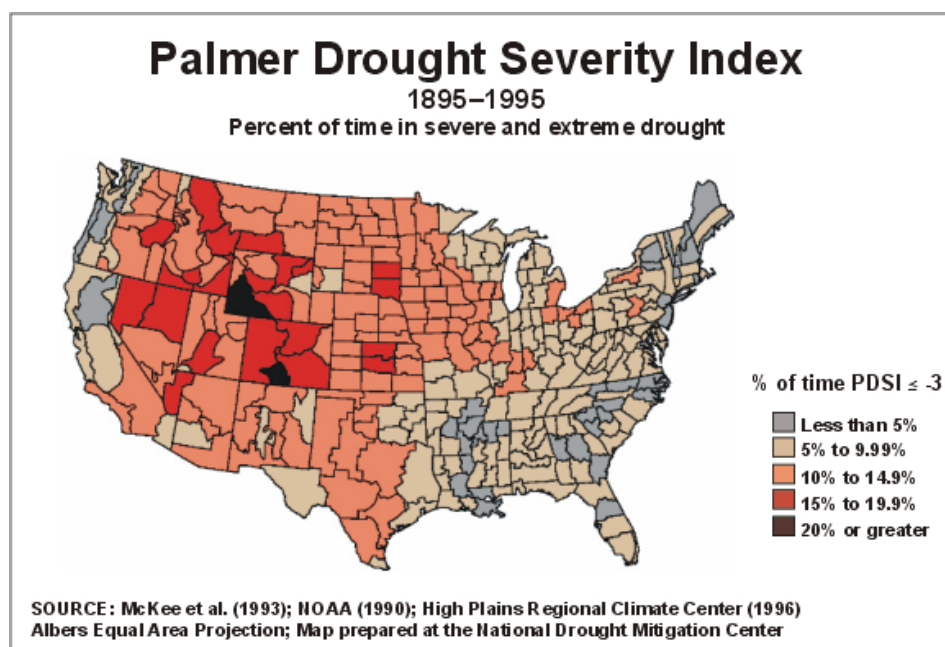
Marshall	Frankfort	Basic Source	X	-
Marshall	Marysville	Distribution System	X	-
Nemaha	Bern	Water Watch		1
Nemaha	Corning	Distribution System	X	
Nemaha	Nemaha RWD 01	Basic Source & Water Watch	X	1
Nemaha	Nemaha RWD 02	Contractual, Water Watch	X	1
Nemaha	Nemaha RWD 03	Distribution System	X	-
Nemaha	Seneca	Basic Source, Water Watch	X	1
Washington	Hanover	Distribution System	X	-
Washington	Washington RWD 02	Unknown	X	-

Source: KWO

Areas that appear to be the most vulnerable to drought are the focus of the Governor's Drought Response Team for planning, management and mitigation activities. While drought does not usually cause damage to buildings and critical facilities, work and living locations do affect people. However, as regional counties experience decreases and agricultural activities it could potentially create lower demands on public water suppliers.

Previous Occurrences and Extent

As is indicated in the following PDSI map, droughts are common throughout the northeast Kansas planning region. For the period of 1895 to 1995, northeast Kansas has had a PDSI rating of less than -3 (Severe Drought) 10% to 14.95% of the time.



The following are notable instances of drought in the planning region:

2013: Executive Order 13-02 remains in effect with all regional counties remaining under Warning or Watch

2012: The Governor signed three executive orders this year for drought with all northeast Kansas counties being declared in emergency drought status with the last order. The Governor approved the June 2012 Operations Plan for the Governor's Drought Response Team which updated activities and responses. The Kansas Water Office increased the frequency of the Drought/Climate report to weekly for much of the year due to intensity of conditions.

2012: USDA agricultural disaster due to drought was declared for all 105 counties in Kansas based on crop losses through a series of six designations in July and August 2012. This makes producers eligible for certain emergency funding. The crop losses were estimated at \$1.5 billion for the State. At least 197 communities and rural water districts in Kansas had voluntary or mandatory restrictions on water use as drought and high demand depleted public water supplies and challenged treatment and distribution. Mandatory restrictions were placed on water right holders junior to minimum desirable streamflow in as many as 17 locations affecting 540 water appropriations. Livestock ponds, feed and pasture were insufficient to meet needs. Contingencies for feed and water were made available to producers through hay networks, motor carrier authorities and emergency water from state fishing lakes and federal reservoirs. Despite these efforts, livestock numbers in June marked the lowest cattle inventory since 1973. The risk of wildfires was high throughout the State with as many as 78 counties issuing burn bans over some period of 2012. At least 41,000 acres burned. Dry conditions in the fall of 2012 resulted in dust storms visible by satellite.

2011: Precipitation for 2011 was -8.92 inches below normal for the year statewide, with climatic divisions varying from -3.51 to -14.36 inches below normal. The Governor signed six executive orders between April and November for various drought stages over the year, increasing the number of counties to 100 in the November order including 40 counties in emergency stage. The year began with extraordinarily low winter moisture and the very little precipitation continued throughout the year. Throughout the year the severity and area affected varied. Conditions improved slightly through the end of the year. USDA agricultural disaster due to drought was declared for 70 counties in Kansas based on crop losses. Kansas agricultural losses were estimated by the Kansas Department of Agriculture at over \$1.77 billion due to drought. Statewide, soil moisture was around 50 percent adequate as 2011 began but never exceeded 55 percent for topsoil moisture until November. Significant portions of southern Kansas had below normal monthly-average stream flows begin to occur in April, increasing in area and or severity each month until peaking in July.

October 2006: Kansas also experienced drought conditions in 2006. In October 2006, the U.S. Department of Agriculture designated 57 Kansas counties primary natural disaster areas because of losses caused by the combined effects of various disasters that occurred during the past year, including a late spring freeze, drought, high winds, and extreme

temperatures. Provisional stream flow data from the U.S. Geological Survey indicated that several long-term low stream flow records were broken in July.

May 4, 2002–October 1, 2003: Low water in the Missouri River interfered with river barge traffic and necessitated the release of water from Milford, Tuttle Creek, and Perry Lakes. This drought caused many counties to impose water use restrictions and burn bans. Grazing was prohibited on government lands to protect the drought-stressed grass, affecting thousands of cattle. Emergency haying and grazing was allowed by the USDA on Conservation Reserve Program lands. All 105 counties were eligible for federal assistance through the USDA. The drought had a \$1.1 billion impact on crop production.

1988–1992: The severity of this drought varied across the state. It was most severe in the southwestern, central, and northeastern parts of the state but minimal in the northwestern and southeastern parts. Surface-water supplies were sufficient to meet demands through the end of water year 1988, but rainfall during this period was less than 50% of the long-term average, so quantities were insufficient to maintain soil moisture or contribute to ground-water supplies. Estimated drought-related losses to 1988 crops were \$1 billion. Water levels in shallow aquifers declined rapidly and led to the abandonment of many domestic water wells. The drought of 1988 continued into the 1990s, but at a reduced level.

1974–1982: This appeared to be a series of relatively short droughts at some stream gauging stations, but longer droughts at others (similar to the 1962–1972 droughts). The recurrence interval of this drought was greater than 25 years in the north-central and southeastern parts but was between 10 and 25 years across the remaining eastern two-thirds of the state. The severity of this drought could not be determined for the western third of the state.

1962–1972: The duration of this regional drought varied considerably across Kansas. Many of the streamflow records indicated alternating less than average and greater-than-average flows, while others indicated less than average flows for the entire period. The recurrence interval was generally greater than 25 years but was between 10 and 25 years in parts of the northwestern, northeastern, southern, and southeastern areas of the state.

1952–1957: This regional drought had a recurrence interval greater than 25 years statewide. One exception was in the Big Blue River Basin, where the recurrence interval was 10-25 years. Because of its severity and areal extent, this drought is used as the base period for studies of reservoir yields in Kansas. In 1954, 41 counties were declared eligible for aid under the Emergency Feed program. During this period, 175 cities reported water shortages, most of which restricted water use.

1929–1942: This drought, which includes the Dust Bowl of the 1930s, was regional in scale and affected many of the Midwestern and western states. Nevertheless, it ranks among the most significant national events of the twentieth century. The recurrence interval was greater than 25 years throughout Kansas. Drought, wind, and poor agricultural practices combined to result in enormous soil erosion. Agricultural losses

were extreme, and many farms were abandoned. Effects of the drought sent economic and social ripples throughout the country, contributing to the economic, physical, and emotional hardships of the Great Depression.

Hazard Vulnerability and Impact

Droughts have historically had the greatest impact on the largest number of people of all weather phenomenon, according to the National Climatic Data Center (NCDC). Recent droughts, such as in 1988 and 2000, have had serious economic impacts. Between 1980 and today, 16 identified drought events within the United States have cost a combined \$210 billion. In June 2012, 55.79% of the land in the lower 48 U.S. states, including the northeast region of Kansas, were in a drought. This represents the highest figure in the 12-year history of the U.S. Drought Monitor.

The following statistical analysis uses two significant factors in determining the drought vulnerability for northeast Kansas. One is the USDA Risk Management Agency's annualized insured crop losses as a result of drought conditions during the ten-year period of 2002-2011, with the ratio being all sums paid as indemnities under any eligible crop insurance policy to that portion of the premium designated for anticipated losses and a reasonable reserve, other than that portion of the premium designated for operating and administrative expenses, and the number of drought vulnerable public water suppliers in Kansas from the information provided above. It was determined that all counties in northeast Kansas have either insured crop loss and/or drought vulnerable public water suppliers thus all counties are rated at least at a medium vulnerability rating since agriculture is a major economic factor in most northeast Kansas counties and public water supply is an essential service to all east-central Kansans.

The rating values of the two factors were divided by 50 percent to determine the total drought vulnerability rating. The total drought vulnerability rating put all counties in either the medium, medium-high or high category. The following table provides the factors considered and the rating values assigned.

Ranges for Drought Vulnerability Factor Ratings

Factors Considered	Low (1)	Low-Medium (2)	Medium (3)	Medium-High (4)	High (5)
Crop Loss Ratio Rating	.599 to 2.817	2.818 to 4.595	4.596 to 6.373	6.374 to 8.151	8.152 to 14
Drought Vulnerable Public Water Supplies Ratio Rating	1	2	3-6	7-9	10-14
Total Drought Vulnerability Rating	n/a	n/a	1	2 to 3	4 to 5

The following table shows the variance of drought conditions by county in northeast Kansas.

Regional Drought Vulnerability Rating

County	Crop Exposure (2007 Census of Agriculture)	Annualized Crop Insurance Paid/Drought Damage	Annual Crop Claims Ratio	Crop Loss Ratio Rating	Number of Drought Vulnerable Public Water Suppliers	Drought Vulnerable Public Water Suppliers Rating	Total Rating (Crops & Water Suppliers)	Vulnerability Rating
Atchison	\$42,536,000	\$561,867	1.321%	1	1	1	2	Medium
Brown	\$86,532,000	\$1,458,030	1.685%	1	2	2	3	Medium-High
Doniphan	\$67,800,000	\$406,337	0.599%	1	0	0	1	Medium
Douglas	\$27,973,000	\$572,648	2.047%	1	8	4	5	Medium-High
Jackson	\$21,169,000	\$484,784	2.290%	1	3	3	4	Medium-High
Jefferson	\$33,429,000	\$499,540	1.494%	1	9	4	5	Medium-High
Marshall	\$81,815,000	\$2,667,621	3.261%	2	2	2	4	Medium-High
Nemaha	\$67,091,000	\$2,816,877	4.199%	2	6	4	6	Medium-High
Washington	\$65,762,000	\$1,853,191	2.818%	2	2	2	4	Medium-High
Regional Total	\$494,107,000	\$11,320,894.40	-	-	33	-	-	-

Source: USDA Risk Management Agency

A drought period can last for months, years, or even decades. It is rarely a direct cause of death, though the associated heat, dust, and stress can all contribute to increased mortality. Also, as counties experience decreases in population it will create lower demands on public water suppliers.

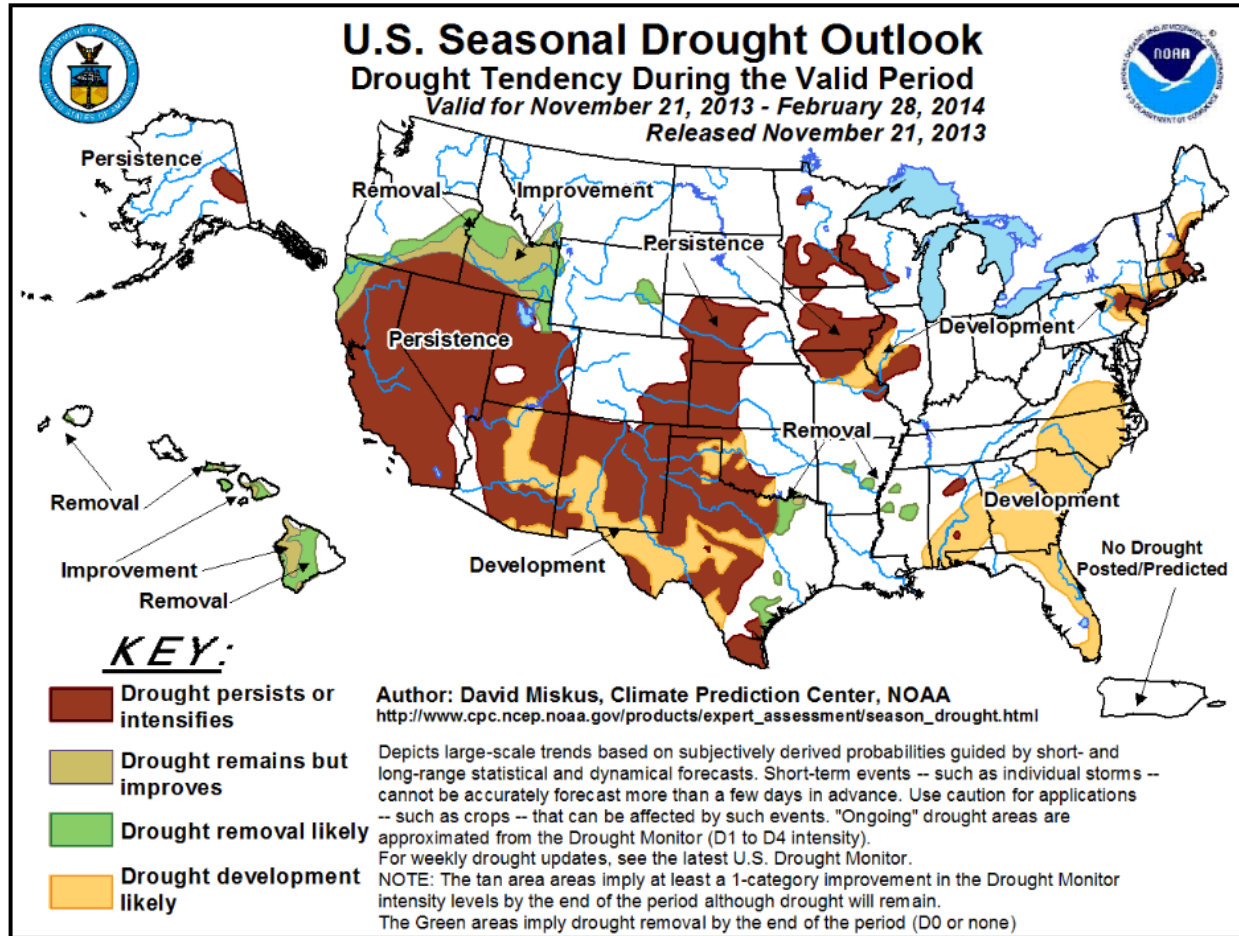
	Magnitude/Severity
Drought	1.80

Future Development

Future development of infrastructure and agricultural resources and/or increases in population would tend to increase the risk of this hazard. Increases in this type of development could potentially result in impacts on the growth and development of crops and livestock, on utility delivery due to either damage or increased demand, and on an individual basis due to foundation damages to homes.

Probability of Future Occurrences

Although drought is not predictable, the National Oceanic and Atmospheric Administration (NOAA) long-range outlooks indicate no drought posted or predicted.



In recent years, drought has affected certain regional counties on a reoccurring basis. With the possibility of climate change, this hazard may affect more areas of the region more often. Based on historical Kansas Drought Stage Declarations, (26 declarations in 11 years), and the Drought Impact Reporter reporting 363 drought impacts in Kansas between January 2002 and September 2012, northeast Kansas can expect a drought occurrence at a minimum of every 3 years.

	Probability
Drought	2.40

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Drought Consequence Analysis

Subject	Ranking	Impacts of Drought
Health and Safety of Persons in the Area of the Incident	Minimal - Moderate	Drought impact tends to be agricultural however, because of the lack of precipitation water supply disruptions can occur which can affect people. Impact is expected to be minimal.
Responders	Minimal	Impact to responders is expected to be minimal.
Continuity of Operations	Minimal	Minimal expectation for utilization of the COOP.
Property, Facilities, and Infrastructure	Minimal to Severe	Impact to property, facilities, and infrastructure could be minimal to severe, depending on the length and intensity of the drought. Structural integrity of buildings, and buckling of roads could occur.
Delivery of Services	Minimal	Impact on the delivery of services should be non-existent to minimal, unless transportation nodes are affected.
Environment	Minimal to Severe	The impact to the environment could be severe. Drought can severely affect farming, ranching, wildlife and plants due to the lack of precipitation.
Economic Conditions	Minimal to Moderate	Impacts to the economy will be dependent on how extreme the drought is and how long it lasts. Communities that depend on water recreation could be tested, as well as agricultural. Minimal to Moderate.
Public Confidence in Jurisdiction's Governance	Minimal	Confidence could be at issue during periods of extreme drought if planning is not in place to address intake needs and loss of crops.

3.7.5 EARTHQUAKE

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Earthquake	1.00	1.10	4.00	1.00	1.48

Description

An earthquake is the movement, shaking or trembling of the ground produced by sudden displacement of rock in the Earth's crust. Earthquakes may result from the sudden collapse of a void within the earth, landslides, or volcanic activity. However, most earthquakes are caused by the release of stresses accumulated as a result of the rupture of rocks along opposing fault planes in the Earth's outer crust. These fault planes are typically found along borders of the Earth's tectonic plates, which generally follow the outlines of the continents.

The areas of greatest tectonic instability occur at the perimeters of the slowly moving plates, as these locations are subjected to the greatest strains from plates traveling in opposite directions and at different speeds. Deformation along plate boundaries causes strain in the rock and the consequent buildup of stored energy. When the built-up stress exceeds the rocks' strength, a rupture occurs. The rock on both sides of the fracture is snapped, releasing the stored energy and producing seismic waves, generating an earthquake.

Concerns about induced seismicity, or earthquake activity related to hydraulic fracturing or fracking, have been raised in some areas. Fracking is a method of enhancing oil and gas recovery from wells by injecting water, sand, and chemicals into rock formations under very high pressure to fracture the rock and release trapped hydrocarbons. According to the Kansas Geological Survey, there is no evidence that hydraulic fracturing itself triggers earthquakes (Kansas Geological Survey, Public Information Circular 32).

Earthquakes can affect large areas, cause extensive damage to property, result in loss of life and injury to people within the area of the quake, and disrupt or destroy the areas infrastructure.

	Warning Time
Earthquake	4.00

	Duration
Earthquake	1.00

Hazard Location

Overall, northeast Kansas is in an area of relatively low seismic activity. Based on available data, the earthquake hazard is considered roughly the same across the northeast Kansas planning area.

The closest series of major faults is called the Humboldt Fault Zone. Also known as the Nemaha Uplift, the Humboldt Fault Zone runs through Marshall, Nemaha and Washington counties.

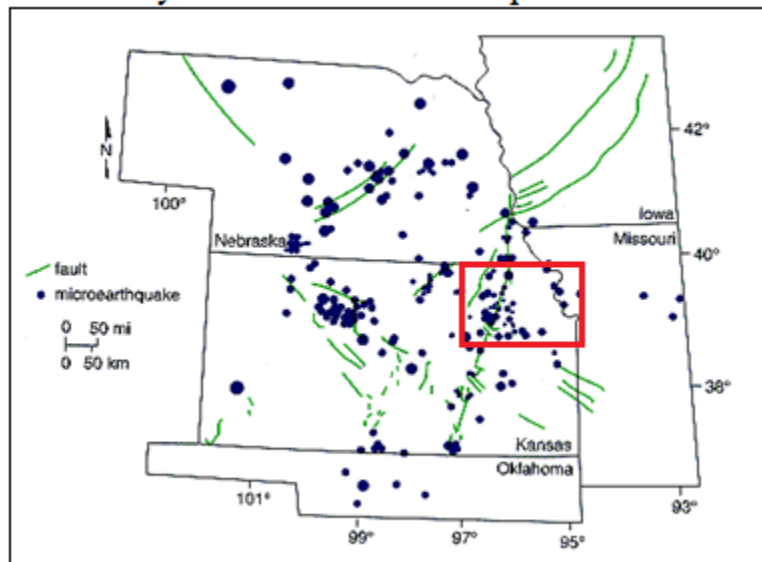
Humboldt Fault Zone



Source: Kansas Geological Survey, Earthquakes in Kansas

The following figure from the Kansas Geological Survey shows the locations of fault systems and micro earthquakes across the Midwest.

Fault System and Micro-Earthquake Locations



Source: Kansas Geological Survey

Previous Occurrences and Extent

Northeast Kansas is in an area of relatively low seismic activity. According to a 2006 FEMA report, Kansas ranks 44th among the states in the amount of damage caused by earthquakes in an average year and 43rd in annualized earthquake loss per year. The following are regional occurrences:

March 23, 2007: A 3.1 magnitude earthquake struck 15 miles west southwest of Atchison. It was felt at Atchison and Norton.

March 18, 1927: An earthquake near White Cloud, in the extreme northeastern portion of the state, rocked houses such that people rushed out of them.

According to the United States Geological Survey (USGS) Earthquake Hazards Program, from 1974 to 2003 Kansas has had four earthquakes of a 3.5 or greater magnitude. This represents approximately 0.02% out of 21,080 earthquakes recorded throughout the United States during the same period.

Hazard Vulnerability and Impact

The effect of an earthquake on the Earth's surface is called the intensity. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally total destruction. The Modified Mercalli Intensity Scale is currently used in the United States. It was developed in 1931 by the American seismologists Harry Wood and Frank Neumann. This scale, composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, is designated by Roman numerals. It does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects.

Modified Mercalli Intensity Scale

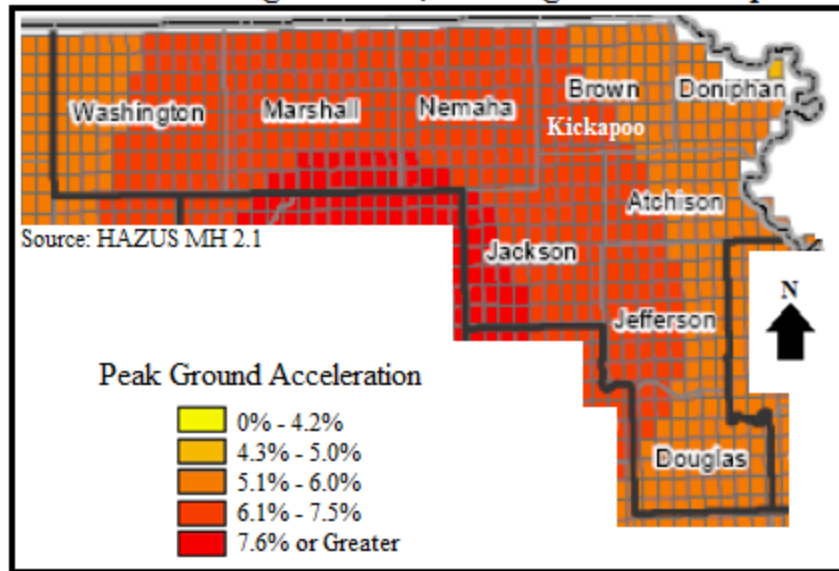
Mercalli Rating	General Effects
I. Instrumental	Generally not felt by people unless in favorable conditions.
II. Weak	Felt only by a couple people that are sensitive, especially on the upper floors of buildings. Delicately suspended objects (including chandeliers) may swing slightly.
III. Slight	Felt quite noticeably by people indoors, especially on the upper floors of buildings. Many do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibration similar to the passing of a truck. Duration can be estimated. Indoor objects (including chandeliers) may shake.
IV. Moderate	Felt indoors by many to all people, and outdoors by few people. Some awakened. Dishes, windows, and doors disturbed, and walls make cracking sounds. Chandeliers and indoor objects shake noticeably. The sensation is more like a heavy truck striking building. Standing automobiles rock noticeably. Dishes and windows rattle alarmingly. Damage none.

Modified Mercalli Intensity Scale Continued

Mercalli Rating	General Effects
V. Rather Strong	Felt inside by most or all, and outside. Dishes and windows may break and bells will ring. Vibrations are more like a large train passing close to a house. Possible slight damage to buildings. Liquids may spill out of glasses or open containers. None to a few people are frightened and run outdoors.
VI. Strong	Felt by everyone, outside or inside; many frightened and run outdoors, walk unsteadily. Windows, dishes, glassware broken; books fall off shelves; some heavy furniture moved or overturned; a few instances of fallen plaster. Damage slight to moderate to poorly designed buildings, all others receive none to slight damage.
VII. Very Strong	Difficult to stand. Furniture broken. Damage light in building of good design and construction; slight to moderate in ordinarily built structures; considerable damage in poorly built or badly designed structures; some chimneys broken or heavily damaged. Noticed by people driving automobiles.
VIII. Destructive	Damage slight in structures of good design, considerable in normal buildings with a possible partial collapse. Damage great in poorly built structures. Brick buildings easily receive moderate to extremely heavy damage. Possible fall of chimneys, factory stacks, columns, monuments, walls, etc. Heavy furniture moved.
IX. Violent	General panic. Damage slight to moderate (possibly heavy) in well-designed structures. Well-designed structures thrown out of plumb. Damage moderate to great in substantial buildings, with a possible partial collapse. Some buildings may be shifted off foundations. Walls can fall down or collapse.
X. Intense	Many well-built structures destroyed, collapsed, or moderately to severely damaged. Most other structures destroyed, possibly shifted off foundation. Large landslides.
XI. Extreme	Few, if any structures remain standing. Numerous landslides, cracks and deformation of the ground.
XII. Catastrophic	Total destruction – everything is destroyed. Lines of sight and level distorted. Objects thrown into the air. The ground moves in waves or ripples. Large amounts of rock move position. Landscape altered, or leveled by several meters. Even the routes of rivers can be changed.

The following map demonstrates the ground shaking potential of a worst-case scenario 2,500-year 6.7 Magnitude earthquake. It is important to note that ground shaking potential is not only related to proximity to the fault, but also the geology involved. For example areas with high sand content are subject to higher shaking than areas with high rock content.

Ground Shaking Potential, 6.7 Magnitude Earthquake



The following table provides estimated building losses and displaced households for all counties in northeast Kansas as a result of a 2,500 year probabilistic 6.7 Magnitude earthquake. It should be noted that these losses are for an absolute worst-case scenario event.

Estimated Building Losses and Displaced Households due to Magnitude 6.7 Earthquake

County	Total Earthquake Losses	Displaced Households
Atchison	\$15,357,000	5
Brown	\$8,876,000	3
Doniphan	\$5,750,000	2
Douglas	\$84,716,000	86
Jackson	\$11,332,000	3
Jefferson	\$13,234,000	3
Marshall	\$11,118,000	3
Nemaha	\$9,897,000	3
Washington	\$4,754,000	1
Regional Total	\$165,034,000	<110

Source: HAZUS MH 2.1

Based on this information, Douglas County is in the top 10 Kansas counties for potential building loss and potential number of displaced households due to a magnitude 6.7 earthquake. Although the probability of a significant damaging earthquake is unlikely, the presence of the Humboldt fault and historical occurrences along this fault indicate that the potential does exist.

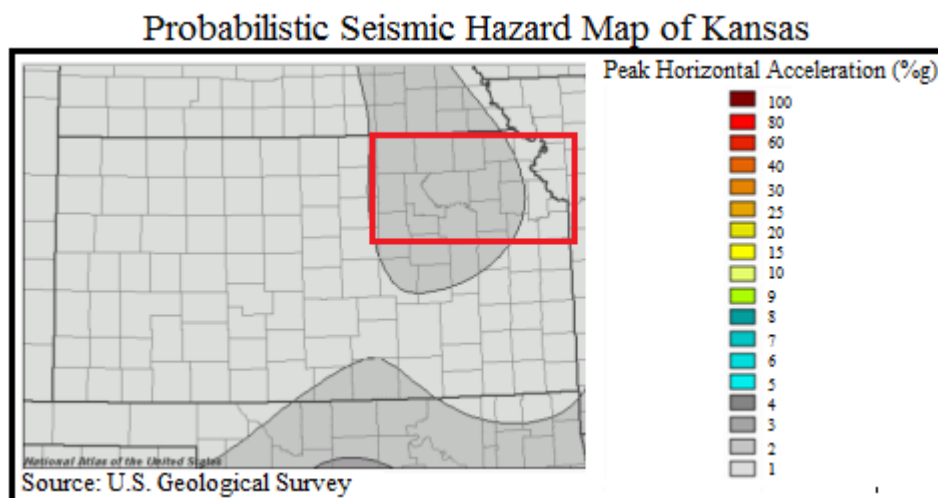
	Magnitude/Severity
Earthquake	1.10

Future Development

Future development and population increase would tend to increase the likelihood of the population being impacted by an earthquake. In addition, demographic movement to major population centers with high density development, such as occurring in the Lawrence area, Douglas County, would tend to increase the likelihood of the population being impacted by an earthquake. Areas with major dams or levee systems may have additional vulnerabilities.

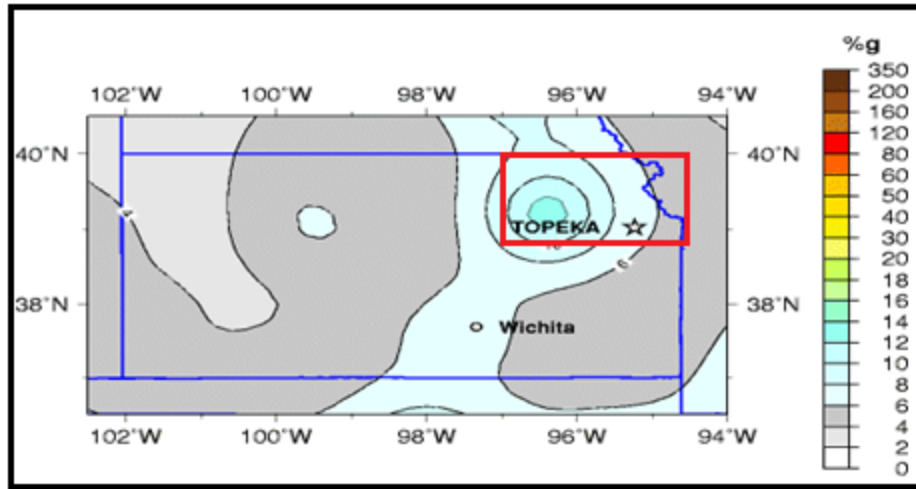
Probability of Future Hazard Events

The following is a probabilistic seismic hazard map of Kansas from the USGS that depicts the probability that ground motion will reach a certain level during an earthquake. The data shows peak horizontal ground acceleration (the fastest measured change in speed for a particle at ground level that is moving horizontally because of an earthquake) and shows that the shaking level that has a 10 percent chance of being exceeded over a period of 50 years.



The following figure presents a worst-case scenario, depicting the shaking level that has a 2 percent chance of being exceeded over a period of 50 years. Typically, significant earthquake damage occurs when accelerations are greater than 30% of gravity.

Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years



Source: National Seismic Hazard Mapping Project

Based on available data, the probability of an earthquake occurring within the northeast Kansas region is unlikely.

	Probability
Earthquake	1.00

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Earthquake Consequence Analysis

Subject	Ranking	Impacts of Earthquake
Health and Safety of Persons in the Area of the Incident	Minimal	Impact in the incident area expected to be minimal in the State of Kansas.
Responders	Minimal	With proper preparedness and protection, impact is expected to be minimal.
Continuity of Operations	Minimal	COOP is not expected to be activated.
Property, Facilities, and Infrastructure	Minimal	Impact to property, facilities, and infrastructure could be minimal.
Delivery of Services	Minimal	No expectation of impact on services.
Environment	Minimal	No expectation of environmental impact.
Economic Conditions	Minimal	No expected impacted.
Public Confidence in Governance	Minimal	No change in confidence

3.7.6 EXPANSIVE SOILS

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Expansive Soils	1.50	1.20	1.00	4.00	1.59

Description

A relatively widespread geologic hazard for northeast Kansas is the presence of soils that expand and shrink in relation to their water content. Expansive soils can cause physical damage to building foundations, roadways, and other components of the infrastructure when clay soils swell and shrink as a result of changes in moisture content. For northeast Kansas, the vulnerability to this hazard most frequently is associated with soils shrinking during periods of drought.

Highways, airport runways, streets, walkways and parking lots with layers of concrete and asphalt throughout northeast Kansas are damaged every year by the effects of expansive soils. The frequency of damage from expansive soils can be associated with the cycles of drought and heavy rainfall, which reflect changes in moisture content. Building settlements associated with drought have been noted in northeast Kansas for many years, particularly in buildings located on high ground, further from the water table.

	Warning Time
Expansive Soils	1.50

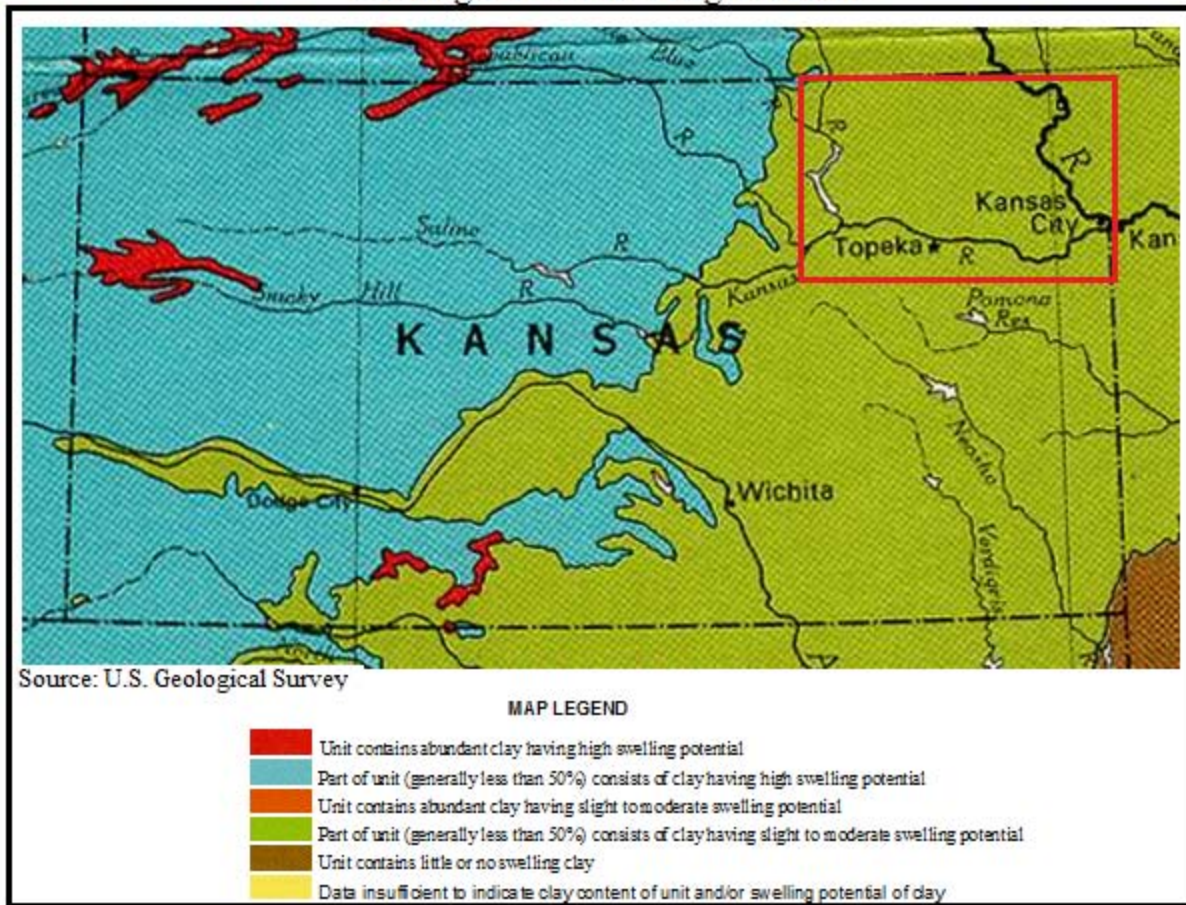
	Duration
Expansive Soils	4.00

Hazard Location

Northeast Kansas possesses a wide array of soils with a range of permeability from moderate to low. Generally, the permeability of the soils is related to the clay content. Clay soils tend to shrink when dry and swell when wet which has large implications on underground utility infrastructure and home foundations.

The map shows the swelling potential of soils in northeast Kansas. All of northeast Kansas is located in an area where part of the soil unit consists of clay having slight to moderate swelling potential.

Swelling Potential of Regional Soils



Previous Occurrences and Extent

There are no expansive soil events on record in northeast Kansas to date.

Hazard Vulnerability and Impact

Expansive soils are so extensive within parts of the United States that alteration of the highway routes to avoid expansive soils is virtually impossible. The Midwest is particularly problematic for construction because of the varied mixture of clay soils. Each year in the United States, expansive soils cause billions of dollars in damage to buildings, roads, pipelines, and other structures. This is more damage than that typically caused by floods, hurricanes, tornados, and earthquakes combined. It is estimated that approximately 10 percent of the homes built on expansive soils experience significant damage. There is limited available data on this hazard and no reported occurrences.

	Magnitude/Severity
Expansive Soils	1.10

Future Development

Future development and population increase would tend to increase the likelihood of the population being impacted by expansive soil. Development in this region is increasing as the population base increases, however, damage from expansive soil to new construction is often mitigated with modern construction practices. Soil engineers and engineering geologists test soils for swell potential when designing a building's foundation. Simple observation often can reveal the presence of expansive soils and can make recommendations for septic systems, grading, earth support, drainage, foundation design, concrete slab on grade construction and site remediation.

Probability of Future Hazard Events

Based on the limited distribution of soil units consisting of clay having high swelling potential, and the lack of major historical events, the probability of future hazards events is unlikely.

	Probability
Expansive Soils	1.50

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Expansive Soils Consequence Analysis

Subject	Ranking	Impacts of Expansive Soils
Health and Safety of Persons in the Area of the Incident	Minimal	Minimal impact.
Responders	Minimal	Minimal impact.
Continuity of Operations	Minimal	Minimal expectation for utilization of COOP unless structures have extensive damage.
Property, Facilities, and Infrastructure	Minimal to Moderate	Localized impact could be moderate, including structural integrity to be lost, and roadways, railways to buckle.
Delivery of Services	Minimal	Delivery of services could be impacted if infrastructure is impacted.
Environment	Moderate	Expansive soils could cause moderate damage to dams, levees, watersheds.
Economic Conditions	Minimal to Moderate	Economic impacts include rebuilding of the properties and infrastructure. Drought and extreme rain events could increase impact.
Public Confidence in Governance	Minimal	Confidence will be dependent on development trends and mitigation efforts at reducing the effect of expansive soils on new construction.

3.7.7 EXTREME TEMPERATURE

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Extreme Temperature	3.05	1.90	1.10	3.10	2.42

Description

Extreme temperature events, both hot and cold, can have severe impacts on human health and mortality, natural ecosystems, agriculture, and other economic sectors.

Extreme Temperature Definitions

Term	Definition
Extreme Heat	Extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Ambient air temperature is one component of heat conditions, with relative humidity being the other. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when an area of high atmospheric pressure traps moisture laden air near the ground.
Extreme Cold	Although no specific definition exists for extreme cold, an extreme cold event: can generally be defined as temperatures at or below freezing for an extended period of time. Extreme cold events are usually part of Winter Storm events but can occur during anytime of the year and can have devastating effects on agricultural production.

	Warning Time
Extreme Temperature	1.10

	Duration
Extreme Temperature	3.10

Hazard Location

The entire planning area is subject to extreme heat events and all participating jurisdictions can be affected. Regional climate data is fully discussed in Section 2.5.

Previous Occurrences and Extent

Since 1980, there have been a number of major extreme temperature events that have caused death and damage in Kansas. The following are notable heat related events for northeast Kansas.

Summer, 2012: A strong ridge of high pressure settled over the central portions of the U.S. beginning in June and became the dominant weather pattern for much of the Summer of 2012. This weather pattern finally broke down after the first week of August and temperatures became more seasonable. The hottest temperatures occurred on August

2nd and 4th at 107° Fahrenheit (°F). There were 6 days where the maximum temperature reached 100°F or higher and this occurred during the first week of the month. There were 20 days where the maximum temperatures reached 90°F degrees or above. Heat advisories and warnings were issued for portions of the area for the early portion of August.

Spring 2012: After experiencing the 5th warmest winter on record, with a three month average temperature of 38.4°F degrees from December 1st to February 29th, Wichita went on to witness the warmest spring in the city's 124-year climate history. Wichita's average temperature from March 1st to May 31st, which is considered meteorological spring, was 64.4°F degrees. This torched the previous record of 59.9°F degrees, recorded in 2006, by 4.5 degrees. The 64.4°F degree average was 8.2°F degrees above the 56.2°F degree normal for spring.

February 2011: A extremely cold arctic air mass settled over the region in the aftermath of the snowstorm of February 8th and 9th. As this area of arctic high pressure settled over the eastern half of Kansas and eastern Oklahoma, the combination of the cold air and fresh snow cover of 5 to 12 inches, led to optimal radiational cooling conditions on the morning of February 10th, with record minimum temperatures broken across the region.

January 7, 2010: An unusually cold Arctic air mass covered large areas of the state January 6th and stayed through January 9th. In addition, this Arctic air mass brought in very strong winds creating dangerous wind chills.

April 2007: The U.S. Department of Agriculture designated 68 Kansas counties primary natural disaster areas because of losses caused by unseasonably warm temperatures followed by prolonged freezing weather that occurred from April 4-10, 2007.

July 16-20, 2006: From July 16-20, a deadly heat wave gripped much of central, south-central, and eastern Kansas. Temperatures soared into the 105-110 °F range. Five lives were lost and dozens of people were treated for heat-related illnesses. For this particular year a total of 21 heat-related deaths were reported by the Kansas Department of Health and Environment. The same heat wave also caused two train derailments, which required rerouting of train traffic. The derailments were caused by sun kinks as the metal tracks expanded from the heat. One train derailed north of Topeka toward Atchison, and the other derailed immediately east of Neosho Rapids.

The following tables present NCDC data relating to extreme temperature events for the region.

NCDC Excessive Heat Events

County	Period	Event	Number of Events	Property Damage	Crop Damage	Number of Deaths
Atchison	2010-2013	Excessive Heat	1	\$0	\$0	0
Brown	2010-2013	Excessive Heat	7	\$0	\$0	0
Doniphan	2010-2013	Excessive Heat	1	\$0	\$0	0
Douglas	2010-2013	Excessive Heat	10	\$0	\$0	0
Jackson	2010-2013	Excessive Heat	9	\$0	\$0	0
Jefferson	2010-2013	Excessive Heat	11	\$0	\$0	0
Marshall	2010-2013	Excessive Heat	6	\$0	\$0	0
Nemaha	2010-2013	Excessive Heat	7	\$0	\$0	0
Washington	2010-2013	Excessive Heat	5	\$0	\$0	0

Source: NCDC Storm Events Database

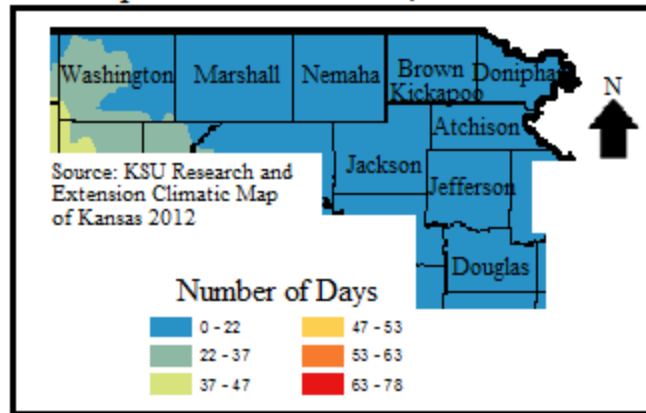
NCDC Extreme Cold Events

County	Period	Event	Number of Events	Property Damage	Crop Damage	Number of Deaths
Atchison	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Brown	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Doniphan	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Douglas	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Jackson	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Jefferson	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Marshall	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Nemaha	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0
Washington	2010-2013	Extreme Cold/ Wind Chill	0	\$0	\$0	0

Source: NCDC Storm Events Database

The following map show the average number of days the region experience temperatures over 90 degrees Fahrenheit from 1981 to 2010.

Average Number of Days with a High Temperature Over 90°F, 1981 to 2010



For extreme heat, the KDHE's Environmental Public Health Tracking Program has kept records of the fatalities of Kansas residents since 2000. There have been at least 144 fatalities of Kansas residents since 2000 due to heat. The year of 2011 had the most recorded fatalities with 37. According to the Homeland Security Operations Bureau of Community Health Systems Kansas Department of Health and Environment there have been 35 heat related deaths and 37 cold related deaths in the region from the period 2000 to 2011.

Temperature Related Fatalities, Statewide

Year	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2002	3	2.21	18	13.24
2003	5	3.68	23	16.91
2004	4	2.94	27	19.85
2005	6	4.41	33	24.26
2006	21	15.44	54	39.71
2007	11	8.09	65	47.79
2008	9	6.62	74	54.41
2009	10	7.35	84	61.76
2010	5	3.68	89	65.44
2011	37	27.21	126	92.65
2012	10	7.35	136	100

Source: Department of Health and Environment's Kansas Environmental Public Health Tracking Program

Local Events

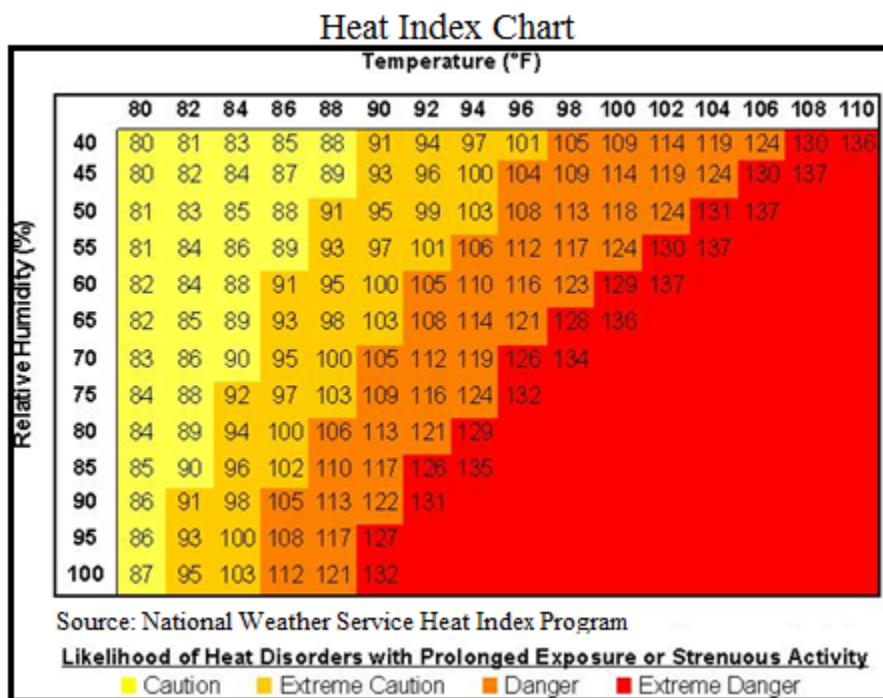
Summer 2012: City of Eudora, Douglas County: Temperatures reached upward of 90 degrees Fahrenheit, with heat index above 100 degrees Fahrenheit

Hazard Vulnerability and Impact

The primary concerns with this hazard are human health safety issues. Specific at risk groups identified were outdoor workers, farmers, and senior citizens. Due to the potential for fatalities

and the possibility for the loss of electric power due to increased strain on power generation and distribution for air conditioning, periods of extreme heat can affect the planning area.

The following Heat Index chart correlates both temperature and relative humidity to illustrate apparent, of felt, temperature.



Exposure to direct sun can increase Heat Index values by as much as 15°F. The zone above 105°F corresponds to a Heat Index that may cause increasingly severe heat disorders with continued exposure and/or physical activity. The following table discusses potential impacts on human health related to excessive heat.

Extreme Heat Impacts on Human Health

Heat Index (HI) Temperature	Potential Impact on Human Health
80-90° F	Fatigue possible with prolonged exposure and/or physical activity
90-105° F	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity
105-130° F	Heatstroke/sunstroke highly likely with continued exposure

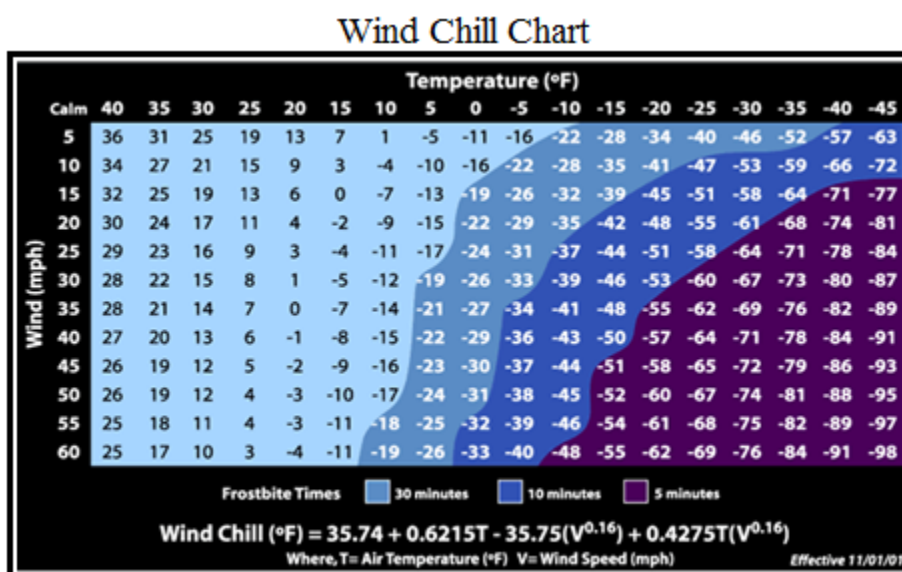
Source: National Weather Service Heat Index Program,

The National Weather Service (NWS) has a system in place to initiate alert procedures when the Heat Index is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. A common guideline for issuing excessive heat alerts is when the maximum daytime Heat Index is expected to equal or exceed

105°F and the night time minimum Heat Index is 80°F or above for two or more consecutive days.

Extreme cold can cause hypothermia, an extreme lowering of the body's temperature, frostbite and death. Infants and the elderly are particularly at risk, but anyone can be affected. Other impacts of extreme cold include asphyxiation from toxic fumes from emergency heaters, household fires, which can be caused by fireplaces and emergency heaters, and frozen/burst water pipes. There are no specific data sources recording cold related deaths in northeast Kansas.

Wind can greatly amplify the impact of cold ambient air temperatures. The following figure, provided by the National Weather Service, shows the relationship of wind speed to apparent temperature and typical time periods for the onset of frostbite. The combination of these elements affects the wind chill factor. The wind chill factor is the perceived temperature.



Source: NWS

Source: National Weather Service

In addition, extreme temperatures may exacerbate agricultural and economic losses. The following table presents agricultural loss data for the region for the period 2002 to 2011, the latest available data.

Total Insured Crop Insurance Paid per County from 2002-2011

County	Total Insured Crop Insurance Paid for Extreme Temperature Damages	Annualized Insured Crop Insurance Paid for Extreme Temperature Damages
Atchison	\$436,834	\$43,683
Brown	\$432,812	\$43,281
Doniphan	\$154,374	\$15,437
Douglas	\$3,594,057	\$359,406
Jackson	\$1,190,954	\$119,095
Jefferson	\$795,933	\$79,593
Marshall	\$3,453,809	\$345,381
Nemaha	\$1,791,745	\$179,175
Washington	\$3,876,511	\$387,651
Regional Total	\$15,727,029	\$1,572,703

Source: USDA Risk Management Agency

	Magnitude/Severity
Extreme Temperature	1.90

Future Development

Future development and population increase would tend to increase the likelihood of the population being impacted by extreme temperatures. Extreme temperatures tend to impact work and living conditions which may be affected due to increase demands, and potentially resultant failures of, utility systems. Additionally, increases in agriculture and livestock within the region could be impacted by extreme temperatures.

Probability of Future Hazard Events

Although periods of extreme heat and cold occur on an annual basis, events that create a serious public health risk or threaten infrastructure capacity occur less often. An extreme heat event is more likely to occur in the months of June, July, August, and September, and an extreme cold event is more likely to occur in the months of November, December, January, February, and March. Also the EPA has projected that with climate changes in the Great Plains, temperatures will continue to increase and affect all northeast Kansas communities.

	Probability
Extreme Temperature	3.05

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Extreme Temperature Consequence Analysis

Subject	Ranking	Impacts of Extreme Temperature
Health and Safety of Persons in the Area of the Incident	Minimal - Severe	Depending on the duration of the event, impact is expected to be severe for unprepared and unprotected persons. Impact will be minimal to moderate for prepared and protected persons.
Responders	Minimal to Severe	Impact could be severe if proper precautions are not taken, i.e. hydration in heat, clothing in extreme cold. With proper preparedness and protection the impact would be minimal.
Continuity of Operations	Minimal	Minimal expectation for utilization of the COOP.
Property, Facilities, and Infrastructure	Minimal to Severe	Impact to infrastructure could be minimal to severe depending on the temperature extremes.
Delivery of Services	Minimal	Impact should be non-existent to minimal.
Environment	Severe	The impact to the environment could be severe. Extreme heat and extreme cold could seriously damage wildlife and plants, trees, crops, etc.
Economic Conditions	Minimal to Severe	Impacts to the economy will be dependent on how extreme the temperatures get, but only in the sense of whether people will venture out to spend money. Utility bills could increase causing more financial hardship.
Public Confidence in Governance	Minimal to Moderate	Confidence will be dependent on how well utilities hold up as they are stretched to provide heat and cool air, depending on the extreme. Planning and response could be challenged.

3.7.8 FLOOD

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Flood	3.10	3.10	2.40	3.10	3.00

Description

Flooding is the most frequent and costly natural hazard in the United States. During the twentieth century, floods were the leading natural disaster in the United States, representing 40 percent of all natural disasters in terms of number of lives lost, estimated at more than 10,000 deaths since 1990, and property damaged. Nearly 90% of presidential disaster declarations result from natural events where flooding was a major component. The USGS reports that nationwide, floods kill an average of 140 people each year and cause \$6,000,000,000 in property damage.

Floods that threaten northeast Kansas are generally the result of excessive precipitation, and can be classified under three categories:

- **Flash Flood:** The product of heavy, localized precipitation in a short time period over a given location.
- **Riverine Flood:** Occurs when precipitation over a given river basin for a long period of time causes the overflow of rivers, streams, lakes and drains.
- **Urban Flood:** Occurs where man-made development has obstructed the natural flow of water and decreased the ability of natural groundcover to absorb and retain surface water runoff.

The severity of a flooding event is generally determined by the following factors:

- The combination of stream and river basin topography and physiography
- Precipitation and weather patterns
- Soil moisture conditions
- Degree of vegetative clearing or impermeable ground cover

Riverine Floods

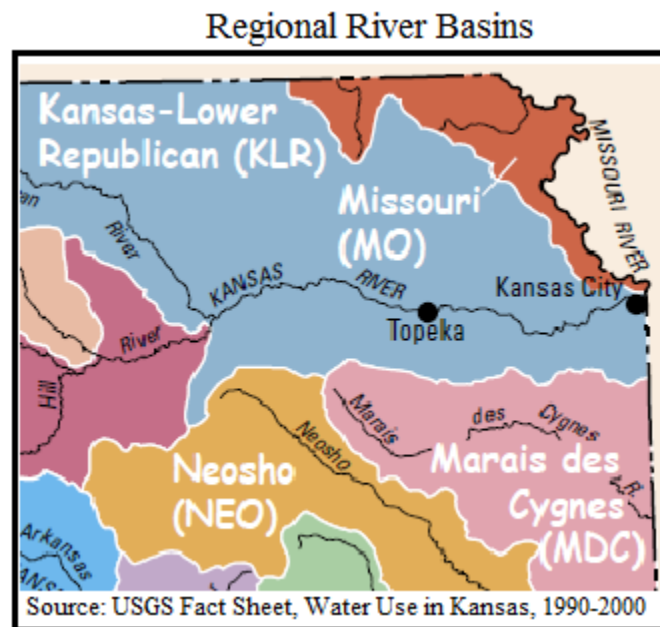
The NWS provides the following definitions of warnings for actual and potential flood conditions for Riverine and Urban Flooding:

- **Flood Potential Outlook:** In hydrologic terms, a NWS outlook that is issued to alert the public of potentially heavy rainfall that could send rivers and streams into flood or aggravate an existing flood.
- **Flood Watch:** Issued to inform the public and cooperating agencies that current and developing hydro meteorological conditions are such that there is a threat of flooding, but the occurrence is neither certain nor imminent.

- **Flood Warning:** In hydrologic terms, a release by the NWS to inform the public of flooding along larger streams in which there is a serious threat to life or property. A flood warning will usually contain river stage (level) forecasts.
- **Flood Statement:** In hydrologic terms, a statement issued by the NWS to inform the public of flooding along major streams in which there is not a serious threat to life or property. It may also follow a flood warning to give later information.

Riverine flooding is defined as the overflow of rivers, streams, drains, and lakes due to excessive rainfall, rapid snowmelt or ice melt. The areas adjacent to rivers and stream banks that carry excess floodwater during rapid runoff are called floodplains. A floodplain is defined as the lowland and relatively flat area adjoining a river or stream. The terms “base flood” and “100-year flood” refer to the area in the floodplain that is subject to a one percent or greater chance of flooding in any given year. Floodplains are a larger entity called a basin, which is defined as all the land drained by a river and its branches.

A river basin is the land drained by a river and its branches. The surface waters of northeast Kansas flow through three river basins of the State as shown in the following figure.



Flash Floods

The NWS provides the following definitions of warnings for actual and potential flood conditions for Flash Floods:

- **Flash Flood Watch:** Issued to indicate current or developing hydrologic conditions that are favorable for flash flooding in and close to the watch area, but the occurrence is neither certain or imminent.

- **Flash Flood Warning:** Issued to inform the public, emergency management and other cooperating agencies that flash flooding is in progress, imminent, or highly likely.
- **Flash Flood Statement:** In hydrologic terms, a statement by the NWS which provides follow-up information on flash flood watches and warnings.

The onset of flooding varies depending on the cause and type, with flash flooding and dam/levee failure inundation occurring typically with little or no warning time, whereas flooding caused by long periods of excessive rainfall tend to have longer durations but more gradual onset. Overall warning time is usually 6-12 hours. The duration of flood conditions is generally less than one week, but in exceptional cases can extend significantly longer.

A flash flood is an event that occurs with little or no warning where water levels rise at an extremely fast rate. Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area. Flash flooding results from intense rainfall over a brief period, sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil or impermeable surfaces. Flash flooding may also occur from the breaching or failure of a dam or levee.

Flash flooding is an extremely dangerous situation which can reach full peak in only a few minutes and allows little or no time for protective measures to be taken by those in its path. Flash flood waters move at very high speeds with walls of water that can reach heights of 10 feet. Flash flood waters and the accompanying debris can uproot trees, roll boulders, and damage or destroy buildings, bridges, and roads. Flash flooding often results in higher loss of life, both human and animal, than slower developing river and stream flooding.

Although flash floods are somewhat unpredictable, there are factors that can point to the likelihood of flash floods occurring. Weather surveillance radar is being used to improve monitoring capabilities of intense rainfall. This, along with knowledge of the watershed characteristics, modeling techniques, monitoring, and advanced warning systems increases the warning time for flash floods.

Other Floods

In some cases, flooding may not be directly attributable to a river, stream, or lake overflowing its banks. Rather, it may simply be the combination of excessive rainfall or snowmelt, saturated ground, and inadequate drainage. With no place to go, the water will find the lowest elevations—areas that are often not in a floodplain. This type of flooding, often referred to as sheet flooding, is becoming increasingly prevalent as development outstrips the ability of the drainage infrastructure to properly carry and disperse the water flow.

In certain areas, aging storm sewer systems are not designed to carry the capacity currently needed to handle the increased storm runoff. Typically, the result is water backing into basements, which damages mechanical systems and can create serious public health and safety concerns. This combined with rainfall trends and rainfall extremes all demonstrate the high probability, yet generally unpredictable nature of flash flooding in the planning area.

Generally, floods are long-term events that may last for several days.

	Warning Time
Flood	2.40

	Duration
Flood	3.10

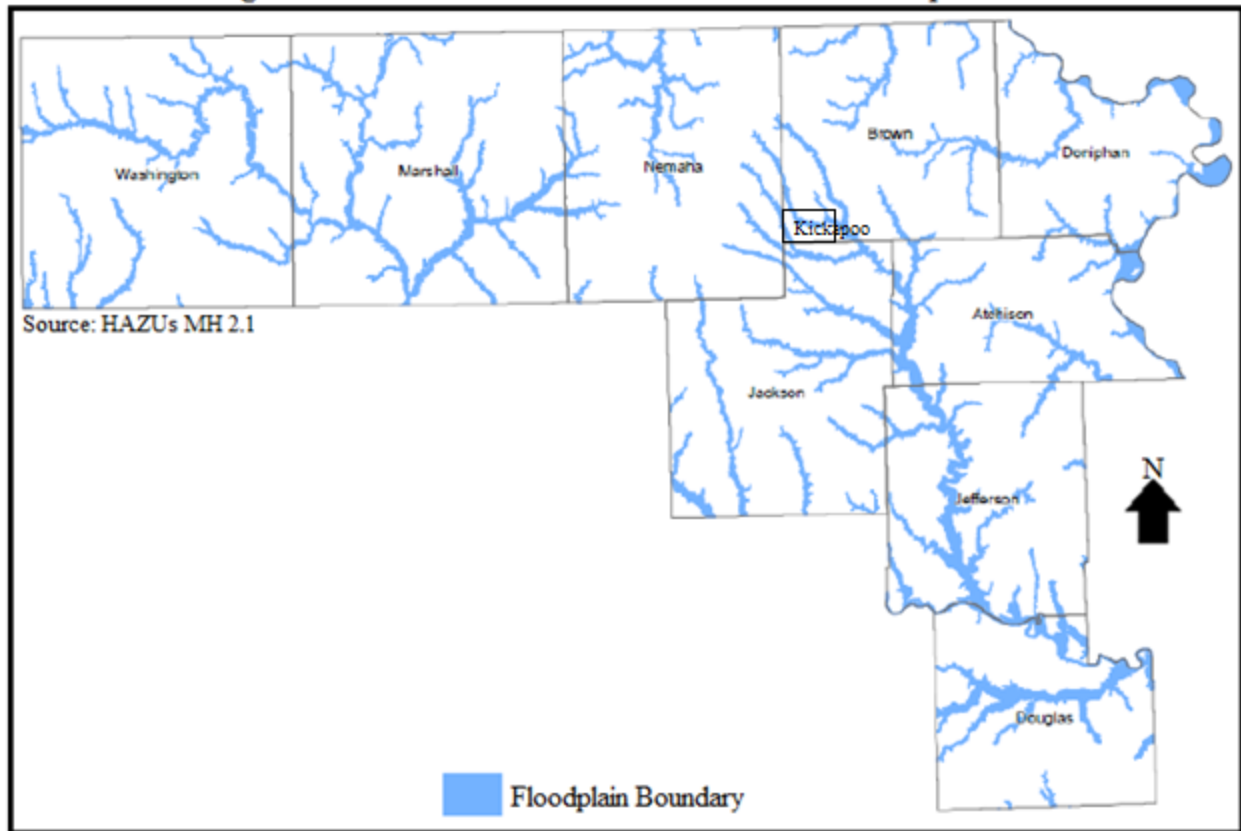
Hazard Location

HAZUS-MH 2.1 was utilized to update the region's risk assessment for riverine flooding. Not all of the region's counties have available DFIRMS. As such, the Hazard Mitigation Planning Team decided to utilize the latest version of HAZUS, released in February 2012, as a GIS-based tool to update the Riverine Flooding Risk Assessment. HAZUS-MH 2.1 produces a flood polygon and flood depth grid that represents the base flood. While not as accurate as utilizing DFIRMS themselves, this approach ensures an “apples to apples” analysis to describe vulnerability in terms of the jurisdictions most threatened by riverine flooding, and most vulnerable to damage and loss associated with flooding events.

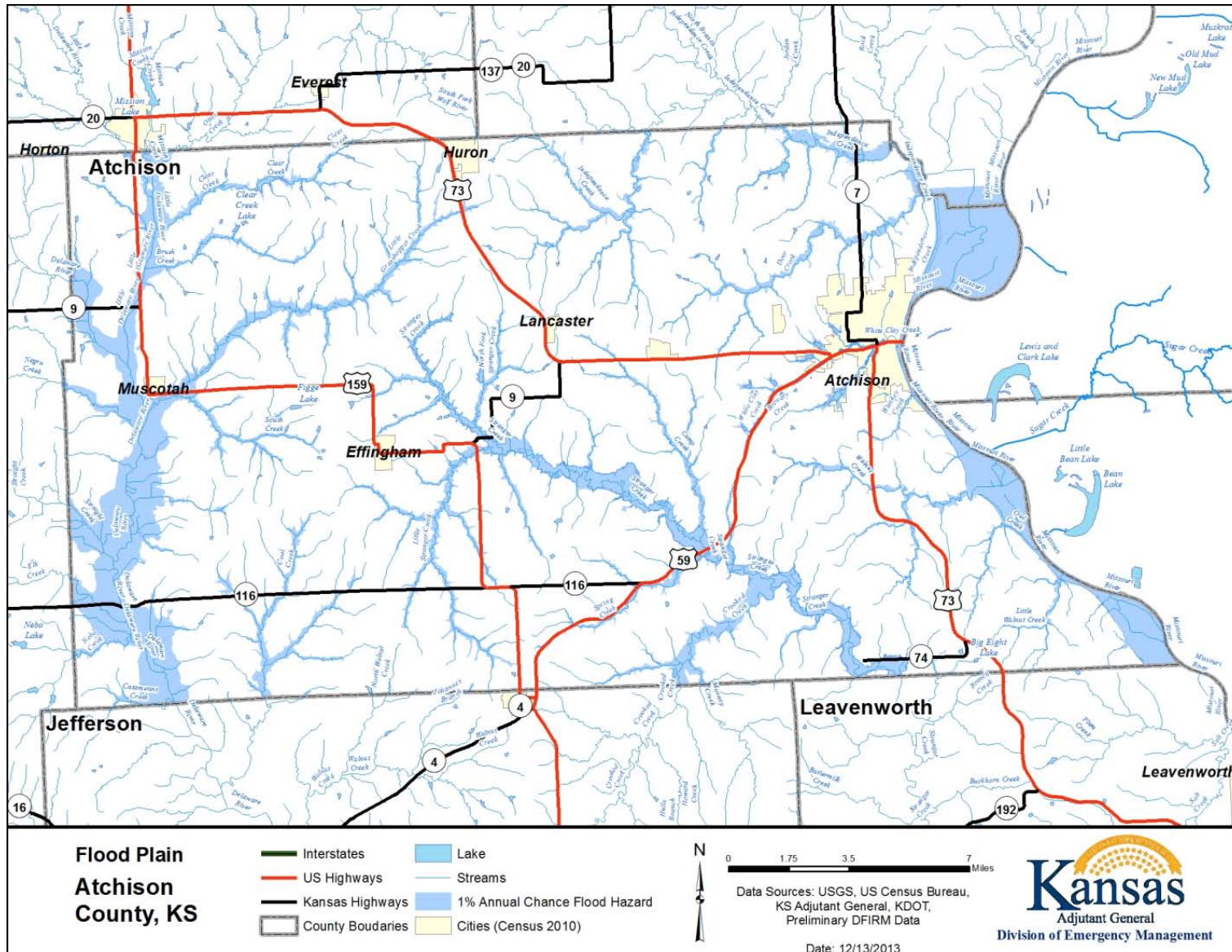
While riverine floods can and do occur at various levels, the one percent annual chance flood has been chosen as the basis for this risk assessment. This level is the accepted standard for flood insurance purposes.

Results from the HAZUS-MH 2.1 analysis will be provided throughout this section to depict floodplain areas as well as varied vulnerability and potential loss estimates. The following map provides a regional overview of the one percent annual chance floodplains in northeast Kansas, generated by HAZUS MH 2.1.

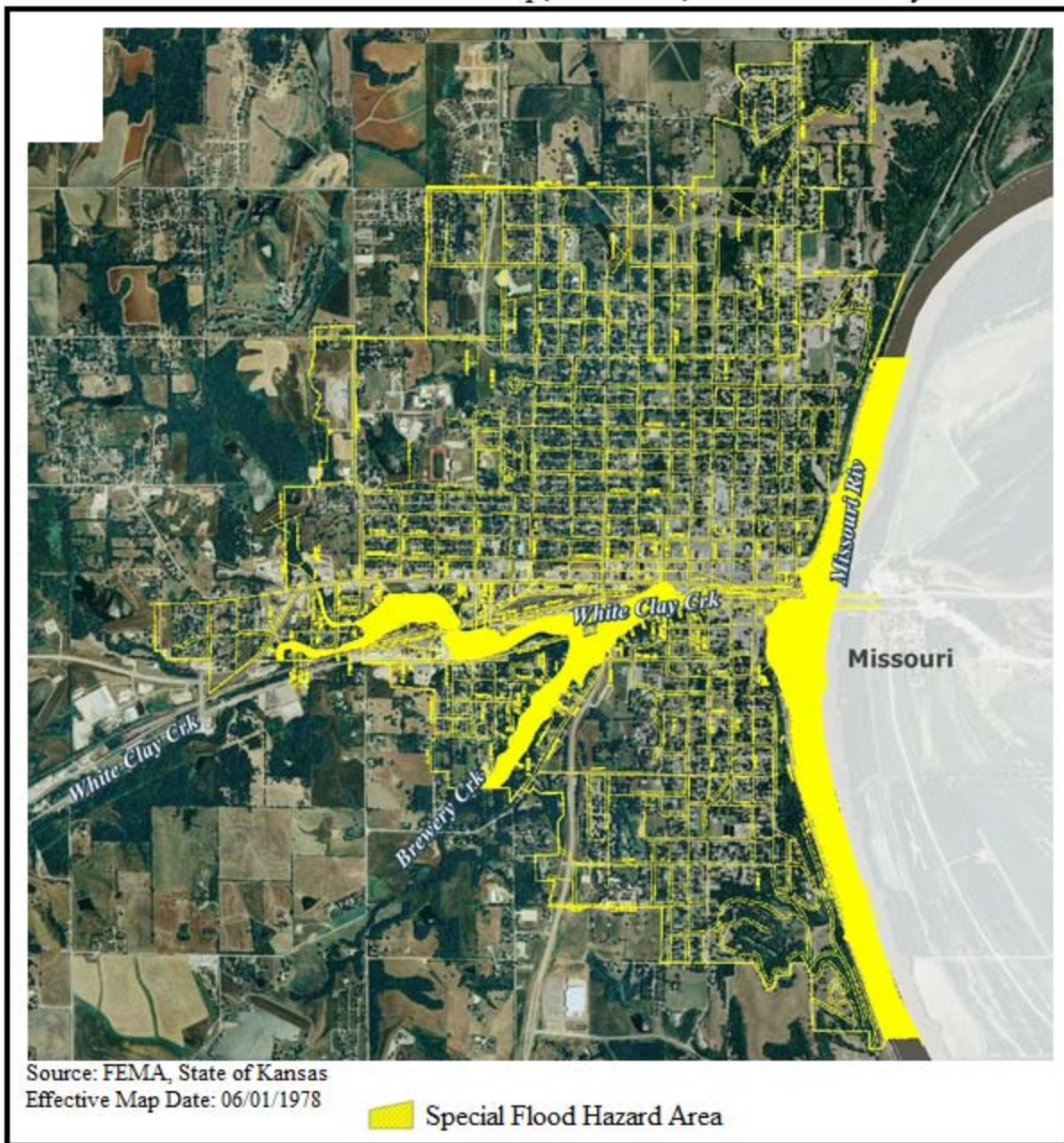
Regional HAZUS One Percent Annual Chance Floodplains



The following are available DFIRM maps for counties within northeast Kansas. Please note that at the time of this plan not all participating counties were fully mapped. If available, other relevant maps indicating potential flooding zones have been included.

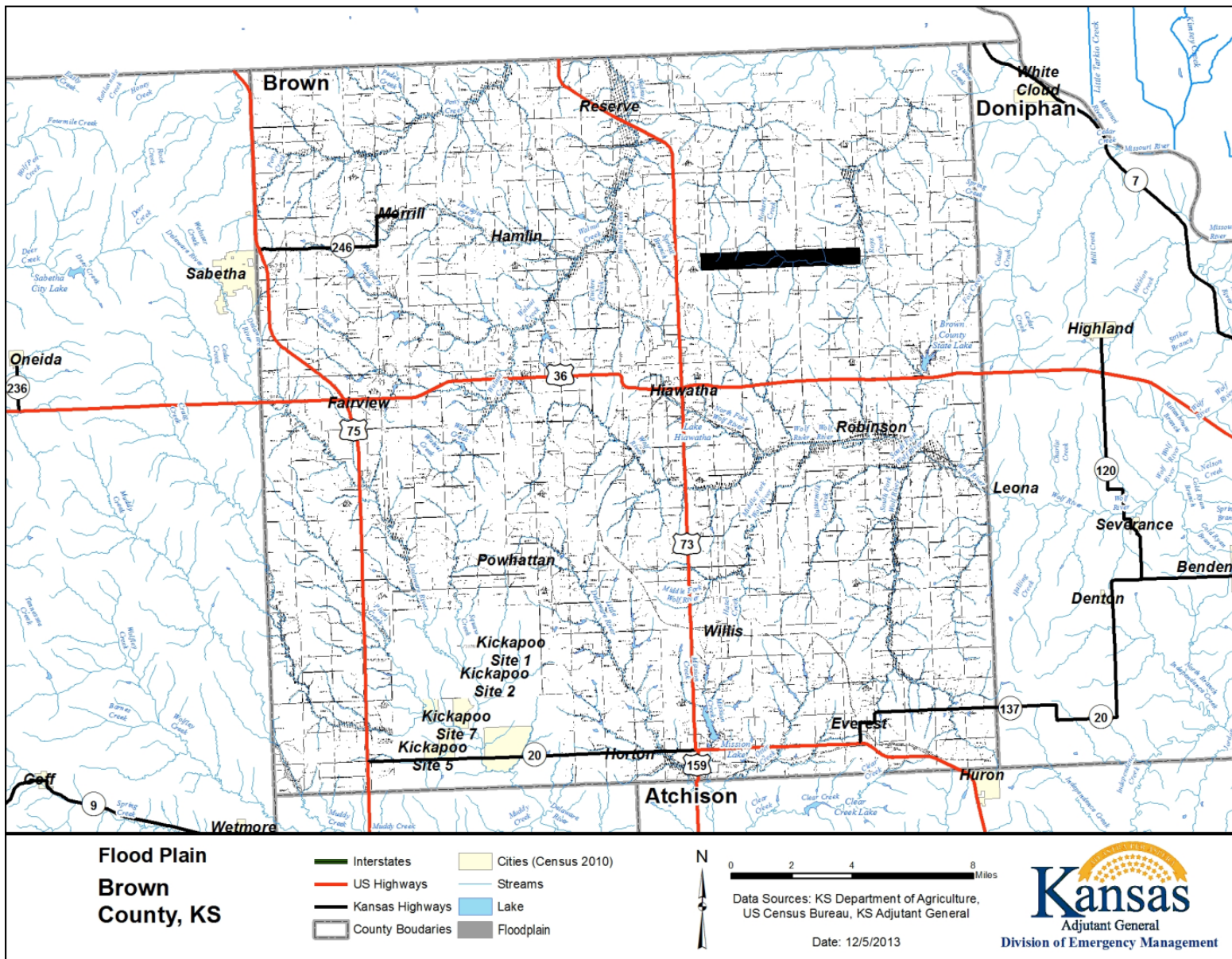


FEMA Flood Insurance Rate Map, Atchison, Atchison County

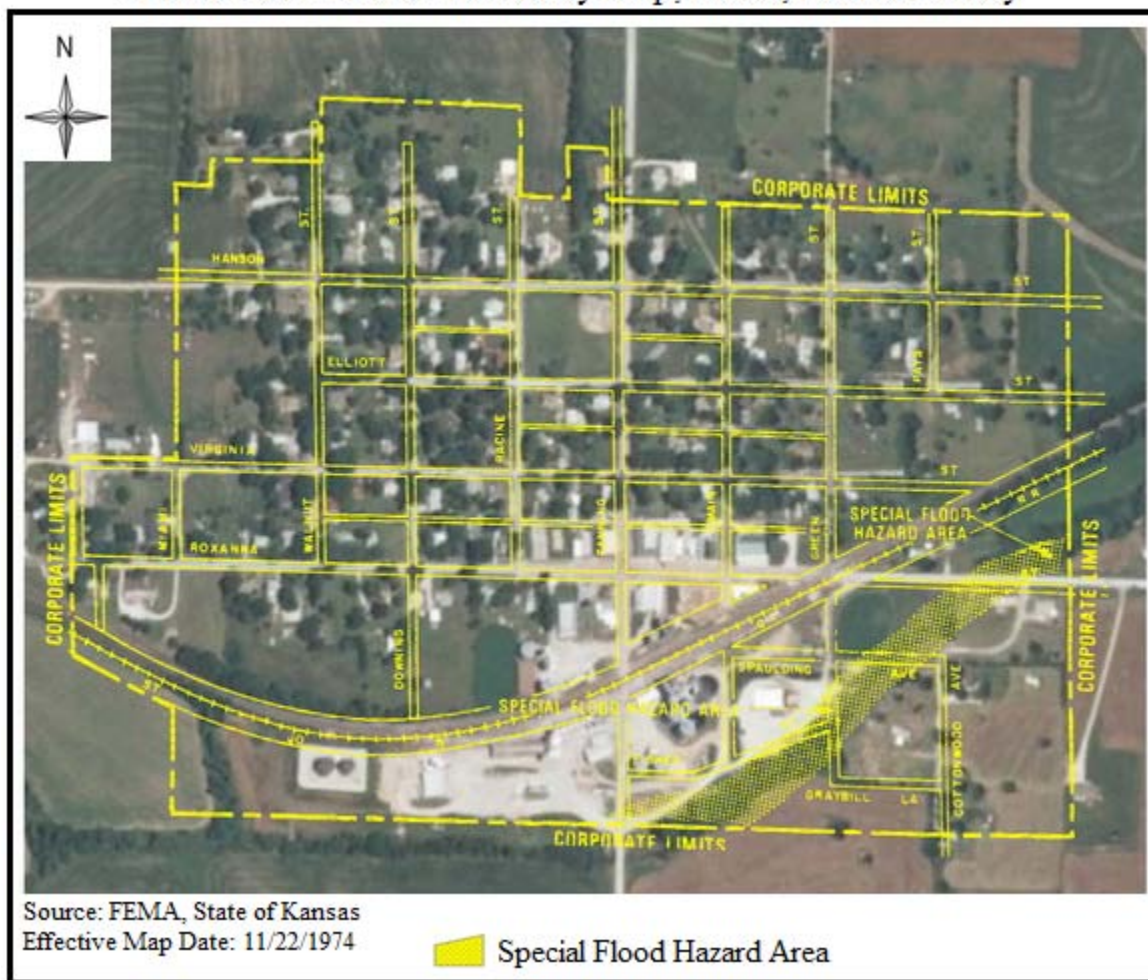


FEMA Flood Hazard Boundary, Muscotah, Atchison County

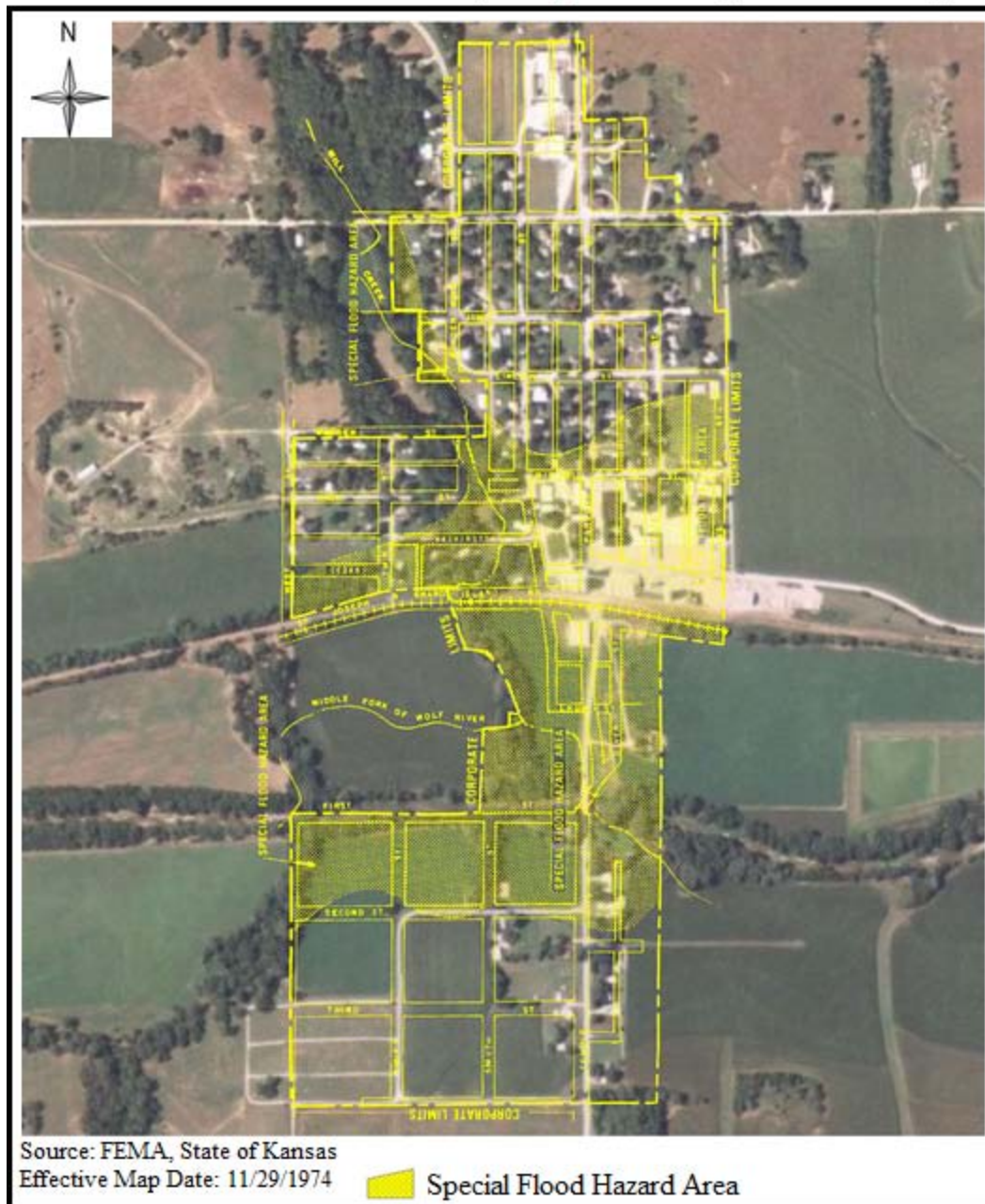




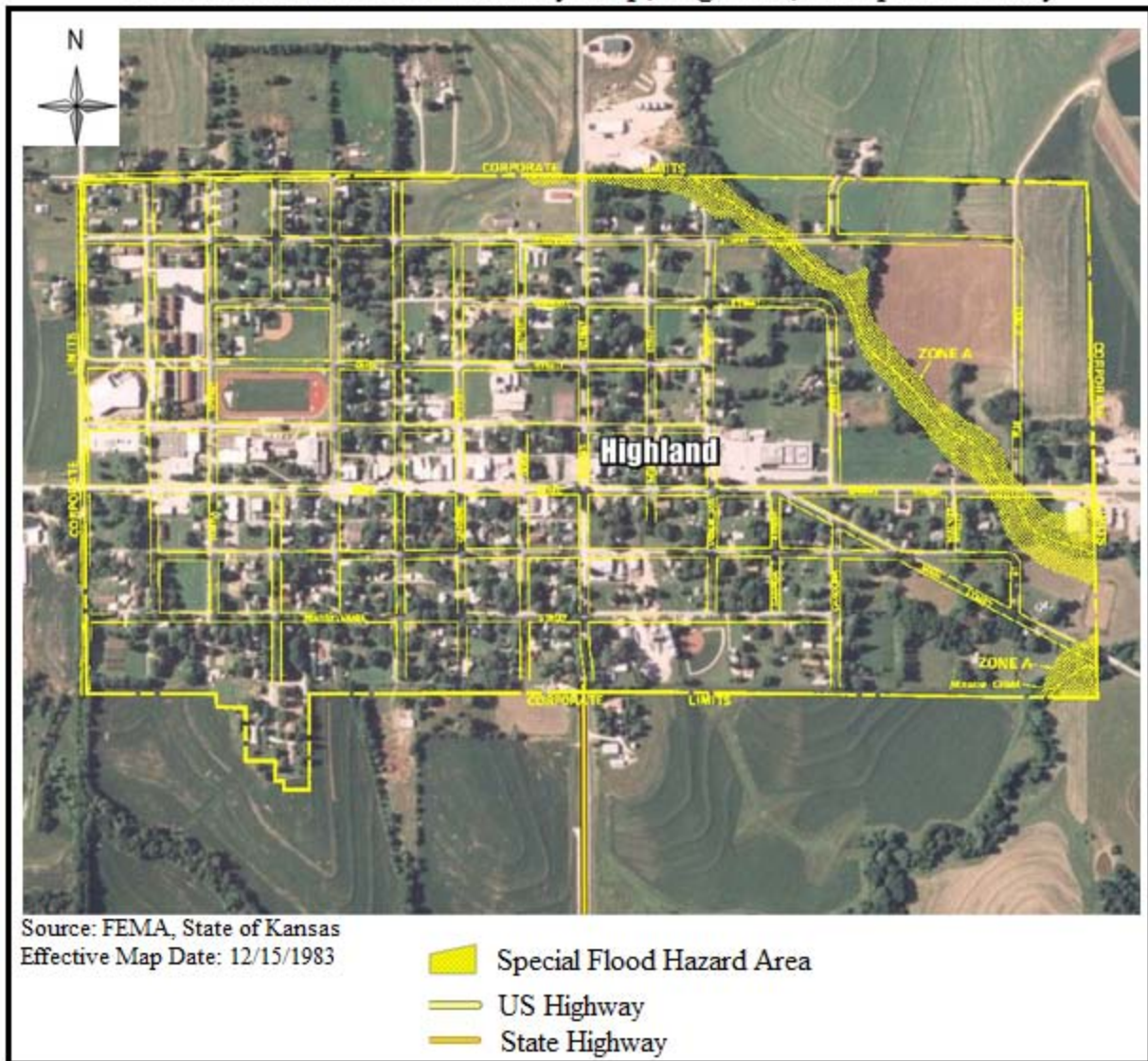
FEMA Flood Hazard Boundary Map, Morill, Brown County



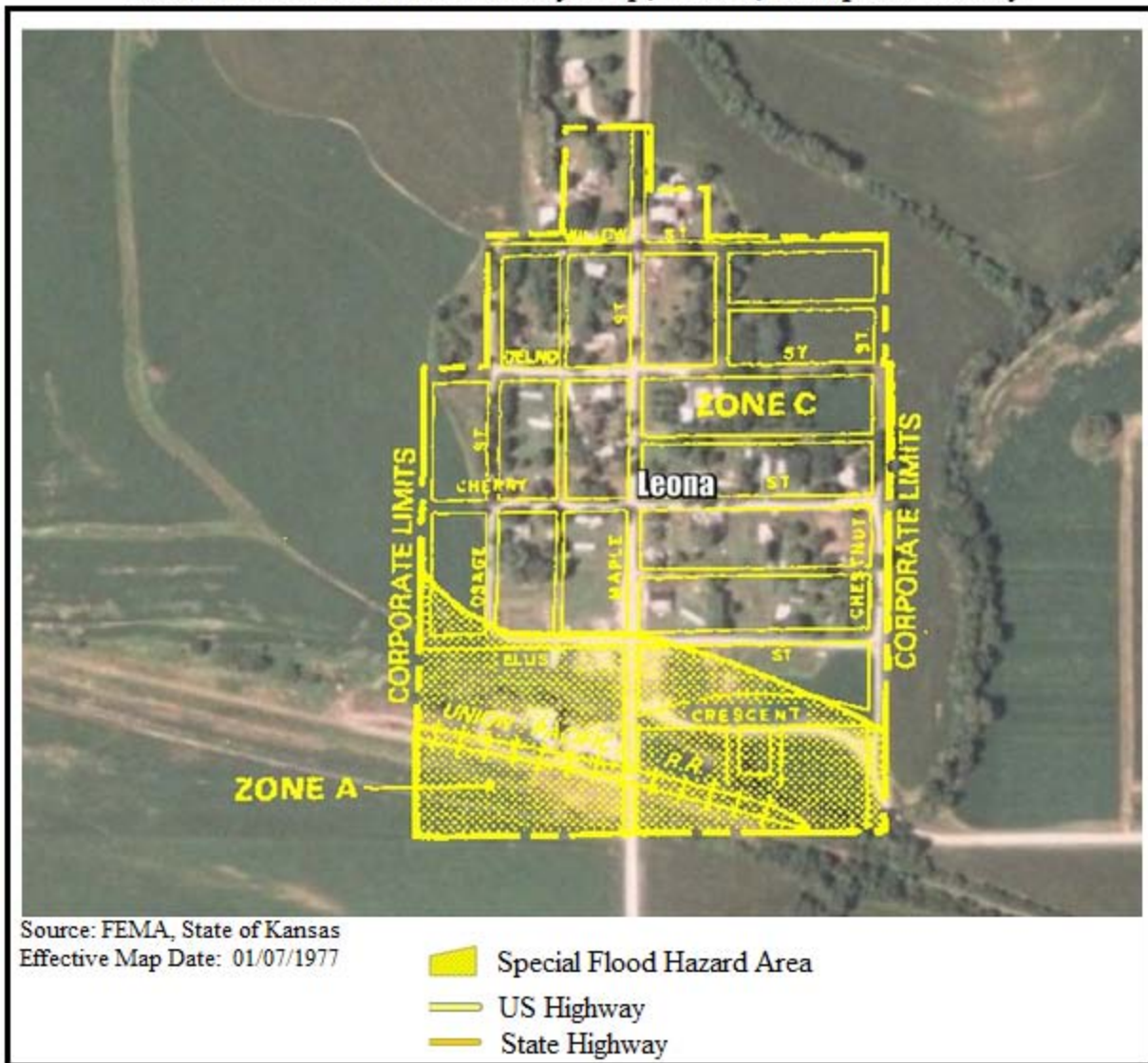
FEMA Flood Hazard Boundary Map, Robinson, Brown County



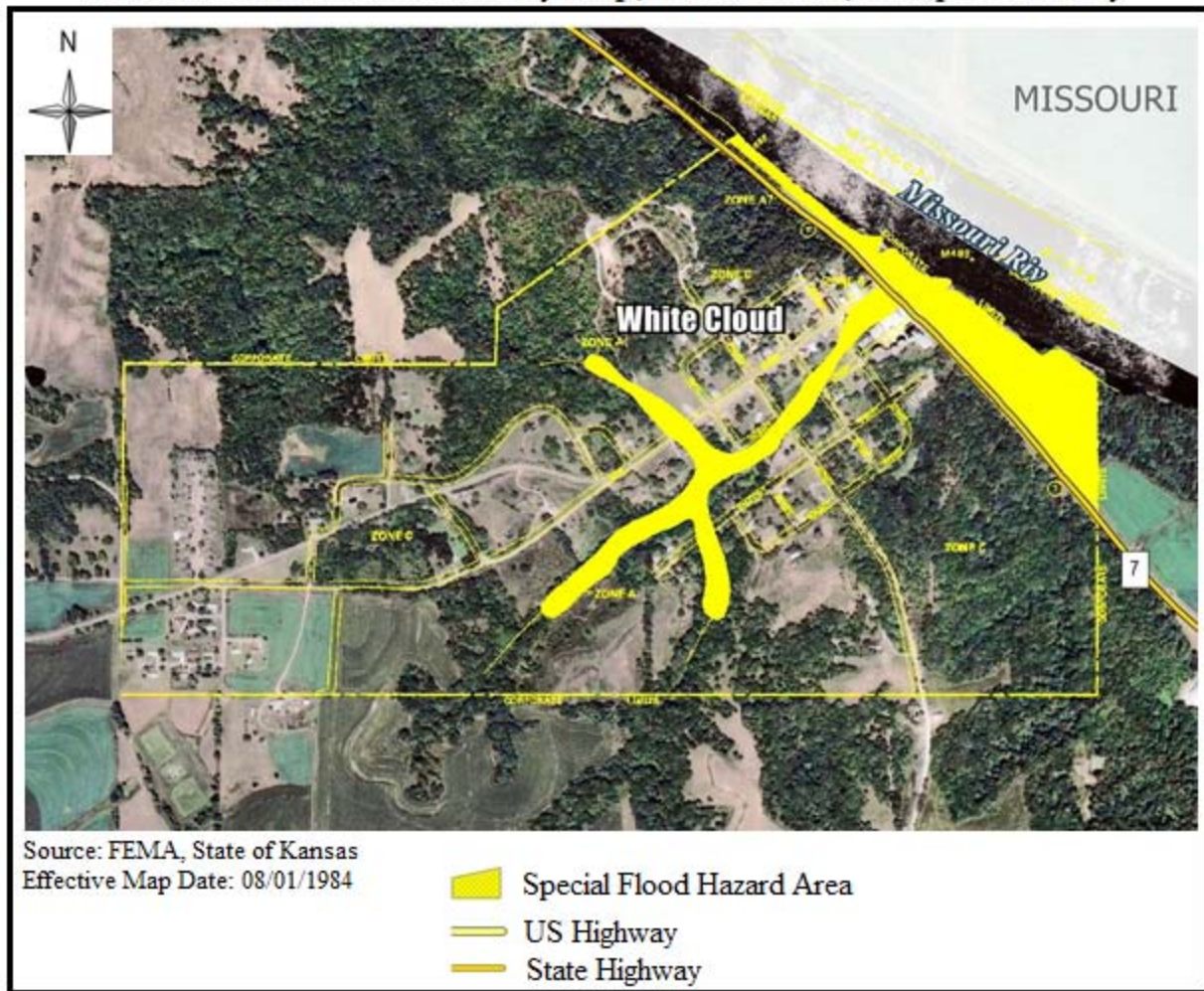
FEMA Flood Hazard Boundary Map, Highland, Doniphan County

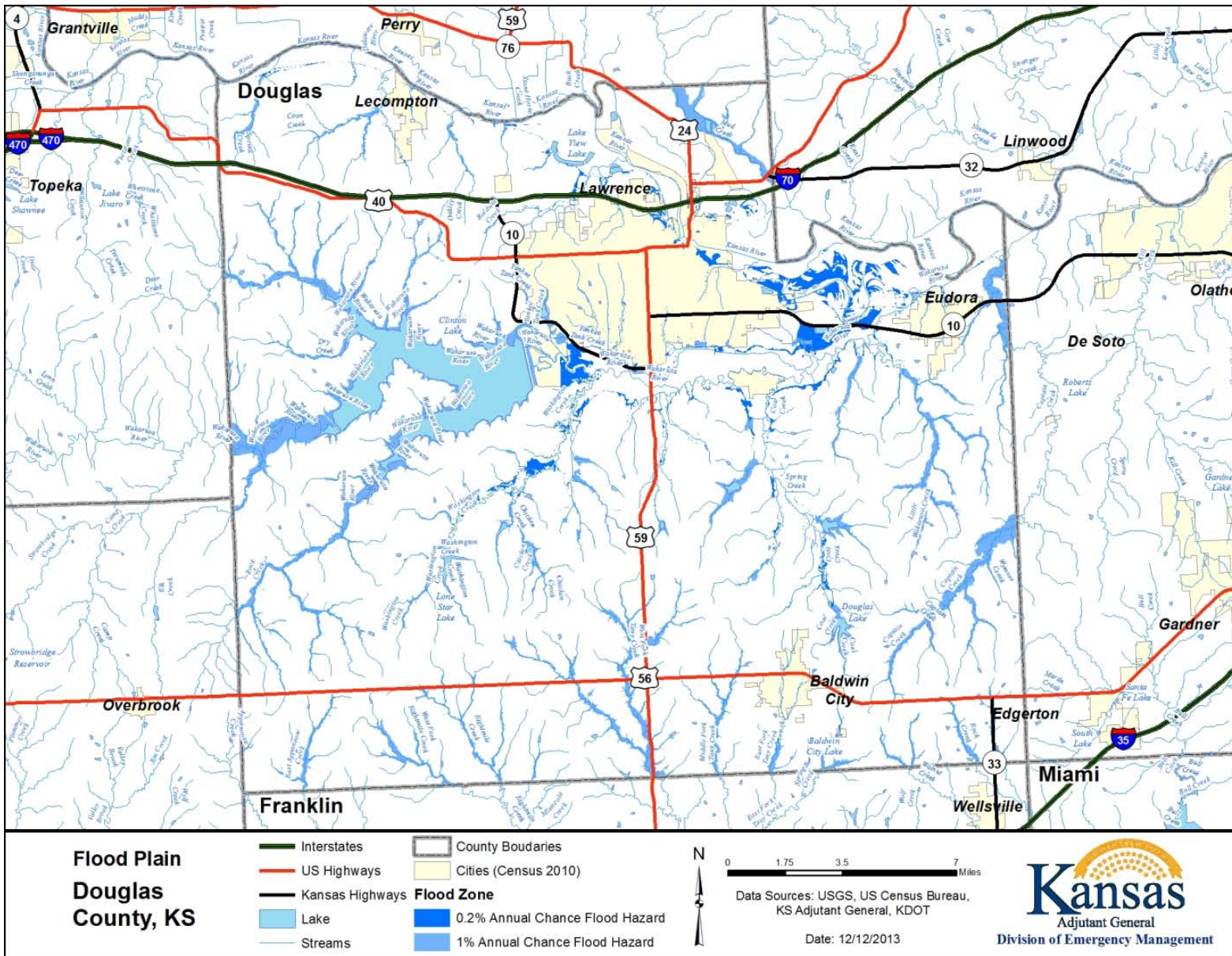


FEMA Flood Hazard Boundary Map, Leona, Doniphan County

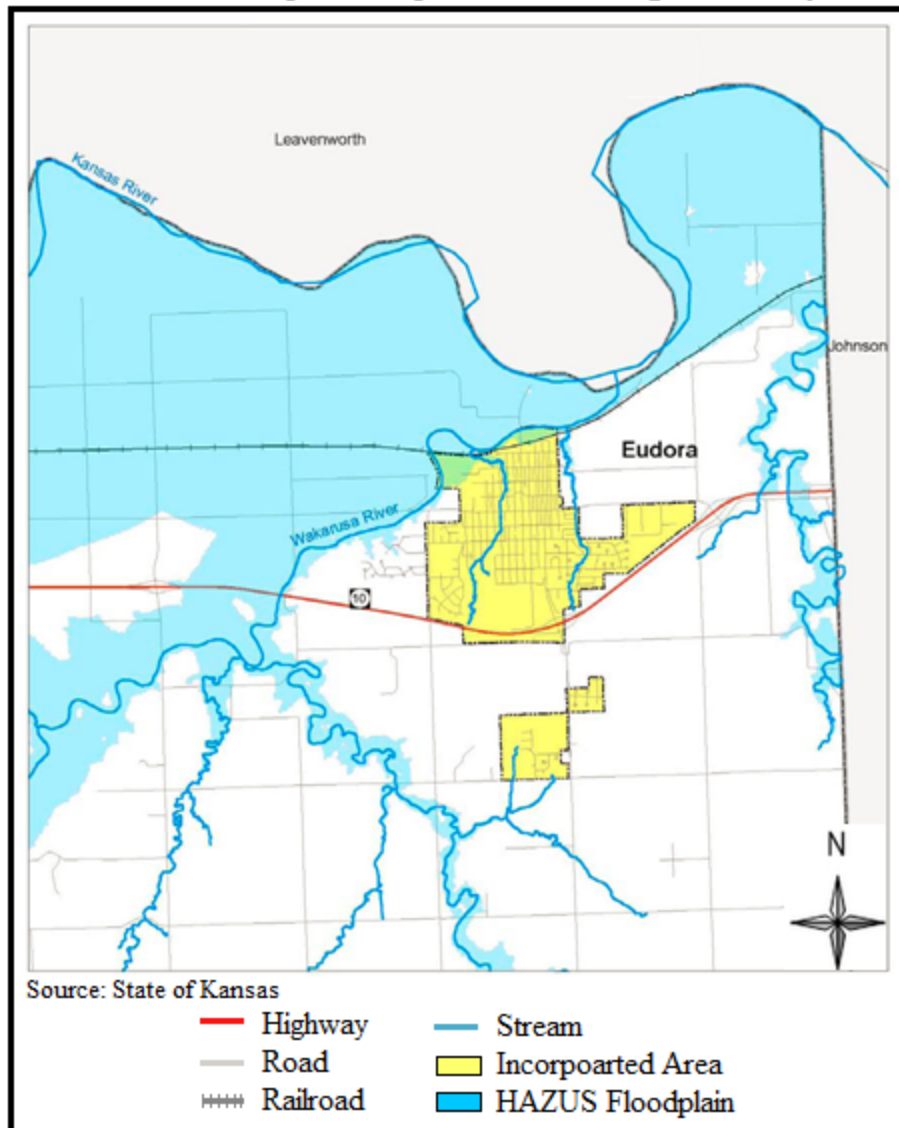


FEMA Flood Hazard Boundary Map, White Cloud, Doniphan County

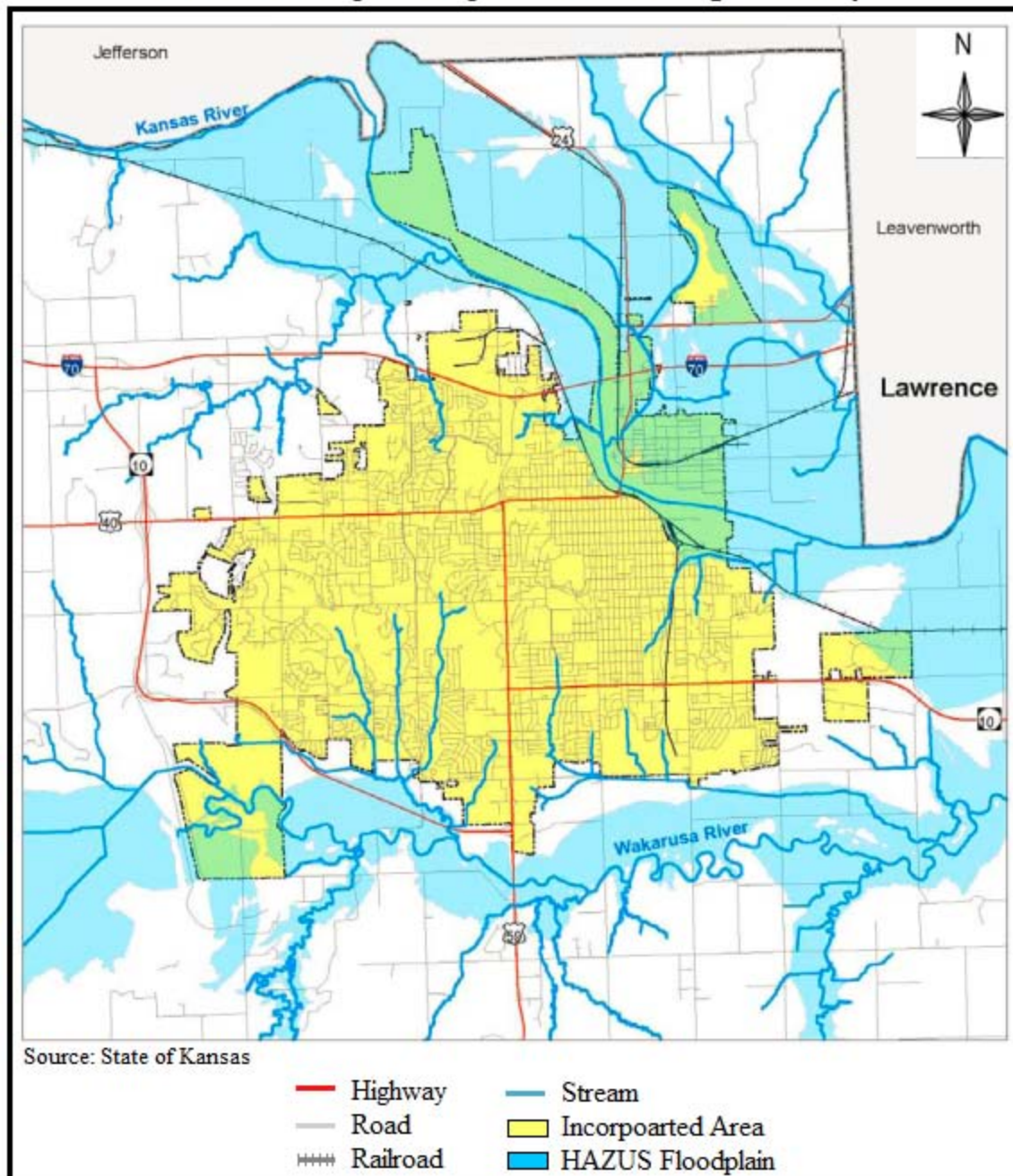




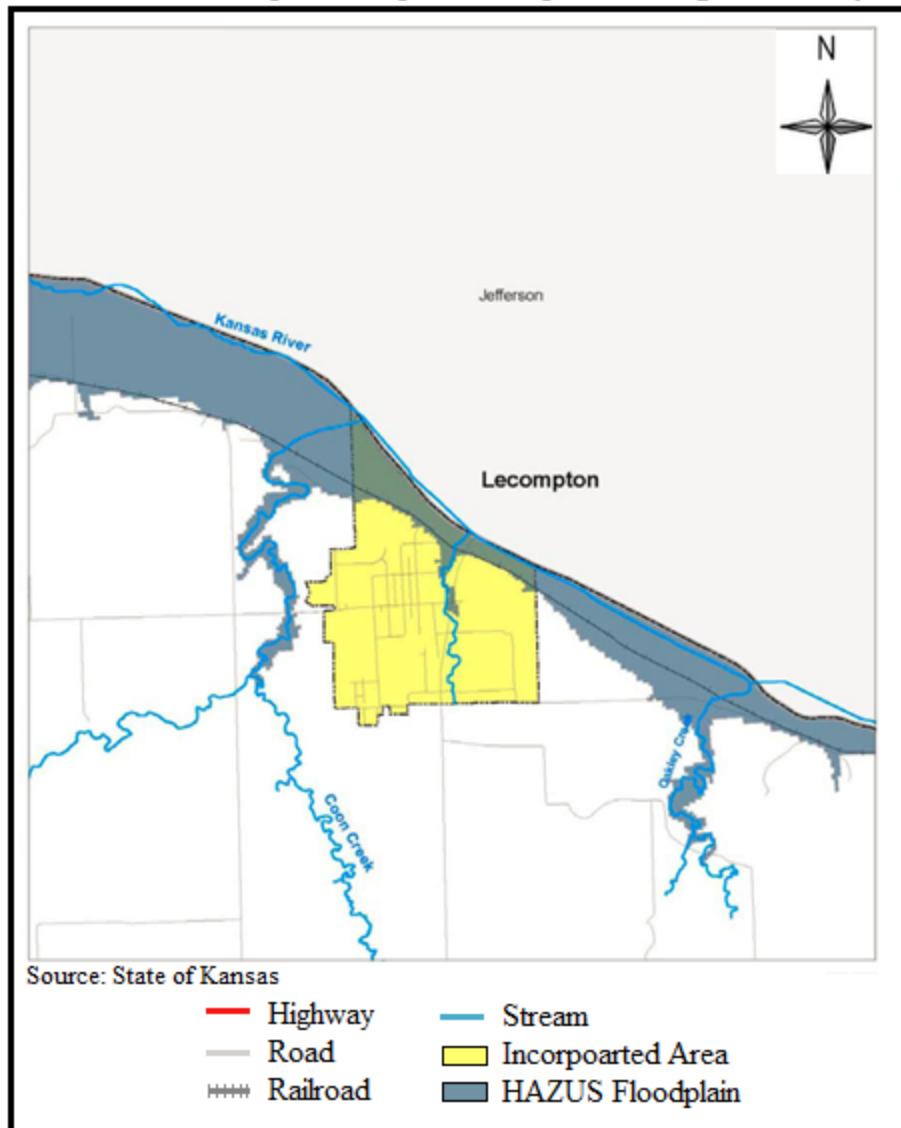
HAZUS Floodplain Map, Eudora, Douglas County

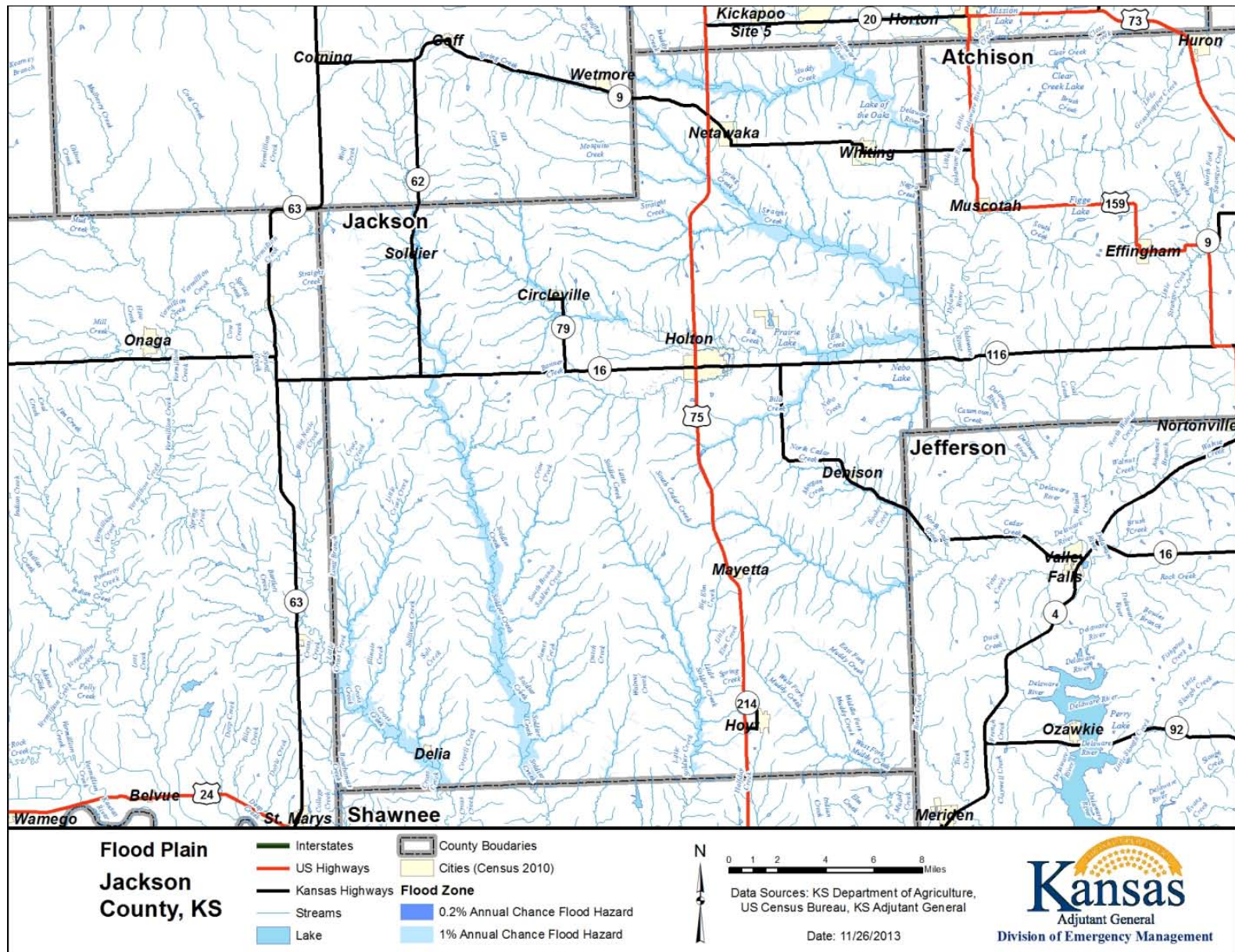


HAZUS Floodplain Map, Lawrence, Douglas County

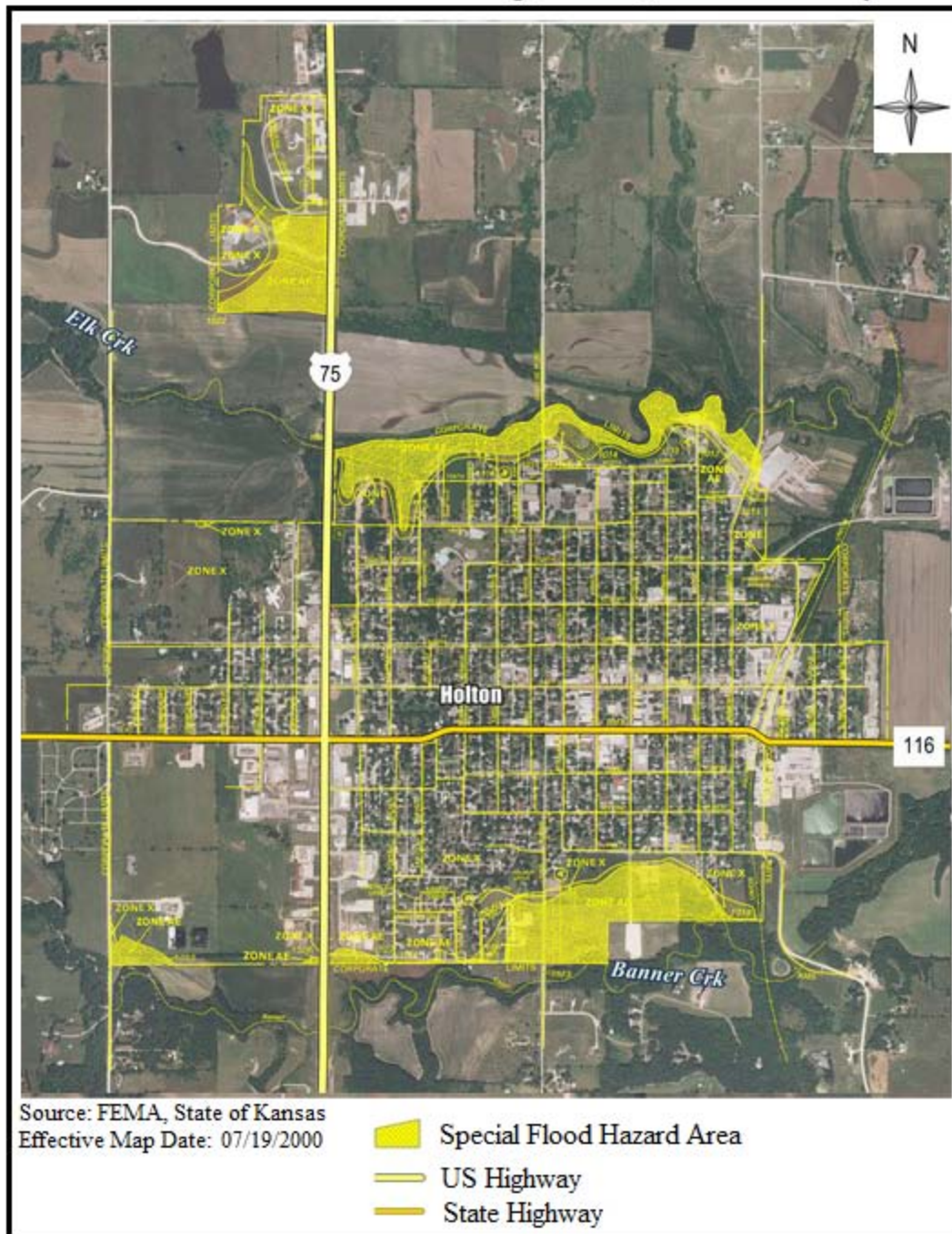


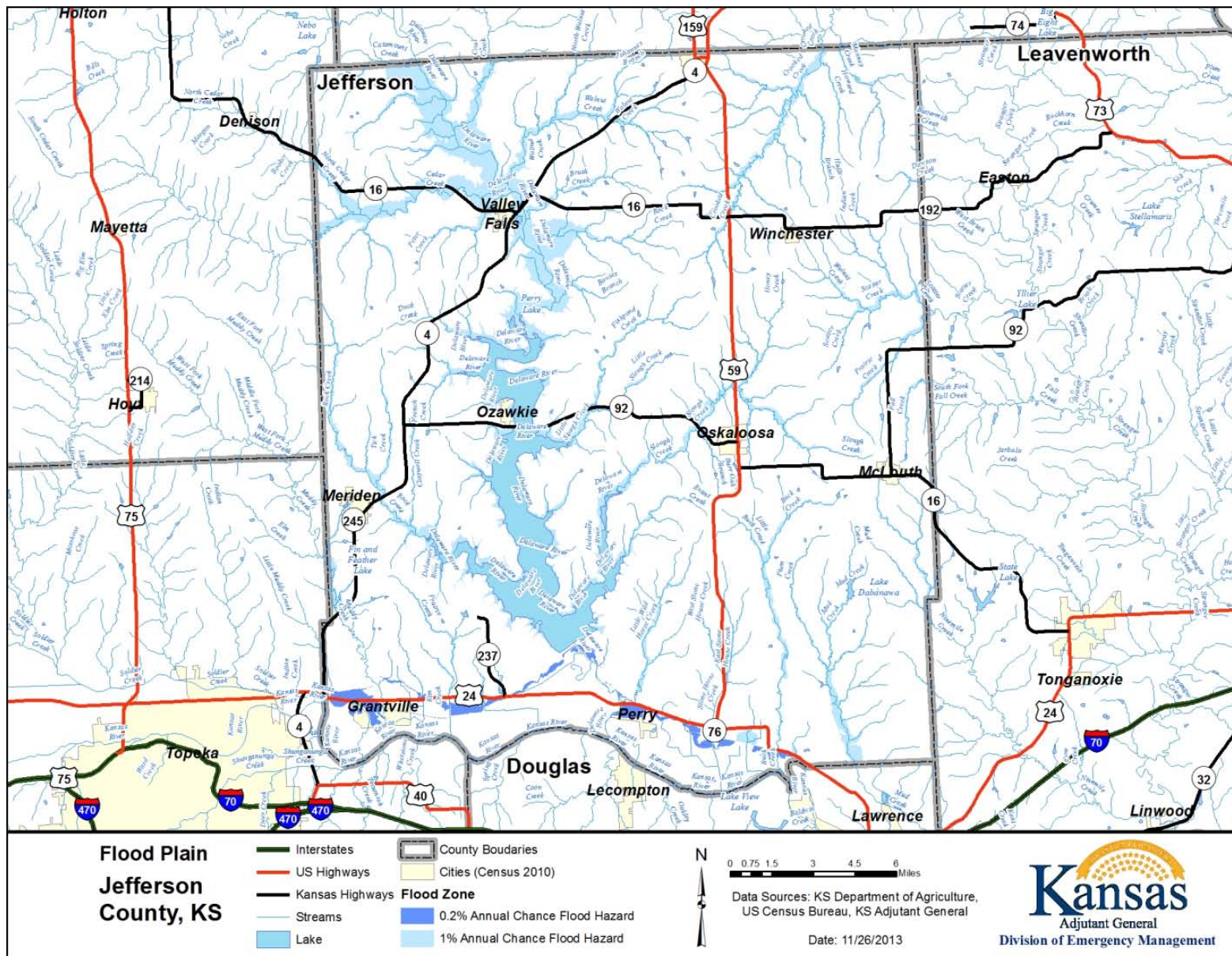
HAZUS Floodplain Map, Lecompton, Douglas County



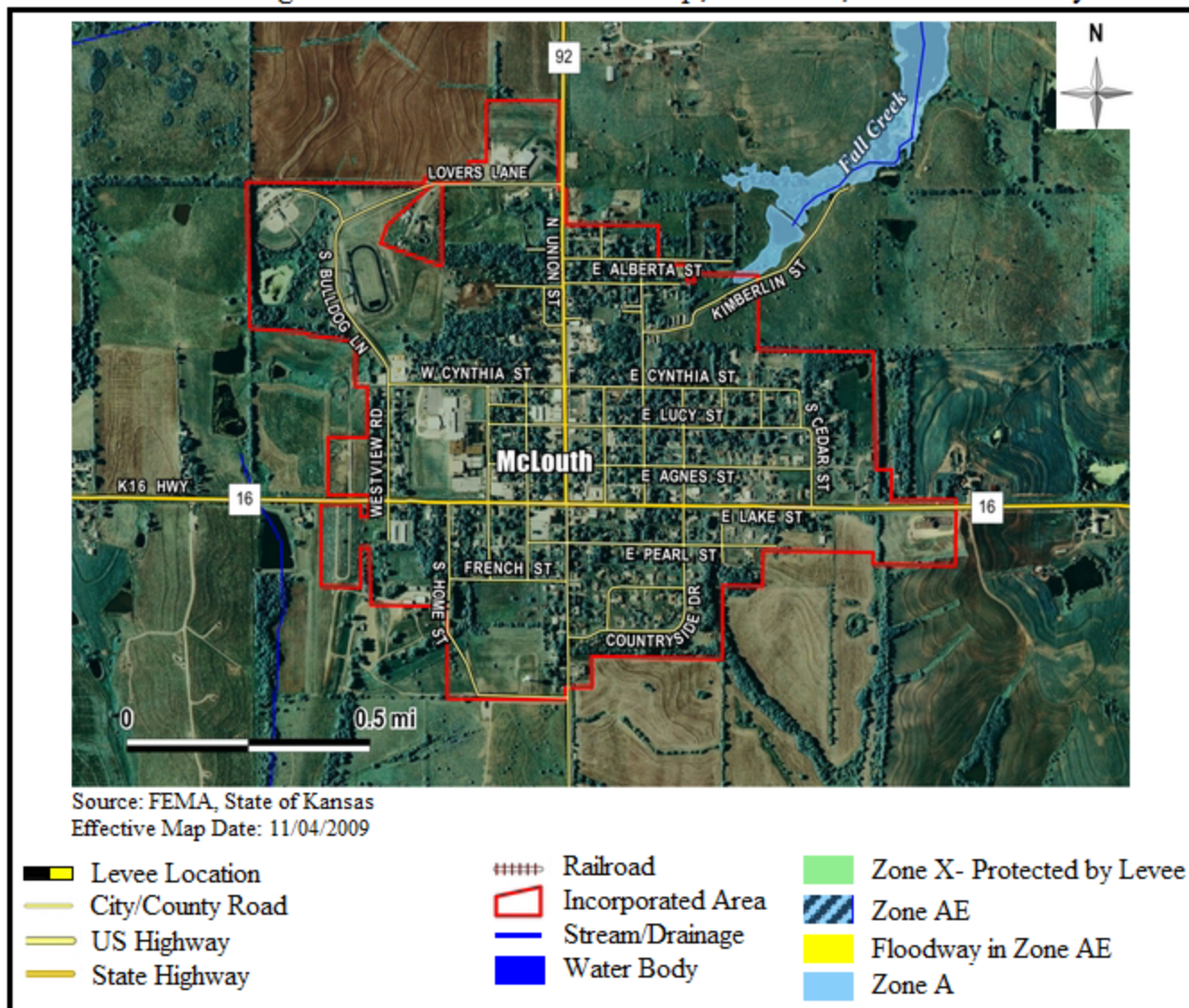


FEMA Flood Insurance Rate Map, Holton, Jackson County

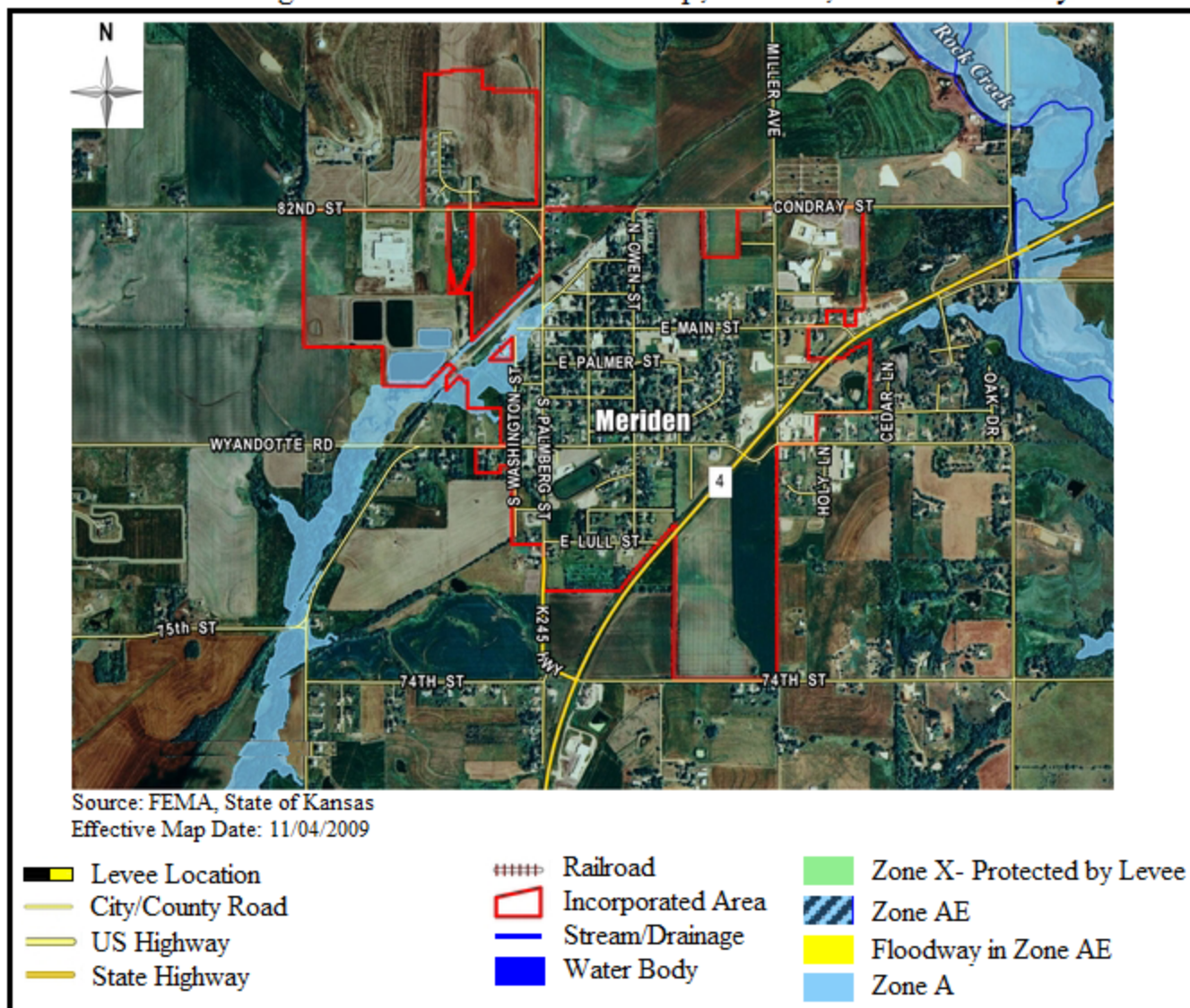




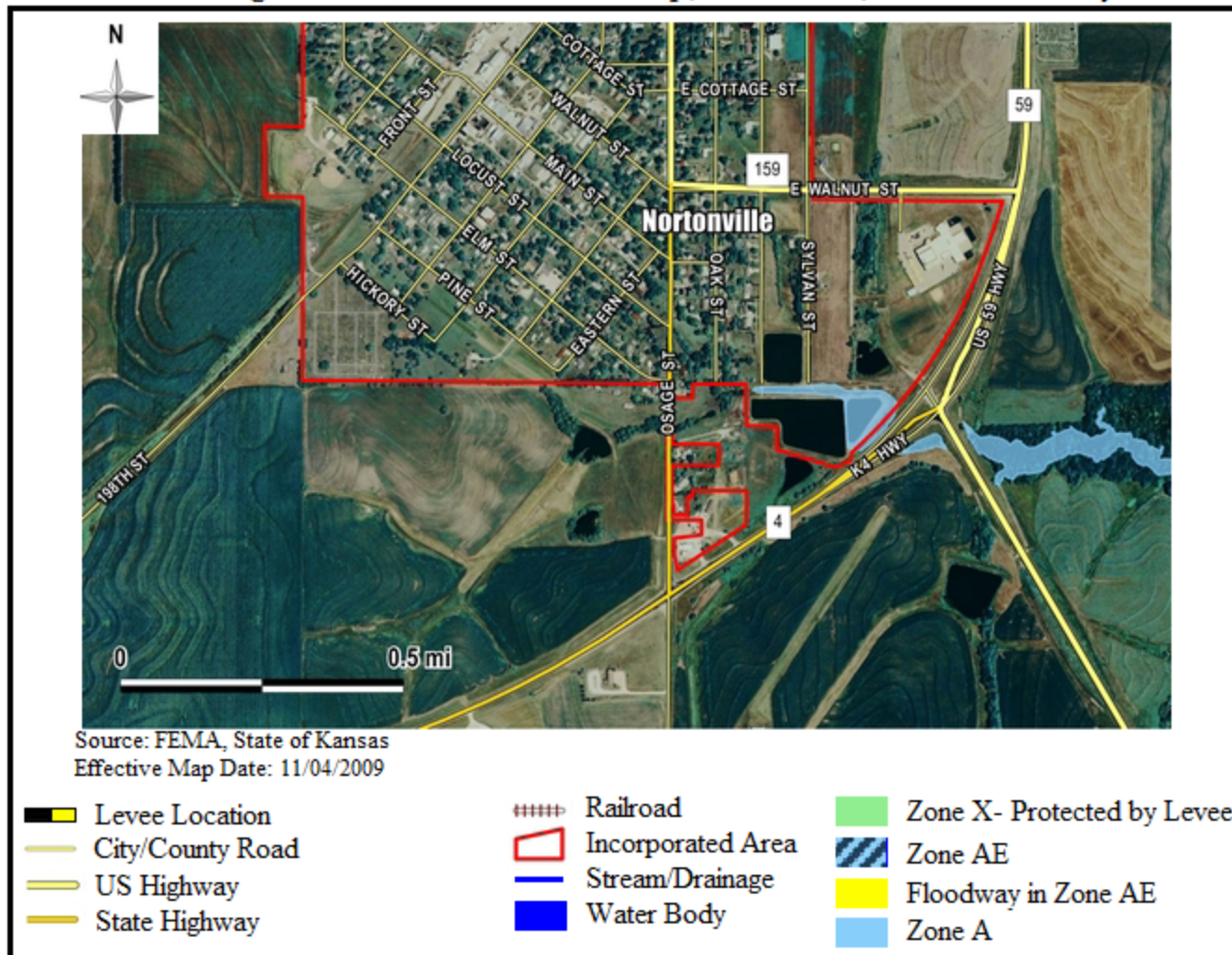
FEMA Digital Flood Insurance Rate Map, McLouth, Jefferson County



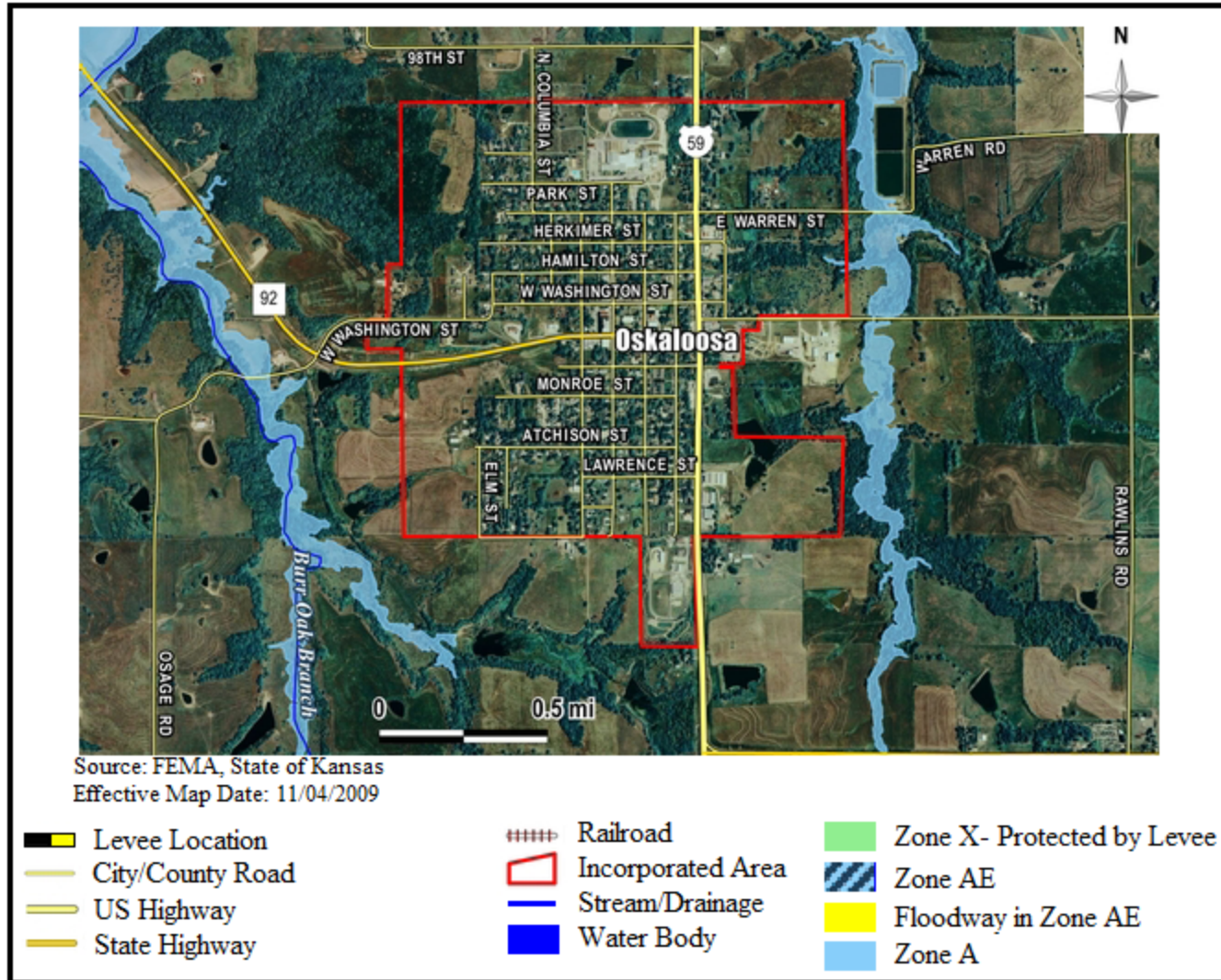
FEMA Digital Flood Insurance Rate Map, Meriden, Jefferson County



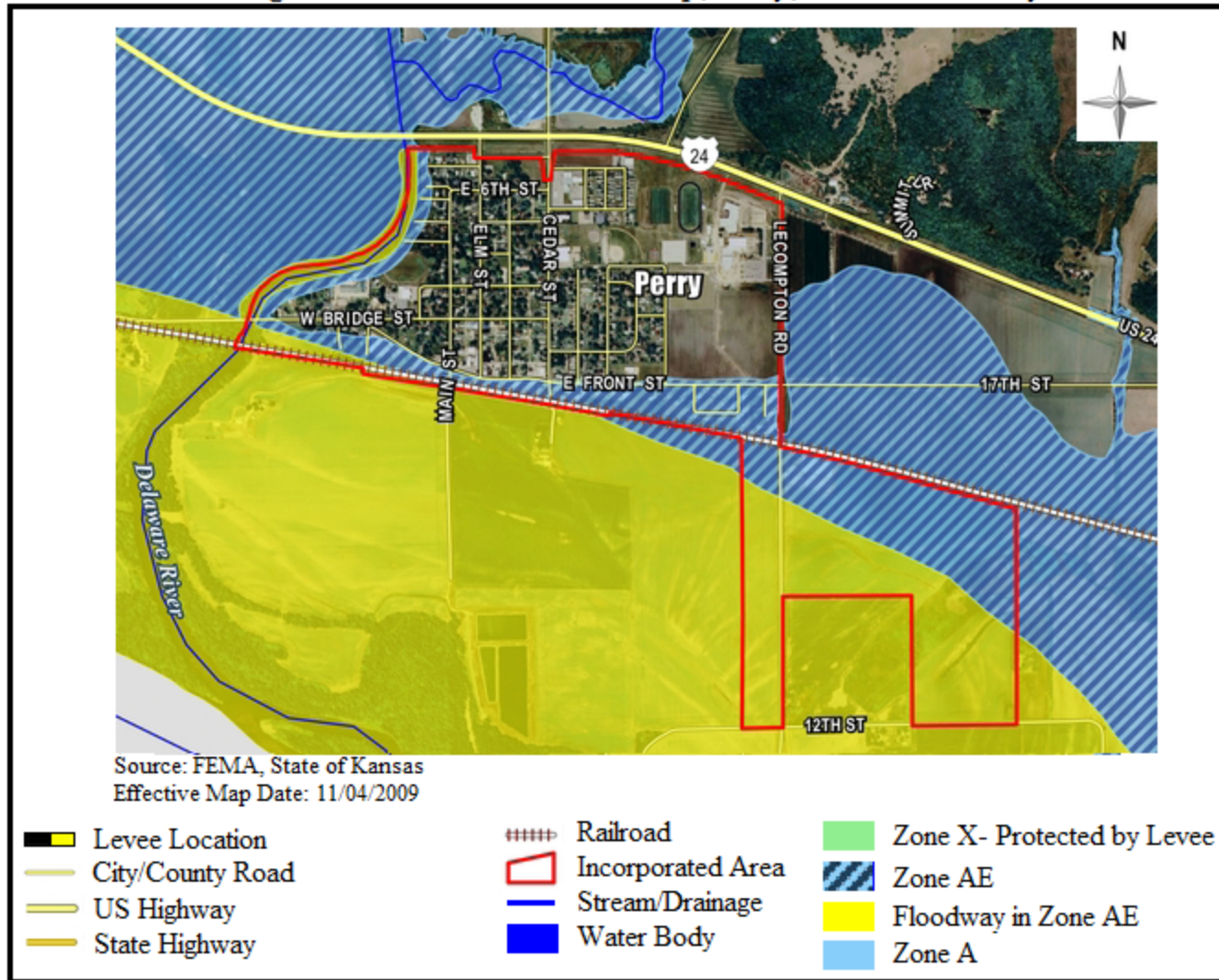
FEMA Digital Flood Insurance Rate Map, Nortonville, Jefferson County



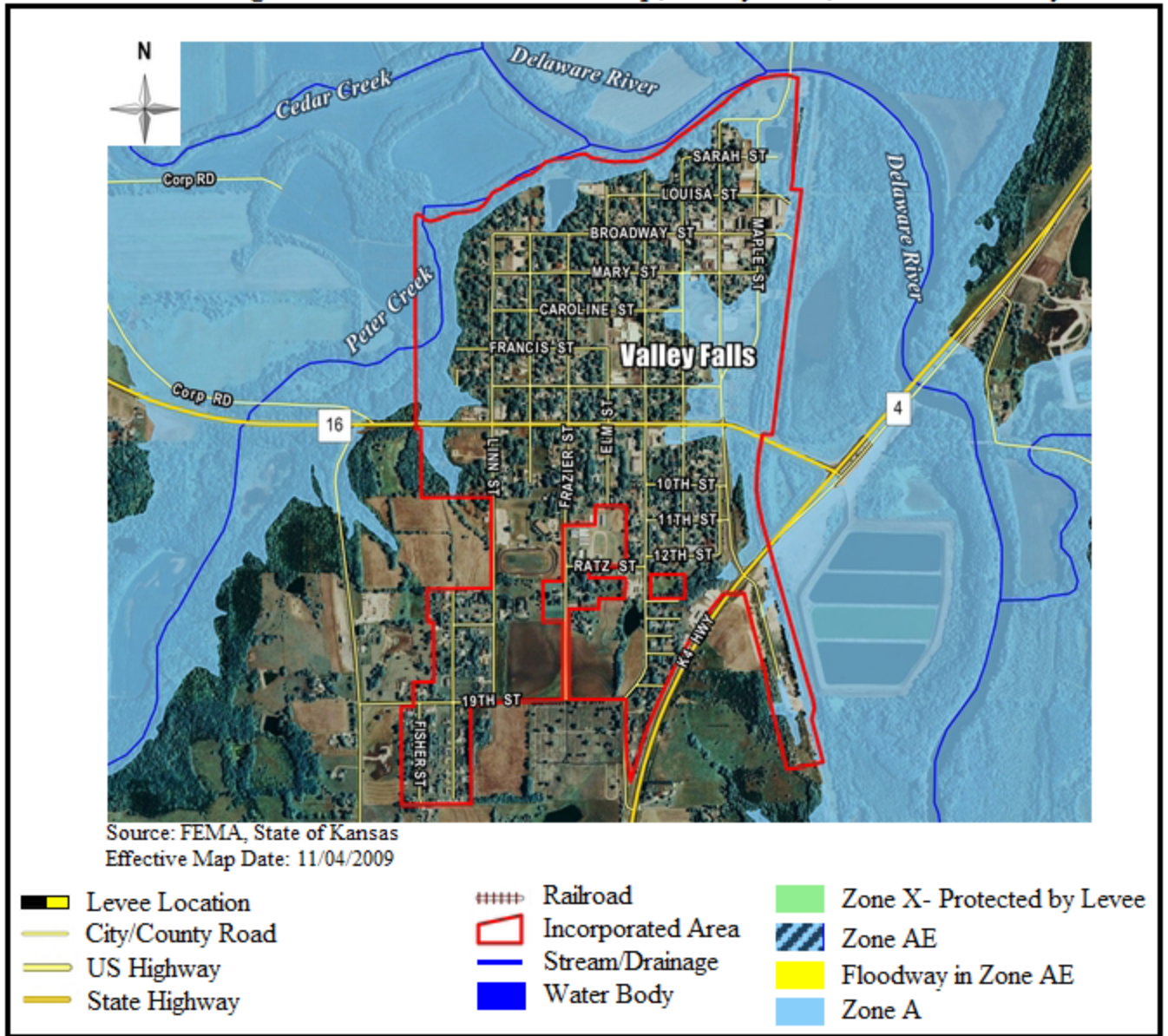
FEMA Digital Flood Insurance Rate Map, Oskaloosa, Jefferson County



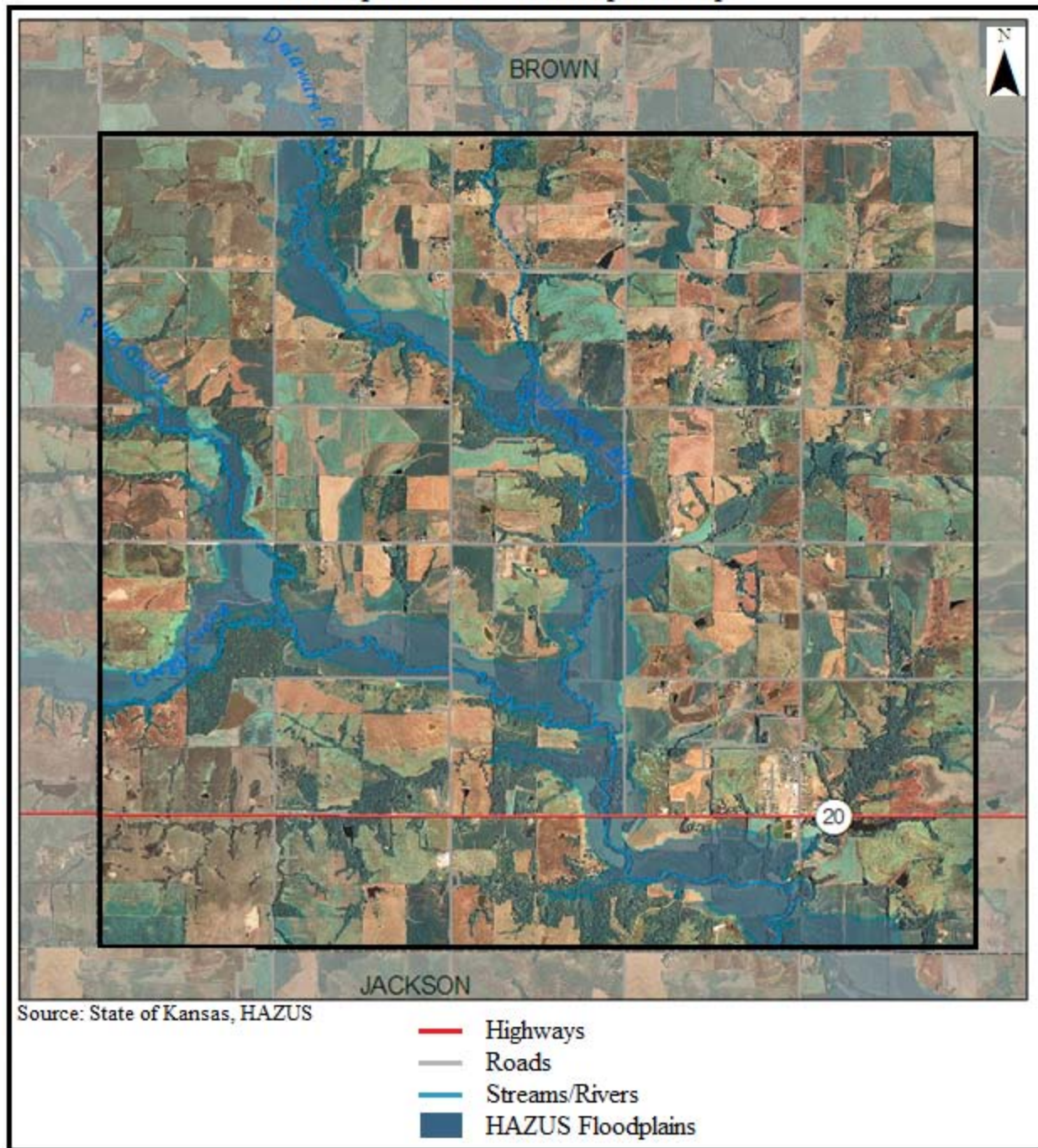
FEMA Digital Flood Insurance Rate Map, Perry, Jefferson County

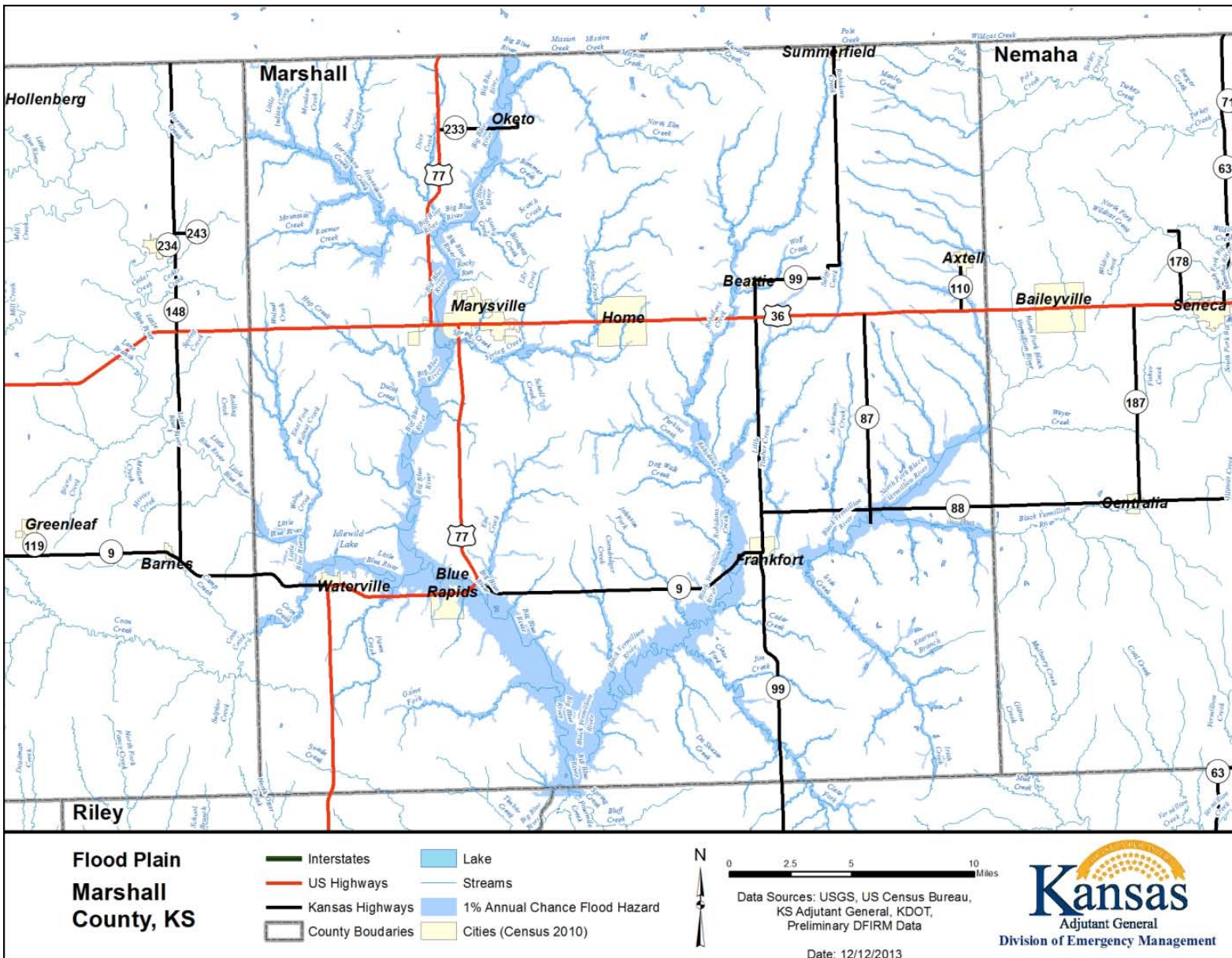


FEMA Digital Flood Insurance Rate Map, Valley Falls, Jefferson County

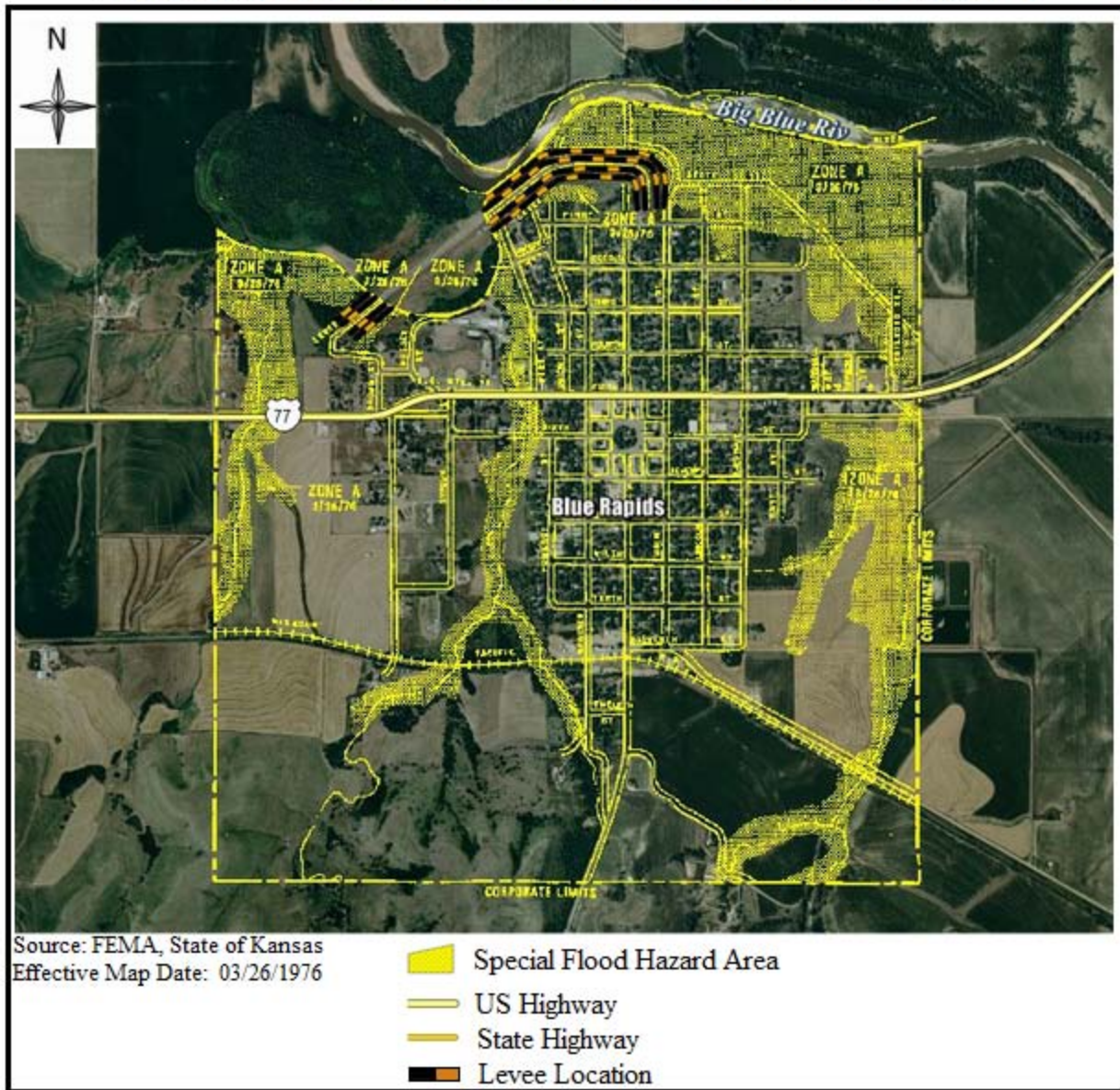


Kickapoo HAZUS Floodplain Map

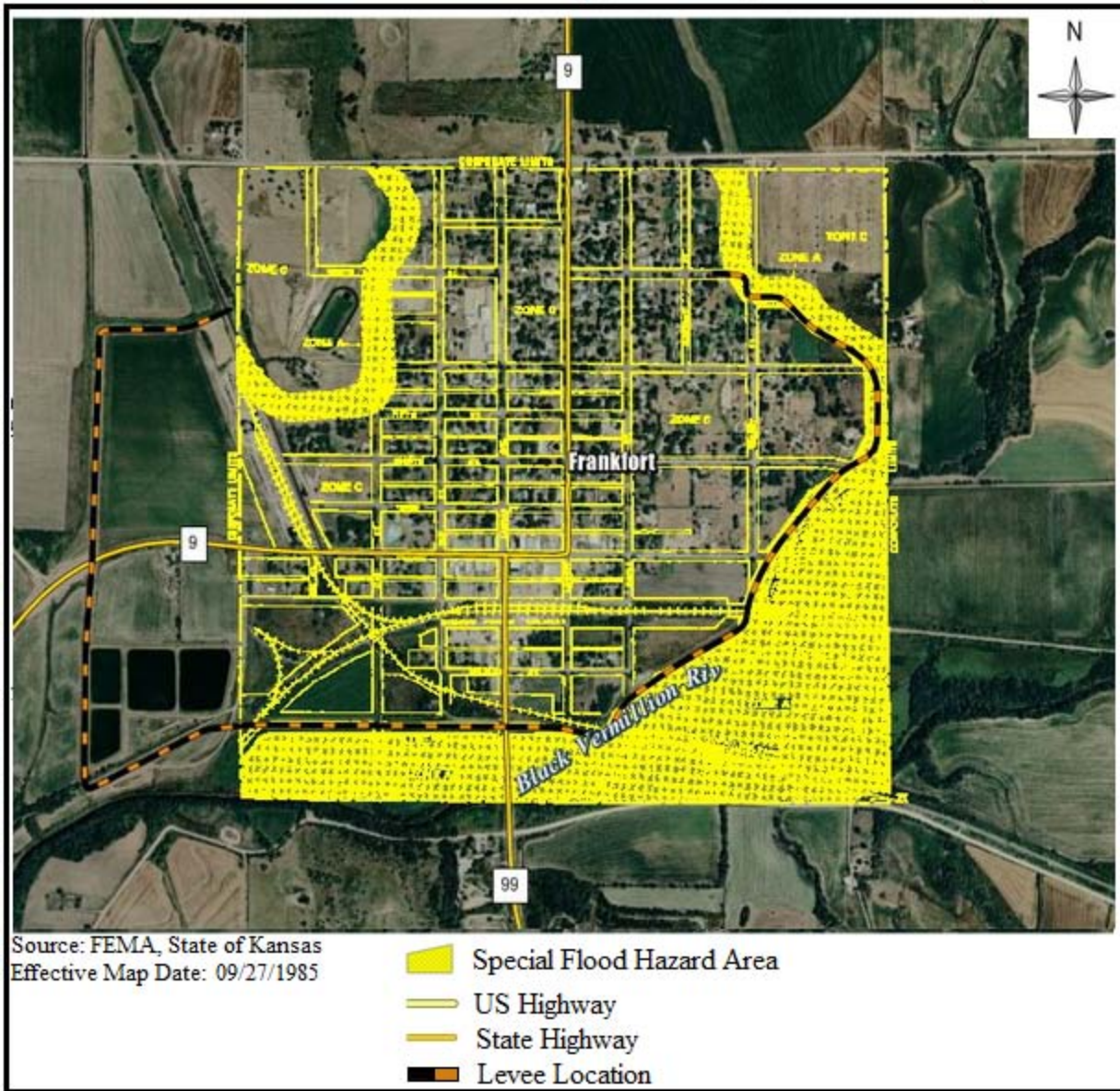




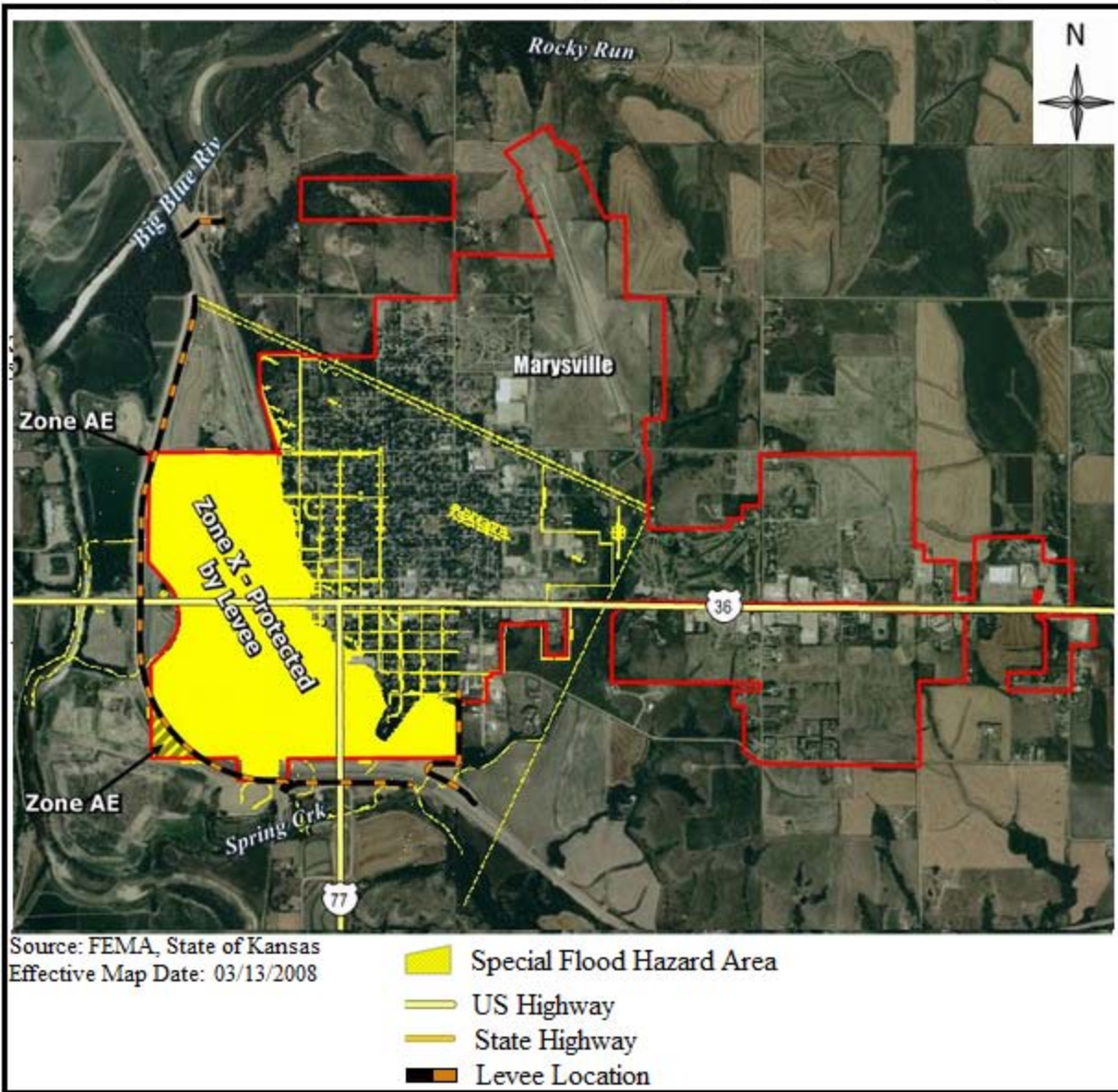
FEMA Flood Hazard Boundary Map, Blue Rapids, Marshall County



FEMA Flood Insurance Rate Map, Frankfort, Marshall County

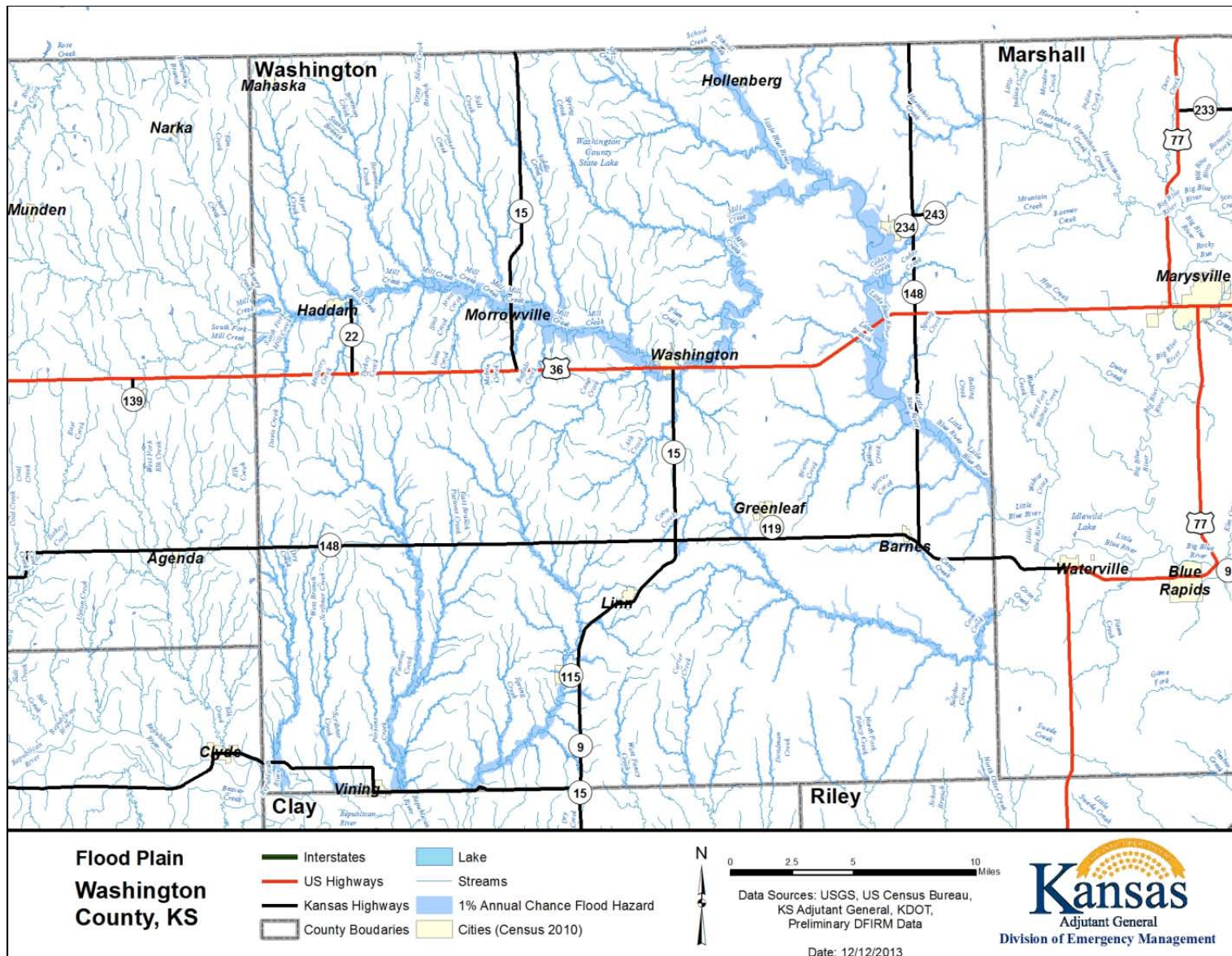


FEMA Flood Insurance Rate Map, Marysville, Marshall County

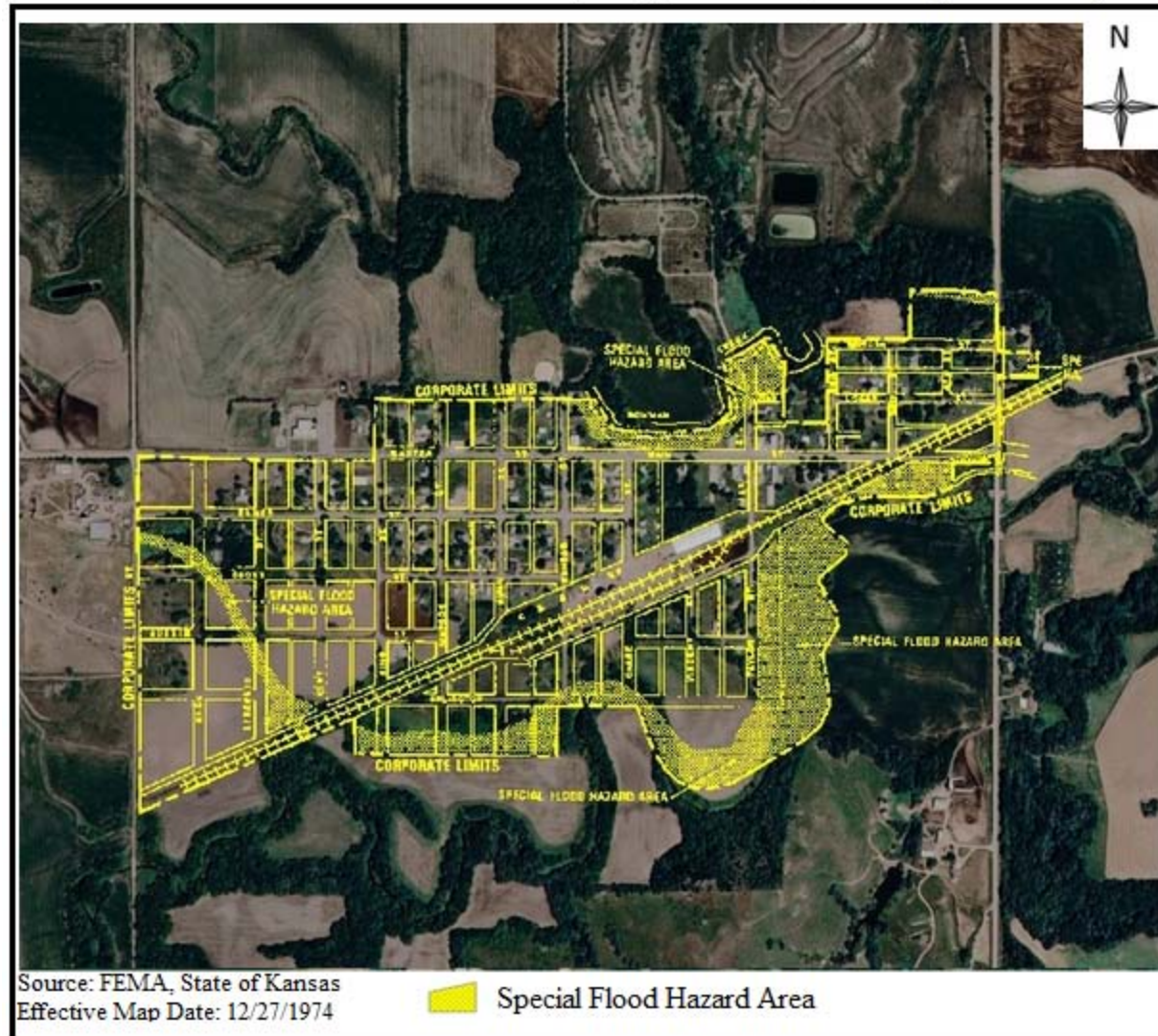


FEMA Flood Hazard Boundary Map, Vermillion, Marshall County

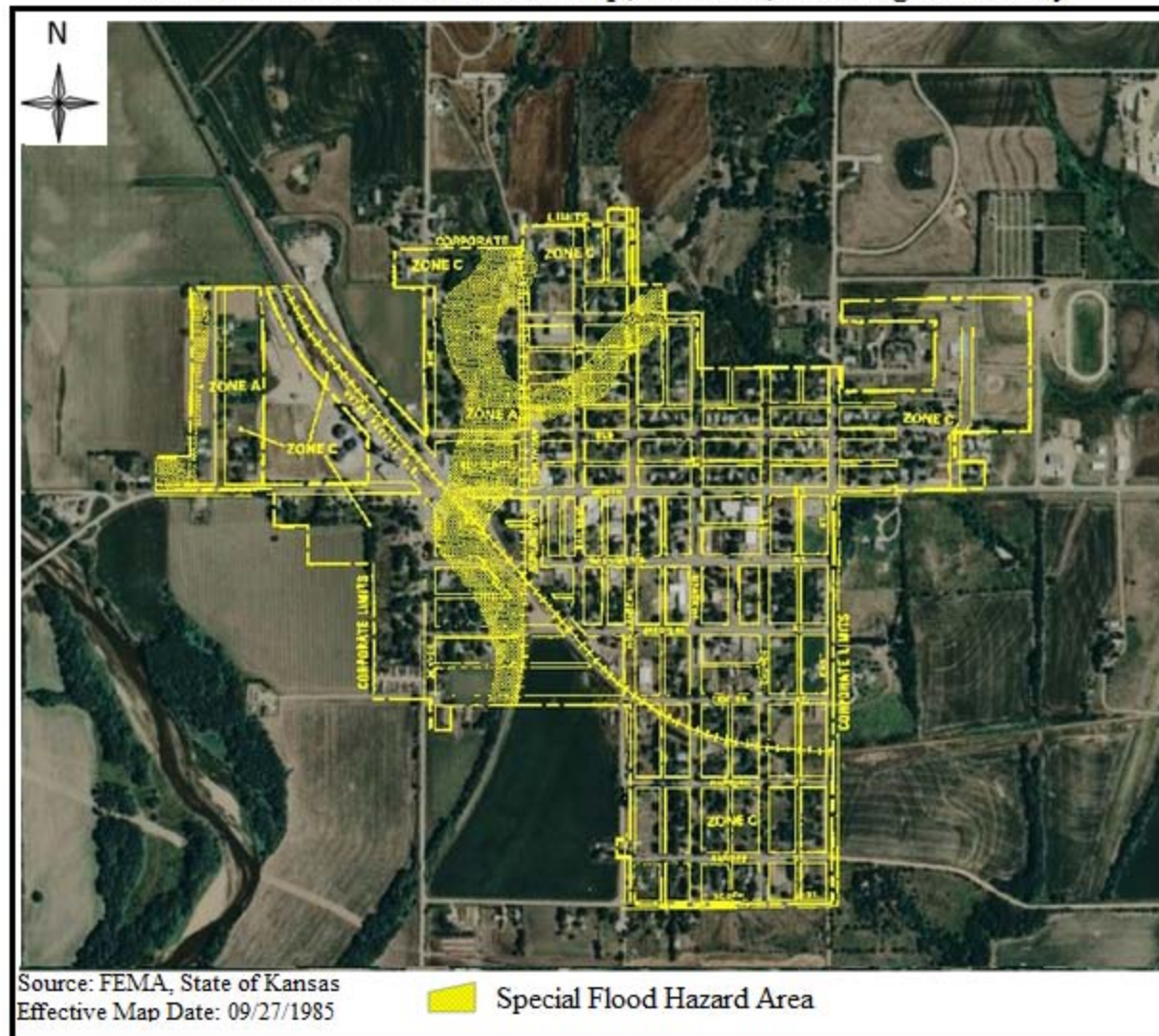




FEMA Flood Hazard Boundary Map, Haddam, Washington County



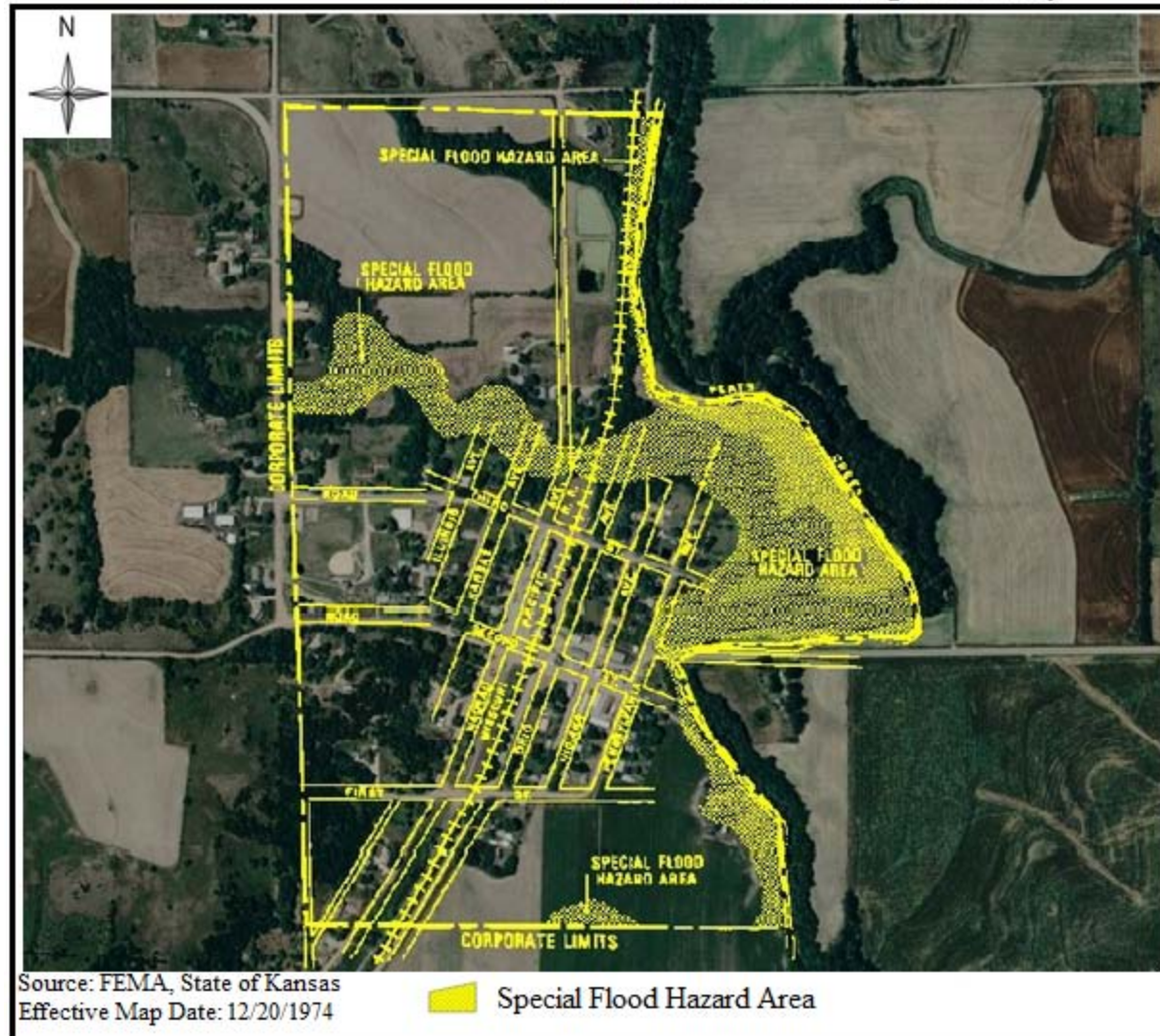
FEMA Flood Insurance Rate Map, Hanover, Washington County



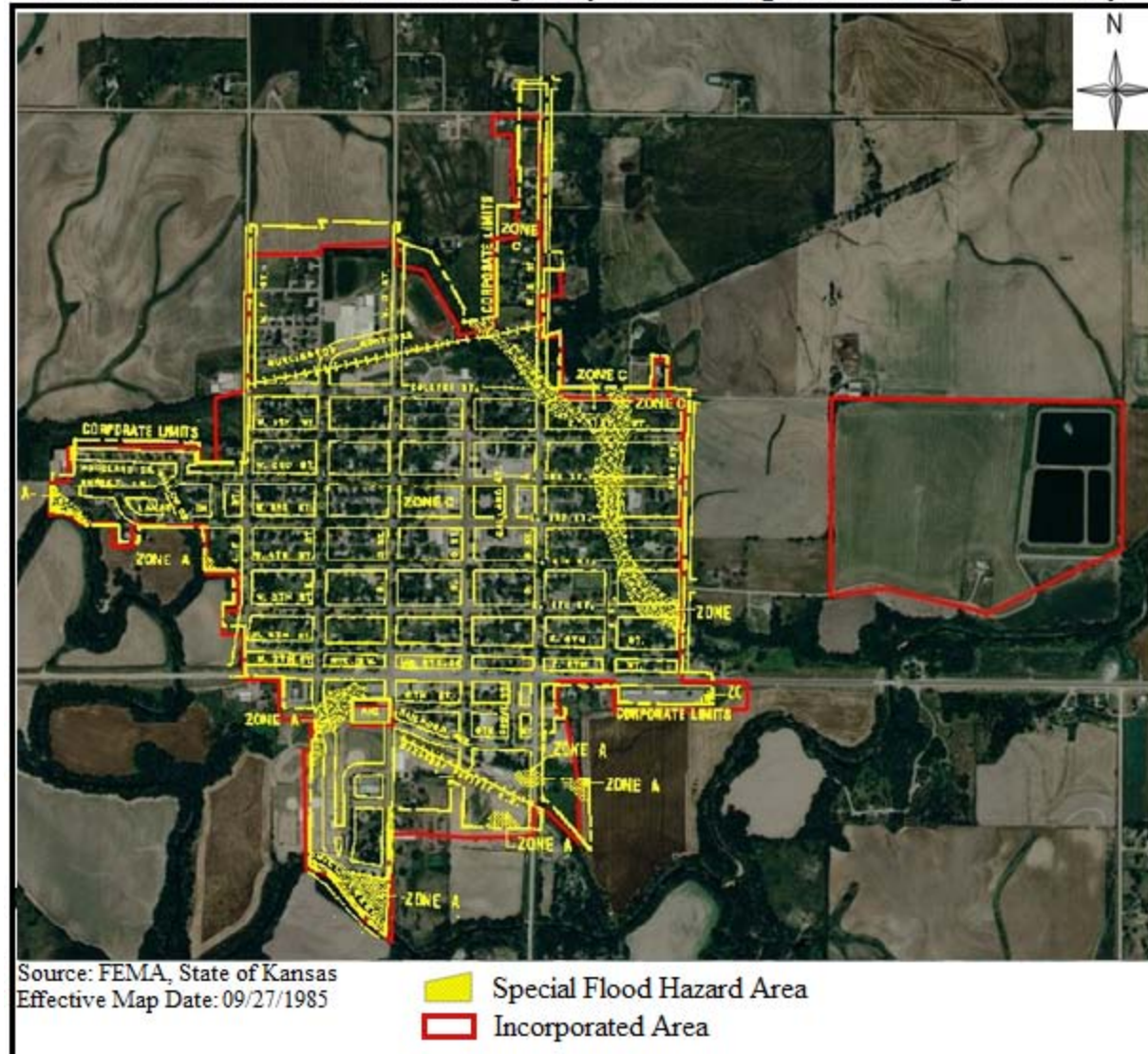
Source: FEMA, State of Kansas
Effective Map Date: 12/06/1974

Special Flood Hazard Area

FEMA Flood Hazard Boundary Map, Palmer, Washington County



FEMA Flood Insurance Rate Map, City of Washington, Washington County



Previous Occurrences and Extent

In the past ten years, eight Presidential Disaster Declarations for major floods have been declared for northeast Kansas. Details about some of these events can be found on the following pages. Please note that some of the Presidential Disaster Declarations included flooding (primarily flash flooding) as a secondary cause of damages

Kansas Presidential Declarations Involving Flooding

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost
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, Tornadoes and Flooding	Washington	\$8,259,620
1932	08/10/2010 (6/7-7/21/2010)	Severe Storms, Flooding and Tornadoes	Atchison, Brown, Doniphan, Jackson, Marshall and Washington	\$9,279,257
1699	5/6/2007 (5/4/2007)	Severe Storms, Tornadoes and Flooding	Brown, Doniphan, Douglas, Jackson, Marshall, Nemaha and Washington	\$117,565,269
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 Tornadoes	Douglas	\$2,103,376
1462	5/6/2003 (5/4-30/2003)	Severe Storms, Tornadoes and Flooding	Douglas	\$988,056
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 Tornadoes	Douglas, Jackson and Jefferson	\$9,770,769
1000	7/22/1993 (6/28-10/5/1993)	Flooding and Severe Storms	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington	\$99,790,368

Kansas Presidential Declarations Involving Flooding

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost
714	6/22/1984 (6/7-6/9/1984)	Severe Storms, Tornadoes and Flooding	Atchison, Brown, Doniphan, Jackson and Nemaha	\$5,002,299
663	6/28/1982	Severe Storms and Flooding	Jackson	\$804,048
644	7/18/1981	Severe Storms, Flooding and Tornadoes	Douglas	\$670,436
539	9/20/1977	Severe Storms and Flooding	Atchison, Brown, Doniphan, Jackson, Jefferson, and Nemaha	\$4,041,566
403	9/28/1973	Severe Storms, Tornadoes and Flooding	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington	\$4,296,913
378	5/2/1973	Severe Storms and Flooding	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha and Washington	\$1,954,624
267	7/15/1969	Tornadoes, Severe Storms and Flooding	Douglas	\$733,524
229	7/18/1967	Tornadoes, Severe Storms and Flooding	Atchison, Doniphan, Douglas, Jackson, Jefferson, Nemaha and Washington	\$847,439
88	11/6/1958	Flooding	Atchison, Nemaha and Washington	\$121,504

Sources: FEMA and Kansas Division of Emergency Management

* Incident dates are in parentheses.

** Disaster costs include Public Assistance and Individual Assistance and may include additional ,unlisted counties

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

Sources: FEMA and Kansas Division of Emergency Management

* Incident dates are in parentheses.

** Disaster costs include Public Assistance and Individual Assistance and may include additional ,unlisted counties

The following provide brief discussions of the most recent Presidential Disaster Declarations for the region:

FEMA-4035-DR: Flooding: September 23, 2011 - Four counties, including Atchison and



Doniphan Counties, were declared for flooding that occurred from June 1 to August 1, 2011 along the Missouri River. Damages as a result of this event were estimated to be nearly \$7,400,000 and primarily involved damages to roads and bridges. Additionally, approximately 400 of Elwood, Kansas' 1,200 residents in Doniphan County voluntarily evacuated. Record snowfall in the Rocky Mountains of Montana and Wyoming along with near record spring rainfall in central and eastern Montana triggered severe flooding

within the Upper Missouri River Basin. According to the National Weather Service, in the second half of the month of May 2011, almost a year's worth of rain fell over the upper Missouri River Basin. This extremely heavy rainfall, in conjunction with an estimated 212 percent of normal snowpack in the Rocky Mountains, contributed to this flooding event. All six major dams along the Missouri River released record amounts of water to prevent overflow and devastating consequences to towns and cities along the river from Montana to Missouri. The Corps of Engineers reported that every non-federal levee from Rulo to Wolcott, Kansas in Wyandotte County on both sides of the river were either overtopped or breached.



FEMA-4010-DR: Severe Storms, Straight-Line Winds, Tornadoes and Flooding – July 29, 2011 - From May 10 to June 4, 2011 severe storms, straight-line winds, tornadoes, and flooding caused damages in 25 Kansas Counties. The primary impacts of this event were to public roads and bridges with an estimated \$9,800,000 in damages.

FEMA 1932-DR: Severe Storms, Flooding and Tornadoes - August 10, 2010 - From June 7 to July 21, 2010, severe storms, flooding, and tornadoes caused damages in 41 Kansas Counties. The primary impacts of this event were to public roads and bridges with an estimated \$11,200,000 in damages.

FEMA 1254-DR: Severe Storms, Flooding and Tornadoes - October 1 -8, 1998 - From October 1-8, extensive thunderstorms with strong wind gusts, heavy rains, hail, tornadoes, and flooding impacted one county in southwestern Kansas and several counties along the eastern edge of the state. Many low lying roads were blocked by flash flooding. The storms damaged over 500 residential structures and impacted numerous businesses. There were two fatalities.

FEMA-1000-DR: Severe Storms and Flooding - July 22, 1993: About 40 inches of rain fell during the first seven months of the year in northeast Kansas. Runoff resulted in further flooding throughout the lower Missouri River basin in central and east Kansas. One of the most devastating floods in U.S. history (a once in 100-500-year event), this event put millions of acres of farmland under water for weeks, damaged roads, and made rivers un-navigable. Waters overtopped or destroyed numerous levees and eroded valuable topsoil. Fifty-six Kansas counties, (more than half the counties in the state) were included in the federal disaster declaration. The flood caused two deaths in Kansas. A high percentage of crop acres in the Kansas City District floodplains suffered losses because of the overtopping of 9 of 15 units in the federally-constructed Missouri River Levee System and virtually all the nonfederal farm levees in the district. More than 1,400,000 crop acres were classified as failed, which resulted in \$359,000,000 in damage. Damage to property was estimated at \$15,000,000,000 to \$20,000,000,000 across all nine states. The total cost of repairing federal levees was estimated at \$41,900,000 and nonfederal levees at \$300,000,000.

Further descriptions and other notable flooding events are detailed below

May 29, 2006: Washington County: Flash flooding occurred in central Washington County on May 29 when 4.65 inches of rain fell in less than two hours.

The following table presents NCDC identified flood events and the resulting damage totals in the region from the period 2001 - 2013.

NCDC Flood Events, 1996 - 2013

County	Number of Flash Flood Events	Number of Flood Events	Property Damages	Crop Damage	Deaths
Atchison	13	36	\$260,000	\$0	0
Brown	17	4	\$2,002,000	\$0	0
Doniphan	6	3	\$0	\$2,050,000	0
Douglas	30	12	\$3,366,000	\$210,000	0
Jackson	14	8	\$1,810,000	\$165,000	1
Jefferson	26	14	\$3,996,000	\$110,000	0
Marshall	11	5	\$208,000	\$3,000	0
Nemaha	12	6	\$469,000	\$47,000	0
Washington	9	3	\$681,000	\$20,000	0
Regional Total	138	91	\$12,792,000	\$2,605,000	1

Source: NCDC Storm Events Database

Local Events

July, 2013: Washington County: Flooding within the county caused damage to roads, bridges and culverts and impacted crops.

May, 2013: Kickapoo Tribe, Brown County: Flash flooding caused significant crop damage and damaged structures.

May - September, 2011: Wathena, Elwood, White Cloud and Countywide, Doniphan County: Release of excess water from dams upstream resulted in flooding that caused countywide property and infrastructure damage. In addition, this events caused some local business to relocate.

2011: City of Atchison, Atchison County: A large flood caused major damage to the city water intake pumps and facility. Additionally, there was minor damage to the river road and a sewer discharge line and the Highway 59 bridge was closed. \$296,643.42 in disaster relief aid was received.

June 16, 2010: Clinton Township and City of Lawrence, Douglas County: In Lawrence heavy rain caused significant flooding to streets and parks within the city. At one point the Buford M. Watson park at Tennessee St and 7th St. near downtown Lawrence was under eight feet of rushing water. Numerous water rescues were conducted throughout town as motorists became stranded by the quickly rising water.

June and July, 2010: Doniphan County: Severe flooding caused countywide property and infrastructure damage.

May, 2007: Doniphan County: Severe flooding caused countywide property and infrastructure damage.

July 25, 1993: City of Elwood, Doniphan County: Severe flooding caused property and infrastructure damage, including the closing of all business and schools. All homes within the city sustained damages.

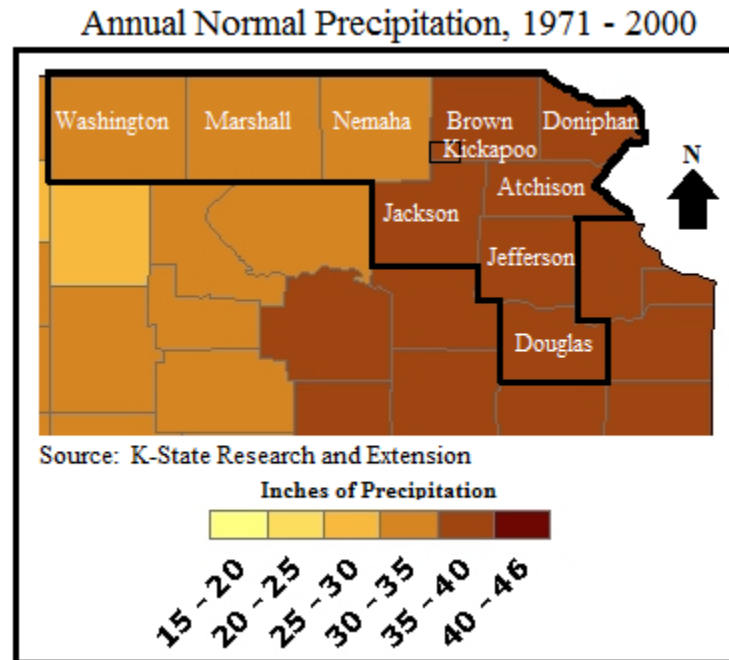
June and July, 1993: Doniphan County: Severe flooding caused countywide property and infrastructure damage.

June, 1984: Doniphan County: Severe flooding caused countywide property and infrastructure damage.

Hazard Vulnerability and Impact

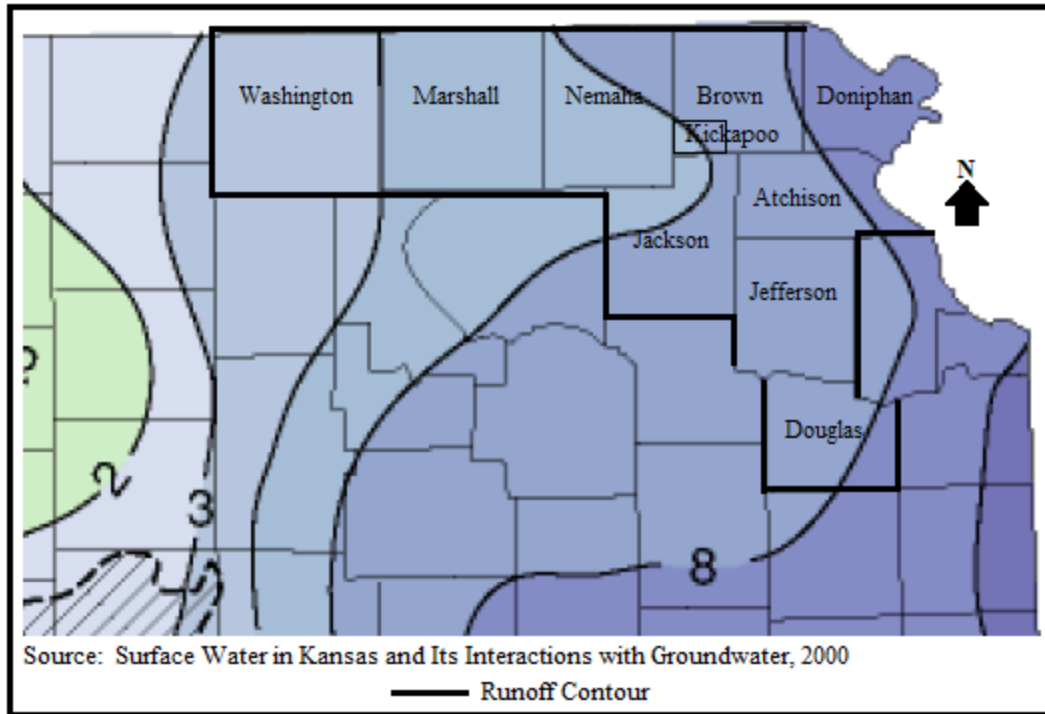
Flash flooding occurs in those locations of the in the planning area that are low-lying and/or do not have adequate drainage to carry away the amount of water that falls during intense rainfall events. The average annual precipitation varies significantly across the region. Precipitation in

the central part of the state averages approximately 35 inches. The following map shows how the annual normal precipitation varies across the region.



The following map shows the distribution of water runoff in northeast Kansas. This data indicates the approximate amount of water that does not infiltrate the ground and is potentially carried to streams and rivers. Although the climatically controlled rainfall variation is significant, average annual runoff across the state varies much more than the precipitation. The average runoff ranges from approximately 8 to 10 inches in the region. Both precipitation and runoff can impact flash flooding.

Distribution of Water Runoff in Northeast Kansas



The region acquired data from the USDA's Risk Management Agency to provide crop loss data based on crop insurance payments. Data was requested for the 10-year period from 2002 to 2011 for the State of Kansas. During this period, \$321,995,951 in crop insurance payments was made to Kansas farmers as a result of flood, excess moisture/precipitation/rain, and hurricane/tropical depression. This translates to \$321,995,951 annually. The most damaging year during this time-frame was 2007 which coincides with Presidential Declaration 1699 for major flooding in northeast Kansas. The following table provides the crop insurance payments by year for this ten-year period. Please note that this data only applies to insured crops and for the entire State. According to the *2011 Kansas Crop Insurance Profile Report* issued by the USDA Risk Management Agency 82 percent of Kansas' row crops were insured in 2011.

**USDA Risk Management Agency Crop Insurance Payments Due to Flood
Excess Moisture/Precipitation/Rain, and Hurricane/Tropical Depression**

Year	Statewide Crop Insurance Paid
2011 Total	\$16,554,331
2010 Total	\$51,325,423
2009 Total	\$69,363,919
2008 Total	\$58,422,531
2007 Total	\$86,141,405
2006 Total	\$1,510,143
2005 Total	\$15,082,104
2004 Total	\$16,276,418
2003 Total	\$4,944,342
2002 Total	\$2,375,336
Statewide Total	\$321,995,951

Source: USDA Risk Management Agency, 2012;

To determine vulnerability to flooding and the jurisdictions most threatened by flooding and most vulnerable to damage and losses, the region analyzed data from several sources including:

- NCDC Storm Events Database
- USDA Risk Management Agency Crop Loss Statistics
- HAZUS MH-2.1 100-year Flood Scenario
- NFIP Flood Insurance Claims
- Repetitive Loss Properties/Severe Repetitive Loss Properties

The NCDC Storm Events Database was the primary source of data to complete the vulnerability analysis of flash flood in the State; while the HAZUS-MH 2.1 analysis was utilized to describe vulnerability to riverine flooding. Flash flooding is not considered to be a geographic hazard. Due to the large number of variables that occur in rainfall amounts and intensity, it is not possible to predict all specific locations that are vulnerable to flash flooding. However, it is known that certain low-lying areas with poor drainage are more vulnerable than areas higher in elevation with good drainage. Additionally, historical statistics of areas that have been prone to flash flooding in the past can be utilized to determine potential vulnerability to future events.

The following table provides total crop insurance payments and annualized crop insurance payments for flood damage for each county over the 10-year period from 2002 to 2011. The USDA does not differentiate damages from riverine flooding and flash flooding. As such, these losses include combined losses for both types of flooding. The crop exposure value from the 2007 Census of Agriculture is provided to provide the basis for an annualized ratio of insurance payments to total value. Please note that this data only applies to insured crops. According to the *2011 Kansas Crop Insurance Profile Report* issued by the USDA Risk Management Agency 82 percent of Kansas' row crops were insured in 2011. The crop exposure values have not been adjusted in the table below.

Flood-Related Crop Insurance Payments Analysis, 2002-2011

County	Crop Exposure Value (2007 Census of Agriculture)	Flood-Related Crop Insurance Payments 2002-2011	Annualized Crop Insurance Payments	Annualized Flood- Related Crop Insurance Payment Ratio
Atchison	\$42,536,000	\$3,632,145	\$363,215	0.85%
Brown	\$86,532,000	\$1,250,556	\$125,056	0.14%
Doniphan	\$67,800,000	\$9,946,527	\$994,653	1.47%
Douglas	\$27,973,000	\$1,839,185	\$183,919	0.66%
Jackson	\$21,169,000	\$1,429,503	\$142,950	0.68%
Jefferson	\$33,429,000	\$1,392,973	\$139,297	0.42%
Marshall	\$81,815,000	\$3,383,451	\$338,345	0.41%
Nemaha	\$67,091,000	\$1,999,716	\$199,972	0.30%
Washington	\$65,762,000	\$1,482,872	\$148,287	0.23%
Regional Total	\$494,107,000	\$26,356,928	\$2,635,693	-

Source: USDA Risk Management Agency; 2007 USDA Census of Agriculture;

HAZUS-MH 2.1 One-Percent Annual Chance Flood Scenario

According to the HAZUS-MH 2.1 one percent annual chance flood scenario results, there are 443 buildings and 4,610 people in the one percent annual chance floodplain. The following table provides the HAZUS-MH 2.1 results for the number of vulnerable buildings and population vulnerable to displacement for each county in northeast Kansas.

Vulnerable Buildings and Population, HAZUS One Percent Annual Chance Flood Scenario

County	Vulnerable Buildings	Population Vulnerable to Displacement
Atchison	52	357
Brown	4	157
Doniphan	222	1,425
Douglas	67	897
Jackson	7	425
Jefferson	28	540
Marshall	55	411
Nemaha	0	211
Washington	8	187
Regional Total	443	4,610

Source: HAZUS MH 2.1

NFIP Flood Insurance Claims Analysis

The region analyzed NFIP flood-loss data to determine areas of northeast Kansas with the greatest flood risk. Northeast Kansas NFIP participation and flood loss statistics were obtained from FEMA's Policy and Claim Statistics for Flood Insurance (which provides losses from 1978 to the present). As of October 2012, 58 communities (including the counties) were NFIP participants, including 13 that do not have special flood hazard areas and 18 that are only minimally flood-prone. The following table presents northeast Kansas NFIP communities.

Northeast Kansas NFIP Communities

Community	Initial Flood Hazard Boundary Map Identified	Initial Flood Insurance Rate Map Identified	Current Effective Map Date
Atchison County			
Atchison County	5/31/1977	12/1/2007	12/01/07(L)
City of Atchison	2/8/1974	6/1/1978	6/1/1978
Effingham	2/1/1974	-	NSFHA
Muscotah	11/22/1974	-	7/9/1976
Brown County			
Brown County	5/17/1977	9/1/1987	09/01/87(L)
Hiawatha	2/8/1974	-	NSFHA
Horton	2/15/1974	-	NSFHA
Robinson	11/29/1974	5/1/1990	05/01/90(L)
Hamlin	9/19/1975	-	9/19/1975
Morrill	11/22/1974	-	12/12/1975
Sabetha	4/16/1976	-	NSFHA
Doniphan County			
Doniphan County	6/3/1977	6/1/1978	6/1/1978
Elwood	6/28/1974	-	NSFHA
Highland	4/23/1976	9/1/2011	09/01/11(L)
Leona	12/20/1974	1/7/1977	01/07/77(M)
Troy	2/15/1974	-	NSFHA
Wathena	3/22/1974	-	NSFHA
White Cloud	12/27/1974	8/1/1984	8/1/1984
Douglas County			
Douglas County	6/17/1977	3/2/1981	8/5/2010
Baldwin City	2/15/1974	1/2/1980	8/5/2010
Eudora	1/9/1974	1/16/1981	8/5/2010
Lawrence	6/14/1974	3/2/1981	8/5/2010
Lecompton	1/23/1974	3/15/1979	8/5/2010
Jackson County			
Jackson County	5/31/1977	12/15/1989	5/3/2010
Circleville	12/20/1974	5/3/2010	5/3/2010
Delia	8/30/1974	5/3/2010	5/3/2010
Denison	-	5/3/2010	NSFHA
Holton	2/22/1974	1/16/1981	5/3/2010
Hoyt	12/20/1974	5/3/2010	NSFHA
Mayetta	11/8/1974	5/3/2010	NSFHA
Soldier	11/22/1974	5/3/2010	5/3/2010
Whiting	11/29/1974	5/3/2010	5/3/2010

Northeast Kansas NFIP Communities, Continued

Community	Initial Flood Hazard Boundary Map Identified	Initial Flood Insurance Rate Map Identified	Current Effective Map Date
Jefferson County			
Jefferson County	8/16/1977	9/4/1991	12/17/2010
McLouth	3/22/1974	11/4/2009	11/04/09(M)
Meriden	11/5/1976	11/4/2009	11/04/09(M)
Nortonville	3/1/1974	11/4/2009	11/04/09(M)
Oskaloosa	5/24/1974	11/4/2009	11/04/09(M)
Perry	12/7/1973	3/2/1981	11/4/2009
Valley Falls	10/10/1975	11/4/2009	11/04/09(M)
Winchester	-	11/4/2009	NSFHA
Marshall County			
Marshall County *	6/28/1977	5/1/1990	05/01/90(L)
Axtell	3/26/1976	-	NSFHA
Blue Rapids	3/26/1976	11/1/2011	11/01/11(L)
Frankfort	1/23/1974	9/27/1985	09/27/85(M)
Marysville	12/7/1973	12/1/1977	12/1/1977
Vermillion	12/20/1974	5/1/1990	05/01/90(L)
Waterville	8/29/1975	-	NSFHA
Nemaha County			
Nemaha County	7/5/1977	8/19/1985	08/19/85(M)
Centralia	5/24/1974	9/1/1986	09/01/86(L)
Corning	-	-	-
Seneca	2/8/1974	9/27/1985	09/27/85(M)
Goff	11/8/1974	-	12/26/1975
Washington County			
Washington County	-	-	1/1/1950
Hanover	7/18/1975	9/27/1985	09/27/85(M)
Haddam	12/27/1974	-	12/27/1974
Morrowville	12/6/1974	-	12/6/1974
Palmer	12/20/1974	-	12/20/1974
City of Washington	8/15/1975	9/27/1985	09/27/85(M)

Notes: NSFHA: No Special Flood Hazard Area - All Zone C

(L): Original FIRM by letter - All Zone A, C and X

(M): No elevation determined - All Zone A, C and X

In addition, the City of Lawrence is a participant in the Community Rating System (CRS) program and is taking additional steps beyond the minimum requirements of the NFIP.

There are likely other communities in northeast Kansas that have flood hazard areas but have not yet been mapped by FEMA to show where those hazard areas are.

Kansas flood-loss information was pulled from FEMA’s “Policy and Loss Data by Community with County and State Data,” which documents losses from 1978 through August 31, 2012. There are several limitations to this data, including:

- Only losses to participating NFIP communities are represented
- Communities joined the NFIP at various times since 1978
- The number of flood insurance policies in effect may not include all structures at risk to flooding
- Some of the historical loss areas have been mitigated with property buyouts

Some properties are under-insured. The flood insurance purchase requirement is for flood insurance in the amount of federally-backed mortgages, not the entire value of the structure. Additionally, contents coverage is not required.

Despite these limitations, the data depicts a pattern of historical flood losses in the region, with the greatest losses in Doniphan and Douglas counties. The following table shows the details of NFIP policy and loss statistics for each county in northeast Kansas. Loss statistics include losses through March 31, 2014.

Kansas NFIP Policy and Loss Statistics, As of March 31, 2014

	Number of Policies in Force	Insurance in Force	Number of Closed Losses	Total Payments
Atchison County				
Atchison County	5	\$503,100	1	\$15,391.41
City of Atchison	7	\$2,317,400	-0	\$0
Brown County				
Brown County	1	\$210,00	0	\$0
Robinson	19	\$475,100	0	\$0
Sabetha	1	\$275,000	0	\$0
Doniphan County				
Doniphan County	56	\$10,718,100		\$
Elwood	156	\$26,763,800		\$
Wathena	27	\$5,179,700		\$
Douglas County				
Douglas County	86	\$19,054,400	13	\$132,063.66
Baldwin	24	\$4,250,800	2	\$32,464.48
Eudora	23	\$3,382,700	6	\$77,589.12
Lawrence	428	\$85,151,600	61	\$511,460.51
Lecompton	2	\$475,000	2	\$18,426.64
Jackson County				
Jackson County	12	\$2,135,100	2	\$103,608.83
Circleville	1	\$50,000	0	\$0
Holton	2	\$1,060,000	1	\$16,000.00

Kansas NFIP Policy and Loss Statistics, As of March 31, 2014

	Number of Policies in Force	Insurance in Force	Number of Closed Losses	Total Payments
Jefferson County				
Jefferson County	55	\$8,996,800	22	\$579,048.61
Meriden	1	\$50,000	0	\$0
Oskaloosa	1	\$280,000	0	\$0
Perry	28	\$5,507,600	21	\$21,102.92
Valley Falls	1	\$140,000	0	\$0
Marshall County				
Marshall County	1	\$100,000	2	\$33,838.58
Blue Rapids	1	\$50,000	0	\$0
Frankfort	1	\$300,000	0	\$0
Marysville	4	\$154,000	13	\$57,189.65
Nemaha County				
Nemaha County	2	\$416,500	0	\$0
Centralia	3	\$372,500	1	\$5,264.05
Seneca	2	\$252,000	0	\$0
Washington County				
Washington County	1	\$35,000	0	\$0
Hanover	4	\$256,800	0	\$0

Source: FEMA, "Policy and Loss Data by Community with County and State Data"

Repetitive Loss Analysis

A high priority in northeast Kansas and nationwide is the reduction of losses to repetitive loss structures. These structures strain the National Flood Insurance Fund. The NFIP defines a repetitive loss property as "any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period, since 1978. At least two of the claims must be more than 10 days apart." Northeast Kansas has made mitigation of repetitive loss properties a priority use of mitigation funds. Because of this dedication, data provided by KDEM indicates that northeast Kansas currently has no repetitive loss properties.

Severe Repetitive Loss Analysis

The Flood Insurance Reform Act of 2004 identified another category of repetitive loss, categorized as Severe Repetitive Loss (SRL). The definition of severe repetitive loss as applied to this program was established in section 1361A of the National Flood Insurance Act, as amended, 42 U.S.C. 4102a. An SRL property is defined as a residential property that is covered under an NFIP flood insurance policy and:

- That has at least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or

- For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

For both of the above, at least two of the referenced claims must have occurred within any ten-year period, and must be greater than ten days apart.

Data provided by KDEM indicates that there are no validated insured residential properties in northeast Kansas that meet the qualifications of SRL and the requirements to be considered for possible mitigation activities under FEMA's SRL criteria.

History of Severe Repetitive Loss

In addition to the verified residential, insured properties above, the NFIP tracks other categories of properties, including unverified properties, commercial properties, previously mitigated properties, and currently uninsured properties that meet the loss criteria.

As of October 2012, there are no validated properties that have incurred flood-related damage for which four or more separate claims payments have been paid under flood insurance coverage with the amount of each claim payment exceeding \$5,000 and with cumulative amounts of such claims payments exceeding \$20,000; or for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

Riverine Flooding

The results of the HAZUS-MH2.1 analysis were utilized to estimate potential losses for riverine flooding. The intent of this analysis was to enable the region to estimate where flood losses could occur and the degree of severity using a consistent methodology. The HAZUS model helps quantify risk along known flood-hazard corridors as well as lesser streams and rivers that have a drainage area of ten square miles or more.

The HAZUS-MH 2.1 analysis provides the number of buildings impacted, estimates of the building repair costs, as well as the associated loss of building contents and business inventory. Building damage can also cause additional losses to a community as a whole by restricting a building's ability to function properly. Income loss data accounts for losses such as business interruption and rental income losses as well as the resources associated with damage repair and job and housing losses. These losses are calculated by HAZUS-MH 2.1 using a methodology based on the building damage estimates.

Among other factors, flood damage is related to the depth of flooding. HAZUS-MH 2.1 takes into account flood depth when modeling damage (based on FEMA's depth-damage functions). The HAZUS-MH 2.1 reports capture damage by occupancy class (in terms of square footage impacted) by damage percent classes. Occupancy classes in HAZUS-MH 2.1 include agriculture, commercial, education, government, industrial, religion, and residential. Damage percent classes are grouped by 10 percent increments 1-10 percent, 11-20 percent, etc., up to 50

percent. Buildings that sustain more than 50 percent damage are considered to be “substantially” damaged.

The displaced population is based on the inundation area. Individuals and households will be displaced from their homes even when the home has suffered little or no damage either because they were evacuated or there was no physical access to the property because of flooded roadways. Displaced people using shelters will most likely be individuals with lower incomes and those who do not have family or friends within the immediate area. HAZUS-MH 2.1 does not model flood casualties.

The following table provides the HAZUS-MH 2.1 results for vulnerable populations and the population estimated to seek short term shelter as well as the numbers of damaged and substantially damaged buildings for each northeast Kansas county.

HAZUS-MH 2.1 Flood Scenario Displaced Population and Number of Damaged Buildings

County	Population Vulnerable to Displacement (Number of People)	Short Term Shelter Needs (Number of People)	Vulnerable Buildings	Damaged Buildings	Substantially Damaged Buildings
Atchison	357	87	52	11	1
Brown	157	9	4	0	0
Doniphan	1,425	758	222	177	152
Douglas	897	235	67	19	5
Jackson	425	67	7	3	1
Jefferson	540	52	28	5	5
Marshall	411	75	55	16	3
Nemaha	211	3	0	0	0
Washington	187	5	8	1	0
Regional Total	4,610	1,291	443	232	167

Source: HAZUS-MH 2.1

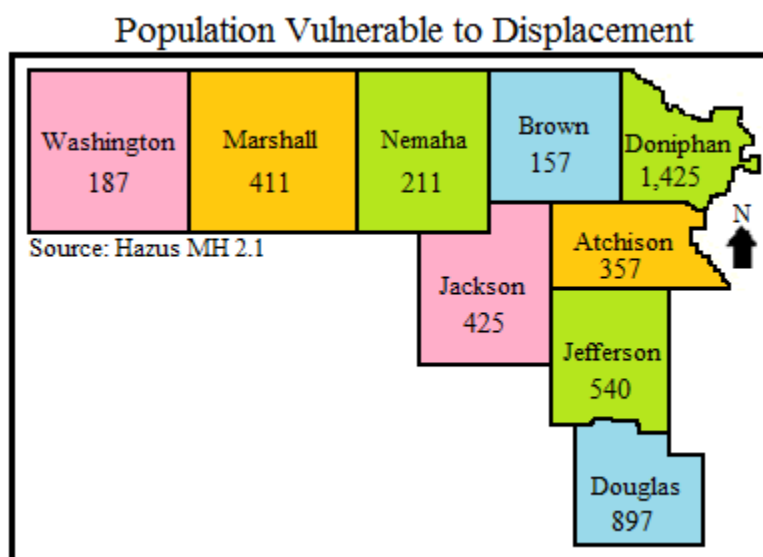
The following table provides total direct building loss and income loss for each northeast Kansas county.

HAZUS-MH 2.1 Flood Scenario Direct Building and Income Losses

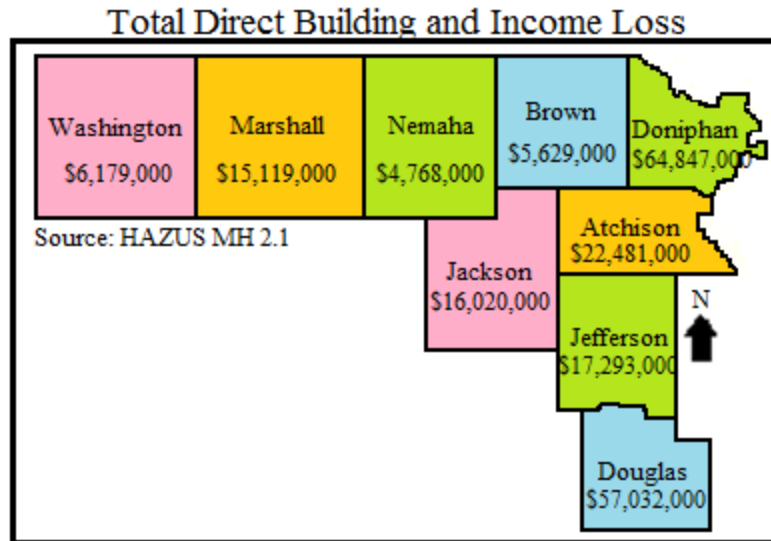
County	Structural Damage	Contents Damage	Inventory Loss	Total Direct Loss	Total Income Loss	Total Direct and Income Loss	Structure and Contents Loss Ratio
Atchison	\$7,777,000	\$14,048,000	\$524,000	\$22,349,000	\$132,000	\$22,481,000	0.62%
Brown	\$2,639,000	\$2,851,000	\$130,000	\$5,620,000	\$9,000	\$5,629,000	0.24%
Doniphan	\$28,066,000	\$34,050,000	\$2,607,000	\$64,723,000	\$124,000	\$64,847,000	3.59%
Douglas	\$21,716,000	\$33,090,000	\$1,798,000	\$56,604,000	\$428,000	\$57,032,000	0.30%
Jackson	\$6,880,000	\$8,553,000	\$527,000	\$15,960,000	\$60,000	\$16,020,000	0.66%
Jefferson	\$8,854,000	\$8,104,000	\$201,000	\$17,159,000	\$134,000	\$17,293,000	0.44%
Marshall	\$5,443,000	\$8,795,000	\$843,000	\$15,081,000	\$38,000	\$15,119,000	0.67%
Nemaha	\$2,446,000	\$2,190,000	\$127,000	\$4,763,000	\$5,000	\$4,768,000	0.18%
Washington	\$2,676,000	\$3,154,000	\$340,000	\$6,170,000	\$9,000	\$6,179,000	0.47%
Regional Total	\$86,497,000	\$114,835,000	\$7,097,000	\$208,429,000	\$939,000	\$209,368,000	-

Source: HAZUS-MH 2.1

The following map depicts the potential population vulnerable to displacement



The following map illustrates the potential total direct building and income loss according to the HAZUS results for the region.

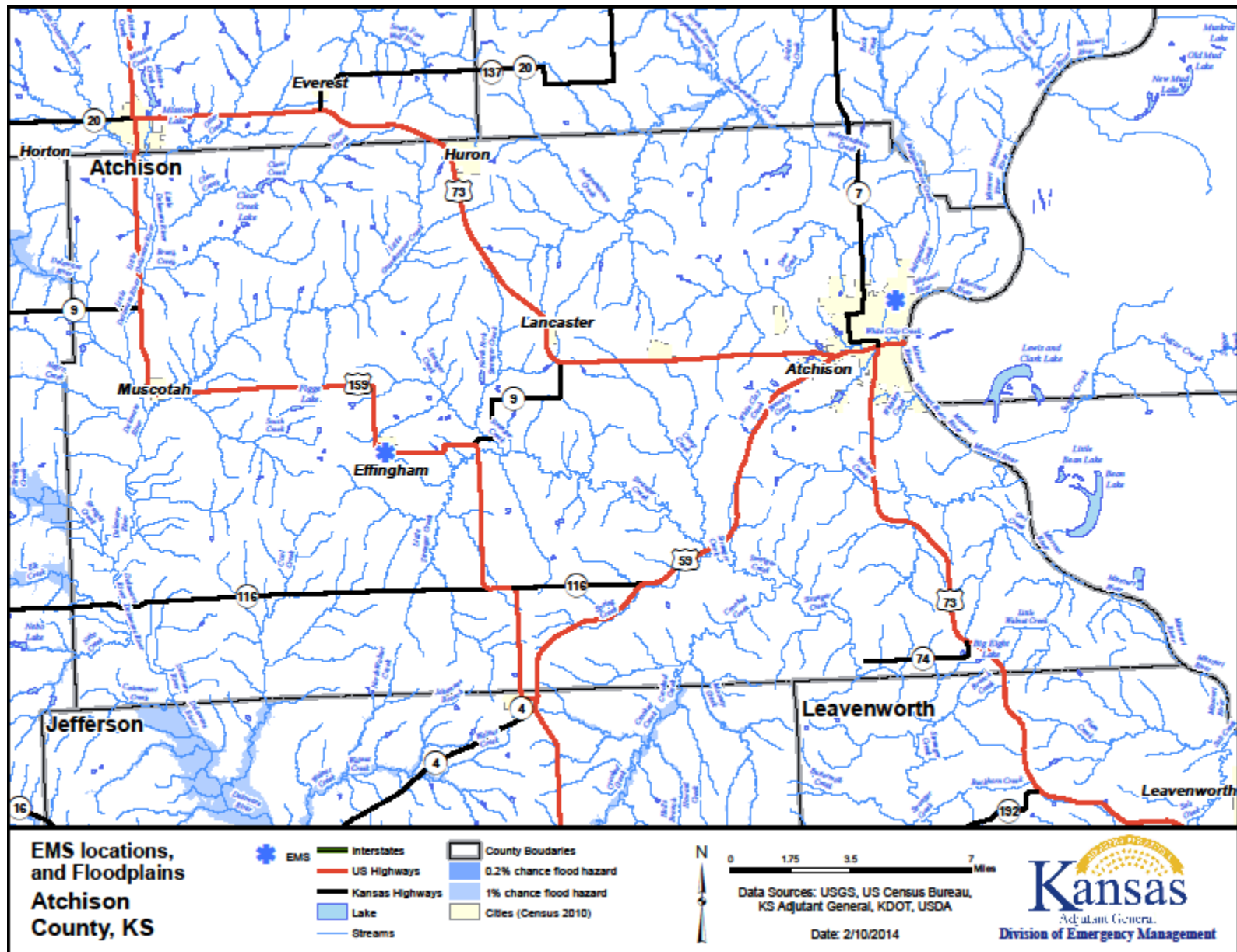


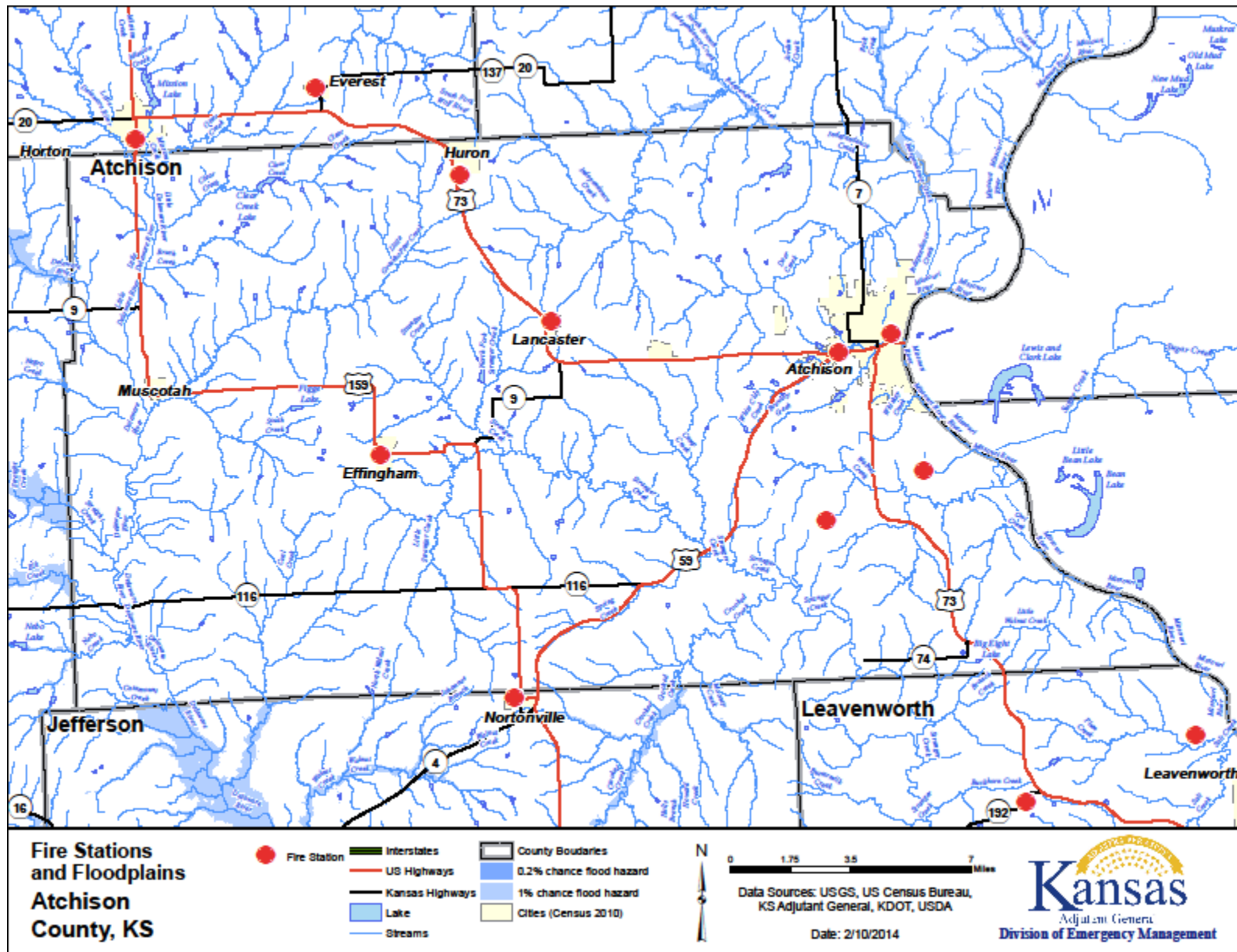
Critical Facilities in Flood Plains

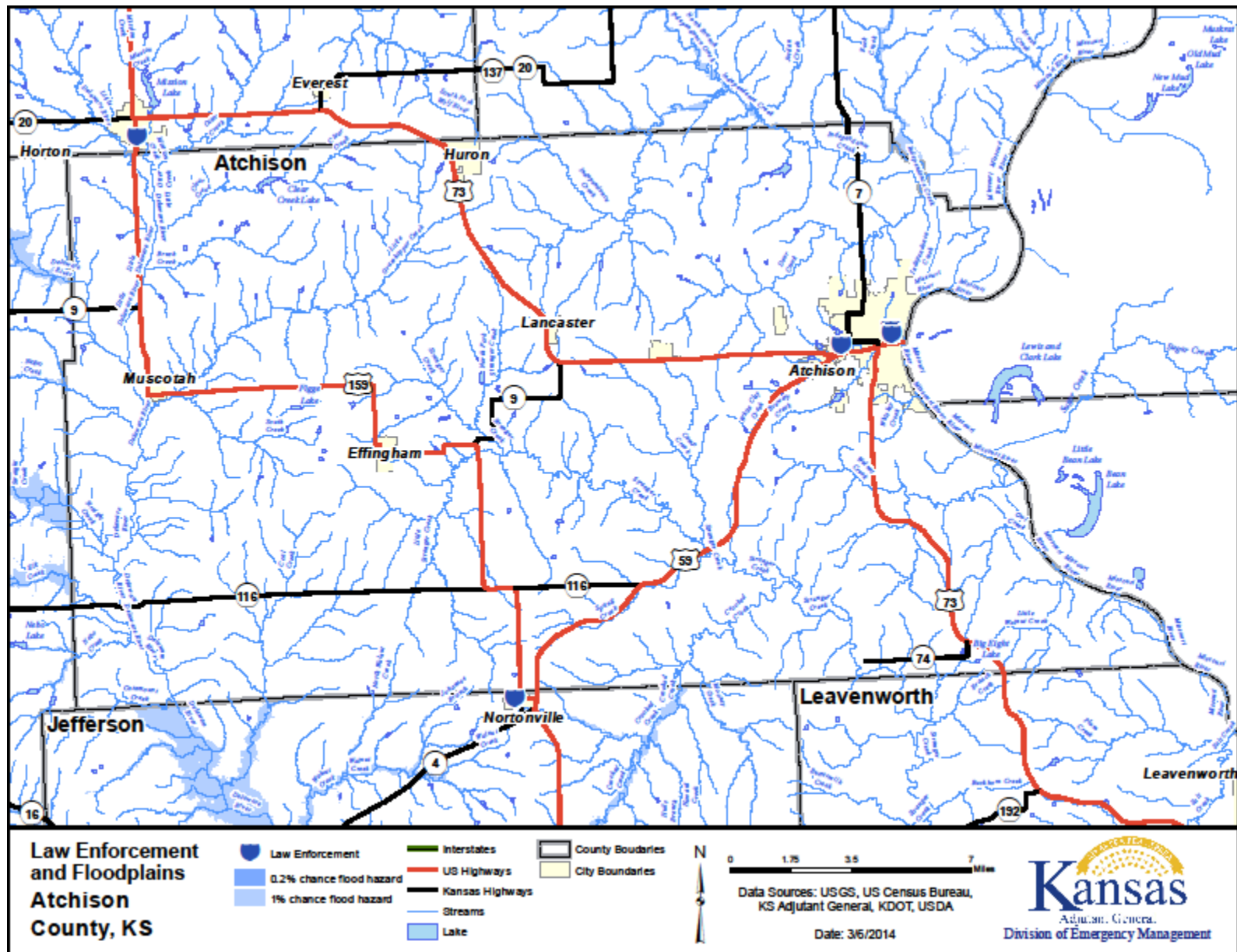
The following county maps show critical facilities located in flood plains. Identified critical facilities include:

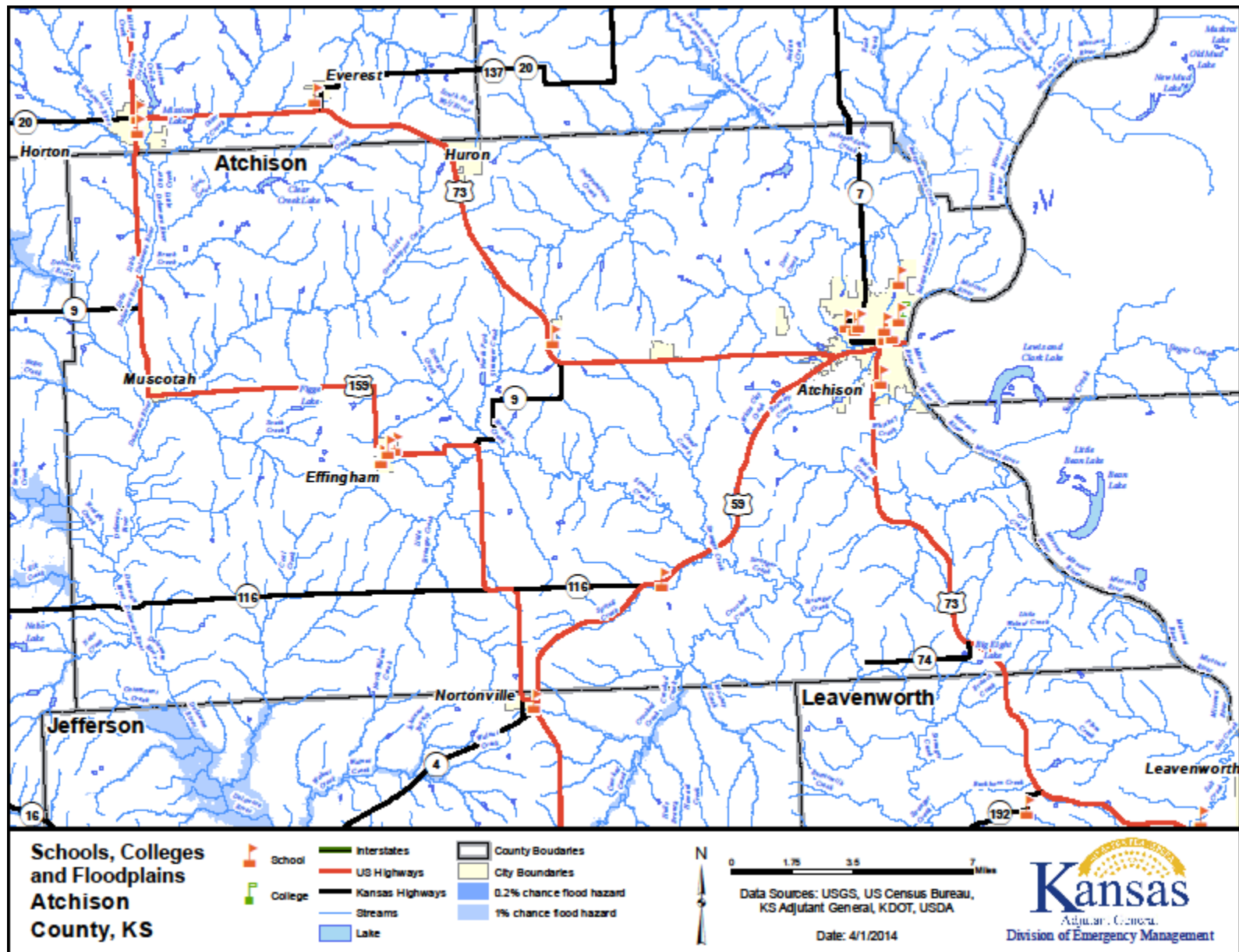
- Schools
- Police Stations
- Fire Stations
- Hospitals (if information made available)
- Elderly care facilities (if information made available)

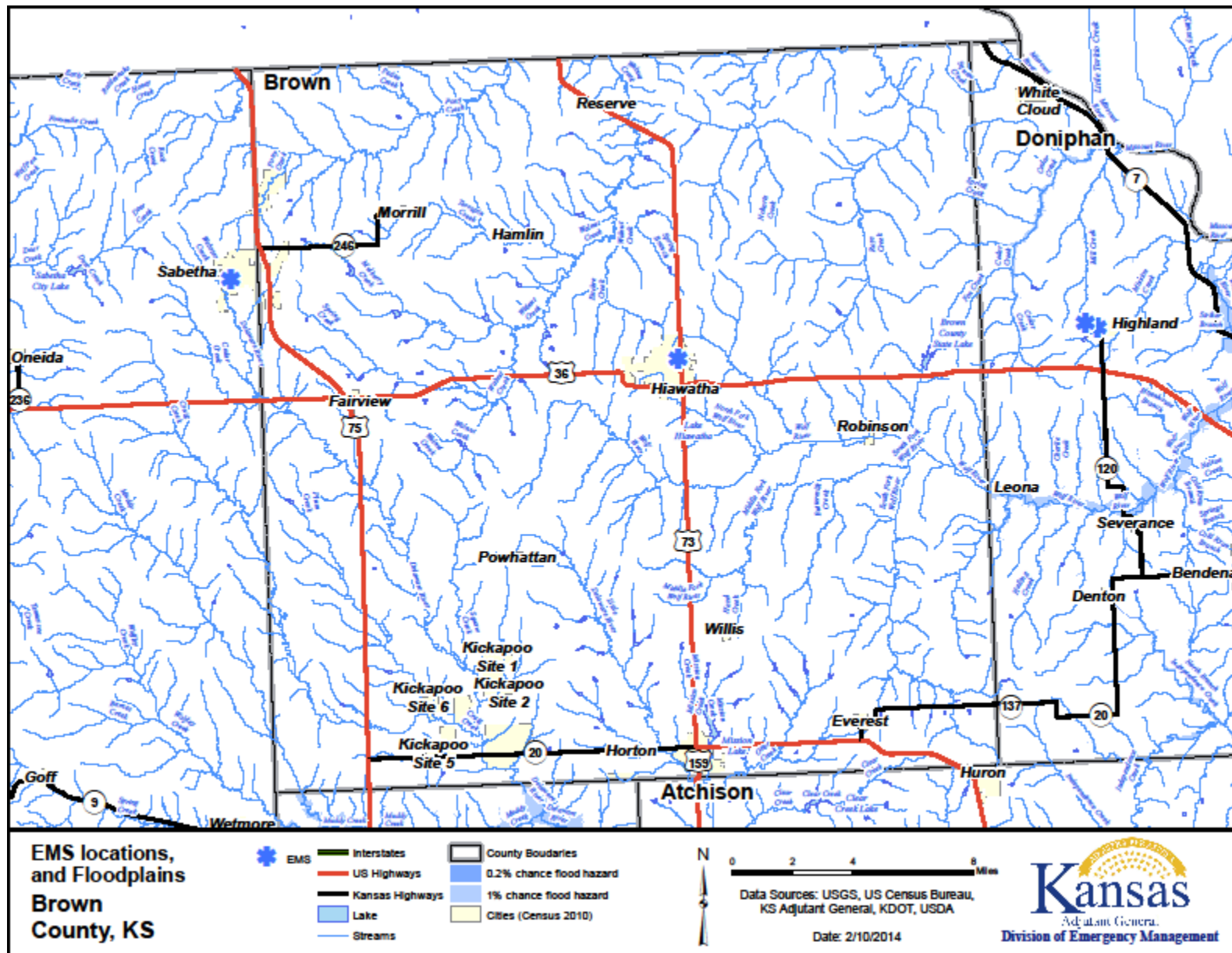
Please note that not all participating counties and/or jurisdictions had this data available.

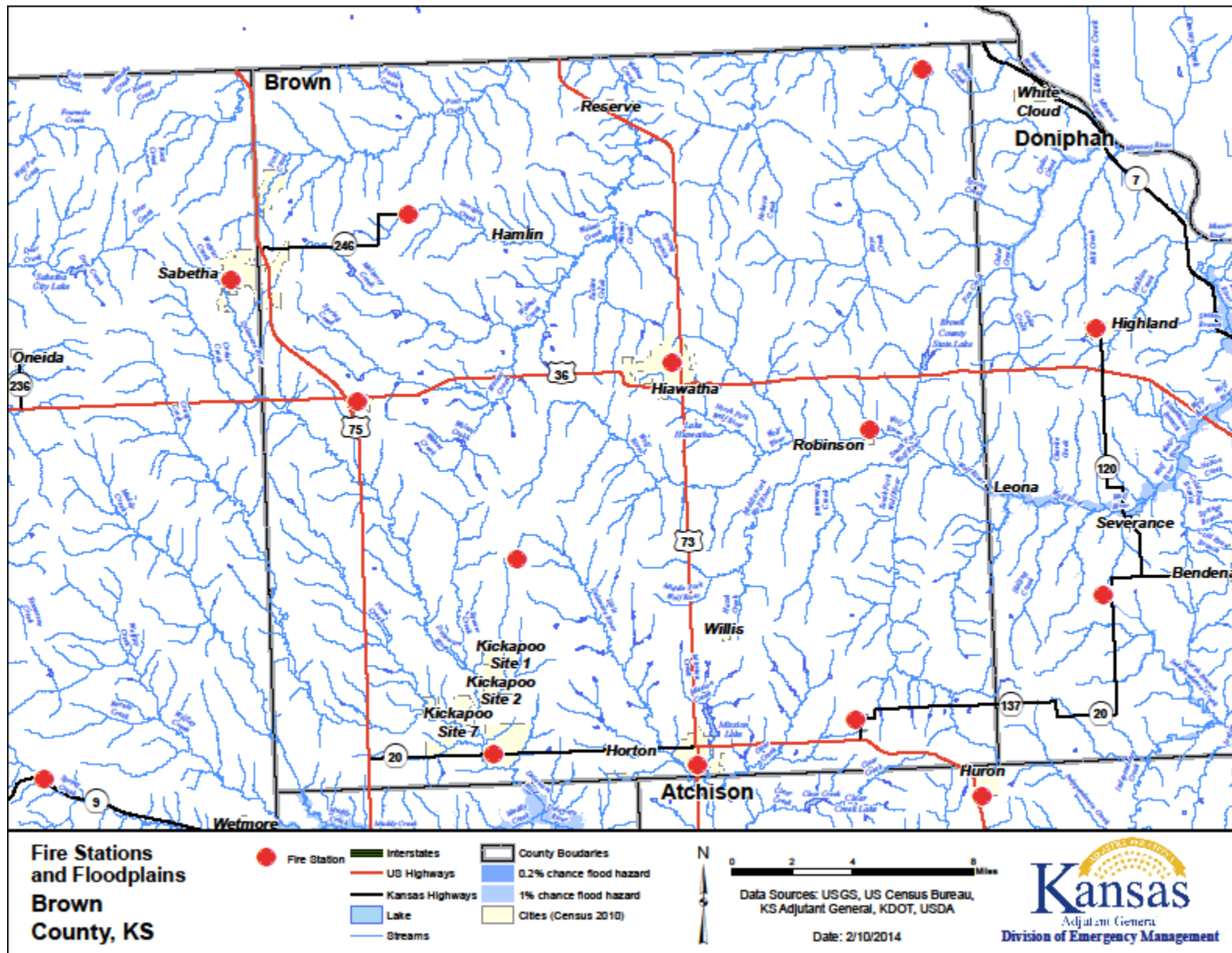


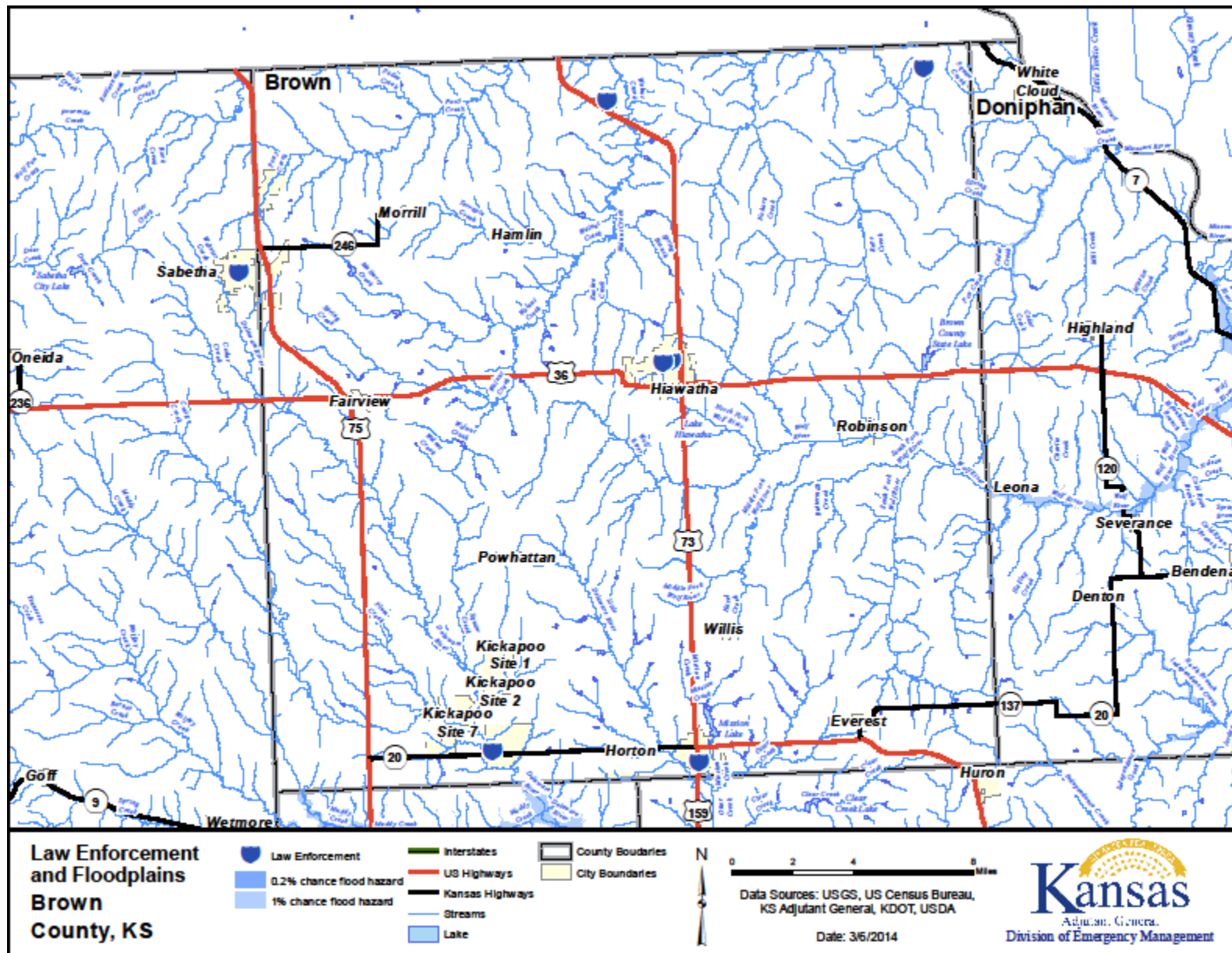


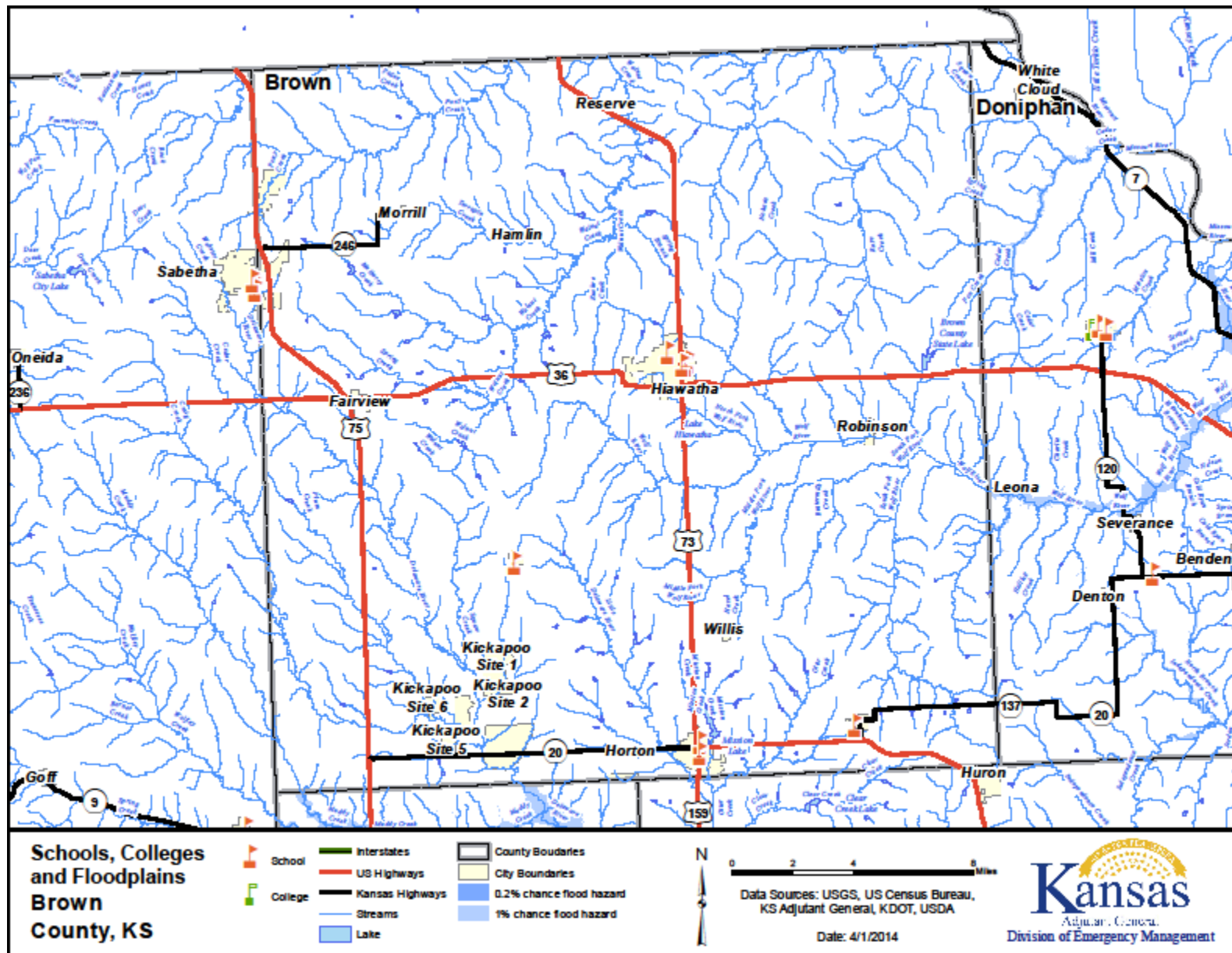


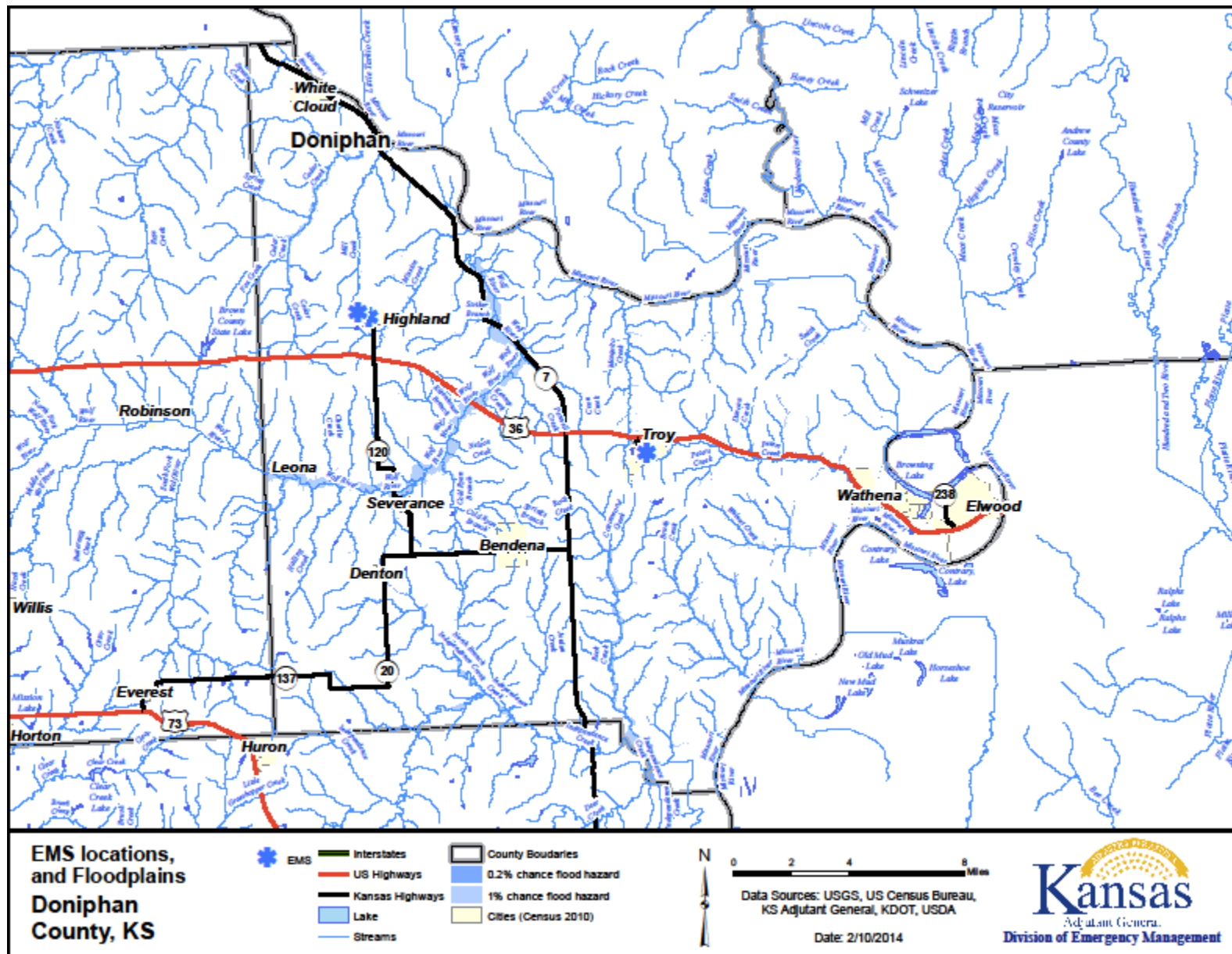


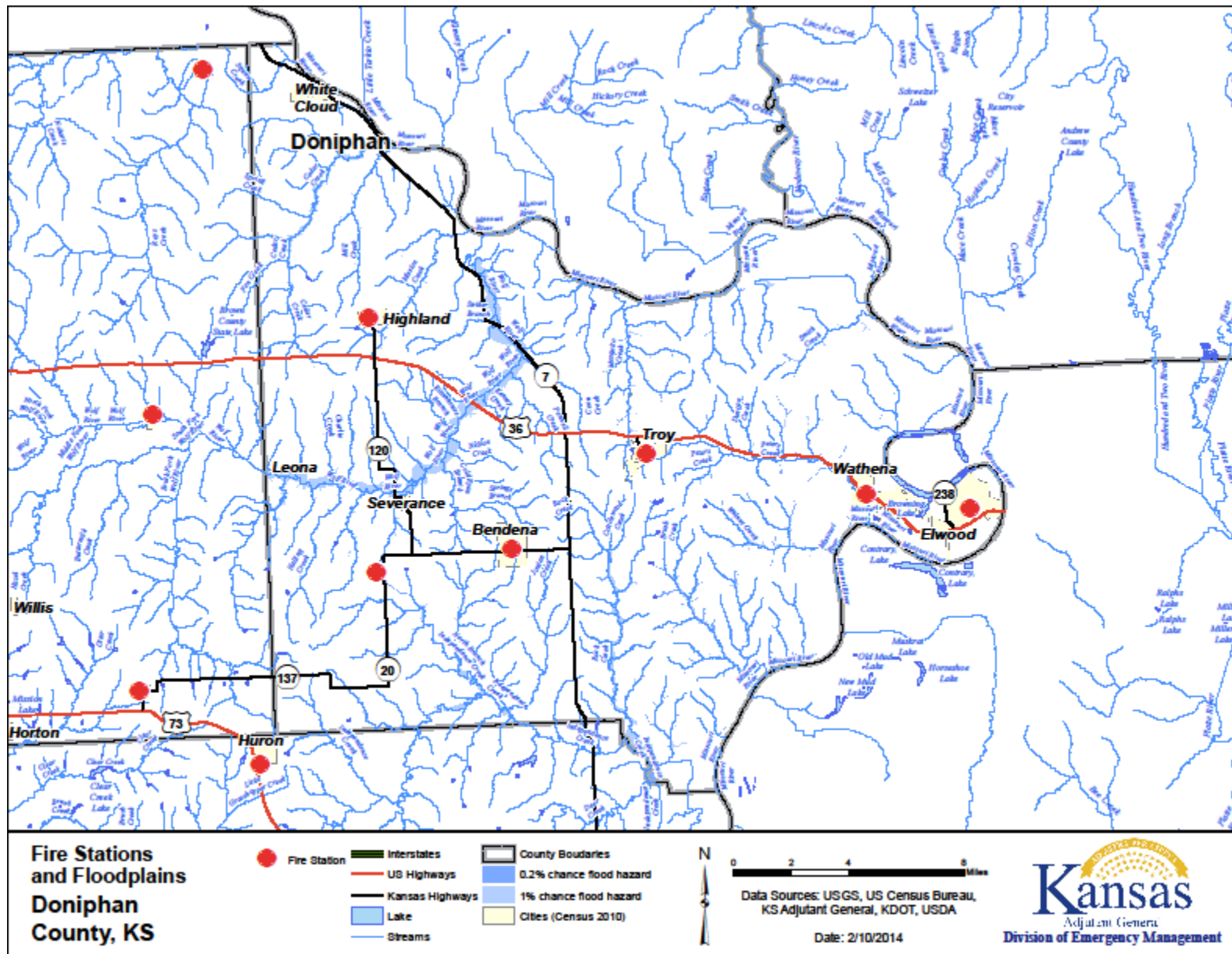


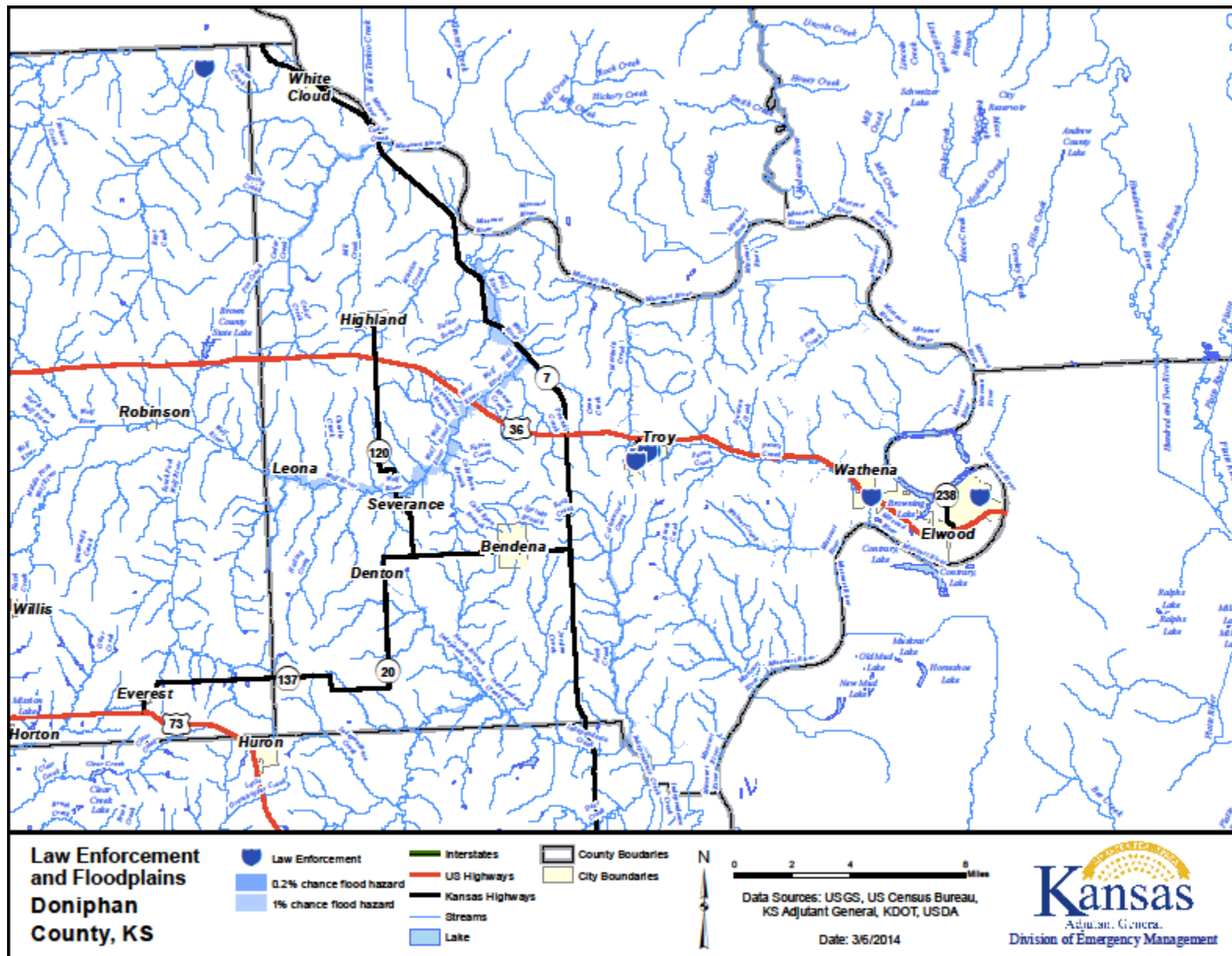


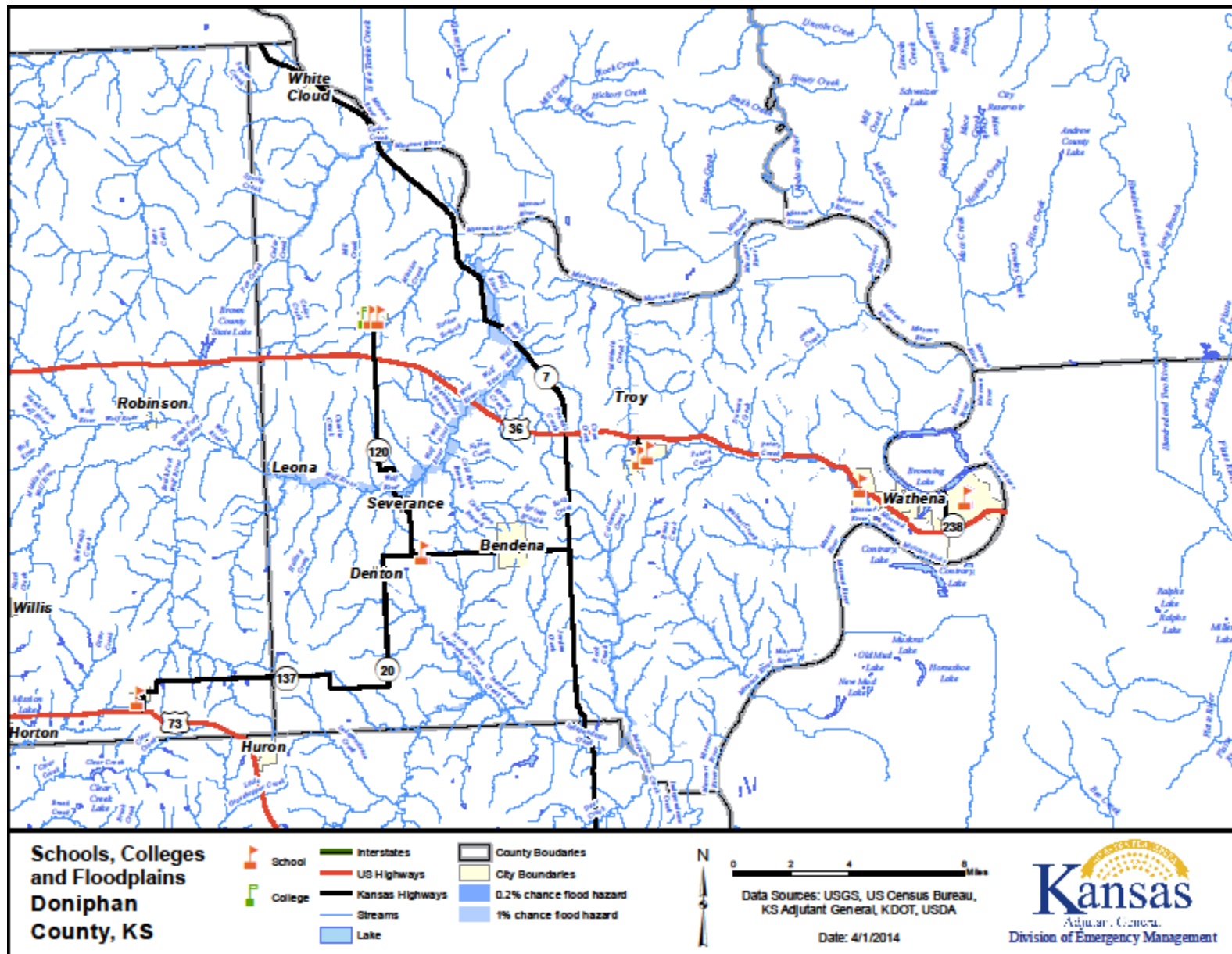


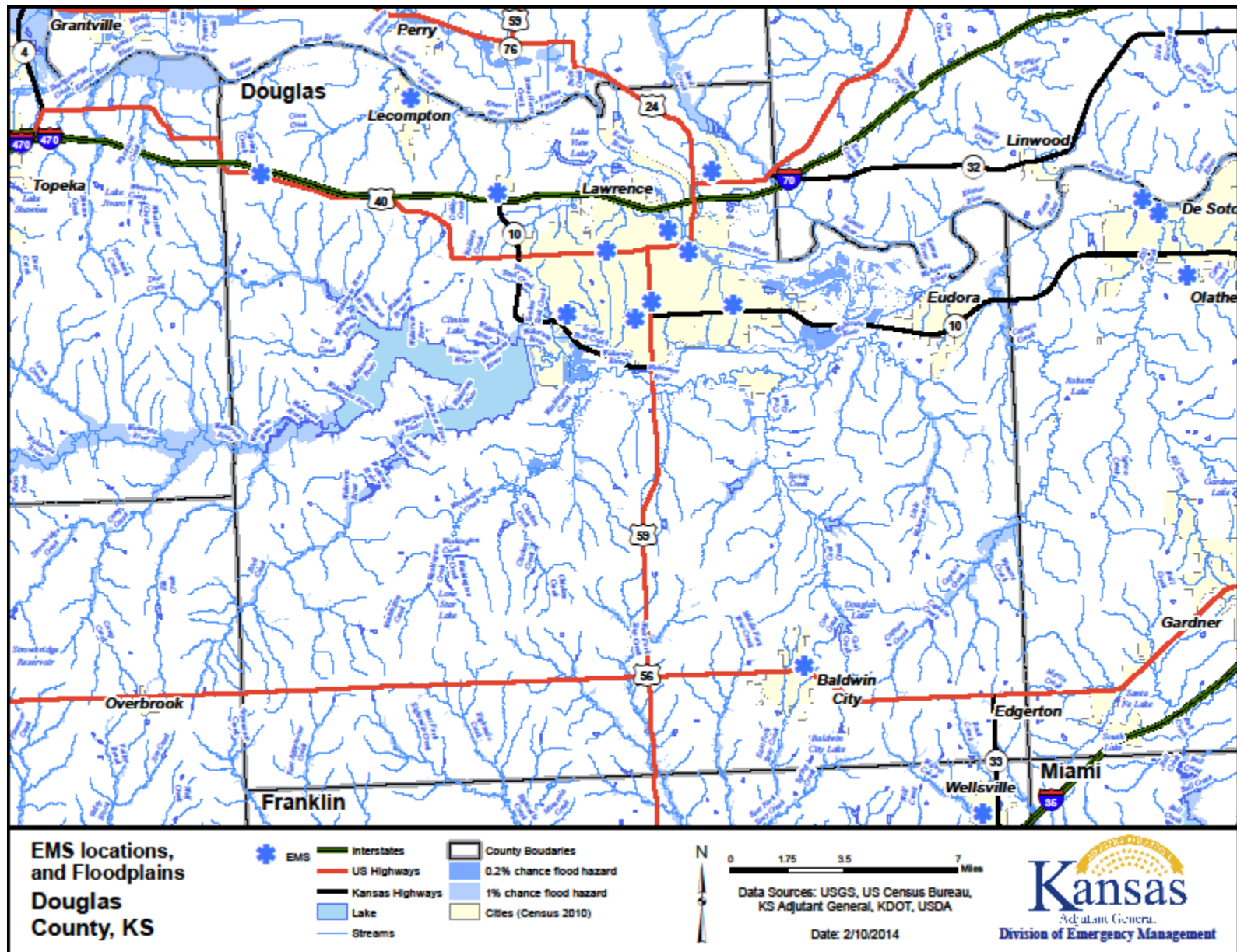


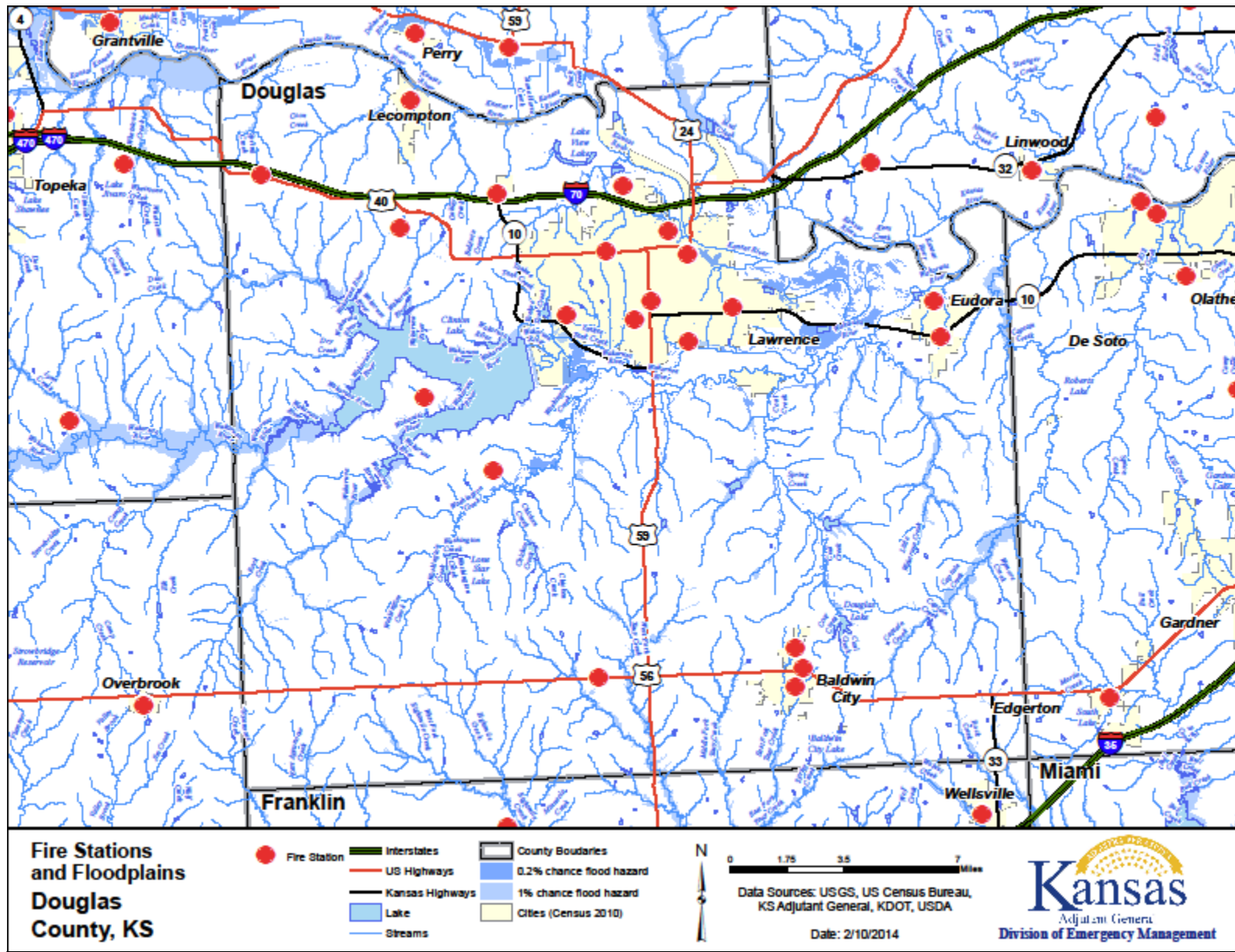


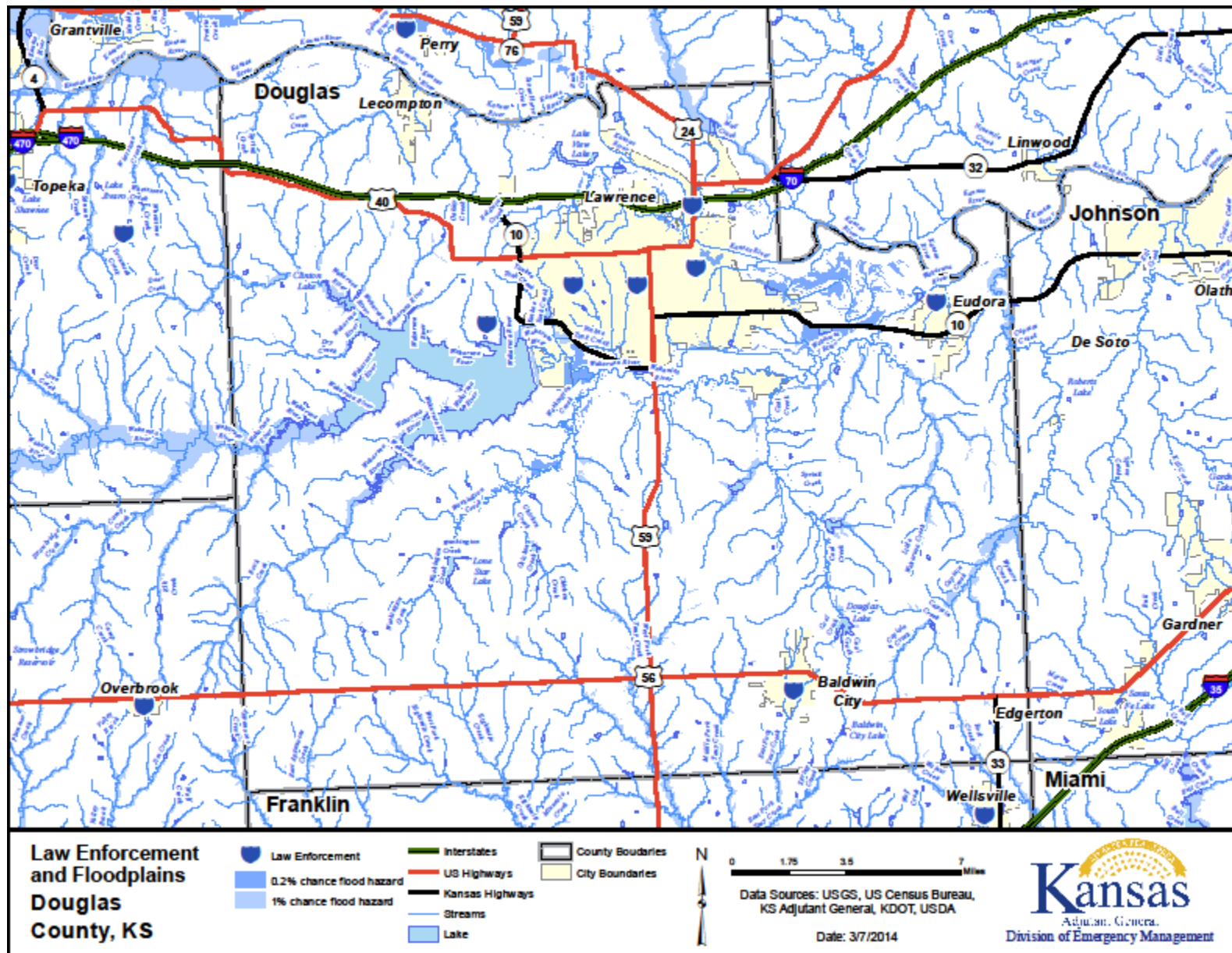


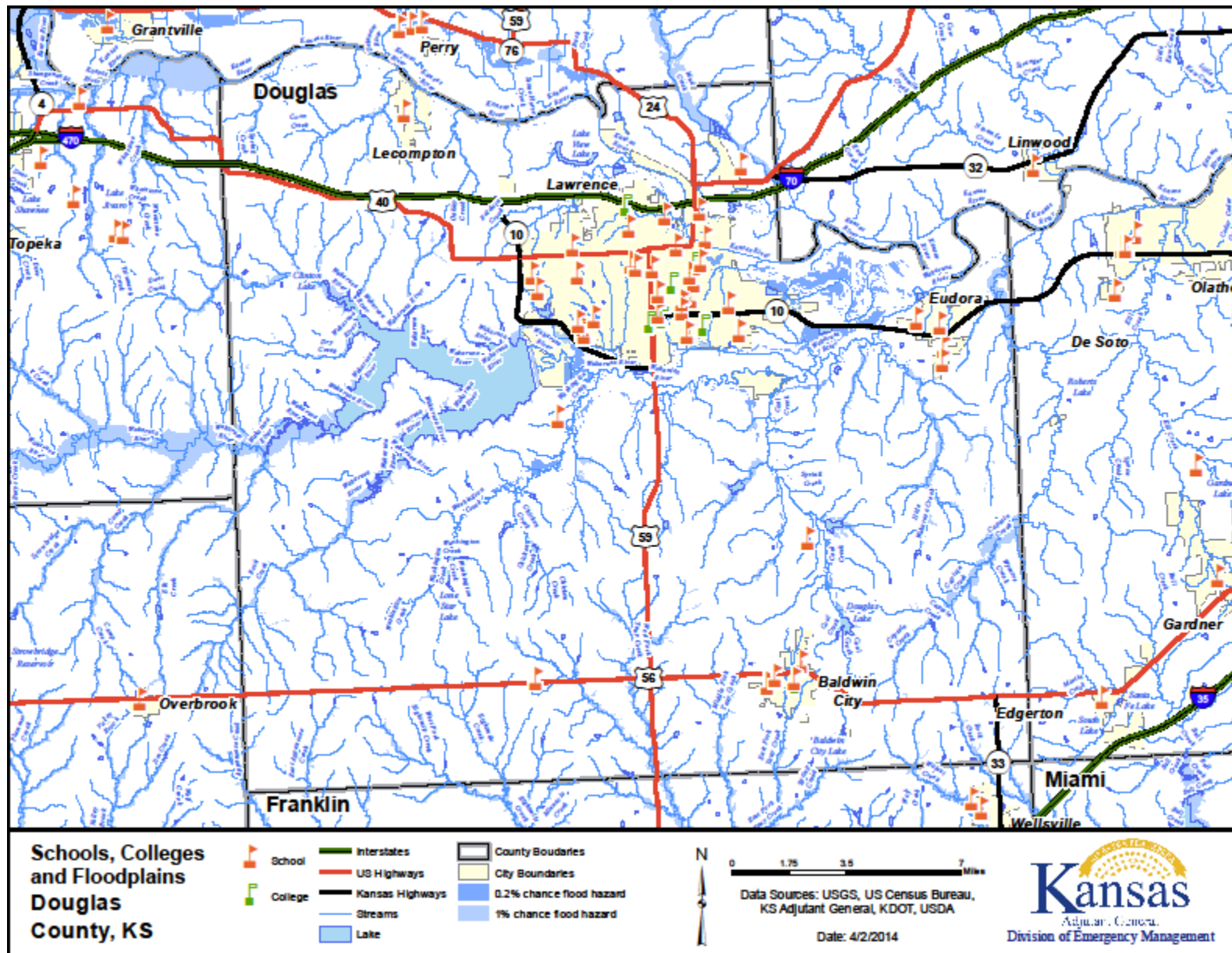


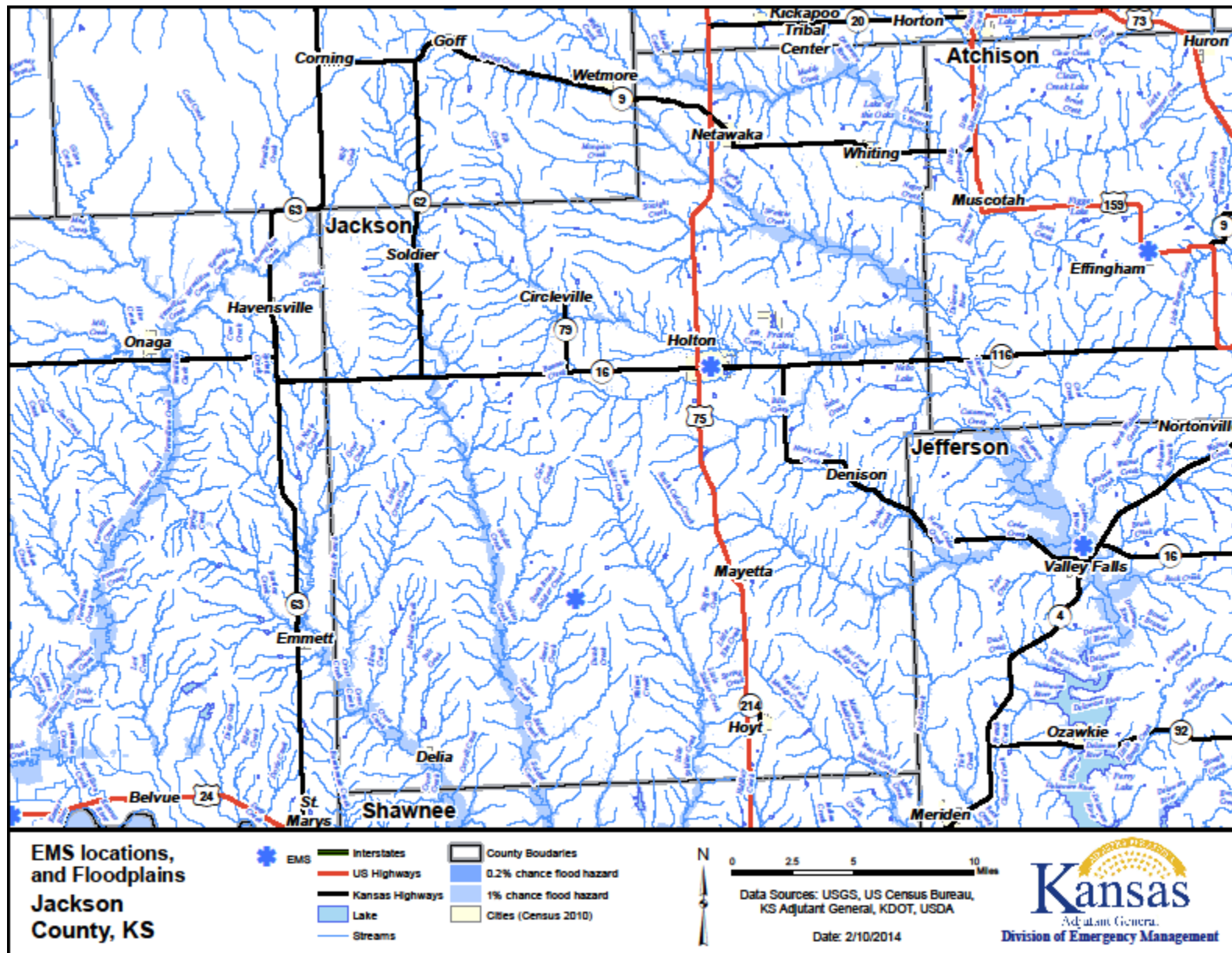


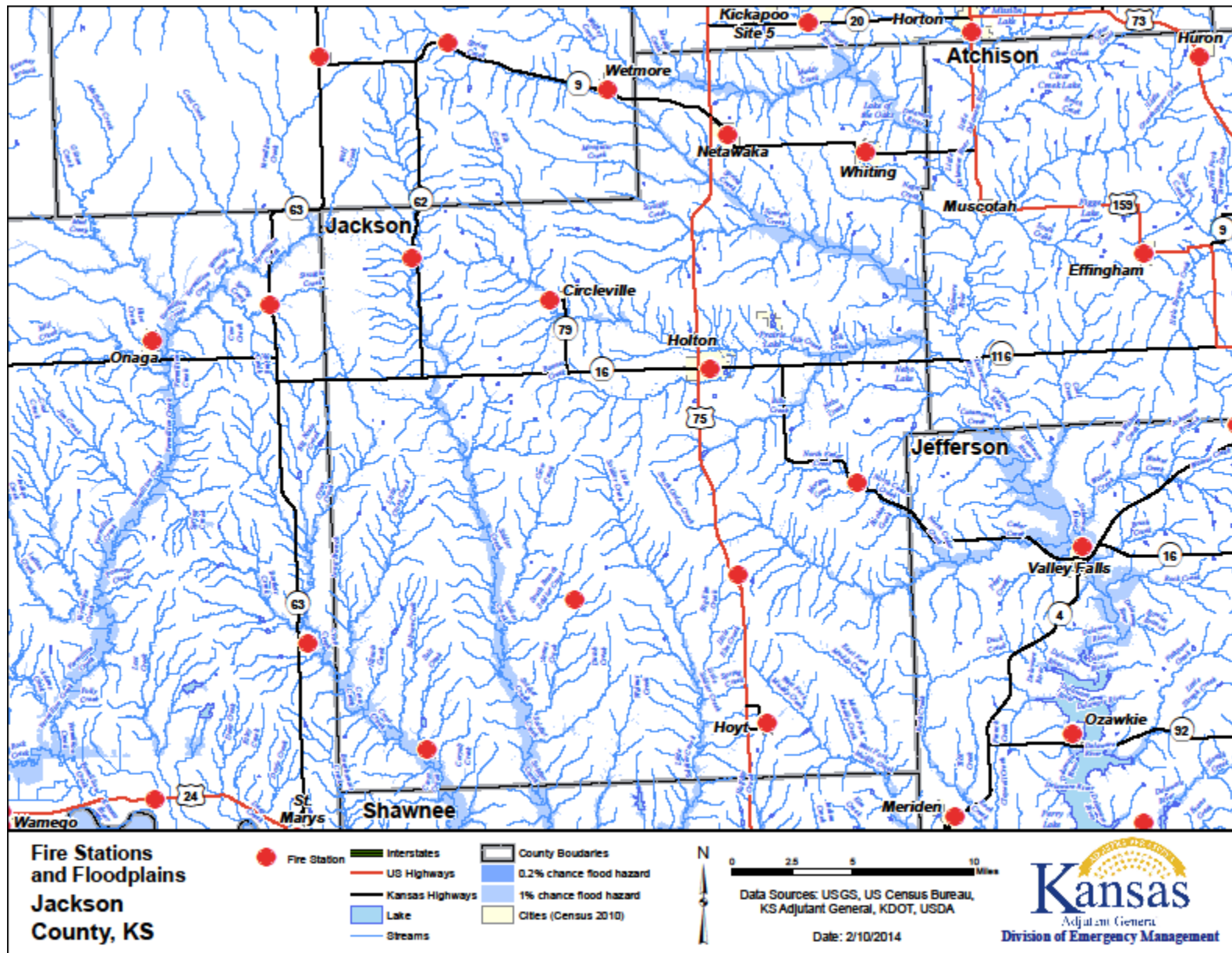


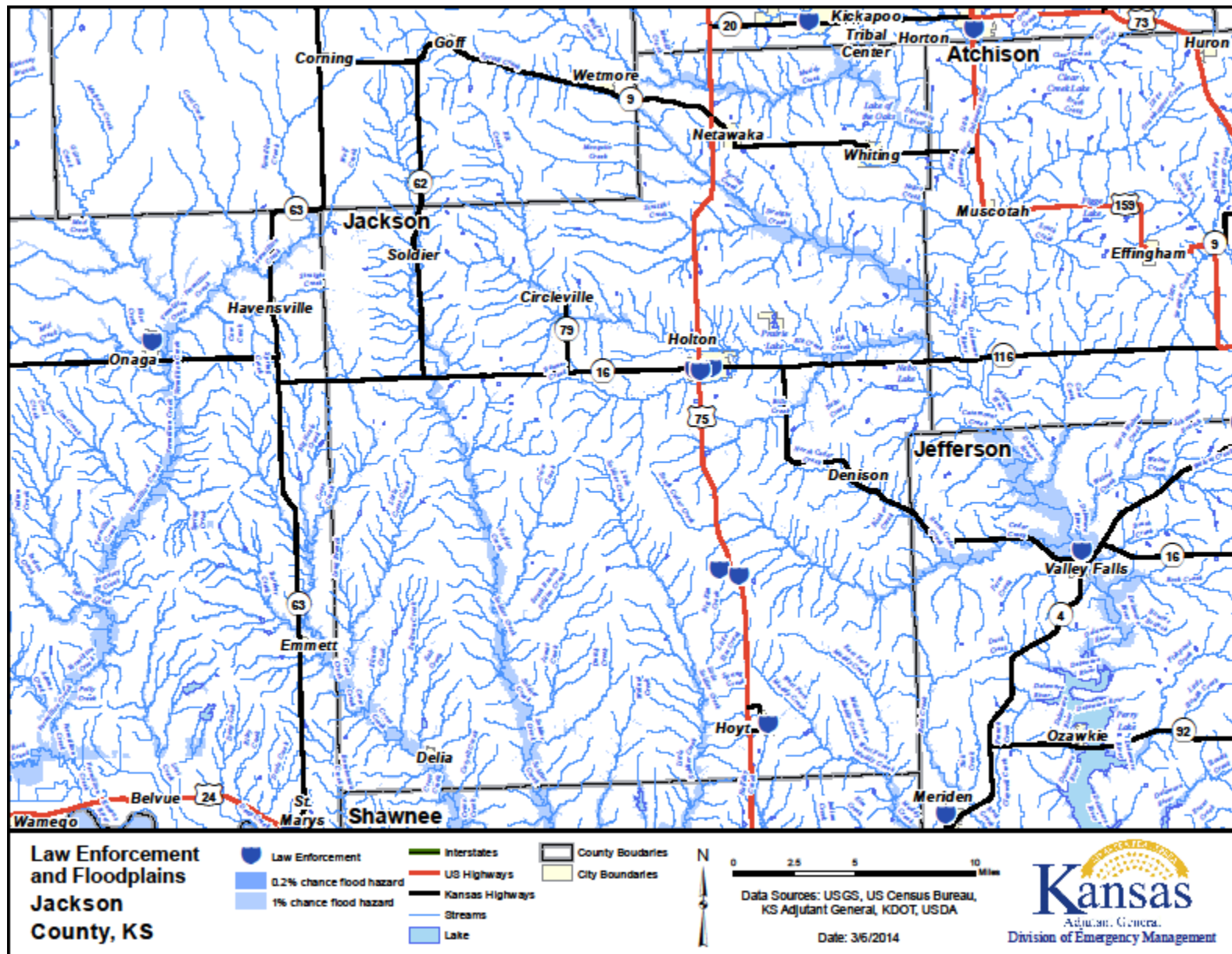


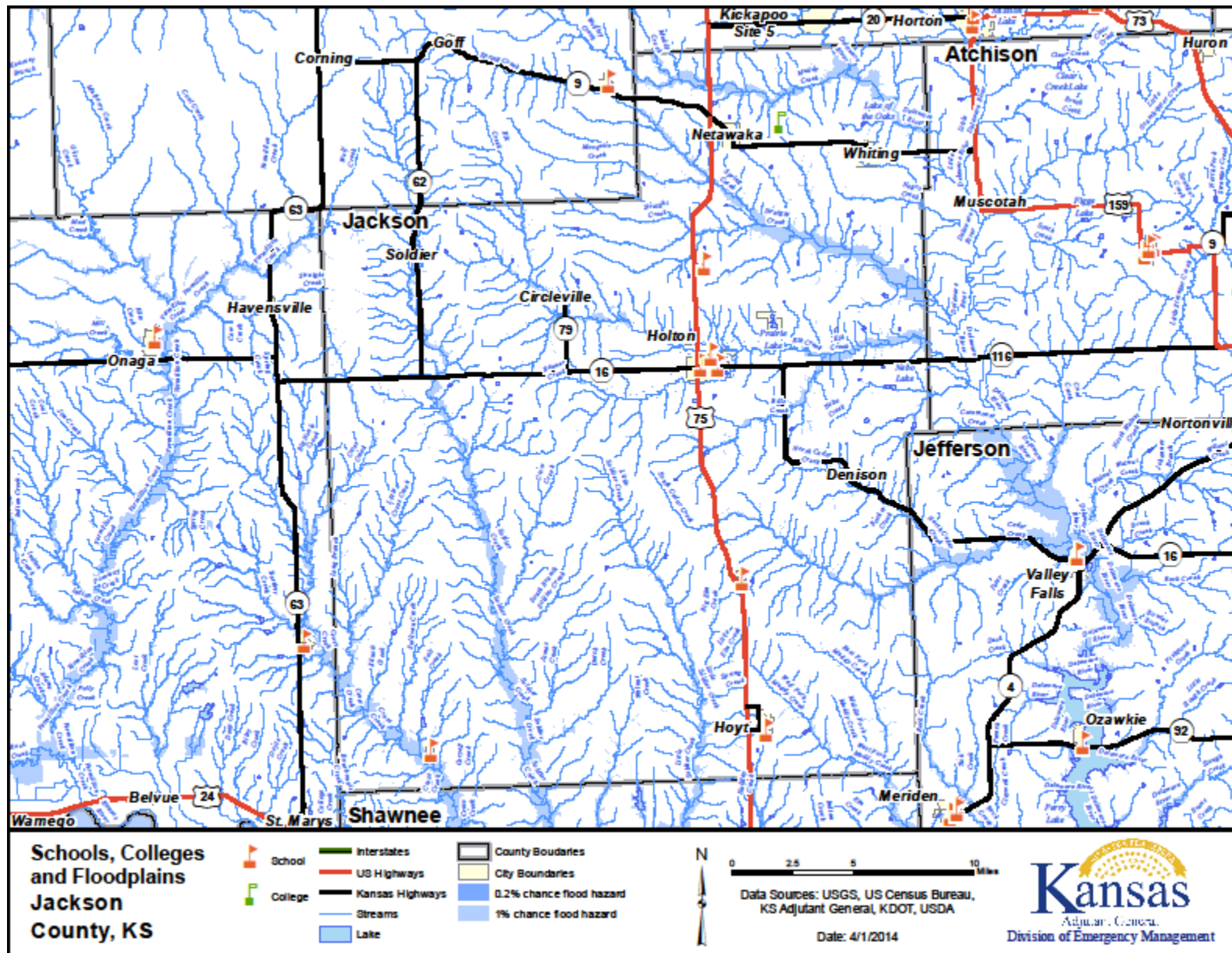


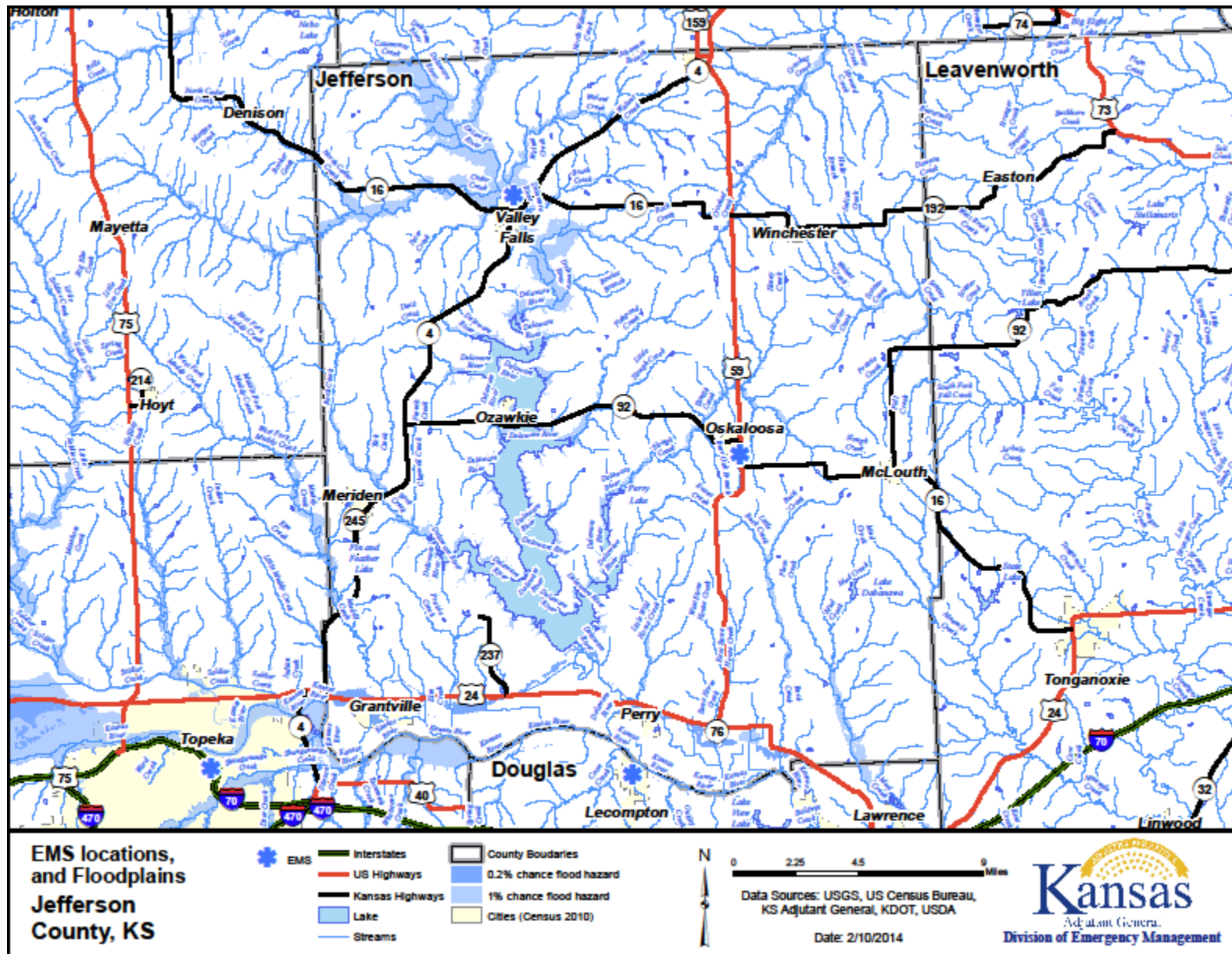


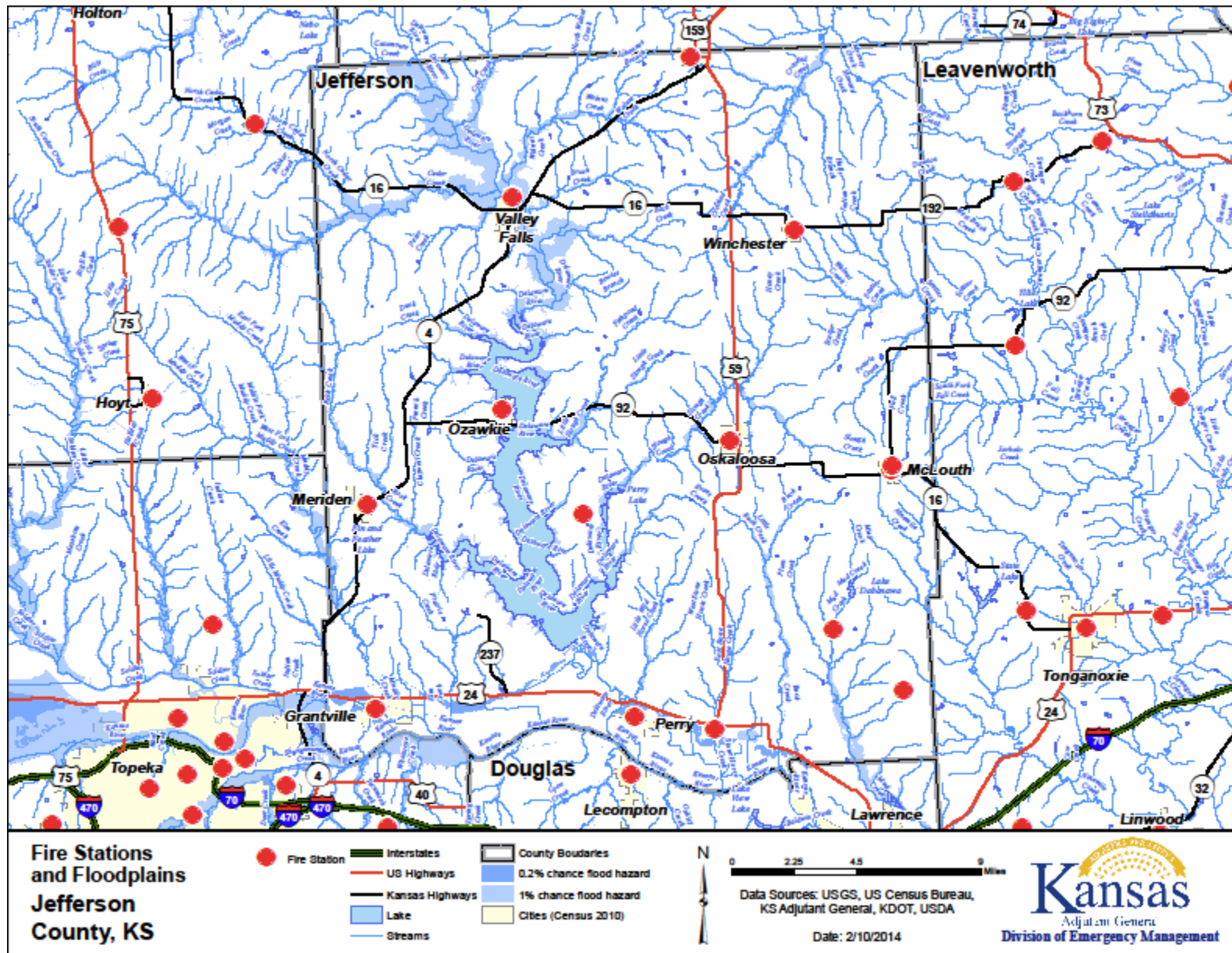


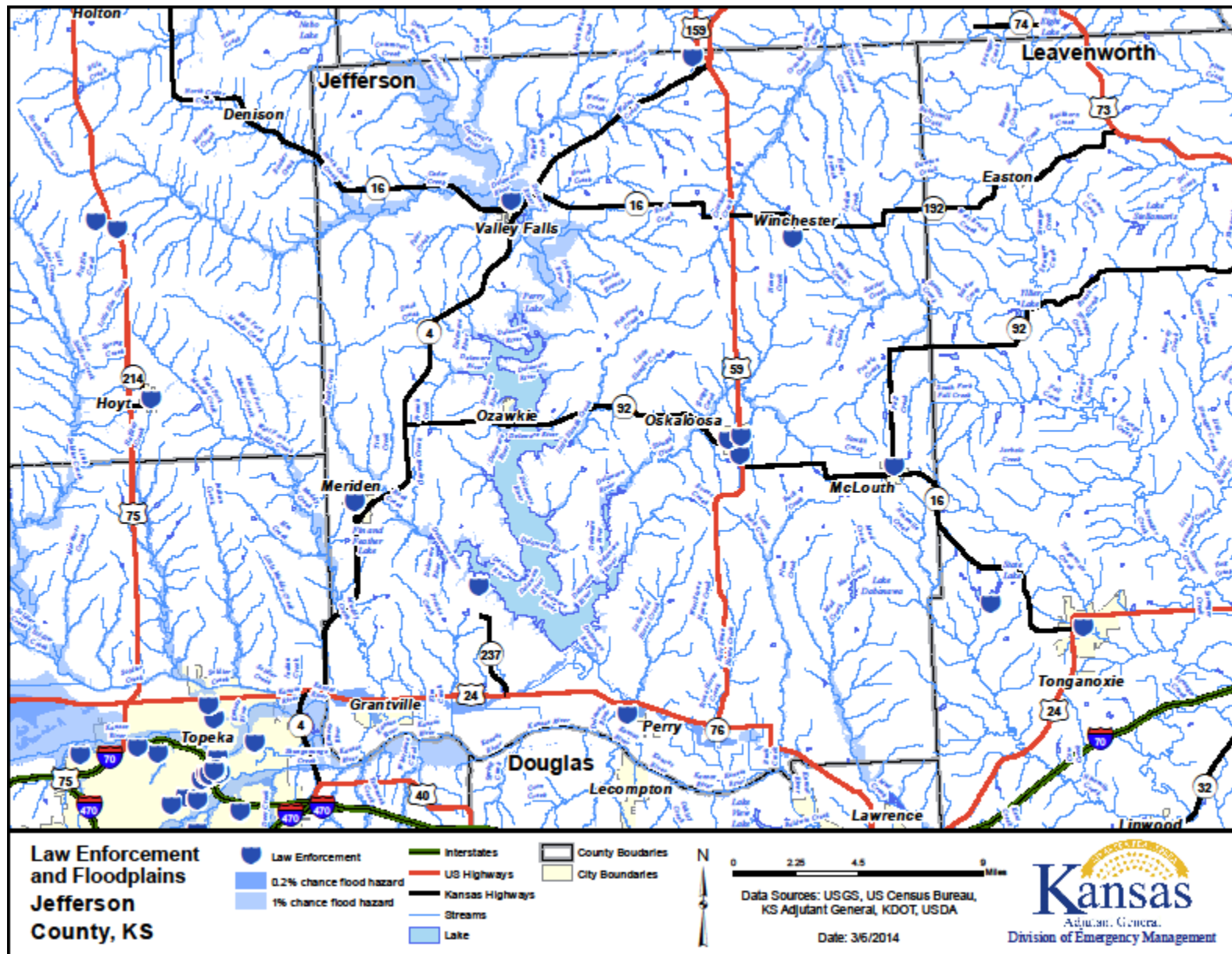


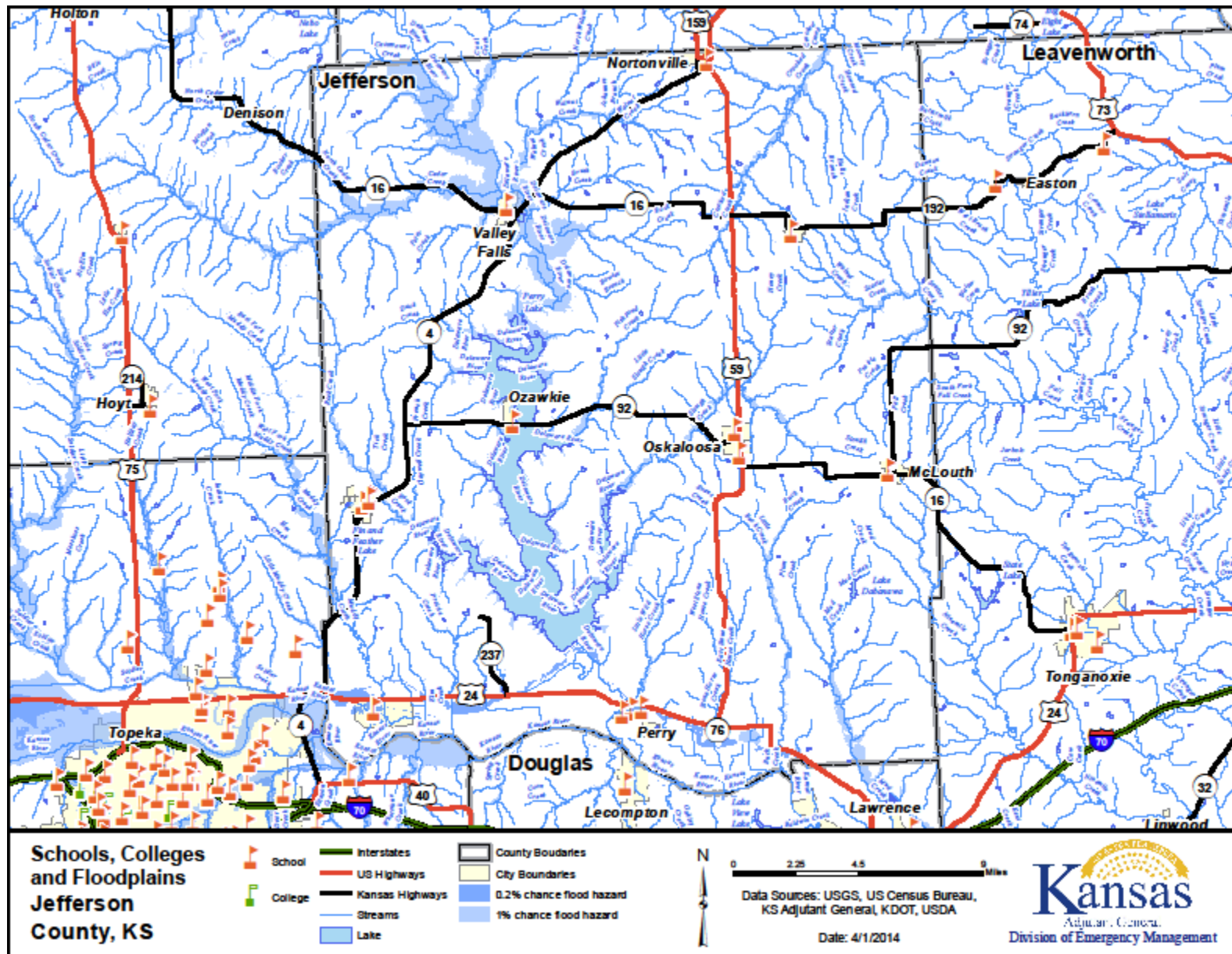


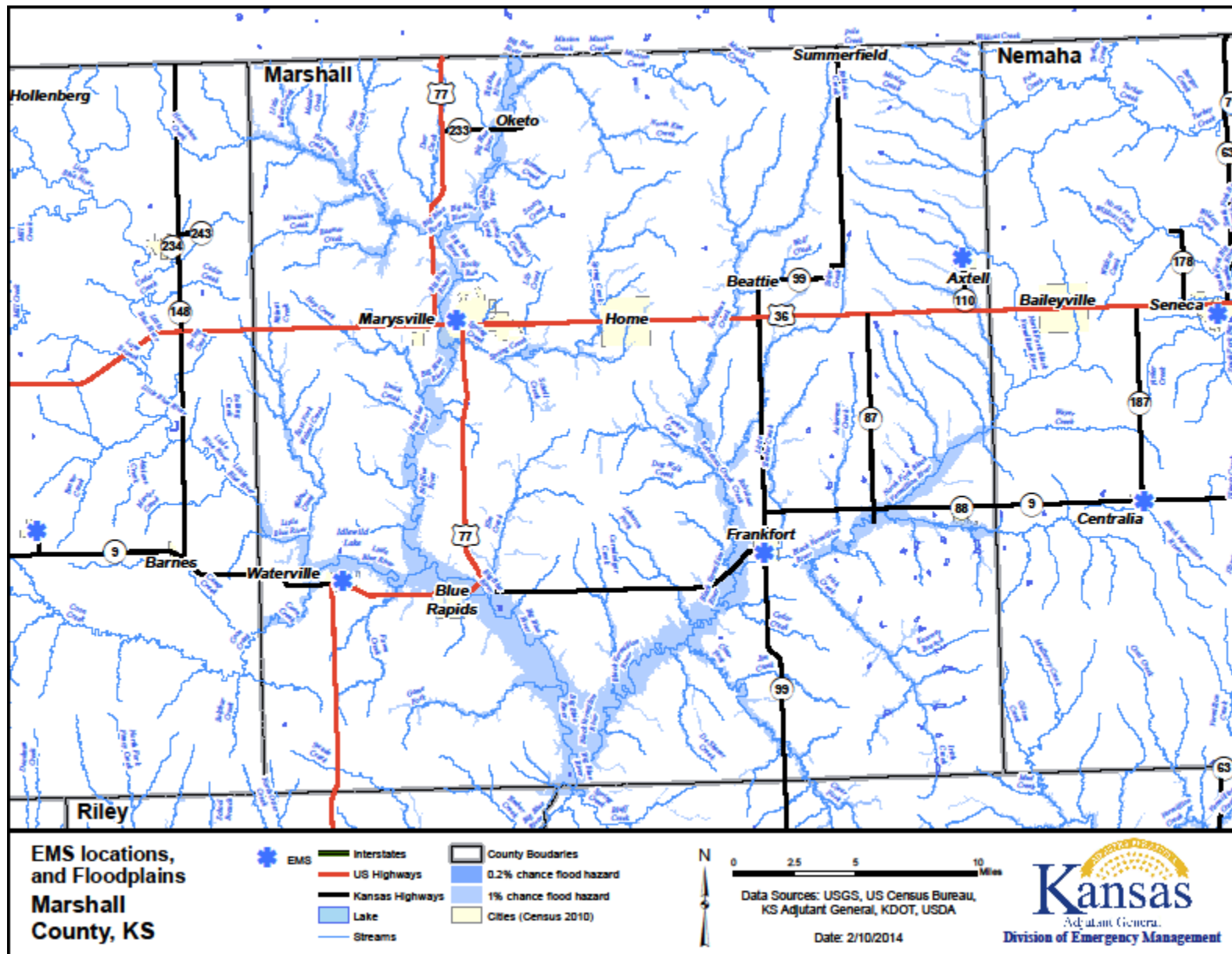


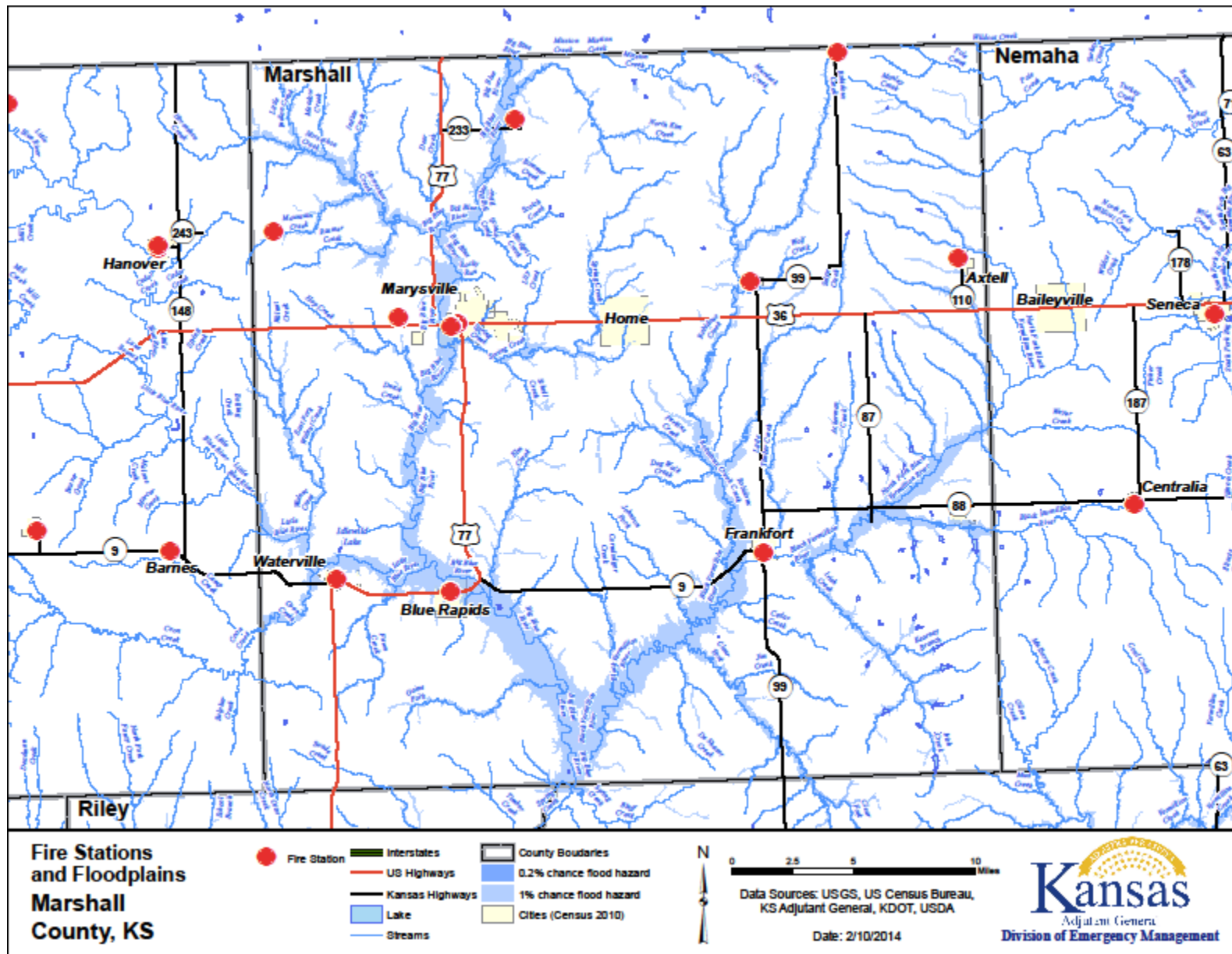


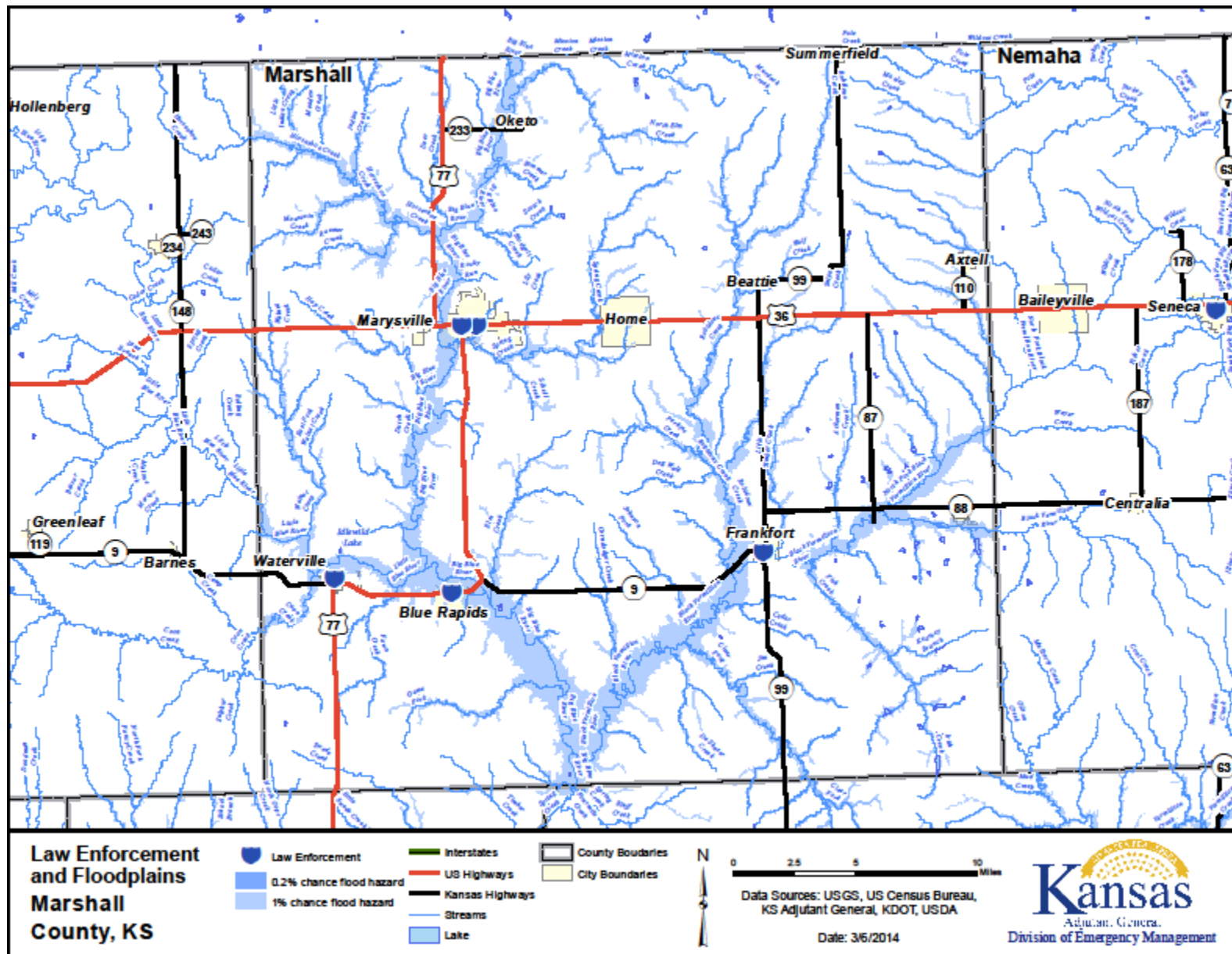


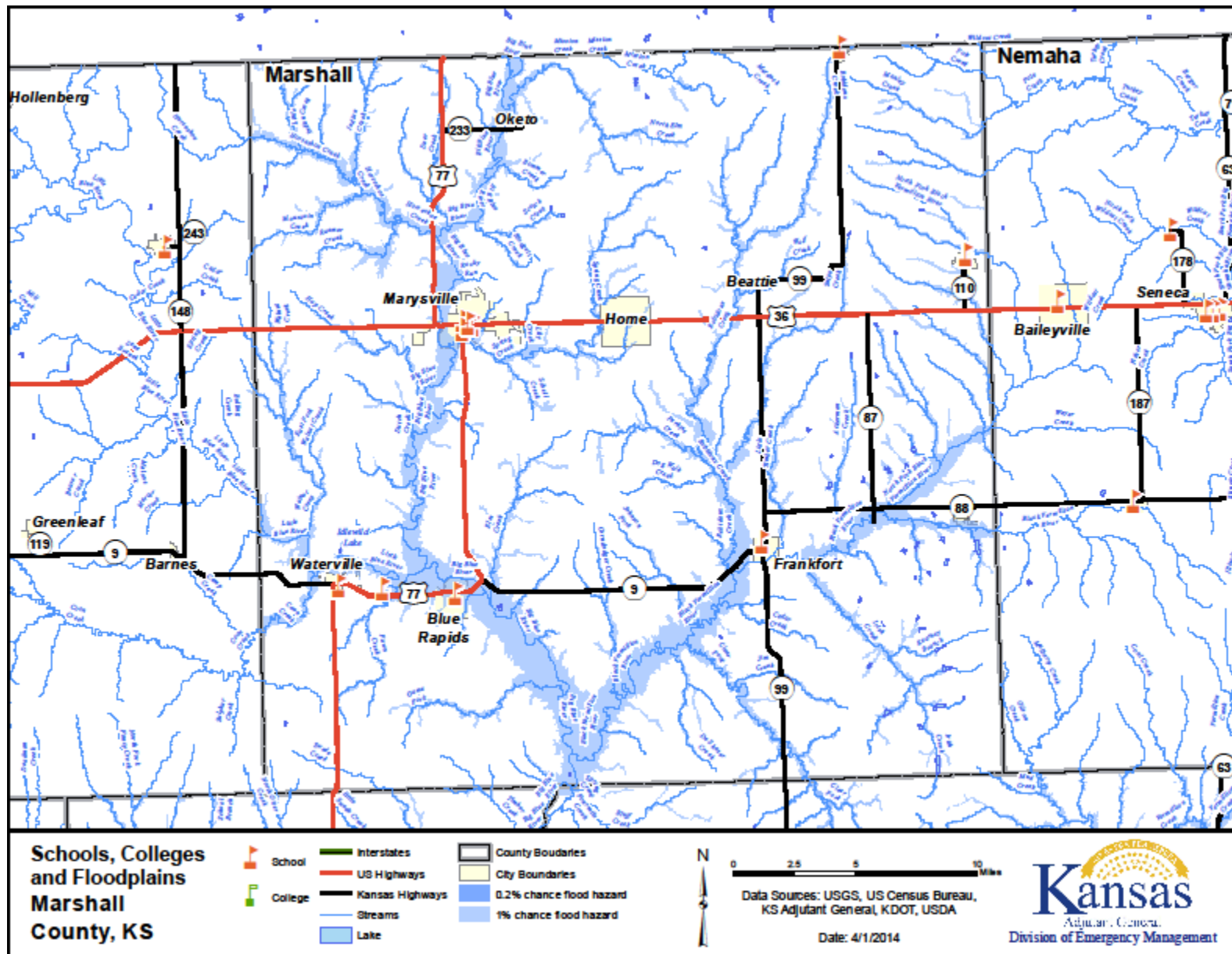


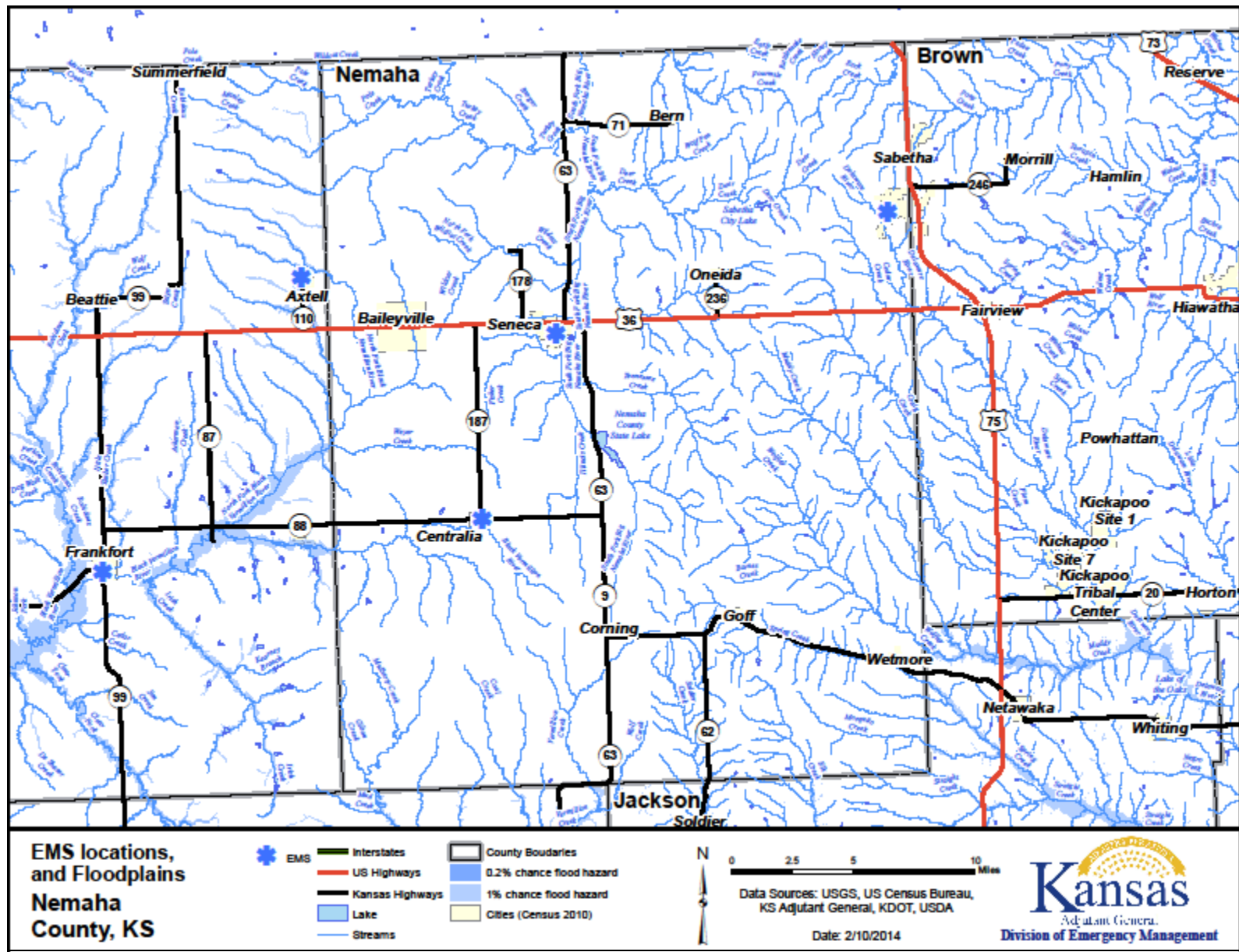


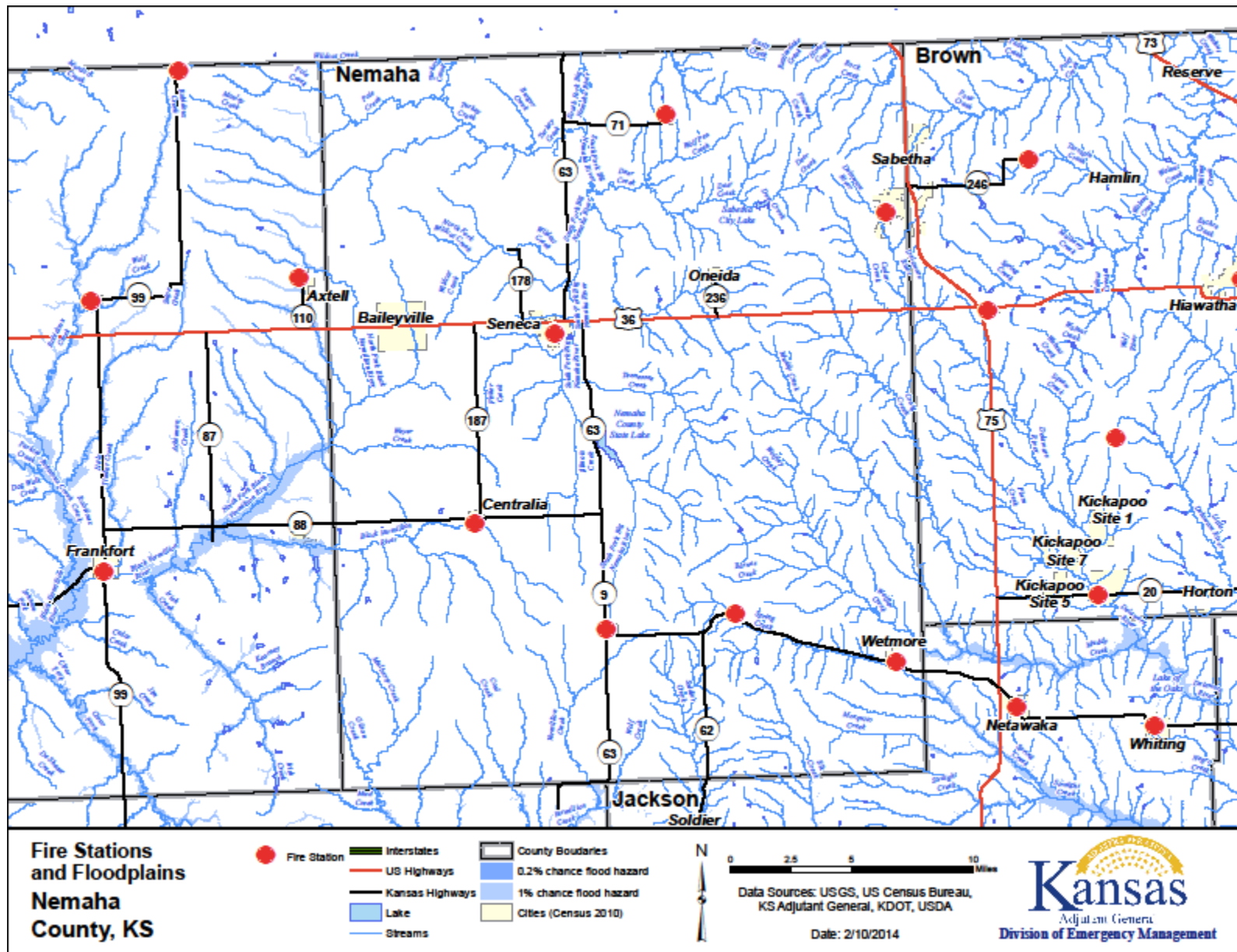


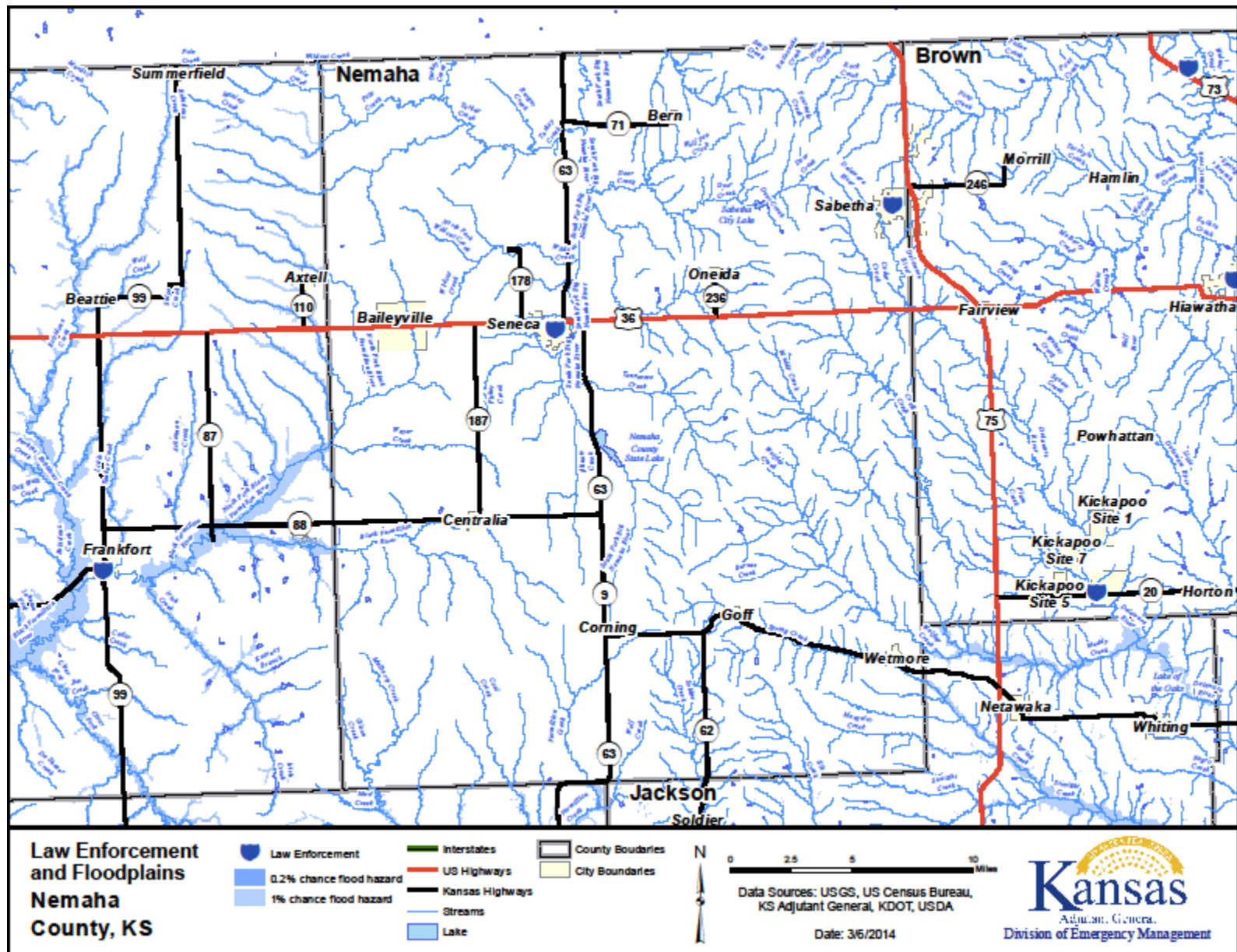


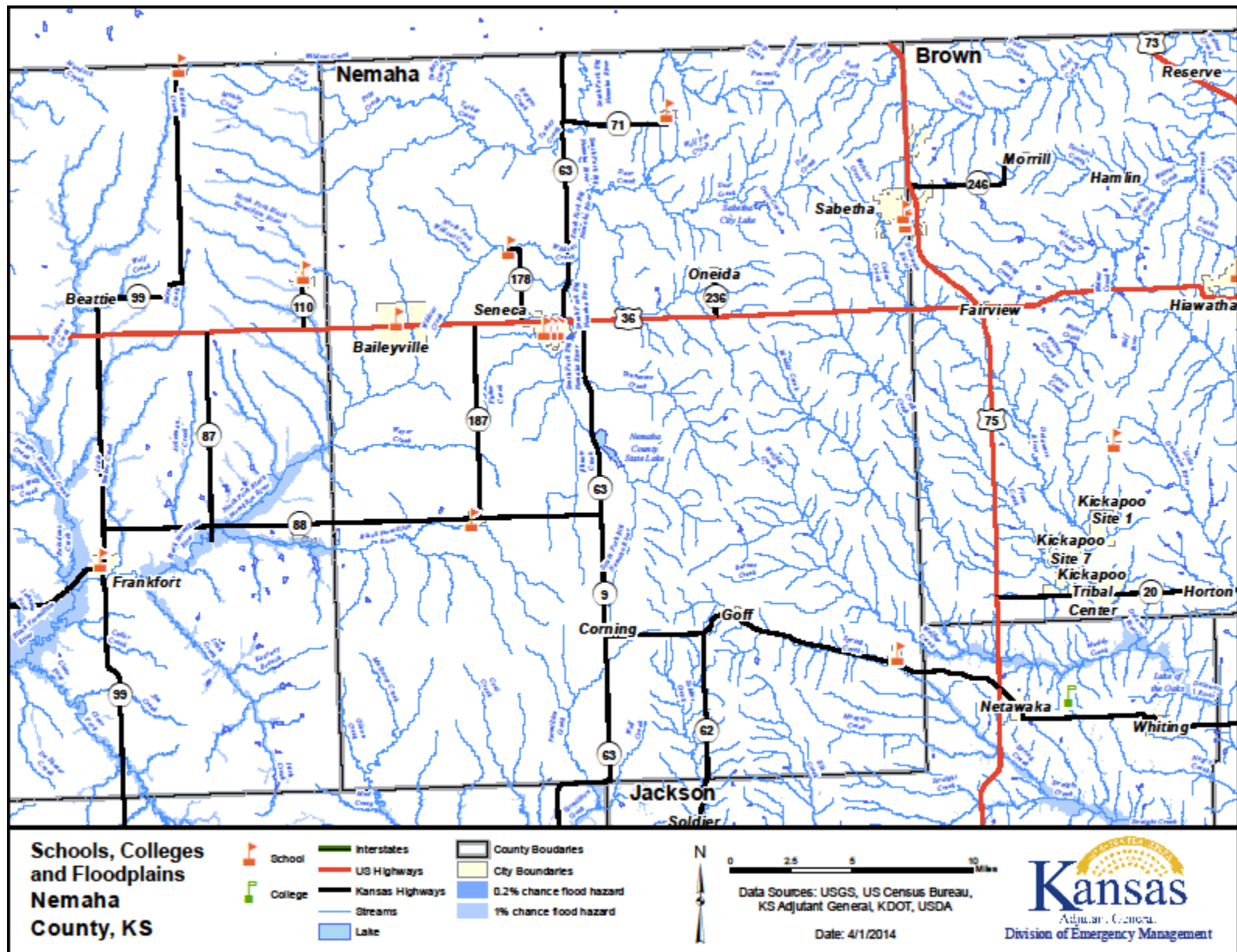


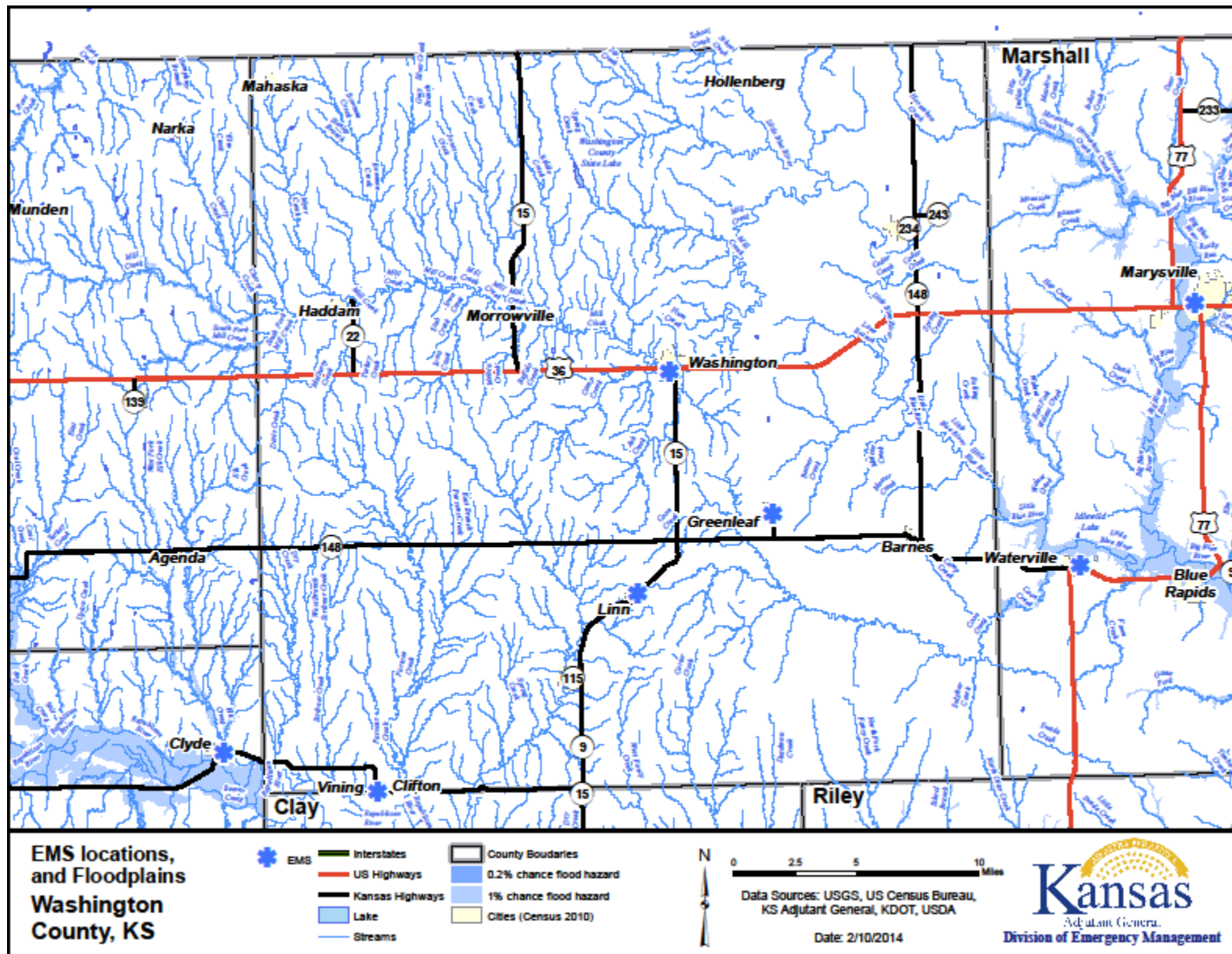


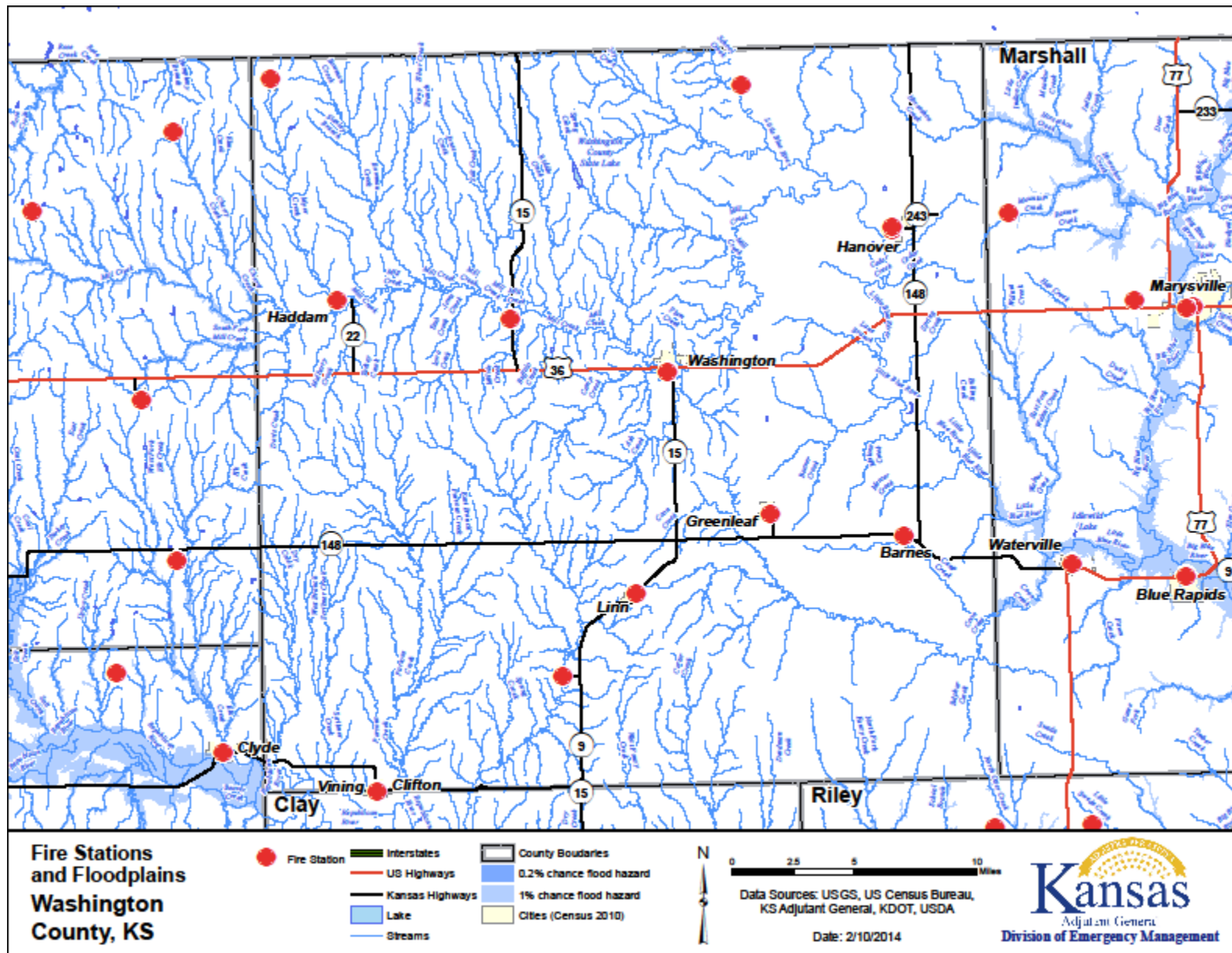


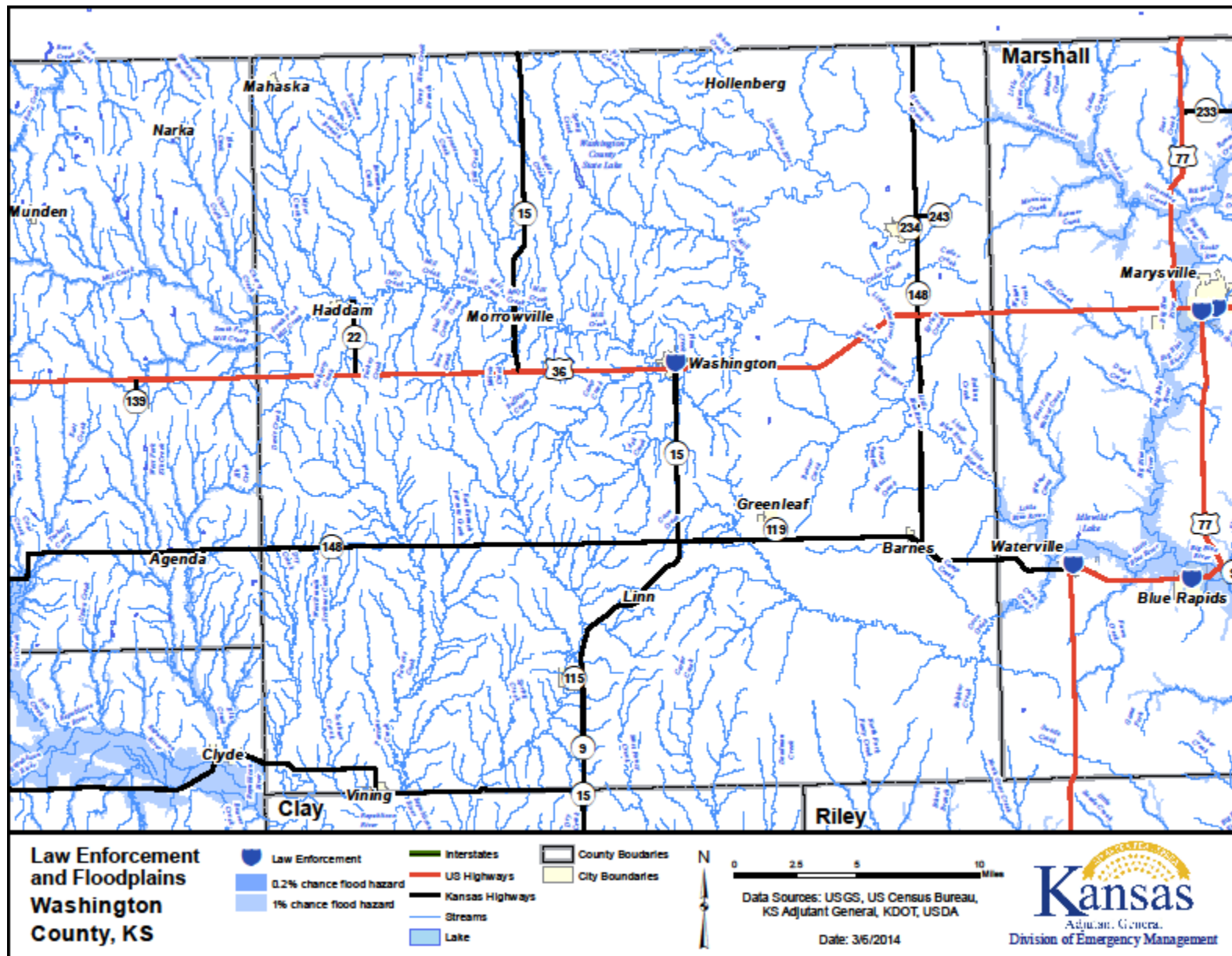


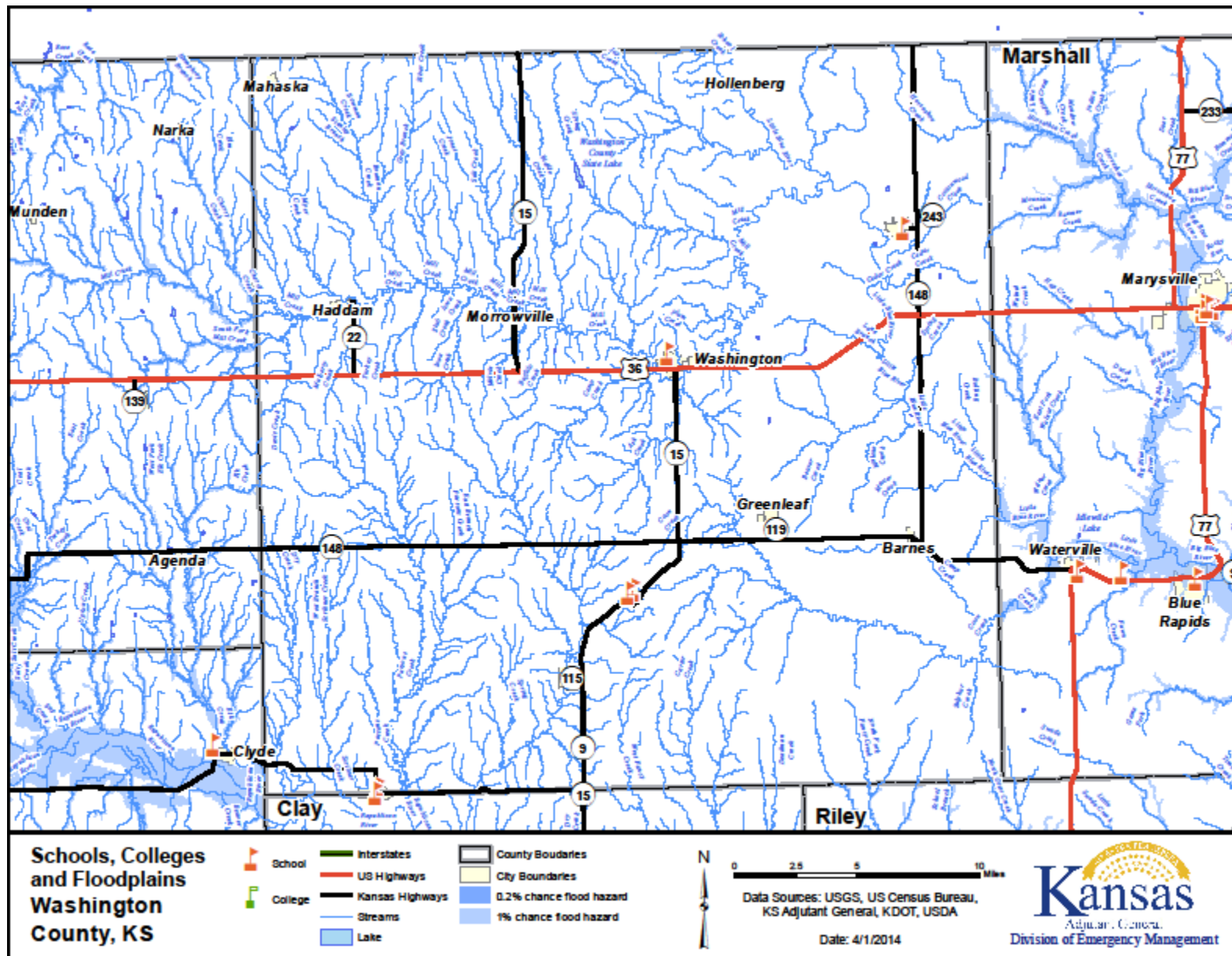












	Magnitude/Severity
Flood	3.10

Local Concerns

The following detail specific local concerns as related to flooding:

- In Atchison County, the City of Atchison has three flood areas located within the city. Flood areas include a Zone A5 along the eastern city limits along the Missouri River, including two small pooling areas located near east Main and North 2nd Streets along the Missouri Pacific Railroad tracks, an area located along White Clay Creek, zoned A12, A7, A and B, beginning at 6th Street and Utah Boulevard and trending out of the city to the south at 19th Street, and Brewery Creek, zoned A12 and A7, which stems from White Clay Creek at 11th and Spring Streets and exits the city near south 14th Street. The City of Muscotah has one flood hazard area, designated Zone A, located along the southern city limits
- In Doniphan County, the City of Highland has two Zone A flood areas located in the eastern portion of the city along Mission Creek, however the area is sparsely populated.
- In Jackson County, the City of Holton has Special Flood Hazard Areas (SFHAs) located on the north and northeast sides of the city due to the presence of Big Elk Creek, and SFHAs located on the south and southeast sides of the city due to the presence of Banner Creek.
- In Jefferson County, the City of Perry has one primary flood zone, zoned AE, along the Delaware River that covers a majority of the town south of Front Street. It appears that the flood zone does include a populated residential area of the town, primarily in the development bordered by Front Street on the north, Lecompton Road on the east, and the railroad tracks on the south.
- In Marshall County, the City of Frankfort has three SFHAs located on the east side of the city due to the presence of Little Timber Creek, along the south side of the city due to the presence of the Vermillion River, and in the northwest portion of the city due to the presence of an unnamed tributary. It appears these areas include some populated residential areas of the city. The City of Marysville has areas designated as Flood Zone designation X present on the south and west sides of the city. It appears these areas include some populated residential areas of the city. The City of Vermillion has one SFHA trending north-south on the west side of the city, due to the presence of an unnamed tributary of the Vermillion River. It appears these areas include some populated residential areas of the city. The City of Blue Rapids has SFHAs located on the east, north, and west sides of the city, due to the presence of the Big Blue River and its tributaries. An additional SFHA is located in the center of the city, trending north-south, due to the presence of an unnamed tributary of the Big Blue River. It appears these areas include some populated residential areas of the city.
- In Washington County, the City of Haddam has a Zone A SFHA along Myers Creek on the northern boundary of the city, including residential areas and a Zone A SFHA in the western portion of the city in a residential area. The City of Hanover has two areas

designated as Zone A SFHAs, one is along the western edge of the city one along the Little Blue River as it flows north-south just west of the central corridor of the city between The City of Washington has several SFHAs designated Zone A within the city limits. Two small areas exist in the western edge of the city, one in the southern portion of the city, and one at the southern end of the city where Mill Creek forms the city limit boundary. The base of the triangle would be a line east-west between the end of F Street and the end of D Street. These areas are minimally improved.

Future Development

Continuing land development in northeast Kansas could place more people and property in flood-prone areas, unless floodplain management is implemented. It is not known how much development is occurring in flood hazard areas, but for communities in these counties that participate in the NFIP, any development in the floodplain should be built according to its corresponding floodplain management ordinance.

Modeling completed by HAZUS-MH 2.1 indicates that \$209,368,000 in total direct building loss and income loss is vulnerable to flooding, with 4,610 persons vulnerable to displacement. In addition, regional population totals are estimated to rise from 205,728 persons in 2013 to 240,891 by 2040, with the increase seen in Douglas, Jackson and Jefferson counties. These increases and future vulnerabilities may be offset as many of the flood prone cities have enacted floodplain ordinances limiting development in hazardous areas and/or are members of the NFIP.

In addition, according to the State's minimum standards, the first floor elevations of residential property must be a minimum of one foot above the base flood elevation. For non-residential properties, the standard is to either elevate or flood proof to one foot above the base flood elevation.

The Department of Agriculture, Division of Water Resources conducts Community Assistance Contacts which offer assistance to the participating communities and assess the floodplain program. Community Assistance Visits which are similar to full audits, are also conducted by the Division of Water Resources in order to ensure communities are in compliance with the floodplain management program.

Probability of Future Hazard Events

Based on the NCDC historical data available from 1996 to 2013, there were 229 flood and flash flood events in the region. On average, this equates to 13 events per year. And while past occurrences are no guarantee of future occurrences, considering that there are flood and flash flood occurring every year regionally, it is reasonable to determine that the overall probability of future flooding occurrence is likely.

	Probability
Flood	3.10

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Flood Consequence Analysis

Subject	Ranking	Impacts of Flood
Health and Safety of Persons in the Area of the Incident	Severe	Impact dependent on the level of flood waters. Individuals further away from the incident area are at a lower risk. Casualties are dependent on warning time.
Responders	Minimal	Impact to responders is expected to be minimal unless responders live within the affected area.
Continuity of Operations	Minimal to Severe	Temporary relocation may be necessary if inundation affects government facilities.
Property, Facilities, and Infrastructure	Severe	Localized impact could be severe in the inundation area of the incident to facilities and infrastructure. The further away from the incident area the damage lessens.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities due to the flood waters.
Environment	Severe	Impact will be severe for impacted area. Impact will lessen with distance.
Economic Conditions	Minimal to Severe	Impacts to the economy depend on the area flooded, depth of water, and the amount of time it takes for the water to recede.
Public Confidence in Governance	Minimal to Severe	Perception of whether the flood could have been prevented, warning time and response and recovery time will impact the public's confidence.

3.7.9 HAILSTORM

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Hailstorm	3.80	2.40	3.10	1.00	3.00

Description

According to the NOAA hail is precipitation that is formed when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere causing them to freeze. The raindrops form into small frozen droplets and then continue to grow as they come into contact with super-cooled water which will freeze on contact with the frozen rain droplet. This frozen rain droplet can continue to grow and form hail. As long as the updraft forces can support or suspend the weight of the hailstone, hail can continue to grow. At the time when the updraft can no longer support the hailstone, it will fall down to the earth.

In the United States, hail causes more than \$1 billion in damage to property, crops and livestock each year. Because of the large agricultural industry in northeast Kansas, crop damage and livestock losses due to hail are of great concern to the region. Even relatively small hail can cause serious damage to crops and trees. Vehicles, roofs of buildings and homes, and landscaping are the other things most commonly damaged by hail. Hail has been known to cause injury and the occasional fatality to humans, often associated with traffic accidents.

	Warning Time
Hailstorm	3.10

	Duration
Hailstorm	1.00

Hazard Location

Hailstorms occur over broad geographic regions. The entire planning area, including all participating jurisdictions, is at risk to hailstorms.

Previous Occurrences

The following detail notable regional hail events.

April 14, 2012: A large portion of Kansas was under a High Risk convective outlook from the Storm Prediction Center this day. Severe thunderstorm reports included ping pong ball size hail in numerous Kansas counties throughout the night.

April 3, 2011: A strong cold front surged into central Kansas during the evening hours that collided with a higher level of moisture. The severe storms brought hail up to two inch size and 70 mph winds to portions of northeast and central Kansas.

June 1, 2010: A strong shortwave moved through the central plains bringing severe weather and produced hail over 2 inches in diameter. The largest hail fell in the city of Beattie in Marshall County. The streets were covered with hail and several windows were broken.

July 15, 2007: Scattered thunderstorms rumbled across north central Kansas during the evening hours. Some of the storms produced some hail up to the size of golf balls and winds around 60 mph.

April 23, 2006: Large hail and straight-line winds were reported in northeast Kansas. Hail up to the size of tennis balls caused \$4 Million in damage to homes and vehicles in Lawrence.

March 12, 2006: Hail up to the size of tennis balls in Burlingame caused considerable damage to homes and vehicles. Golf ball to tennis ball size hail was also reported in Morris, Shawnee, Geary, Douglas, Jefferson, Pottawatomie and Wabaunsee Counties.

1991: A hailstorm hit Lawrence with walnut sized to golf ball size hail.

The following table details NCDC hail event information.

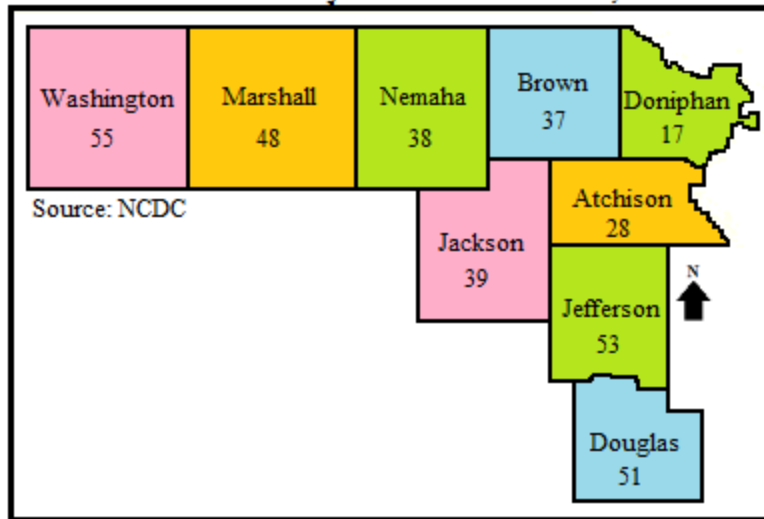
NCDC Hail Events, 2003 - 2013

County	Number of Days with Hail Events	Maximum Amount, in Inches	Property Damages	Crop Damages
Atchison	28	2.75	\$127,000	\$1,300,000
Brown	37	1.75	\$1,000	\$0
Doniphan	17	2.75	\$0	\$0
Douglas	51	2.75	\$4,000,000	\$
Jackson	39	2.00	\$74,000	\$0
Jefferson	53	3.50	\$28,000	\$75,000
Marshall	48	4.00	\$9,000	\$0
Nemaha	38	4.00	\$0	\$0
Washington	55	4.00	\$0	\$0
Regional Total	366	-	\$4,239,000	\$1,375,000

Source: NCDC Storm Events Database

The following map show the number of days with hail events in each county from 2003 - 2013, as per NCDC data.

NCDC Number of Days with Hail Events, 2003- 2013



Local Events

August 2011: City of Muscotah, Atchison County: A hailstorm with extremely large hail stones and high winds caused extensive roof and siding damage as well as damage to trees and plants.

June 19, 2010: City of Beattie, Marshall County: A hailstorm caused crop damages.

Hazard Vulnerability and Impact

Based on information provided by the Tornado and Storm Research Organization, the following table describes typical damage impacts of the various sizes of hail.

Tornado and Storm Research Organization Hail Damage Descriptions

Intensity Category	Diameter (inches)	Size Description	Typical Damage Impacts
Hard Hail	0.2-0.4	Pea	No damage
Potentially Damaging	0.4-0.6	Mothball	Slight general damage to plants, crops
Significant	0.6-0.8	Marble, grape	Significant damage to crop and vegetation
Severe	0.8-1.2	Walnut	Severe damage to crops, damage to glass and plastic, paint and wood scored
Severe	1.2-1.6	Pigeon's egg > squash ball	Widespread glass damage, vehicle bodywork damage
Destructive	1.6-2.0	Golf ball > Pullet's egg	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
Destructive	2.0-2.4	Hen's egg	Bodywork of grounded aircraft dented, brick walls pitted
Destructive	2.4-3.0	Tennis ball > cricket ball	Severe roof damage, risk of serious injuries
Destructive	3.0-3.5	Large orange > Soft ball	Severe damage to aircraft bodywork

Tornado and Storm Research Organization Hail Damage Descriptions, Continued

Intensity Category	Diameter (inches)	Size Description	Typical Damage Impacts
Super Hailstorms	3.6-3.9	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
Super Hailstorms	4.0+	Melon	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Source: Tornado and Storm Research Organization

The following are the data sources for the rating factors: Social Vulnerability Index for Kansas counties from the Hazards and Vulnerability Research Institute at the University of South Carolina, NCDC storm events (2006 – 2012), U.S. Census Bureau (2010), USDA's Census of Agriculture (2007) and USDA Risk Management Agency (2002 – 2011). Please note that the data on crop losses only applies to insured crops. According to the *2011 Kansas Crop Insurance Profile Report* issued by the USDA Risk Management Agency 82 percent of Kansas' row crops were insured in 2011.

It was determined that since hail is a common occurrence in Kansas, that using historical events and property damages from 2006 forward provides adequate events to describe the hail hazard in Kansas.

Vulnerability Factor Amounts for Hail

County	SoVI Rating (1-5)	Prior Events 2006-2012	Property Damages	Annualized Property Damages	Total Building Exposure (\$000)	Population Density	Crop Exposure (2007 Census of Agriculture)	Crop Insurance Paid for Hail	Annualized Crop Insurance Paid
Atchison	3	25	\$127,000	\$18,143	\$1,333,363	39	\$42,536,000	\$937,293	\$93,729
Brown	5	43	\$0	\$0	\$713,225	17	\$86,532,000	\$491,825	\$49,183
Doniphan	3	20	\$0	\$0	\$557,109	20	\$67,800,000	\$280,002	\$28,000
Douglas	1	87	\$4,000,000	\$571,429	\$6,614,269	202	\$27,973,000	\$60,475	\$6,048
Jackson	3	58	\$24,000	\$3,429	\$788,323	20	\$21,169,000	\$287,596	\$28,760
Jefferson	1	87	\$8,000	\$1,143	\$1,130,852	34	\$33,429,000	\$70,437	\$7,044
Marshall	4	78	\$9,000	\$1,286	\$2,054,603	11	\$81,815,000	\$846,979	\$84,698
Nemaha	4	85	\$0	\$0	\$711,896	14	\$67,091,000	\$93,760	\$9,376
Washington	4	105	\$0	\$0	\$396,656	6	\$65,762,000	\$2,167,015	\$216,702
Regional Total	-	588	\$4,168,000	\$595,429	\$14,300,296	-	\$494,107,000	\$5,235,382	\$523,538

Using the above information, a value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the greatest vulnerable counties. The Social Vulnerability Index is in a range of 1- 5. To give Social Vulnerability Index the same weight as the other factors, the numbers were multiplied by two.

Hail Data Rating Determination

Ratings	Social Vulnerability	NCDC Prior Events	Annualized Property Damage	Building Exposure Valuation	Population Density *	Crop Exposure	Annualized Crop Loss
1		18 - 55	0 - \$10,000	\$117,421 - \$4,492,825	1.6 - 116.3	0 - \$18,548,500	0 - \$100,000
2	1	56 - 90	\$10,001 - \$50,000	\$4,492,826 - \$8,868,229	116.4 - 231.1	\$18,548,501 - \$32,126,000	\$100,001 - \$300,000
3		91 - 125	\$50,001 - \$100,000	\$8,868,230 - \$13,243,634	231.2 - 345.9	\$32,126,001 - \$45,703,500	\$300,001 - \$500,000
4	2	126 - 160	\$100,001 - \$300,000	\$13,243,635 - \$17,619,039	346 - 460.7	\$45,703,501 - \$59,281,000	\$500,001 - \$700,000
5		161 - 195	\$300,001 - \$500,000	\$17,619,040 - \$21,994,444	460.8 - 575.5	\$59,281,001 - \$72,858,500	\$700,001 - \$900,000
6	3	196 - 230	\$500,001 - \$700,000	\$21,994,445 - \$26,369,848	575.6 - 690.3	\$72,858,501 - \$86,436,000	\$900,001 - \$1,100,000
7		231 - 265	\$700,001 - \$900,000	\$26,369,849 - \$30,745,253	690.4 - 805.1	\$86,436,001 - \$100,013,500	\$1,100,001 - \$1,300,000
8	4	266 - 300	\$900,001 - \$1,100,000	\$30,745,254 - \$35,120,658	805.2 - 919.9	\$100,031,501 - \$113,591,000	\$1,300,001 - \$1,700,000
9		301 - 335	\$1,000,001 - \$4,000,000	\$35,120,659 - \$39,496,062	920- 1,034.7	\$113,591,001 - \$127,168,500	\$1,700,001 - \$2,100,000
10	5	336 - 370	\$4,000,000 - \$32,012,357	\$39,496,063 - \$43,871,468	1,034.8 - 1,149.6	\$127,168,501 - \$140,746,000	\$2,100,000 - \$2,300,000

Based on the above ratings system, ranges were applied to each county to determine their potential vulnerability. The following related the scoring to a vulnerability assessment:

- **Low:** Score range of 9 -14
- **Medium-Low:** Score range of 15 - 21
- **Medium:** Score range of 22 - 28
- **Medium-High:** Score range of 29 - 35
- **High:** Score range of 36 - 41

Vulnerability of Regional Counties to Hail

County	SoVi Rating	NCDC Prior Event Rating	Annualized Property Damage Rating	Bldg Exposure Valuation Rating	Population Density Rating	Crop Exposure Rating	Annualized Crop Loss Rating	Overall Vulnerability Rating	Hail Vulnerability
Atchison	6	1	2	1	1	3	1	15	Medium-Low
Brown	10	1	1	1	1	7	1	22	Medium
Doniphan	6	1	1	1	1	5	1	16	Medium-Low
Douglas	2	2	6	2	3	2	1	18	Medium-Low
Jackson	6	2	1	1	1	2	1	14	Low
Jefferson	2	2	1	1	1	3	1	11	Low
Marshall	8	2	1	1	1	6	1	20	Medium-Low
Nemaha	8	2	1	1	1	5	1	19	Medium-Low
Washington	8	3	1	1	1	5	2	21	Medium-Low

	Magnitude/Severity
Hailstorm	2.40

Future Development

Future development of agricultural resources and/or increases in population would tend to increase the risk of this hazard. However, agriculture has a more significant role and the bigger potential for an economic impact resulting from hail events. Regional counties with a large agricultural base would be more susceptible to hail damage if agricultural development is expanded.

Probability of Future Hazard Events

Severe thunderstorms that create hail events are a common occurrence throughout northeast Kansas. According to the NCDC database, there were 366 days with hail events in northeast Kansas between 2003 and 2013, or an average of 33 events per year. Based on this information, there is a high probability that at least one hail event could occur in northeast Kansas in any given year.

	Probability
Hailstorm	3.80

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Subject	Ranking	Impacts of Hailstorm
Health and Safety of Persons in the Area of the Incident	Severe	Impact of the immediate area could be severe for affected areas and moderate to light for other less affected areas depending on whether individuals are caught outside during the event.
Responders	Minimal	Impact to responders is expected to be non-existent to minimal.
Continuity of Operations	Minimal to Moderate	Temporary relocation may be necessary if government facilities experience damage.
Property, Facilities, and Infrastructure	Severe	Localized impact could be severe to facilities and infrastructure in the incident area. Utility lines, roads, residential and business properties will be most affected.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities due to damages sustained.
Environment	Severe	Impact could be severe for the immediate impacted area, depending on the size of the event. Impact will lessen as distance increases from the immediate incident area.
Economic Conditions	Minimal to Severe	Local economy and finances may be adversely affected, depending on damages sustained.
Public Confidence in Governance	Minimal to Moderate	Response and recovery will be in question if not timely and effective. Warning systems in place and the timeliness of those warnings could be questioned.

3.7.10 HAZARDOUS MATERIALS

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Hazardous Materials	2.00	1.90	3.90	1.90	2.25

Description

Hazardous materials and waste are a concern for northeast Kansas because a sudden accidental or intentional release of such materials can be dangerous to human health, to nearby property, and to the quality of the environment. Such releases may come from both fixed sources, such as a manufacturing or storage facility, or from a transportation source, such as a truck or pipeline. Generally, with a fixed facility, the hazards are pre-identified, and the facility is required by law to prepare a risk management plan and provide a copy to the Local Emergency Planning Committee (LEPC) and local fire departments. Accidental releases may be due to equipment failure, human error, or a natural or manmade hazard event.

Agricultural facilities throughout northeast Kansas are likely to have dangerous materials present that could pose a threat to surrounding populations in the event of an emergency or disaster. Facilities that store or use chemicals considered unusually dangerous to human safety are required by Section 112R of the Clear Air Act Amendments to assess the potential impacts of an accidental release of the chemical at their facility and to prepare risk management plan (RMP). Of particular interest to northeast Kansas is that ammonia is one of the covered hazardous materials. Numerous northeast Kansas ammonia storage and distribution facilities have filed an RMP with the U.S. Environmental Protection Agency (EPA). A database with information about northeast Kansas facilities that have RMPs is available through the EPA.

The primary agency responsible for hazardous materials within the State of Kansas is the KDHE, Division of Environment. The Kansas Response Plan, Emergency Support Function #10 – Oil and Hazardous Materials is another resource for response information.

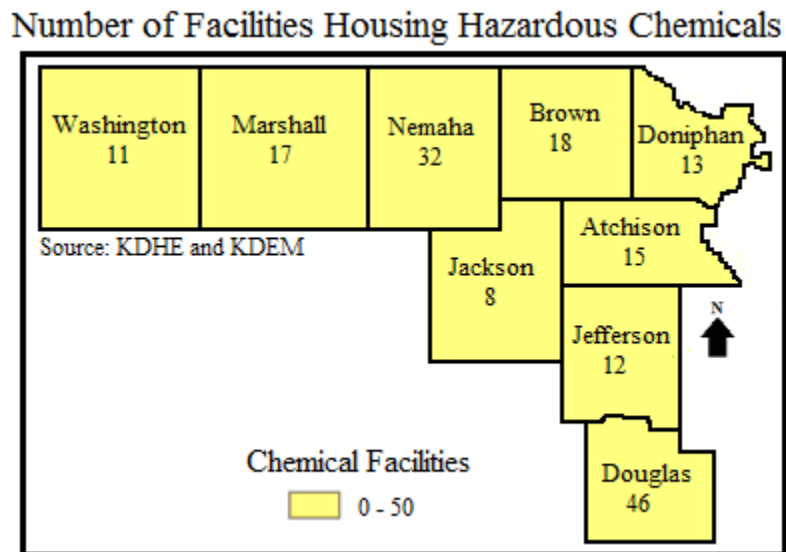
	Warning Time
Hazardous Materials	3.90

	Duration
Hazardous Materials	1.90

Hazard Location

Hazardous materials pose a threat to communities in northeast Kansas. Localities where hazardous materials are fabricated, processed, and stored as well as those where hazardous waste is treated, stored, and disposed of are most at risk for hazardous materials incidents. Additionally, localities along transportation corridors that carry these materials to their final destinations are also at risk.

In 2011, there were 172 facilities housing hazardous chemicals in northeast Kansas identified by the Community Right to Know Act. The number of facilities is illustrated in the following figure.

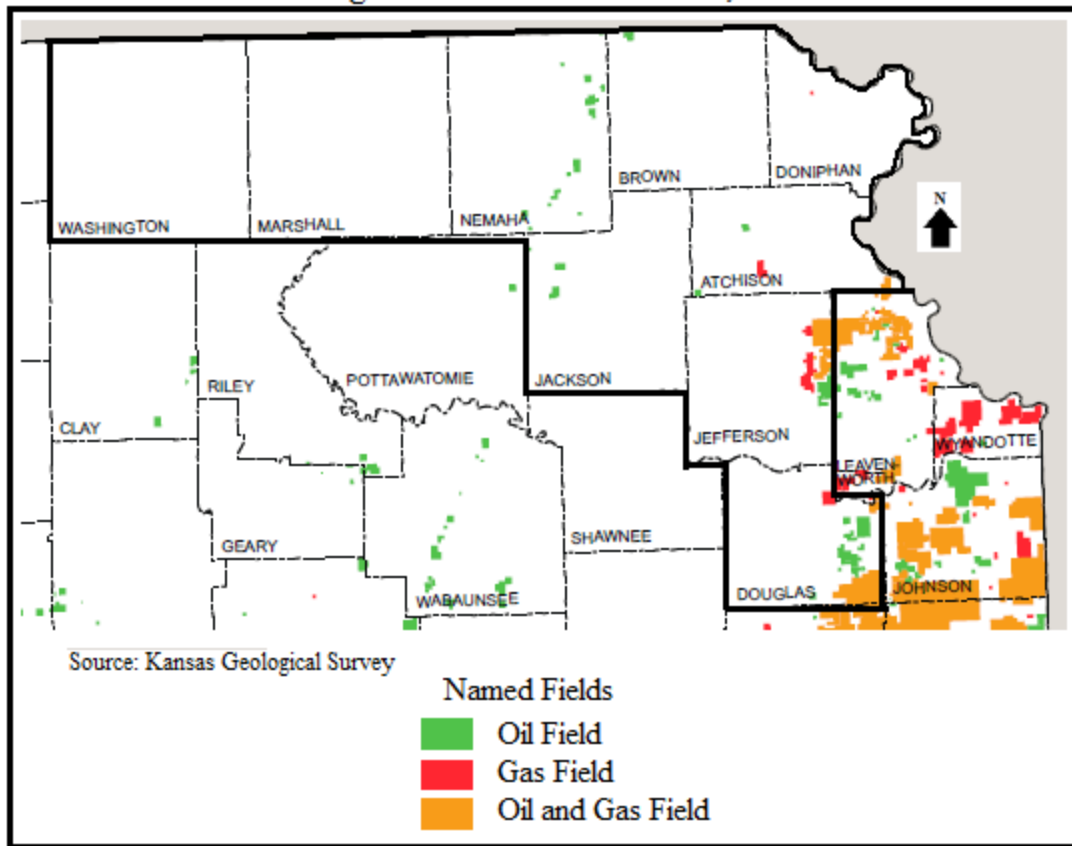


The EPA has indicated that there are no Superfund sites in northeast Kansas. A Superfund site is an uncontrolled or abandoned location where hazardous waste is located which may affect local ecosystems and/or people.

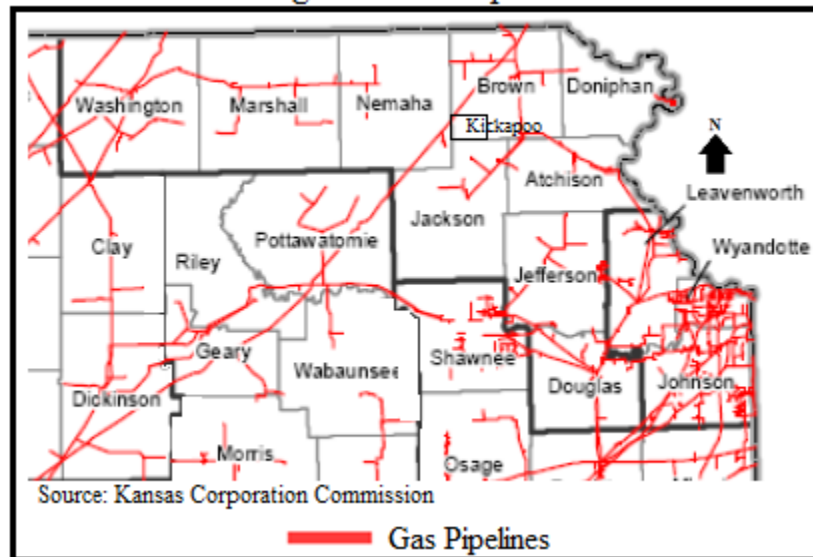
Pipelines and Production Fields

The following figures show production field locations, natural gas and oil pipelines in northeast Kansas.

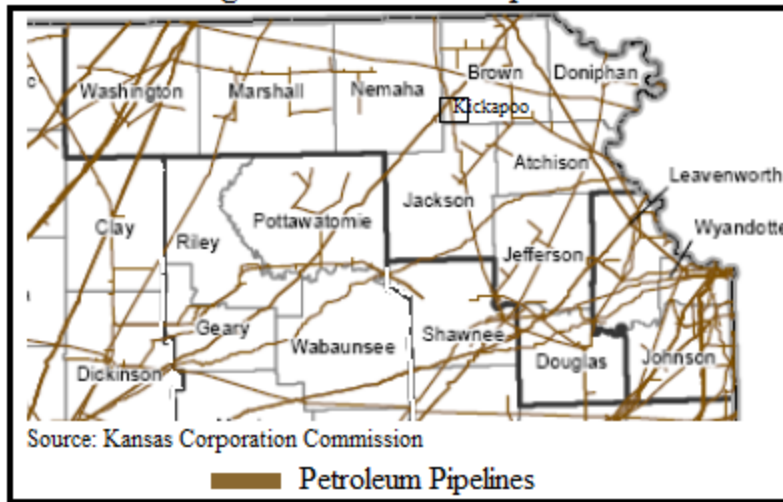
Regional Oil and Gas Fields, 2009



Regional Gas Pipelines



Regional Petroleum Pipelines



The following table details the amount of gas and liquid pipeline miles per county in northeast Kansas.

2011 Pipeline Mileage

County	Gas Miles	Liquid Miles
Atchison	39	81
Brown	132	83
Doniphan	22	81
Douglas	89	59
Jackson	36	22
Jefferson	76	95
Marshall	93	90
Nemaha	78	47
Washington	346	182
Regional Total	911	740

Source: United States Department of Transportation Pipeline and Hazardous Materials Safety Administration

Previous Occurrences and Extent

Regionally, hazardous materials accidents are infrequent events. The following are notable hazardous material events in northeast Kansas.

July 22, 2013: City of Lawrence, Douglas County: A leak of 500 gallons of hydrochloric acid was reported.

May 28, 2008: City of Eudora, Douglas County: A leak of 1,000 gallons of anti-freeze was reported.

April 4, 2008: City of Lawrence, Douglas County: 2,500 lbs of carbon released due to equipment malfunction.

January 5, 2008: Vinland, Douglas County: A leak of 100 gallons of oil was reported.

July 7 and July 14, 2000: City of Lawrence, Douglas County: The Farmland Industries facility which produced ammonia and urea ammonium nitrate had a minor fire on July 7th and a second fire and explosion on July 14th, causing the plants closing.

Hazard Vulnerability and Impact

According to the KDEM, Technological Hazards Section there are over 68 facilities subject to the Risk Management Plan requirements in northeast Kansas as of December 2012. The following facilities are listed and ranked based on population affected according to the Risk Management Plan's Worst Case Scenario. Information concerning these facilities is limited in this plan because of security and liability.

Worst Scenario Facilities, 2012

County	Type of Facility
Atchison	Fertilizer Storage and Distribution
Doniphan	Chemical Production

Source: KDEM Technological Hazards Section

In estimating potential losses, the most significant loss potential with hazardous materials incidents concerns people. Special populations are particularly vulnerable to the impacts of a hazardous materials incident because of the potential difficulties involved in the evacuation. The following shows the number of special population facilities in each county that is located within ½ mile of a chemical facility. The locations of colleges, educational and correctional institution facilities is from the Kansas Data Access & Support Center (DASC), health facilities is from FEMA's HAZUS-MH 2.1, aging facilities is from KDEM and child care facilities is from KDHE. A comparison was completed with the latitude and longitude of the facilities with the hazardous chemical facilities in Kansas.

Number of Special Population Facilities within One-Half Mile of a Chemical Facility

County	Health Facilities	Colleges	Educational Facilities	Aging Facilities	Child Care	Correctional Institutions
Atchison	0	0	4	1	20	1
Brown	1	0	5	4	19	2
Doniphan	0	1	7	0	12	1
Douglas	1	1	8	9	81	1
Jackson	0	0	3	4	9	0
Jefferson	1	0	6	4	13	0
Marshall	1	0	8	3	18	1
Nemaha	2	0	8	6	20	1
Washington	2	0	4	0	13	0
Regional Total	8	2	53	31	205	7

Source: DASC, HAZUS, KDHE, and KDEM

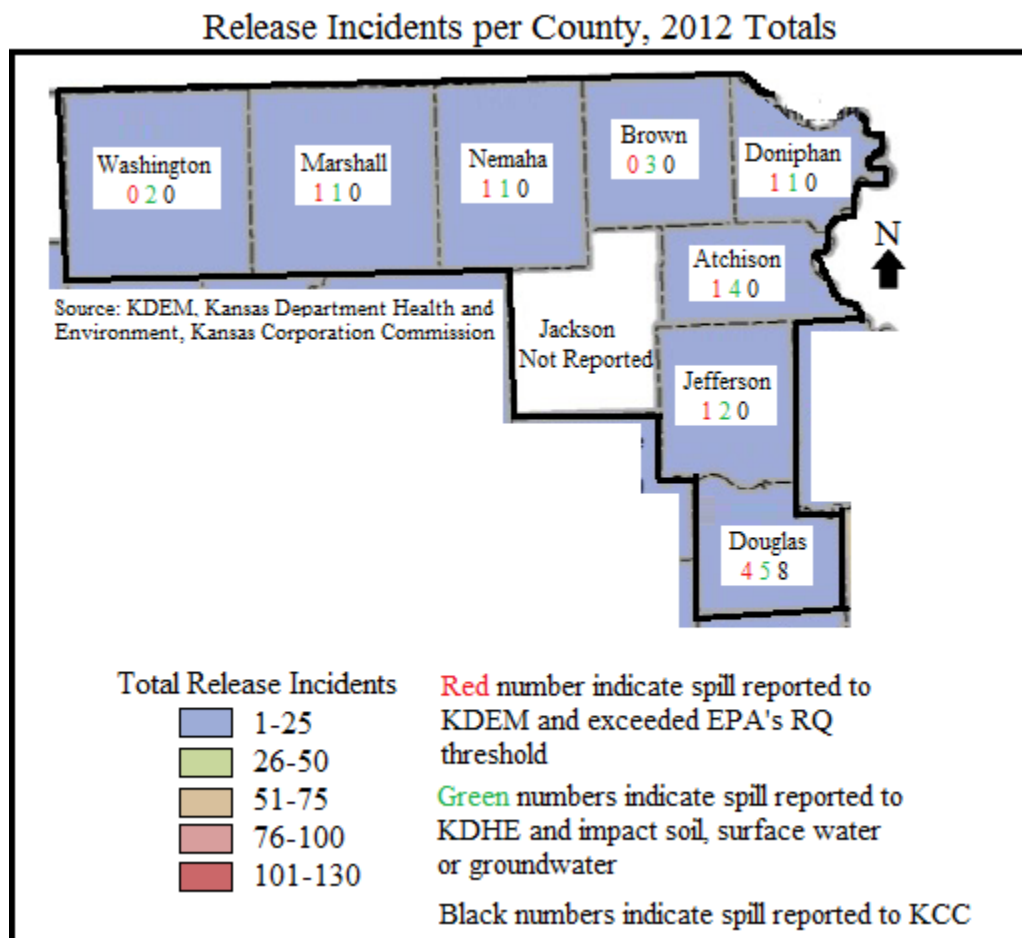
The following table lists the number of hazardous materials incidents, injuries, fatalities and people evacuated from the public and facilities by county in northeast Kansas over the 10-year period of 2003-2012.

Number of Hazardous Material Incidents, Injuries, Fatalities and Evacuations, 2003-2012

Incident County	Incidents	Injuries	Fatalities	People Evacuated
Atchison	16	2	0	0
Brown	21	2	1	0
Doniphan	5	2	1	0
Douglas	27	1	1	4
Jackson	9	0	0	28
Jefferson	13	0	0	12
Marshall	10	1	2	10
Nemaha	8	1	0	0
Washington	18	2	0	0
Regional Total	127	11	5	54

Source: Kansas Division of Emergency Management, Technological Hazards Section

The following map shows the number of release incidents per county for the year 2012.



In general, the spiller is responsible to report to all the appropriate agencies depending on the material and volume spilled. To satisfy the requirement of Kansas Regulation K.A.R. 28-48 all spills that impact the soils or waters must be reported to the KDHE or in the case that it originates from an oil or gas production leases, be reported to the Kansas Corporation Commission. If the release is not contained or threatens the health or safety of the local population, the LEPC within the county of the release, must be notified first by dialing 911. Hazardous materials spills and air releases that meet federal reportable quantities and oil and petroleum spills over 110 gallons must also be reported to KDEM.

The following shows that the major cause of hazardous material incidents from 2003-2012.

Causes of Hazardous Materials Incidents in Kansas, 2003-2012

Year	Explosion	Fire	Spill	Equipment Failure	Operator Error	Natural	Dumping	Other
2003	6	14	194	191	29	6	2	51
2004	5	10	58	355	31	2	1	315
2005	1	5	49	181	21	2	6	0
2006	0	3	46	214	18	1	3	89
2007	1	6	41	238	13	3	0	94
2008	3	7	59	168	27	9	1	110
2009	1	7	142	207	25	14	4	112
2010	2	7	234	120	20	2	2	105
2011	1	6	154	91	10	3	2	21
2012	1	8	153	69	23	1	3	94
Total	21	73	1130	1834	217	43	24	991
10 Year Average	2.1	7.3	113	183.4	21.7	4.3	2.4	99.1

Source: Kansas Division of Emergency Management, Technological Hazards Section

The "Managing the Risk: 2011 Kansas Commission on Emergency Planning and Response Annual Report" shows the number of hazardous material releases reported to all three Kansas agencies of KDEM, the KDHE and the KCC.

Reports from the U.S. Department of Transportation's Pipeline & Hazardous Materials Safety Administration provides detail and incident history for the pipeline systems in northeast Kansas between 2001 and 2012. Significant incidents are those incidents reported by pipeline operators with any of the following conditions met:

- Fatality or injury requiring in-patient hospitalization
- \$50,000 or more in total costs, measured in 1984 dollars
- Highly volatile liquid releases of five or more barrels or other liquid releases of 50 or more barrels
- Liquid releases resulting in an unintentional fire or explosion

According to these reports there were ten incidents that caused no deaths or injuries and \$3,962,565 in damages over the 12 year period (2001-2012). The following table gives the incident details.

Regional Pipeline Incidents, 2001 - 2012

County	Total Natural Gas Transmission Incidents	Total Natural Gas Distribution Incidents	Total Hazardous Liquid Incidents	Total Fatalities	Total Injuries	Total Damage	Gross Barrels Lost	Total Barrels Recovered
Atchison	0	0	0	0	0	0	0	0
Brown	0	0	0	0	0	0	0	0
Doniphan	0	0	1	0	0	\$333,500	8	0
Douglas	0	1	2	0	0	\$964,011	706	406
Jackson	0	0	0	0	0	0	0	0
Jefferson	0	1	0	0	0	\$1,148,554	0	0
Marshall	0	0	0	0	0	0	0	0
Nemaha	0	0	1	0	0	\$339,300	15	0
Washington	0	2	2	0	0	\$1,140,200	611	575
Regional Total	0	4	6	0	0	\$3,925,565	1,340	981

Source: U.S. Department of Transportation's Pipeline & Hazardous Materials Safety Administration

In general, it is difficult to quantify potential losses of hazardous materials events due to the many variables and human elements. For example, a spill of a toxic airborne chemical in a populated area could have great potential for loss of life while a spill of a very small amount of a chemical in a rural agricultural area would be much less costly and possible limited to remediation of soil. Therefore, for the purposes of this plan, the loss estimates will take into account a hypothetical scenario. Please note that the hypothetical scenario is included for illustrative purposes only.

The impact of this type of disaster will likely be localized to the immediate area surrounding the incident. The initial concern will be for people and then the environment. If contamination occurs, the spiller is responsible for the cleanup actions and will work close with local responders, KDHE, KCC, KDEM, and EPA to ensure that cleanup is done safely and in accordance with federal and state laws.

For discussion purposes, the materials needed for a spill at a fixed facility at an easily remediated area are listed in the following table. The costs for the cleanup are estimated from the current State of Kansas Unified HazMat Response Program statewide contract # 35167.

Hypothetical Cost Estimate For Hazardous Materials Spill Remediation

Classification	Rates Per Hour/Unit	Number of Hours/Units	Total Cost
Project Manager	\$90.00	24	\$2,160
Health & Safety Supervisor	\$86.00	24	\$2,064
Environmental Tech	\$50.00	12	\$600
Foreman	\$55.00	24	\$1,320
Equipment Operator	\$56.50	24	\$1,356
Laborer	\$45.00	24	\$1,080
Truck, 4 wheel drive	\$680/wk	1	\$680
Backhoe, Case 416B	\$320.00/day	2	\$640
Forklift, 3 ton all terrain	\$160.00/day	2	\$320
Skimmer	\$250.00/day	2	\$500
Pump, 4"	\$80.00/day	3	\$240
Drums, chemical, 17H or E	\$90.00	25	\$2,250
Drums, 95 gallon	\$295.00	25	\$7,375
Vermiculite per bag	\$15.00	6	\$90
Acid Suits	\$70.00/each	6	\$420
Gloves	\$4.00/pair	30	\$120
Total			\$21,215

Source: State of Kansas Unified HazMat Response Program statewide contract # 35167

	Magnitude/Severity
Hazardous Materials	1.90

Future Development

People, livestock and vegetation in close proximity to facilities fabricating, processing and storing as well as those where hazardous waste is treated, stored and disposed of are most at risk for hazardous materials incidents. Additionally, localities along transportation corridors that carry these materials to their final destinations are at risk. Populations downstream, downwind and downhill of a released substance are particularly vulnerable. Depending on the characteristics of the substance released, a larger area may be in danger from explosion, absorption, injection or inhalation. Occupants of areas previously contaminated by a persistent material may also be harmed either directly or through consumption of contaminated food and water. As the infrastructure and population of large urban centers of northeast Kansas increase, along with the number and type of hazardous chemicals stored and transported through the region, the amount of potential losses could increase.

Probability of Future Hazard Events

Based on the limited historical occurrence future major events is unlikely. However, as the infrastructure and population of large urban centers of northeast Kansas increase, along with the number and type of hazardous chemicals stored and transported through the region, the amount of potential losses could increase.

	Probability
Hazardous Materials	2.00

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Hazardous Material Event Consequence Analysis

Subject	Ranking	Impacts of Hazardous Material Event
Health and Safety of Persons in the Area of the Incident	Severe	Impact of the immediate area could be severe for affected areas.
Responders	Severe	Impact to responders is expected to be severe.
Continuity of Operations	Minimal to Moderate	Temporary relocation may be necessary if government facilities experience damage.
Property, Facilities, and Infrastructure	Severe	Localized impact could be severe in the incident area. Streams, open bodies of water, aquifers, roads, residential and business properties will be most affected.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities.
Environment	Severe	Impact could be severe for the immediate area. Impact will lessen with distance.
Economic Conditions	Minimal to Severe	Local economy and finances may be adversely affected, depending on damages.
Public Confidence in Governance	Minimal to Moderate	Response and recovery will be in question if not timely and effective. Warning systems and the timeliness of those warnings could be questioned.

3.7.11 LAND SUBSIDENCE

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Land Subsidence	1.00	1.00	2.00	4.00	1.45

Description

Land subsidence is caused when the ground above manmade or natural voids collapses. Subsidence can be related to mine collapse, water and oil withdrawal, or natural causes such as shrinking of expansive soils, salt dissolution (which may also be related to mining activities), and cave collapses. The surface depression is known as a sinkhole. If sinkholes appear beneath developed areas, damage or destruction of buildings, roads and rails, or other infrastructure can result. The rate of subsidence, which ranges from gradual to catastrophic, correlates to its risk to public safety and property damage.

The development of sinkhole and subsidence areas can be grouped into three major categories:

- Natural dissolution of soluble minerals
- Extraction of minerals by either solution mining or shaft mining
- Downward drainage of fresh water, via a drill hole or unplugged oil or gas well which penetrates a soluble mineral formation and has an outlet for the solution cavity water to be disposed.

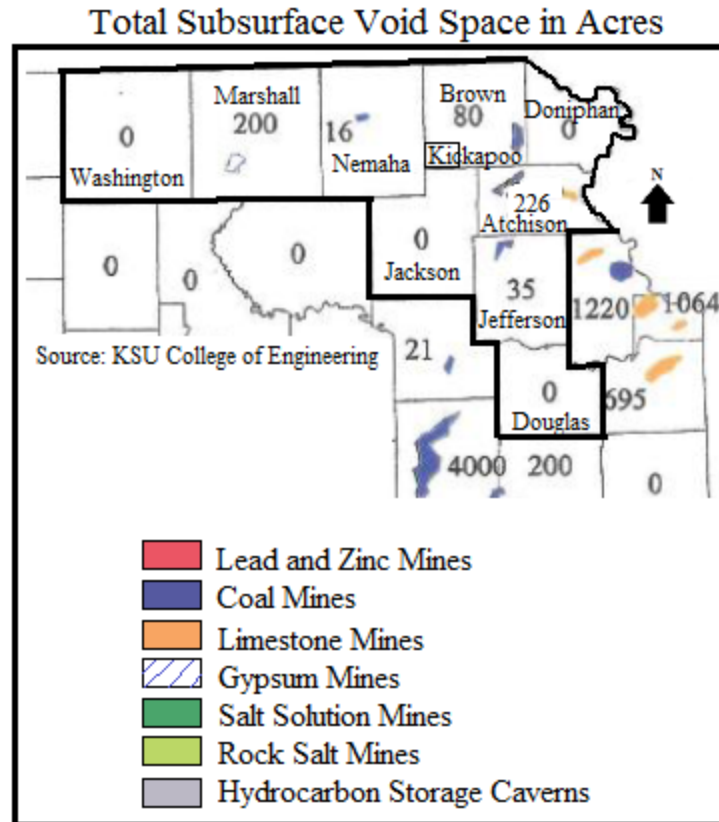
Major materials or minerals present in northeast Kansas that are associated with subsidence and sinkhole development include salt, limestone and dolomite, gypsum, coal, lead and zinc. Some isolated incidents of subsidence have been associated with high volume pumping of water wells.

	Warning Time
Land Subsidence	2.00

	Duration
Land Subsidence	4.00

Hazard Location

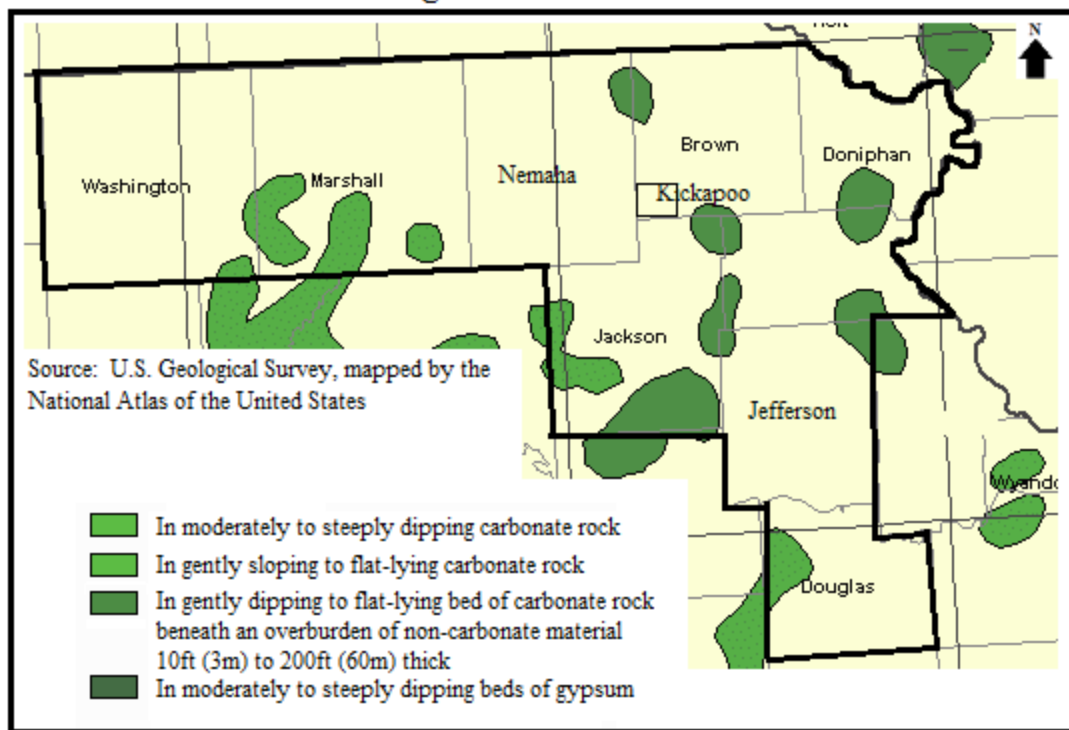
The Kansas Department of Health and Environment in 2006 prepared a report on “Subsurface Void Space and Sinkhole/Subsidence Area Inventory for the State of Kansas.” The report inventoried subsurface void space from oil and gas exploration and production, natural sources, shaft mining, and solution mining. The total void space inventory for all sources in the state is 119,136 acres. The distribution of total acres and major cause of void spaces are shown for each county in the following map.



Areas of karst, a terrain or type of topography generally underlain by soluble rocks, such as limestone, gypsum, and dolomite, in which the topography is chiefly formed by dissolving the rock, are also particularly prone to sinkholes.

The following map illustrates the location of karst features and features analogous to karst in northeast Kansas. The green areas shown in the map show fissures, tubes, and caves generally less than 1,000 feet long with 50 feet or less vertical extent in gently dipping to flat-lying carbonate rock. Brown areas have similar features in gently dipping to flat lying gypsum beds. Light pink colored areas are features analogous to karst with fissures and voids present to a depth of 250 feet or more in areas of subsidence from piping in thick unconsolidated material. Darker pink areas contain fissures and voids (analogous to karst) to a depth of 50 feet. There are limited documented problems associated with natural limestone subsidence and sinkholes in northeast Kansas.

Regional Karst Features



Previous Occurrences and Extent

No notable incidents of land subsidence have been recorded for the region.

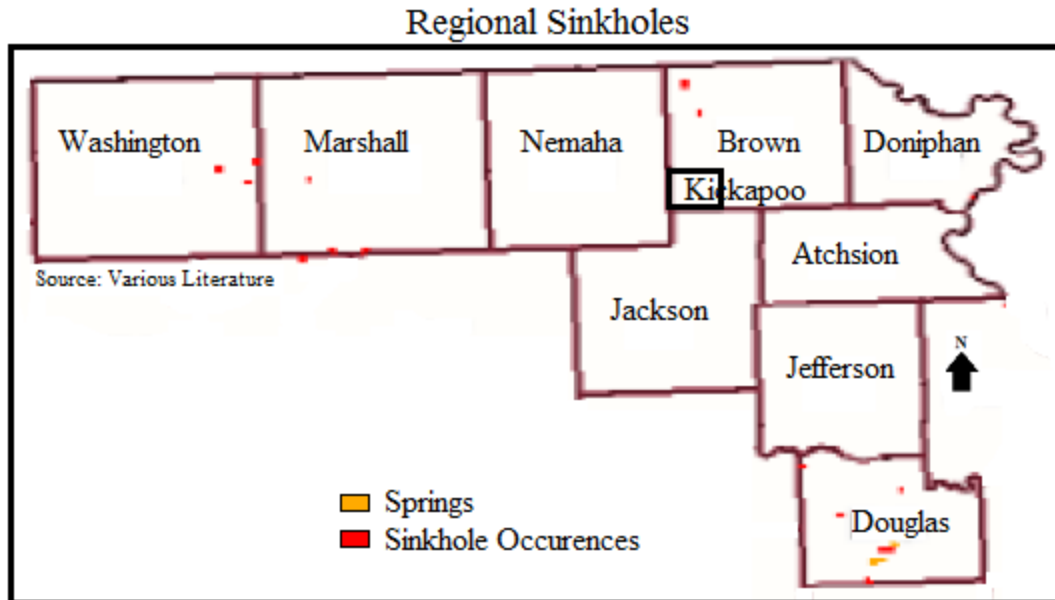
Hazard Vulnerability and Impact

Data was obtained from KDHE for the following:

- Lead and Zinc Mines that required filling
- Coal Subsidence Projects
- Coal Emergency Program Projects

This emergency program provides for the remediation of sites which are an immediate threat to the health and safety of the general public. No projects or associated costs were recorded for the region.

The following map illustrates known or documented sinkhole occurrences and the locations of springs that may increase the likelihood of sinkholes. Colored areas show one-mile square sections of land in the northeast Kansas where sinkhole locations have been documented in literature. Sections in red indicate sinkhole occurrences (yellow indicates springs). In general, areas of documented previous occurrences of sinkholes are in areas with void space from mines, karst features, and the “lost circulation zone”.



With the known number of acres in each risk category for each county with documented subsurface void spaces, a weighted vulnerability calculation was completed. Acreage in risk Category I (High Risk) received a multiplier of three, acreage in risk Category II (Moderate Risk) received a multiplier of two and acreage in risk Category III (Low Risk) received a multiplier of one.

A high risk classification indicates one or more of the following: the source material very soluble, source material thickness may leave large voids, depth of source material less than 100 feet, mining operations have left a large vertical void space (4 - 300 feet), mining operations have large vertical shafts or bore holes associated with the mining techniques, mined area has a large void space to pillar ratio, void space in the mine has filled with water, mine floor susceptible to collapse or loading failure, cap rock not competent for long term support, mine pillars susceptible to deterioration and future collapse, mine roof less than 60 feet in thickness, bedrock material comprising the mine roof is not competent material for long-term stability, horizontal or inclined mine shafts with shallow or thin overburden, and areas in the subsurface where support pillars in columns have been mined or removed.

A moderate risk classification indicates one or more of the following: depth of mine floor greater than 125 feet, void space to pillar ratio (80 to 90%), vertical opening 4 feet or greater, water filled void increases subsidence risk, overlying bedrock material very competent, numerous mine shafts or boreholes associated with mining technique, and support columns or pillars susceptible to serious deterioration when void space is filled with water.

A low risk classification indicates one or more of the following: small vertical void space, void space to pillar ratio good (75 to 80%), vertical shafts and bore holes are in good condition, depth of mined material relatively deep, +/- 150 feet, competent cap rock over void space, long wall mining method allows slow subsidence with minimal vertical opening; surface subsidence is

minimal to undetected, mine opening is dry, no pillar deterioration, and mine area has little risk of sudden subsidence.

Subsurface Void Space Vulnerability Analysis

County	Coal Category II	Coal Category III	Limestone Category I	Limestone Category II	Limestone Category III	Gypsum Category II	Total Sub-Surface Void Space	Weighted Calculation
Atchison	0	27	66	66	67	0	226	424
Brown	0	80	0	0	0	0	80	80
Jackson	0	0	0	0	0	0		
Jefferson	30	0	0	5	0	0	35	70
Marshall	0	0	0	0	0	200	200	400
Nemaha	16	0	0	0	0	0	16	32
Regional Total	46	107	66	71	67	200	557	1,006

Source: KDHE, "Subsurface Void Space and Sinkhole/Subsidence Area Inventory for the State of Kansas" 2006.
Data tabulated and assigned weighted scores

	Magnitude/Severity
Land Subsidence	1.00

Future Development

Future development would tend to increase the risk of this hazard, especially on areas of known subsidence or with subsidence potential.

Probability of Future Hazard Events

Based on historical records, land subsidence events occur in northeast Kansas on a very sporadic basis. However, due to underlying surface conditions and activities a small probability of future events exists.

	Probability
Land Subsidence	1.00

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Land Subsidence Consequence Analysis

Subject	Ranking	Impacts of Land Subsidence
Health and Safety of Persons in the Area of the Incident	Moderate to Severe	Local impact expected to be moderate to severe for the incident area.
Responders	Minimal	Impact to responders would be minimal.
Continuity of Operations	Minimal	Minimal expectation of execution of the COOP, unless a facility is impacted.
Property, Facilities, and Infrastructure	Severe	Localized impact to facilities and infrastructure in the incident area has the potential to do severe damage.
Delivery of Services	Minimal	Impacts to the delivery of services could be severe if roads/utilities are affected. Otherwise impact would be non-existent to minimal.
Environment	Minimal	Impact to the area would be minimal.
Economic Conditions	Minimal	Impacts to the economy will depend on the severity of the damage.
Public Confidence in Governance	Minimal to Severe	Local development policies will be questioned.

3.7.12 LANDSLIDE

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Landslide	1.00	1.00	3.50	1.10	1.39

Description

A landslide is the downhill movement of masses of soil and rock by gravity. The basic ingredients for landslides are gravity, susceptible soil or rock, sloping ground, and water. Typically, as the slope angle increases, so does the potential for landslides. Anything that increases the slope angle can trigger a landslide, including a stream actively eroding a hill or construction practices. Landslides may occur when soil on hillsides is saturated following extended periods of rainfall or snow melt, and may also be caused by:

- Earthquakes
- Fire (and resulting loss of vegetation)
- Excavation and mining
- Irrigation
- Construction activities

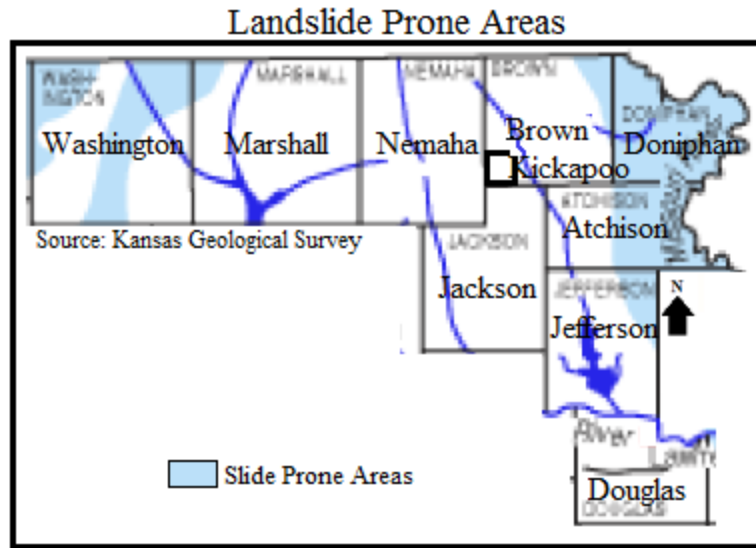
Landslides can damage or destroy structures, roadways, and utilities as well as block roadways with debris.

	Warning Time
Landslide	3.50

	Duration
Landslide	1.10

Hazard Location

Areas prone to landslides can cover broad geographic regions, but occurrences are generally localized. In general, landslides require an earth or rock covered slope. The entire planning area, including all participating jurisdictions, is potentially at risk to landslides. The following map, from the Kansas Geological Survey, shows regional slide prone areas.



Previous Occurrences and Extent

There have been two notable recorded landslide events in northeast Kansas:

1998: Stanley, Douglas County: A landslide cause \$360,000 in damages to a house and \$170,000 in damages to a road and beach.

1997: City of Atchison, Atchison County: A landslide along Riverview Drive damaged the street at the top of the hill and broke a sewer line along the base of the slope.

Hazard Vulnerability and Impact

Losses due to landslides in northeast Kansas will continue in those areas of the region that are prone to this hazard. Landslide losses are primarily related to damage to property. However, if a sudden landslide impacts an inhabited structure, injuries or deaths could occur. Historically, landslides in northeast Kansas have been isolated events impacting a few properties or a particular area. Often, damages in terms of estimated losses are not reported. Additionally, there is not a repository for damages to be reported, other than NCDC. The NCDC database does not include any previous landslide events in Kansas. This is likely because the events are generally isolated and do not impact large areas.

If construction is occurring in or near landslide hazard areas, more structures/population will be at risk to damage/injury from landslides. The effects of landslides on people and structures can be lessened by total avoidance of landslide hazard areas or by restricting, prohibiting, or imposing conditions on hazard-zone activity. The hazard from landslides can be reduced by avoiding construction on steep slopes and existing landslides, or by stabilizing the slopes. Stability increases when ground water is prevented from rising in the landslide mass by covering the landslide with an impermeable membrane, directing surface water away from the landslide, draining ground water away from the landslide, and minimizing surface irrigation. Slope stability

is also increased when a retaining structure and/ or the weight of a soil/rock berm are placed at the toe of the landslide or when mass is removed from the top of the slope.

It is not possible at this time to determine quantitative estimates for potential losses associated with the landslide hazard.

	Magnitude/Severity
Landslide	1.00

Future Development

Future development in landslide prone areas would tend to increase the risk of this hazard. However, areas that have been identified with a landslide risk in the region tend to have stable populations showing little increase in development.

Probability of Future Hazard Events

There have been two reported landslide events in the region in the past 17 years, causing minor damages. This would equate to approximately 0.1 events per year. As such, it is unlikely that a future landslide event will cause a measurable impact.

	Probability
Landslide	1.00

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Landslide Consequence Analysis

Subject	Ranking	Impacts of Landslide
Health and Safety of Persons in the Area of the Incident	Moderate to Severe	Localized impact could be moderate to severe for the incident area.
Responders	Minimal	Impact to responders would be minimal.
Continuity of Operations	Minimal	Minimal expectation of execution of the COOP, unless a facility is impacted.
Property, Facilities, and Infrastructure	Minimal to Severe	Localized impact to facilities and infrastructure in the incident area has the potential to do severe damage if they are on, or in, the area of the landslide.
Delivery of Services	Minimal	Impacts to the delivery of services could be severe if roads/utilities are affected. Otherwise impact would be non-existent to minimal.
Environment	Minimal	Impact to the area would be minimal other than the immediate area.
Economic Conditions	Minimal	Impacts to the economy will depend on the severity of the damage, i.e., are roads blocked, did any businesses get caught in the landslide.
Public Confidence in Governance	Minimal to Severe	Local development policies will be questioned.

3.7.13 LIGHTNING

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Lightning	2.30	1.20	2.60	1.00	1.89

Description

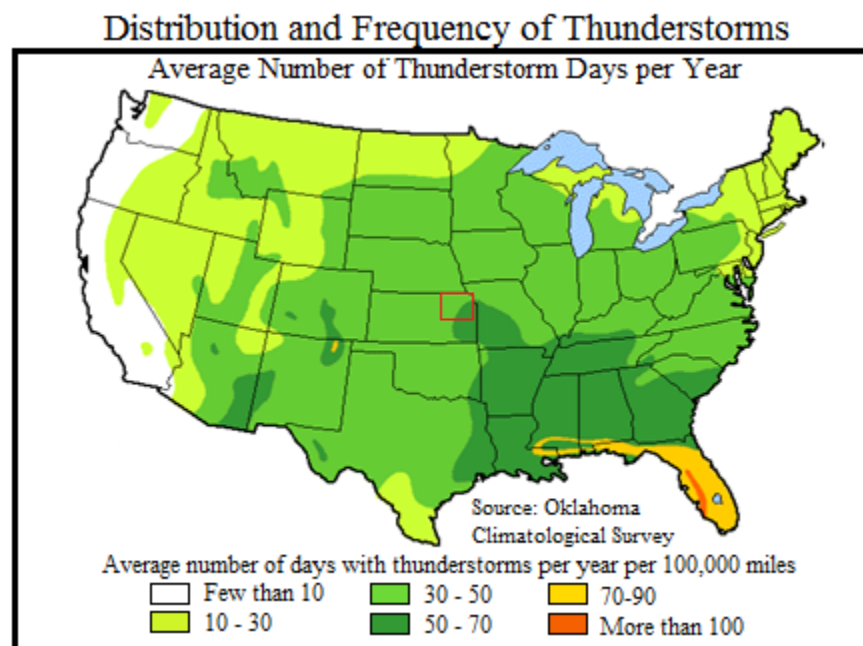
Lightning is a discharge of atmospheric electricity that is triggered by a buildup of differing charges within a cloud. According to the NWS, lightning is one of the most underrated severe weather hazards and is the second deadliest weather killer in the United States. Of the estimated 1,000 people who are struck by lightning each year in the United States, only 10 percent are killed, but survivors may suffer life-long disabilities.

	Warning Time
Lightning	2.60

	Duration
Lightning	1.00

Hazard Location

Severe thunderstorms strike northeast Kansas regularly, with accompanying lightning that can cause injury, death, property damage and wildfires. The widespread and frequent nature of thunderstorms makes lightning a relatively common occurrence. Of particular concern to northeast Kansas is protection of facilities and communications systems that are important to emergency response operations, protection of public health and maintenance of the region's economy. Most of northeast Kansas has an average 30-50 thunderstorm days per year.



Lightning occurs over broad geographic regions. The entire planning area, including all participating jurisdictions, is at risk to lightning.

Previous Occurrences and Extent

Information measured by the National Lightning Detection Network between 1997 and 2011 ranks Kansas 16th among the continental states in terms of cloud-to-ground flash densities with 934,368 flashes per year (11.4 flashes per square mile). According to the NCDC Storm Events database, there were 11 lightning events in northeast Kansas between 2003 and 2013 resulting in \$123,600 in property damage. The NCDC receives storm data from the NWS, which receives information from a variety of sources, which include but are not limited to county, state, and federal emergency management officials, local law enforcement officials, Skywarn spotters, NWS damage surveys, newspaper clipping services, the insurance industry and the general public. Reporting of events and the historic events detailed here are likely not a true reflection of all the damaging lightning strikes.

NCDC Lightning Events 2003 - 2013

County	Total Events	Property Damage	Crop Damage	Deaths
Atchison	0	\$0	\$0	0
Brown	4	\$9,600	\$0	0
Doniphan	0	\$0	\$0	0
Douglas	4	\$39,000	\$0	0
Jackson	2	\$75,000	\$0	0
Jefferson	1	\$0	\$0	0
Marshall	0	\$0	\$0	0
Nemaha	0	\$0	\$0	0
Washington	0	\$0	\$0	0
Regional Total	11	\$123,600	\$0	0

Source: NCDC Storm Events Database

According to the USDA's Risk Management Agency, there have not been any payments for insured crop losses specifically for lightning. The NCDC database lists \$0 for crop damages in the 2003-2013 timeframe.

Based on NCDC data, showing \$123,600 in damages over the 11 year period from 2003 to 2013, northeast Kansas can expect approximately \$11,236 in lightning-related losses each year.

According to the NCDC, there have been no reported deaths or injuries from lightning in northeast Kansas from 2003 to the present.

Local Events

Notable Lightning Events include:

June 23, 2012: Nemaha County: A lightning strike tripped breakers and blew fuses.

August 2011: USD #429, Troy, Doniphan County: Lightning struck the High School and Middle School damaging the phone systems, freezers and air conditioning units.

August 20, 2010: City of Eudora, Douglas County: A lightning strike caused a house fire.

April 5, 2010: City of Eudora, Douglas County: A lightning strike caused a house fire.

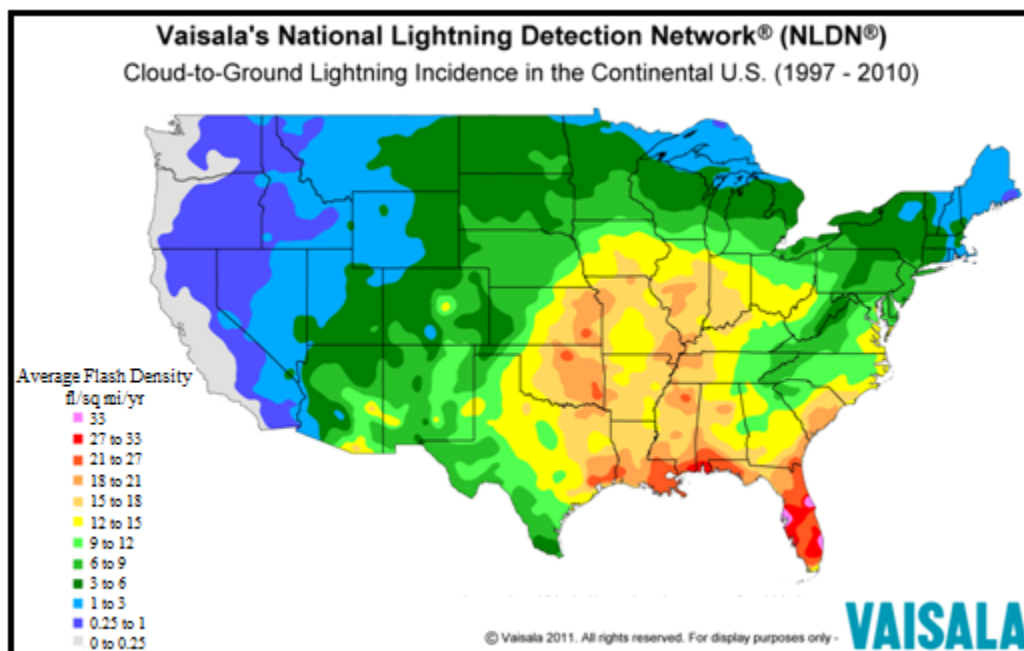
July 10, 2009: City of Eudora, Douglas County: A lightning strike caused a house fire.

July 26, 2008: City of Eudora, Douglas County: A lightning strike caused a house fire.

May 2008: City of Morrill, Brown County: A lightning strike caused \$14,836 in damage to a electrical substation.

Hazard Vulnerability and Impact

In general, the frequency of occurrence of lightning is similar to the pattern of thunderstorm frequency. Data suggests that there are 18 to 27 flashes per square mile per year in northeast Kansas. The following figure, which is based on data from 1997 to 2010, shows that the distribution of lightning throughout the U.S.



The statistical analysis method was used to refine and assess the relative vulnerability of each of region's counties to lightning. The region assigned ratings to pertinent factors including social vulnerability index, prior events, prior annualized property damage, building exposure valuation,

population density and crop exposure (annualized crop losses were not used since USDA did not have insured crop loss amounts to use in the tabulation).

The following information was used for this analysis:

- Social Vulnerability Index for Kansas from the Hazards and Vulnerability Research Institute at the University of South Carolina
- National Climatic Data Center storm events 2000 – 2012
- U.S. Census Bureau (2010)
- USDA's Census of Agriculture (2007).

Vulnerability Factor Amounts for Lightning

County	SoVI Rating (1-5)	Prior Events 2003-2013	Property Damages	Annualized Property Damages	Total Building Exposure (\$000)	Population Density	Crop Exposure (2007 Census of Agriculture)
Atchison	3	0	\$0	\$0	\$1,333,363	39	\$42,536,000
Brown	5	2	\$6,000	\$857	\$713,225	17	\$86,532,000
Doniphan	3	0	\$0	\$0	\$557,109	20	\$67,800,000
Douglas	1	0	\$0	\$0	\$6,614,269	202	\$27,973,000
Jackson	3	2	\$75,000	\$10,714	\$788,323	20	\$21,169,000
Jefferson	1	1	\$0	\$0	\$1,130,852	34	\$33,429,000
Marshall	4	0	\$0	\$0	\$2,054,603	11	\$81,815,000
Nemaha	4	0	\$0	\$0	\$711,896	14	\$67,091,000
Washington	4	0	\$0	\$0	\$396,656	6	\$65,762,000
Regional Total	-	5	\$81,000	\$11,571	\$14,300,296	-	\$494,107,000

Using the above information, a value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the greatest vulnerable counties. The Social Vulnerability Index is in a range of 1- 5. To give Social Vulnerability Index the same weight as the other factors, the numbers were multiplied by two.

Lightning Data Rating Determination

Ratings	Social Vulnerability	NCDC Prior Events	Annualized Property Damage	Building Exposure Valuation	Population Density *	Crop Exposure
1		1	\$143 - \$3,600	\$117,421 - \$4,492,825	1.6 - 116.3	0 - \$18,548,500
2	1	2	\$3,601 - \$7,200	\$4,492,826 - \$8,868,229	116.4 - 231.1	\$18,548,501 - \$32,126,000
3		3	\$7,201 - \$10,800	\$8,868,230 - \$13,243,634	231.2 - 345.9	\$32,126,001 - \$45,703,500
4	2	4	\$10,801 - \$14,400	\$13,243,635 - \$17,619,039	346 - 460.7	\$45,703,501 - \$59,281,000
5		5	\$14,401 - \$18,000	\$17,619,040 - \$21,994,444	460.8 - 575.5	\$59,281,001 - \$72,858,500
6	3	6	\$18,001 - \$21,600	\$21,994,445 - \$26,369,848	575.6 - 690.3	\$72,858,501 - \$86,436,000
7		n/a	\$21,601 - \$25,200	\$26,369,849 - \$30,745,253	690.4 - 805.1	\$86,436,001 - \$100,013,500
8	4	n/a	\$25,201 - \$28,000	\$30,745,254 - \$35,120,658	805.2 - 919.9	\$100,031,501 - \$113,591,000
9		n/a	\$28,801 - \$33,000	\$35,120,659 - \$39,496,062	920 - 1,034.7	\$113,591,001 - \$127,168,500
10	5	n/a	\$33,001 and up	\$39,496,063 - \$43,871,468	1,034.8 - 1,149.6	\$127,168,501 - \$140,746,000

Note: n/a relates to not applicable because no county had more than 5 prior events

Based on the above ratings system, ranges were applied to each county to determine their potential vulnerability. The following related the scoring to a vulnerability assessment:

- **Low:** Score range of 7 -13
- **Medium-Low:** Score range of 14 - 18
- **Medium:** Score range of 19 - 23
- **Medium-High:** Score range of 24 - 28
- **High:** Score range of 29 - 34

Vulnerability of Kansas Counties to Lightning

County	SoVi Rating	NCDC Prior Event Rating	Annualized Property Damage Rating	Bldg Exposure Valuation Rating	Population Density Rating	Crop Exposure Rating	Overall Vulnerability Rating	Lightning Vulnerability
Atchison	6	0	0	1	1	3	11	Low
Brown	10	2	1	1	1	7	22	Medium
Doniphan	6	0	0	1	1	5	13	Low
Douglas	2	0	0	2	3	2	9	Low
Jackson	6	2	3	1	1	2	15	Medium-Low
Jefferson	2	1	0	1	1	3	8	Low
Marshall	8	0	0	1	1	6	16	Medium-Low
Nemaha	8	0	0	1	1	5	15	Medium-Low
Washington	8	0	0	1	1	5	15	Medium-Low

	Magnitude/Severity
Lightning	1.20

Future Development

Future development would tend to increase the risk of this hazard.

Probability of Future Hazard Events

Severe thunderstorms and the associated lightning events will continue to cause damage to anything exposed to the weather elements. Lightning can damage many types of infrastructure, including electric lines/poles/transformers, telephone lines and radio communication equipment. These pieces of infrastructure are needed by both first response agencies and the general community to ensure safe transport, habitable homes and good communications abilities.

Residential and business properties are liable to receive damage either as a result of a lightning strike causing a fire or other type of direct damage or by overloading electronic equipment. The latter concern is especially important to business and government, which rely on computers and other electronic equipment for day to day operations. Virtually all structures and electrical components in northeast Kansas are vulnerable to lightning. Fires, electrical fires, electricity loss and damage to equipment are a few of the problems associated with lightning strikes.

Any increase in development will lead to a greater exposure to this hazard.

	Probability
Lightning	2.30

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Lightning Consequence Analysis

Subject	Ranking	Impacts of Lightning
Health and Safety of Persons in the Area of the Incident	Minimal to Moderate	Impact to the health and safety of persons could be minimal to moderate if within the incident area.
Responders	Minimal	Impact to responders is expected to be minimal unless responders live within the affected area.
Continuity of Operations	Minimal	Temporary relocation may be necessary if government facilities experience damage.
Property, Facilities, and Infrastructure	Minimal to Severe	Impact could be severe if property, facilities or infrastructure take a direct hit which could result in fire or destruction.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities due to damages sustained.
Environment	Minimal to Severe	Impact will be isolated, yet severe to any trees, animals, etc., that takes a direct hit, or is in the path of any fire that may be generated due to the lightning strike.
Economic Conditions	Minimal	Local economy impact should be fairly minimal, unless the lightning causes fires which damage businesses and stops revenue.
Public Confidence in Governance	Minimal	Response and recovery will be in question if not timely and effective, specifically if electricity and other utilities are affected.

3.7.14 MAJOR DISEASE OUTBREAK

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Major Disease Outbreak	1.20	2.90	1.00	4.00	1.96

Description

Infectious diseases are human illnesses caused by microscopic agents, including viruses, bacteria, parasites, and fungi or by their toxins. They may be spread by direct contact with an infected person or animal, ingesting contaminated food or water, vectors such as mosquitoes or ticks, contact with contaminated surroundings such as animal droppings, infected droplets, or by aerosolization

While there are a number of biological diseases/agents that are of concern to northeast Kansas, the following categories of disease are being addressed in this plan: vaccine preventable disease, food borne disease, and community associated infections as having significant recurring impact on the morbidity of northeast Kansans. The following descriptions are general and it should be noted that individuals may experience more or less severe consequences based upon their own circumstances.

Vaccine Preventable:

- **Measles:** a respiratory disease caused by a virus spread through the air by breathing, coughing or sneezing. It is so contagious that any child who is exposed to it and is not immune will probably get the disease.
- **Mumps:** a contagious disease that causes fever, headache, muscle aches, tiredness, and loss of appetite, and is followed by swelling of salivary glands. Most people with mumps recover fully.
- **Pertussis:** a highly communicable, vaccine-preventable disease that is typically results in severe coughing, whooping, and vomiting. Major complications are most common among infants and young children and include hypoxia, apnea, pneumonia, seizures, encephalopathy, and malnutrition. Young children can die from pertussis, with most deaths occur among unvaccinated children or children too young to be vaccinated.
- **Influenza:** a viral infection of the nose, throat, bronchial tubes, and lungs. There are two main types of virus, A and B, with each type including many different strain which tend to change each year. Influenza is highly contagious and is easily transmitted through contact with droplets from the nose and throat of an infected person during coughing and sneezing.
- **Pandemic Influenza:** A pandemic influenza is a influenza virus that causes a global outbreak of serious illness. A influenza pandemic occurs when a new virus emerges for which people have little or no immunity, and for which there is no

vaccine. Infection rate and mortality may be markedly higher than a normal influenza.

Food Borne Disease:

- **Norovirus:** a group of related viruses that cause acute gastroenteritis in humans, including diarrhea, vomiting, and stomach pain. Noroviruses are transmitted primarily through the fecal-oral route, either by consumption of fecal contaminated food or water or by direct person-to-person spread.
- **Salmonellosis:** an infection with bacteria that causes diarrhea, fever, and abdominal cramps. The illness usually lasts four to seven days, and most persons recover without treatment.

	Warning Time
Major Disease Outbreak	1.00

	Duration
Major Disease Outbreak	4.00

Hazard Location

The entire planning area is susceptible to a disease outbreak. However, more densely populated areas are more susceptible to the diseases that are transmitted person to person.

Previous Occurrences and Extent

There have been four a pandemics in the past century that have impacted northeast Kansas:

1918–19: Spanish flu (H1N1): This flu is estimated to have sickened 20-40% of the world's population, causing the death of 500,000 Americans. Recently, the origin of the pandemic was traced to an outbreak of influenza in Haskell County, Kansas, in January 1918. By the end of 1918, the Kansas death toll was around 12,000.

1957–58: Asian flu (H2N2): This virus was quickly identified because of advances in technology, and a vaccine was produced. In total, there were about 70,000 deaths in the United States. Information about how this pandemic affected northeast Kansas was not available.

1968–69: Hong Kong flu (H3N2): This strain caused approximately 34,000 deaths in the United States. It was first detected in Hong Kong in early 1968 and spread to the United States later that year.

2009 H1N1 Influenza: The 2009 H1N1 Pandemic Influenza began in Kansas with the first identified case on April 24, 2009. Kansas was the third state to positively identify this novel strain of influenza.

Northeast Kansas is also impacted by a variety of communicable and non-communicable diseases. The following tables provide the numbers of reportable diseases by county from 2002 to 2011. Not all diseases are listed..

2002 - 2011 Reportable Diseases

County	Amebiasis	Arboviral Disease	Botulism	Campylobacteriosis	Chlamydia	Cholera	Cryptosporidiosis	Ehrlichiosis/Anaplasmosis	Giardiasis	Gonorrhea	H. influenzae, invasive	Hemolytic Uremic Syndrome (HUS)	Hepatitis A	Hepatitis B, acute	Hepatitis C, acute	HIV/AIDS	Legionellosis	Listeriosis
Atchison	0	0	0	0	49	0	0	0	0	5	2	0	0	0	0	-	0	0
Brown	0	0	0	0	28	0	0	0	1	0	0	0	0	0	0	-	0	0
Doniphan	0	1	0	2	18	0	0	0	0	0	0	0	0	0	0	-	0	0
Douglas	0	0	0	11	459	0	3	2	6	52	0	0	0	0	1	6	0	0
Jackson	0	0	0	1	38	0	0	0	0	3	0	0	0	0	0	-	0	0
Jefferson	0	0	0	1	33	0	0	1	1	3	1	0	0	0	0	-	0	0
Marshall	0	0	0	3	16	0	0	0	3	1	0	0	0	0	0	-	0	0
Nemaha	0	0	0	0	7	0	0	0	1	0	0	0	0	0	0	-	0	0
Washington	0	0	0	5	6	0	0	0	0	0	0	0	0	0	0	-	0	0
Regional Total	0	1	0	23	654	0	3	3	12	64	3	0	0	0	1	6	0	0

Source: Kansas Department of Health and Environment

2002 - 2011 Reportable Diseases Continued

County	Lyme Disease	Malaria	Meningitis, non-HiB, non-Neisseria	Meningococcal Disease	Mumps	Pertussis	Rabies, animal	Salmonellosis	Shiga toxin-producing E. coli	Shigellosis	Strep., Group A, invasive	Strep. pneumoniae, invasive	Syphilis, 1° & 2°	Syphilis, early latent	TSE or Prion Disease	Tuberculosis, active	Tularemia	Typhoid Fever	Varicella
Atchison	0	0	0	0	0	0	0	0	3	1	2	0	2	0	0	0	0	0	0
Brown	0	0	0	0	0	0	0	1	0	1	4	0	2	0	0	0	0	0	0
Doniphan	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
Douglas	0	0	0	1	0	0	9	0	18	3	0	2	9	2	6	0	1	1	0
Jackson	0	0	0	1	0	0	0	0	5	0	0	0	0	0	0	0	3	0	0
Jefferson	0	0	0	0	0	0	0	0	7	1	1	1	1	0	0	0	0	0	0
Marshall	0	0	0	0	0	0	1	1	1	1	0	0	2	0	0	0	0	0	0
Nemaha	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	1	2	2	0	0	2	0	0	0	0	0	0
Regional Total	0	0	0	2	0	0	10	3	41	10	10	3	18	2	6	0	4	1	0

Source: Kansas Department of Health and Environment

Local Events

July - December, 2012: USD #497 - Lawrence, Douglas County: A pertussis outbreak was reported.

January - May, 2011: USD #497 - Lawrence, Douglas County: A measles outbreak was reported.

August - October, 2010: USD #497 - Lawrence, Douglas County: A viral meningitis outbreak was reported.

Hazard Vulnerability and Impact

All people within the northeast Kansas region would be susceptible to a major disease outbreak. As the type of disease cannot be known in advance it is impossible to predict if any segment of the population would be a greater risk. However, the following generalities may be made:

- Population density will affect the rate of spread of a transmissible pathogen
- The young and old are usually more susceptible to deleterious effects of disease
- Access to medical care will impact the outcomes for infected individuals
- The novelty of the disease will impact availability of treatments and vaccines
- Inherent immunity may be present in some populations

As evidenced by annual infectious disease summaries (<http://www.kdheks.gov/epi/index.html>) and reports of investigations (<http://www.kdheks.gov/epi/outbreaks.htm>) completed by the KDHE Bureau of Epidemiology and Public Health Informatics, many northeast Kansas counties experience one or multiple disease outbreaks each year. Potential casualty losses are anticipated to be greatest in counties with higher populations, higher pediatric populations and higher elderly populations. Health professional shortage areas and rural areas are more susceptible to having limited medical capabilities and by extension are more susceptible to the possibility of being overwhelmed because of a large surge of patients seeking care.

Although infectious diseases do not respect geographic boundaries, several populations in northeast Kansas are at specific risk to infectious diseases. Communicable diseases are most likely to spread quickly in institutional settings such as dormitories, long-term care facilities, day care facilities, and schools.

The HMPC ranked the disease outbreak as catastrophic based on a pandemic scenario. The magnitude of an infectious disease outbreak is related to the ability of the public health and medical communities to stop the spread of the disease. Most disease outbreaks that cause catastrophic numbers of deaths are infectious in nature, meaning that they are spread from person to person. The key to reducing the catastrophic nature of the event is to stop the spread of disease. This is generally done in three ways:

- Identification and isolation of the ill
- Quarantine of those exposed to the illness
- Education of the public about methods to prevent transmission.

The public health and health care providers in northeast Kansas routinely utilize all three methods to reduce morbidity and mortality from infectious disease. However, the capacity of the health care system is limited. For example, local health departments have specific pandemic influenza response plans, and mass prophylaxis plans, but most departments have only a few staff members. Most local health departments would need to rely on volunteers, pre-scripted messages and procedures and the cooperation of the public in order to respond effectively to a large scale pandemic. Similarly, hospitals in northeast Kansas have emergency response and pandemic influenza plans, but little excess capacity exists to care for and/or isolate hundreds, even thousands of patients. Because of these limitations in personnel and equipment, the health care community is planning to utilize “community containment” measures. These measures which could include closure of schools, day cares and other public events would have far-reaching economic impacts on the community and might shutdown facilities for 30 days or more. Closure of the day cares or schools would have a serious impact on business as parents might not be able to find child care elsewhere.

According to "The Annual Impact of Seasonal Influenza in the US: Measuring Disease Burden and Costs" by NA Molinari, nationally the economic burden of influenza medical costs, medical costs plus lost earnings, and the total economic burden were \$10.4 billion, \$26.8 billion and \$87.1 billion respectively. The financial burden of healthcare-associated infections nationally has been estimated at \$33 billion annually. There is no data currently available on the economic impact of previous illness in northeast Kansas. Using pandemic influenza as the worst case scenario for estimating potential losses, the Kansas Department of Health and Environment's Pandemic Influenza Planning includes the following vulnerability estimates. It has been estimated that a medium-level pandemic could cause, in Kansas:

- Between 229,203 and 534,807 persons may require outpatient care
- Between 5,016 and 11,706 may require hospitalization
- Between 1,163 and 2,714 individuals may die

The majority of these deaths and hospitalizations would occur in more highly populated counties.

The U.S. Centers for Disease Control and Prevention (CDC) estimates 76 million people suffer food borne illnesses each year in the United States, accounting for 325,000 hospitalizations and more than 5,000 deaths. Food borne disease is extremely costly. Health experts estimate that the yearly cost of all food borne diseases in this country is \$5 to \$6 billion in direct medical expenses and lost productivity. Infections with the bacteria *Salmonella* alone account for \$1 billion yearly in direct and indirect medical costs.

	Magnitude/Severity
Major Disease Outbreak	2.90

Future Development

Future development and population increases would tend to increase the risk of this hazard due to the potential for a more rapid spread of an agent or disease. Additionally, the further development of transportation infrastructure would increase the risk of a major disease event due to an influx of travelers to the region. As the population of Kansas ages, the vulnerability to this hazard is likely to increase. The impacts and potential losses are largely economic and are dependent on the type, extent, and duration of the illness.

Probability of Future Hazard Events

Each year, the Kansas KDHE produces a report that details the legally "reportable diseases" in each county in Kansas. While over time this report can serve as a predictor of the likelihood of future disease, it is impossible to predict outbreaks. Based on the relatively limited/controlled outbreak history in the state the possibility of a large-scale major disease outbreak is unlikely

	Probability
Major Disease Outbreak	1.20

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Major Disease Outbreak Consequence Analysis

Subject	Ranking	Impacts of Major Disease Outbreak
Health and Safety of Persons in the Area of the Incident	Severe	Impact over a widespread area could be severe depending on type of outbreak and whether it is a communicable disease. Casualties are dependent on warning systems, warning times and the availability of vaccines, antidotes, & medical svc.
Responders	Severe	Impact to responders could be severe, especially if they reside in the area and or their type of exposure during response. With proper precautions and safety nets in place the impact is lessened.
Continuity of Operations	Minimal	Continuity of Operations will be greatly dependent on availability of healthy individuals. COOP is not expected to be exercised.
Property, Facilities, and Infrastructure	Minimal	Access to facilities and infrastructure could be affected until decontamination is completed
Delivery of Services	Minimal	Delivery of services could be affected if there are road blocks or mass hysteria of any level.
Environment	Severe	Impact could be severe for the immediate impacted area depending on the source of the outbreak. Impact could have far-reaching implications if disease is transferable between humans and animals or to wildlife.
Economic Conditions	Severe	Impacts to the economy could be severe if the disease is communicable. Loss of tourism, revenue, and business as usual will greatly affect the local economy and the state as a whole.
Public Confidence in Governance	Severe	Response and recovery will be in question if not timely and effective. Availability of medical supplies, vaccines, and treatments will come into question.

3.7.15 RADIOLOGICAL EVENT

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Radiological Event	1.00	1.40	3.50	4.00	1.96

Description

An accident involving radioactive materials could occur from a variety of sources, including nuclear reactors, transportation accidents, industrial and medical uses and lost or stolen sources. Radiological accidents could cause injury or death, contaminate property and valuable environmental resources, as well as disrupt the functioning of communities and their economies.

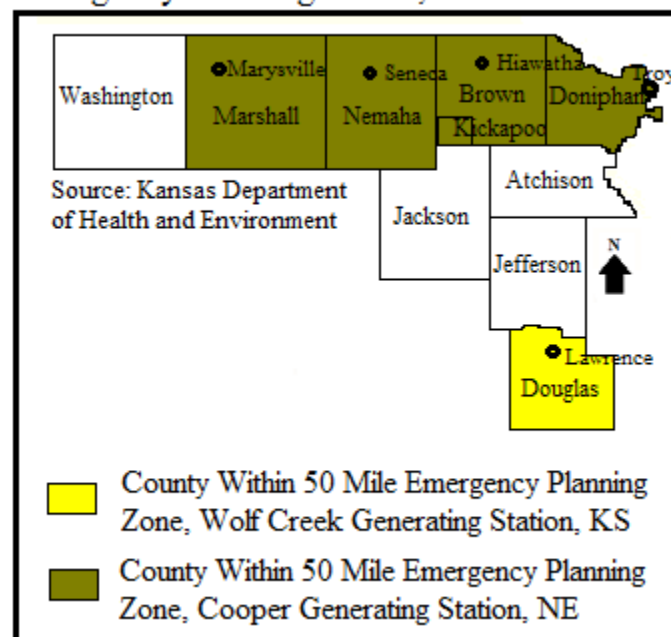
	Warning Time
Radiological Event	3.50

	Duration
Radiological Event	4.00

Hazard Location

The entire planning region is at risk from a radiological event due to transportation accidents or releases from research universities. Additionally, there is one northeast Kansas county within the 50 mile emergency planning zone for the Wolf Creek Nuclear Power Plant and four northeast Kansas counties within the 50 mile emergency planning zone for the Cooper Generating Station in Nebraska.

Emergency Planning Zones, Nuclear Reactors



Previous Occurrences and Extent

There are no reported radiological events for northeast Kansas.

Hazard Vulnerability and Impact

There are over 300 licensees of various sizes for radioactive material within the State of Kansas. In general, the major usage of radioactive materials in northeast Kansas are for medical diagnostics and therapy, soil density testing in the construction industry, and in radiography cameras in pipeline construction and repair.

It is common for materials, including pharmaceuticals, industrial sources and nuclear fuel rods destined to nuclear reactors, to be transported across northeast Kansas highways and railroads. Areas near interstates and major highways have an increased risk of transportation accidents. Remote areas also have to account for long response times from hazardous materials and health physics personnel.

Counties within the 50-mile Emergency Planning Zone for commercial nuclear power plants (Brown, Doniphan, Douglas, Marshall and Nemaha) have a slightly higher radiological risk than other counties within the region, but the potential for an incident is extremely low. Federal regulations require emergency planning for the area within up to a 50-mile radius of a nuclear power plant. The potential danger from an accident is exposure to radiation. This exposure could come from the release of radioactive material from the plant into the environment, usually characterized by a plume of radioactive gases and particles. The major hazards to people in the vicinity of the plume are radiation exposure to the body from the cloud and particles deposited on the ground, inhalation of radioactive materials and ingestion of radioactive materials.

During all lawful operations of radioactive materials, the licensee is responsible for ensuring that the area around the source material is cordoned off or shielding is used to prevent unnecessary exposures. Inspections of practices and security measures are regularly conducted to ensure compliance and conformity to regulations in order to protect the public. The frequency of inspections can be adjusted in response to perceived risk. Public risk can be reduced by minimizing the duration of exposure, shielding the source material and maximizing the distance from the source.

	Magnitude/Severity
Radiological Event	1.40

Future Development

Additional development along transportation corridors would likely increase the potential exposure of the nearby population to a radiological event. Additionally, greater loads on the highways and rail corridors could increase the chances of an accident involving a radiological transport vehicle.

Probability of Future Hazard Events

Based on the lack of major or recurring notable radiological events in northeast Kansas during the last 10 years the probability of an event occurring is unlikely within the next ten years.

	Probability
Radiological Event	1.00

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Radiological Event Consequence Analysis

Subject	Ranking	Impacts of Radiological Event
Health and Safety of Persons in the Area of the Incident	Severe	Impact expected to be severe for persons within the incident area. Protection capabilities and warning times will greatly affect the severity.
Responders	Severe	Impact to responders could be severe if not trained and properly equipped. Responders that are properly trained and equipped will have a low to moderate impact.
Continuity of Operations	Minimal to Severe	Temporary relocation could be necessary if government facilities are in close proximity to the incident area. This temporary relocation could become significant depending on clean-up.
Property, Facilities, and Infrastructure	Severe	Impact within the incident area could be severe to property, facilities, and infrastructure.
Delivery of Services	Minimal to Severe	Delivery of services could be affected within and around the affected area.
Environment	Severe	Localized impact within the incident area could be severe to native plants, wildlife and natural habitats. Clean up and remediation will be required.
Economic Conditions	Minimal to Severe	Economic conditions could be adversely affected and dependent upon time and length of clean up and investigation.
Public Confidence in Governance	Minimal to Severe	Impact will be dependent on whether or not the incident could have been avoided by government or non-government entities, clean-up and investigation times, and outcomes.

3.7.16 SOIL EROSION AND DUST

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Soil Erosion & Dust	1.70	1.20	1.00	3.80	1.66

Description

Soil erosion and dust are both ongoing problems for northeast Kansas. Both can cause significant loss of valuable agricultural soils, damage crops, harm environmental resources and have adverse economic impacts. Soil erosion in northeast Kansas is largely associated with periods of drought, when winds are able to move tremendous quantities of exposed dry soil (wind erosion), and flooding (stream bank erosion). Improper agricultural and grazing practices can also contribute to soil erosion.

The United States is losing soil 10 times faster than the natural replenishment rate, and related production losses cost the country about \$37.6 billion each year. On average, wind erosion is responsible for about 40 percent of this loss and can increase markedly in drought years. Wind erosion physically removes the lighter, less dense soil constituents such as organic matter, clays and silts. Thus it removes the most fertile part of the soil and lowers soil productivity, which can result in lower crop yields or poorer grade pastures and increase economic costs.

Stream bank erosion, which can remove agricultural land and damage or destroy roads and bridges and utility lines, occurs each year, particularly in the spring when high runoff is most common. A large proportion of all eroded soil material ends up in rivers, streams and lakes, which makes waterways more prone to flooding and contamination and reduces water supply storage space.

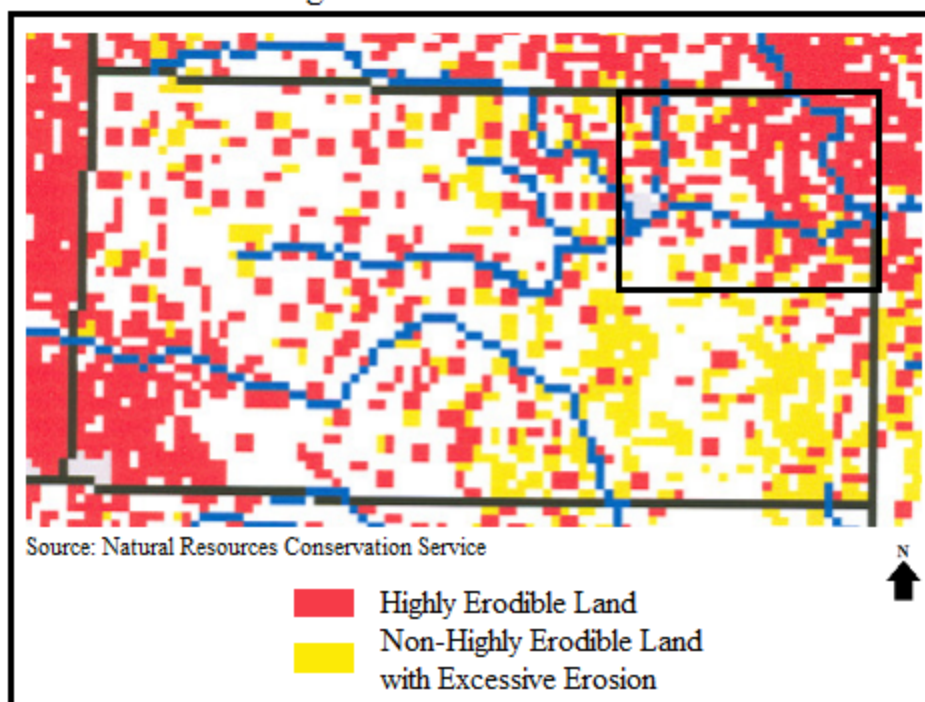
	Warning Time
Soil Erosion & Dust	1.00

	Duration
Soil Erosion & Dust	3.80

Hazard Location

The following figure shows areas of excessive erosion of farmland in Kansas based on a 1997 analysis. Each red dot represents 5,000 acres of highly erodible land, and each yellow dot represents 5,000 acres of non-highly erodible land with excessive erosion above the tolerable soil erosion rate. While northeast Kansas has areas of highly erodible land, the entire area is susceptible to soil erosion and dust.

Regional Farmland Erosion



Previous Occurrences

The most prominent soil erosion and dust event in northeast Kansas, known as the Dust Bowl, occurred across the mid-western United States from 1930-1936. Northeast Kansas is situated to the east of the most severely impacted region (100 million acre across Oklahoma, the Texas panhandle, New Mexico, eastern Colorado and western Kansas) but was nonetheless significantly affected. Sustained drought, loss of native prairie and the agricultural practices of the time were primary causes for this unmitigated disaster. During the Dust Bowl years millions of tons of fertile soils were lost as well as a significant percentage of the region's population via migration, dust pneumonia and malnutrition. More recently, the Kansas State Hazard Mitigation Plan reports that during the 1970s and in the spring of 1996 wind erosion seriously damaged agricultural land throughout the Great Plains.

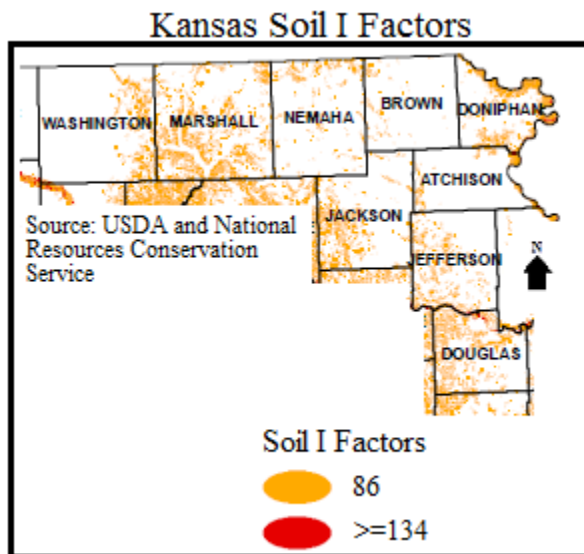
Notable historical erosion events include:

2007: According to the 2007 Natural Resources Inventory (NRI) by the Natural Resources Conservation Service, Kansas lost 1.734 tons per acre to wind erosion on cultivated cropland.

1930s: Kansas is well known for its role in the 1930s Dust Bowl, in which the Central Plains states suffered drought and resulting wind erosion for about a decade. It is estimated that 21.5 million acres were lost during this time.

Hazard Vulnerability and Impact

The map below indicates all east-central Kansas soils that have an “I” value, or wind erodibility index, of 86 or greater. In general, the higher the I value, the more susceptible it is to wind erosion. These are soils that should be further evaluated before recommending the use of emergency tillage or not. The evaluation of these soils will need to take into account the predominate particle size (i.e. classification of “sandy” would cause the soil to have characteristics more like a 134 soil), as well as the ability for the soil to form a stable clod.



There have not been any state-wide studies to estimate the dollar value of top soil lost to soil erosion and dust.

The 2007 Natural Resources Inventory by the Natural Resources Conservation Service shows the historical estimates for tons per acres soil lost annually for cultivated cropland, non-cultivated cropland and pastureland. This estimate can continue as potential soil losses in Kansas.

Kansas Average Wind Erosion in Tons per Acre per Year by Broad Cover/Use						
Broad Cover/Use	1982	1987	1992	1997	2002	2007
Cultivated Cropland	2.747	2.963	2.062	1.482	1.463	1.734
Non-Cultivated Cropland	0.907	0.830	0.887	0.339	0.413	0.501
Pastureland	0.009	0.016	0.022	0.015	0.019	0.034

Source: 2007 National Resources Inventory, April 22, 2010

Note: Estimated average annual wind erosion is tons per acre per year with margins of error

The following table presents regional acreage data for cropland and pastureland .

Regional Acreage Data (2007)

	Acreage
Total Cropland (2007)	1,999,506
Total Pasture Acres (2007)	848,275

Source: USDA National Agricultural Statistics Service

Based on the statewide wind erosion average figures and the total cropland and pasture acreage for the region, the following can be extrapolated for the northeast Kansas.

Regional Estimated Soil Tonnage Lost To Wind Erosion, 1982 - 2007

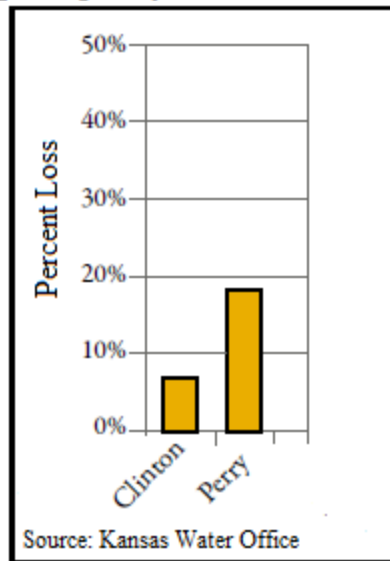
	1982	1987	1992	1997	2002	2007
Estimated Regional Tonnage Lost to Wind Erosion, Cultivated and Non-Cultivated Cropland	5,492,645	5,924,539	4,122,983	2,963,268	2,925,278	3,467,144
Estimated Regional Tonnage Lost to Wind Erosion, Pastureland	7,634	13,572	18,662	12,724	16,117	28,841

Calculated using USDA and 2007 National Resources Inventory data

Soil erosion has also affected the regional federal reservoirs, with erosion depositing large quantities of sediment in these reservoirs, impacting water supply and quality as well as flood storage. Because of differing climatic conditions, land uses, and physical attributes in the various watersheds, sedimentation rates vary among the reservoirs.

In 2001, the KWO completed a report that projected the affect of sedimentation on state-owned storage in federal reservoirs. By the year 2040, sedimentation was projected to reduce the total amount of state-owned storage from 1.2 million acre-feet to roughly 857,000 acre-feet, a rate of loss of 6,260 acre-feet per year. The following graph shows the percentage loss of storage capacity for regional reservoirs.

Loss of Multi-Purpose Pool Water Storage Capacity, Federal Reservoirs



Current information on sedimentation also is lacking for most small reservoirs in Kansas. However, the U.S. Army Corps of Engineers completed a resurvey of 34 small reservoirs in 2001. Results indicated that water-storage capacity lost because of sedimentation ranged from negligible to low for northeast Kansas.

Characteristics of Small Municipal Reservoirs

Reservoir	Community Served	County	Year Built	Original capacity (acre-feet)	2000 capacity (acre-feet)	Percent Difference
Mission Lake	Horton	Brown	1924	1,445	1,333	7.8%
Prairie Lake	Holton	Jackson	1948	-	495	N/A

Source: Kansas Water Office (2001)

	Magnitude/Severity
Soil Erosion & Dust	1.20

Future Development

Future development of agricultural resources and/or increases in population would tend to increase the risk of this hazard.

Probability of Future Hazard Events

While the occurrence of this hazard is on-going, based on data concerning historical occurrences and data on regional growth and development trends in agriculture and livestock, the probability of future occurrences of this hazard causing a greater measurable impact is unlikely.

	Probability
Soil Erosion & Dust	1.70

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Soil Erosion and Dust Consequence Analysis

Subject	Ranking	Impacts of Soil Erosion and Dust
Health and Safety of Persons in the Area of the Incident	Minimal	Impact tends to be agricultural; however, dust can be a danger to susceptible individuals in the form of air pollutants.
Responders	Minimal	With proper preparedness and protection, impact to the responders is expected to be minimal.
Continuity of Operations	Minimal	Minimal expectation for utilization of the COOP.
Property, Facilities, and Infrastructure	Minimal to Moderate	Impact to property, facilities, and infrastructure could be severe, depending on the site of the soil erosion. This could adversely affect utility poles/lines, and facilities. Dust can also adversely affect machinery, air conditioners, etc.
Delivery of Services	Minimal	Impact on the delivery of services should be non-existent to minimal, unless roads and utilities are affected.
Environment	Severe	The impact to the environment could be severe. Soil erosion and dust can severely affect farming, ranching, wildlife and plants due to production losses and habitat changes.
Economic Conditions	Minimal	Impacts to the economy will be dependent on how extreme the soil erosion and dust are. Potentially it could severely affect crop yield and productivity. Seedling survival and growth is stressed by erosion and dust, as is the top soil which agriculture is dependent on.
Public Confidence in Governance	Minimal	Planning, response, and recovery may be questioned if not timely and effective.

3.7.17 TERRORISM, AGRI-TERRORISM

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Terrorism, Agri-Terrorism	1.00	2.30	3.80	1.50	1.86

Description

The United States does not have a standardized definition of terrorism that is agreed upon by all agencies. The Federal Bureau of Investigation generally defines terrorism as:

"the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."

The USA Patriot Act expanded this definition to include domestic terrorism, defined as:

"acts dangerous to human life that are a violation of the criminal laws of the United States or of any State" intended to "intimidate or coerce a civilian population," "influence the policy of a government by intimidation or coercion" or "affect the conduct of a government by mass destruction, assassination, or kidnapping" that are conducted primarily within the jurisdiction of the United States."

The Homeland Security Act of 2002, which created the Department of Homeland Security, extended the definition of terrorism further by including any act that:

"involves an act that dangerous to human life or potentially destructive to critical infrastructure or key resources, and is a violation of the criminal laws of the United States or of any state or other subdivision of the United States and appears to be intended to intimidate or coerce a civilian population to influence the policy of a government by intimidation or coercion, or to affect the conduct of a government by mass destruction, assassination, or kidnapping"

The statement "potentially destructive to critical infrastructure or key resources" indicates that the act does not need to be dangerous to human life for it to be considered an act of terrorism. Terrorists may use a range of possible actions, including:

- Chemical attacks
- Biological attacks
- Radiological attacks
- Nuclear attacks
- Cyber-terrorism
- Agri-terrorism

	Warning Time
Terrorism, Agri-Terrorism	3.80

	Duration
Terrorism, Agri-Terrorism	1.50

Hazard Location

Kansas is home to a wide variety of criminal extremist groups. The Southern Poverty Law Center reported that in 2012, there were three active hate groups in Kansas: one neo-Nazi group, the National Socialist Movement in Lansing, one racist skinhead group, the Midland Hammerskins in Wichita, and one anti-homosexual group, the Westboro Baptist Church in Topeka. Other groups, such as the Animal Liberation Front, Earth Liberation Front, and People for the Ethical Treatment of Animals may have sympathizers in the region. Although no major terrorist acts have been attributed to any of these latter groups, their involvement in violent acts is meant to disrupt governmental functions and cannot be discounted.

Previous Occurrences

The following are a brief description of unsuccessful or threatened regional terrorism events:

December 1, 2011: USD #497 - Lawrence, Douglas County: A bomb threat note taped to front door of Free State High School caused the school to close for a day.

June 6, 2009: City of Eudora, Douglas County: The bomb squad was called to render and identified improvised explosive device safe.

Hazard Vulnerability and Impact

Of particular concern to northeast Kansas is agri-terrorism. Agri-terrorism consists of acts to intentionally contaminate, ruin, or otherwise make agricultural products unfit or dangerous for consumption or further use. The introduction of a biological agent into an animal or crop would be financially devastating and would have a major impact on the food supply of the state region, state and nation. Potential terrorists' targets for livestock disease introduction would be concentration points, such as the region's licensed feedlots and livestock markets. Additionally, Kansas has over 120 agricultural crop-dusters, many of which are configured for chemical spraying.

It is not possible to calculate a specific vulnerability for each county in northeast Kansas. However, because of the desire for publicity following attacks, it is more likely that counties with greater population densities would be the target of attacks. Sparsely populated rural counties are less desirable targets for publicity-seeking terrorists. It is expected that the likelihood of attack is directly related to population density or more likely to an event that is occurring or to a specific location of importance to the attacker. For example, a large venue event, such as a sporting event attended by tens of thousands of people might be considered a desirable target. Most large public venues occur in densely populated areas since those areas are able to provide the infrastructure support (hotels, eateries, etc) for large numbers of people.

Potential losses from Terrorism/Agri-Terrorism include all infrastructure, critical facilities, crops, humans and animals. The degree of impact would be directly related to the type of incident and the target. Potential losses could include cost of repair or replacement of damaged facilities, lost economic opportunities for businesses, loss of human life, injuries to persons, loss of food supplies, disruption of the food supply chain, and immediate damage to the surrounding environment. Secondary effects of infrastructure failure could include public safety hazards, spread of disease, increased morbidity and mortality among the local and distant populations, public panic and long-lasting damage to the environment. Terrorism events are rare occurrences and specific amounts of estimated losses for previous occurrences are not available due to the complexity and multiple variables associated with these types of hazards. In some instances, information about these events is secure and unavailable to the public in order to maintain national security and prevent future attacks.

In general, it is difficult to quantify potential losses of terrorism due to the many variables and human elements and lack of historical precedence. Therefore, for the purposes of this plan, the loss estimates will take into account three hypothetical scenarios. The estimated impact of each event was calculated using the Electronic Mass Casualty Assessment and Planning Scenarios developed by Johns Hopkins University. The Electronic Mass Casualty Assessment and Planning Scenarios system usually rates the of worried well as equal to 9 times the number of infected cases.

Please note that the hypothetical scenarios are included for illustrative purposes only.

Scenario #1: Mustard Gas Release

Event: Mustard gas is released from a light aircraft onto the stadium during a home football game. The agent directly contaminates the stadium and the immediate surrounding area. This attack would cause harm to humans and could render portions of the stadium unusable for a short time period in order to allow for a costly clean-up. There might also be a fear by the public of long-term contamination of the stadium and subsequent boycott of games resulting in a loss of revenue and tourism dollars.

Event Assumptions: For this scenario the number of people in the stadium is 50,000 with an additional 5,000 persons remain outside the stadium in the adjacent parking areas. The agent used, mustard gas, is extremely toxic and may damage eyes, skin and respiratory tract with death sometimes resulting from secondary respiratory infections. Death rate from exposure estimated to be 3%. The estimated decontamination cost is \$12 person. For this scenario it is assumed that all persons with skin injuries will require decontamination.

Results: The following table presents the estimated human and economic impacts of the scenario.

Estimated Impact of Scenario #1, Mustard Gas Release

Impact	Post Exposure Onset Time	Effect
Severe Eye Injuries (1-2 hours)	1 -2 Hours	41,250 persons
Severe Airway Injuries (1-2 hours)	1 - 2 Hours	41,250 persons
Severe Skin Injuries (2 hrs to days)	2 Hours to Days	49,500 persons
Deaths	Immediate to Days	1,100 persons
Cost of Decontamination	N/A	\$594,000

Scenario #2: Pneumonic Plague

Event: Four Canisters containing aerosolized pneumonic plague bacteria are opened in public bathrooms of heavily populated buildings (airports, stadiums, etc.). Each release location will directly infect 110 people; hence, the number of release locations dictates the initial infected population. The secondary infection rate is used to calculate the total infected population. This attack method would not cause damages to buildings or other infrastructure, only to human populations.

Event Assumptions:

Each canister contains 650 milliliters of pneumonic plague bacteria. The type of infectious agent used is identified on Day 4. After identification, the fatality rate is 10% for new cases. Pneumonic plague has a 1-15 percent mortality rate in treated cases and a 40-60 percent mortality rate in untreated cases.

Results: The following table presents the estimated human impacts of the scenario.

Estimated Impact of Scenario #2, Pneumonic Plague Release

Impact	Effect
Initial Infected Population	440 persons
Secondary Infected Population	883 persons
Deaths (7% of Infected)	62

Scenario #3: Improvised Explosive Device

Event: An improvised explosive device utilizing an ammonium nitrate/fuel oil (ANFO) mixture is carried in a panel van to a parking area during a time when stadium patrons are leaving their cars and entering the stadium and detonated. Potential losses with this type of scenario include both human and structural assets.

Event Assumptions:

The quantity of ANFO used is 4,000 pounds. The population density of the lot is assumed to be 1 person per every 25 square feet for a pre-game crowd. The Lethal Air Blast Range for such a vehicle is estimated to be 50 feet according to the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF) Standards. The Falling Glass Hazard distance is estimated at 600 feet according to BATF Explosive Standards. In this event, damage would occur to vehicles, and depending on the proximity of other structures, damages would occur to the stadium complex itself. The exact amount of these damages is difficult to predict because of the large numbers of factors, including the type of structures nearby and the amount of insurance held by vehicle owners. It is estimated that the average replacement cost for a vehicle is \$20,000 and the average repair cost for damaged vehicles would be \$4,000.

Results: The following table presents the estimated human impacts of the scenario.

Estimated Impact of Scenario #3, Improvised Explosive Device

Impact	Effect
Deaths	1,391 persons
Trauma Injuries	2,438 persons
Urgent Care Injuries	11,935
Injuries not Requiring Hospitalization	4,467
Repair Costs for 100 Vehicles	\$400,000
Replacement Costs for 50 Vehicles	\$1,000,000

	Magnitude/Severity
Terrorism, Agri-Terrorism	2.30

Future Development

In general, acts of terrorism have historically been conducted in major population centers or on targets of high significance within the United States. Regional development data indicates that both population and growth have been increasing in the large urban areas. If more large public events are held in northeast Kansas, more potential may exist for these venues to become targets of attack.

With human-caused hazards such as this that can have multiple variables involved, increases in development are not necessarily always factors in determining risk, although the physical cost of the event may increase with the increased or newly developed areas.

Probability of Future Hazard Events

By nature, acts of terrorism are difficult to foresee. However, based on historic events the probability of future major regional terrorist attacks is unlikely.

	Probability
Terrorism, Agri-Terrorism	1.00

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Terrorism, Agri-Terrorism Consequence Analysis

Subject	Ranking	Impacts of Terrorism, Agri-Terrorism
Health and Safety of Persons in the Area of the Incident	Severe	Impact could be severe for persons in the incident area.
Responders	Minimal to Severe	Impact to responders could be severe if not trained and properly equipped. Responders that are properly trained and equipped will have a low to moderate impact.
Continuity of Operations	Minimal to Severe	Depending on damage to facilities/personnel in the incident area, re-location may be necessary and lines of succession execution.
Property, Facilities, and Infrastructure	Severe	Impact within the incident area could be severe for explosion, moderate to low for Hazmat.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if communications, road and railways, and facilities incur damage.
Environment	Minimal to Severe	Localized impact within the incident area could be severe depending on the type of incident.
Economic Conditions	Minimal to Severe	Economic conditions could be adversely affected and dependent upon time and length of clean up and investigation.
Public Confidence in Governance	Minimal to Severe	Impact dependent on if the incident could have been avoided by government entities, clean-up, investigation times and outcomes.

3.7.18 TORNADO

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Tornado	2.80	3.20	4.00	1.00	2.92

Description

The NWS defines a tornado as "a violently rotating column of air extending from a thunderstorm to the ground." Tornadoes are the most violent of all atmospheric storms and are capable of tremendous destruction. Wind speeds can exceed 250 mph, and damage paths can be more than one mile wide and 50 miles long.

Although tornadoes have been documented on every continent, they occur most frequently in the United States east of the Rocky Mountains. Northeast Kansas is situated in an area that is generally known as "Tornado Alley." Climatological conditions are such that warm and cold air masses meet in the center of the country to create conditions of great instability and fast moving air at high pressure that can ultimately result in formation of tornado funnels.

In northeast Kansas, most tornadoes and tornado-related deaths and injuries occur during the months of April, May, and June. However, tornadoes have struck in every month. Similarly, while most tornadoes occur between 3:00 p.m. and 9:00 p.m., a tornado can strike at any time.

Tornadoes are classified according to the Enhanced Fujita (EF) Scale. The EF scale ranks tornadoes according to wind speed and the resulting damage caused. This system is an update to the original Fujita Scale, and was implemented on February 1, 2007. The following table illustrates the changes in the scaling systems.

Fujita Scale and Enhanced Fujita Scale Comparison

Fujita Scale			Derived EF Scale		Operational EF Scale	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: NWS

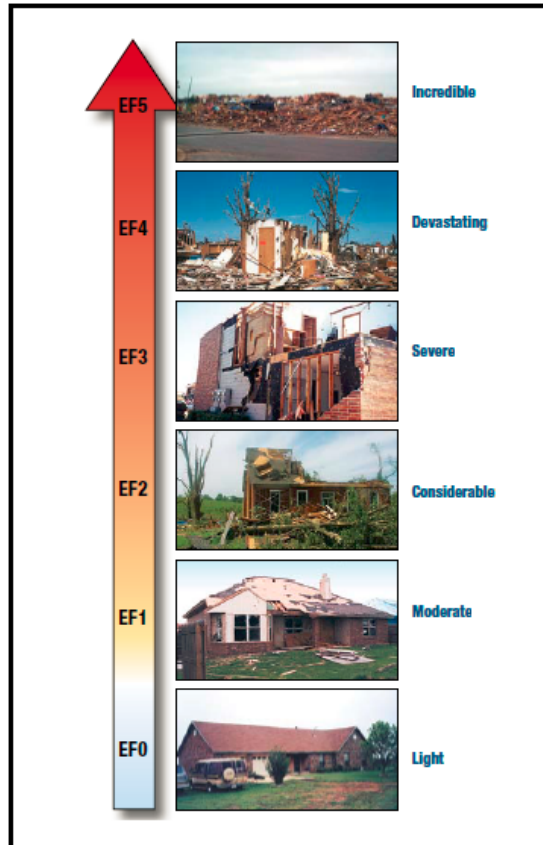
The wind speeds for the EF scale and damage descriptions are based on information from the NOAA Storm Prediction Center. The damage descriptions are summaries. For the actual EF scale it is necessary to look up the damage indicator (type of structure damaged) and refer to the degrees of damage associated with that indicator.

Enhanced Fujita Scale

Scale	Wind Speed (mph)	Relative Frequency	Potential Damage
EF0	65-85	53.5%	Light. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornados with no reported damage (i.e. those that remain in open fields) are always rated EF0.
EF1	86-110	31.6%	Moderate. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	10.7%	Considerable. Roofs torn off well constructed houses; foundations of frame homes shifted; mobile homes complete destroyed; large trees snapped or uprooted; light object missiles generated; cars lifted off ground.
EF3	136-165	3.4%	Severe. Entire stores of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200	0.7%	Devastating. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200	<0.1%	Explosive. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 300 ft.; steel reinforced concrete structure badly damaged; high rise buildings have significant structural deformation; incredible phenomena will occur.

Source: NOAA Storm Prediction Center

The following picture, provided by FEMA, visually indicates expected damage from each tornado type.



Source: FEMA, Taking Shelter From the Storm, 2008

The best lead time for a tornado is about 30 minutes. Tornadoes have been known to change paths very rapidly, thus limiting the time in which to take shelter. Tornadoes may not be visible on the ground due to evening hours, blowing dust or driving rain and hail. Therefore, there is very little, or no, warning of when a specific tornado may be on the ground.

	Warning Time
Tornado	4.00

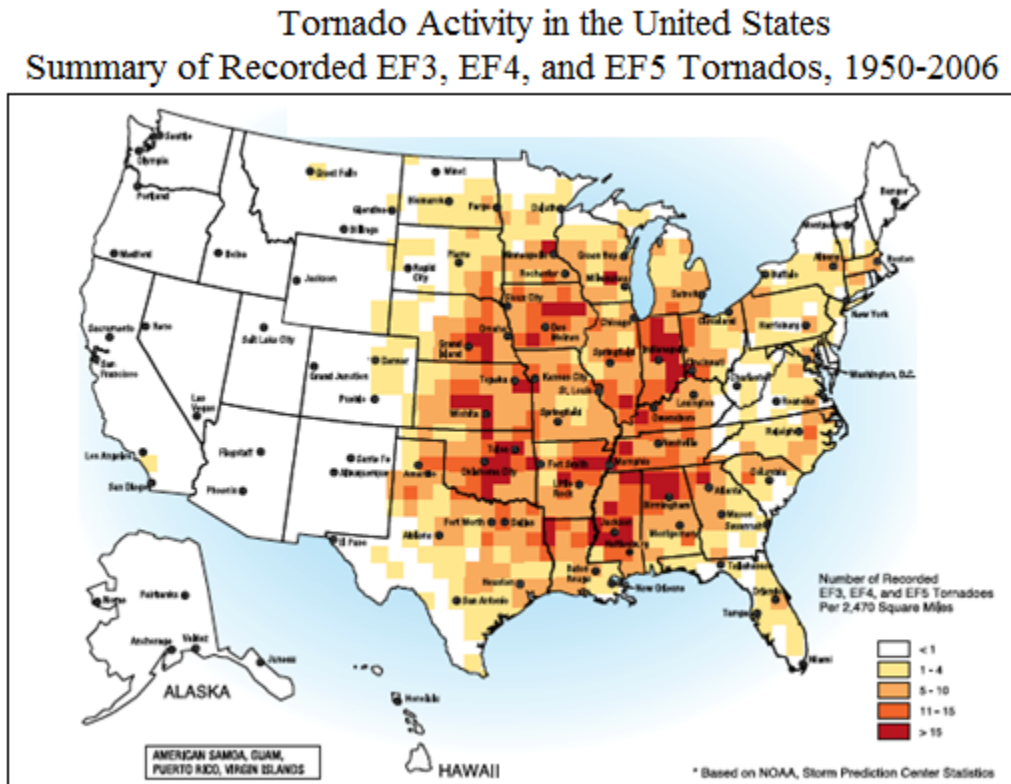
	Duration
Tornado	1.00

Hazard Location

Although tornadoes have been documented on every continent, they occur most frequently in the United States east of the Rocky Mountains. Northeast Kansas is situated in an area that is generally known as Tornado Alley.

While tornadoes can occur in all areas of the State of Kansas, historically, some areas of the state have been more susceptible to this type of damaging storm. All of northeast Kansas, including all of the participating jurisdictions, is at risk to tornadoes.

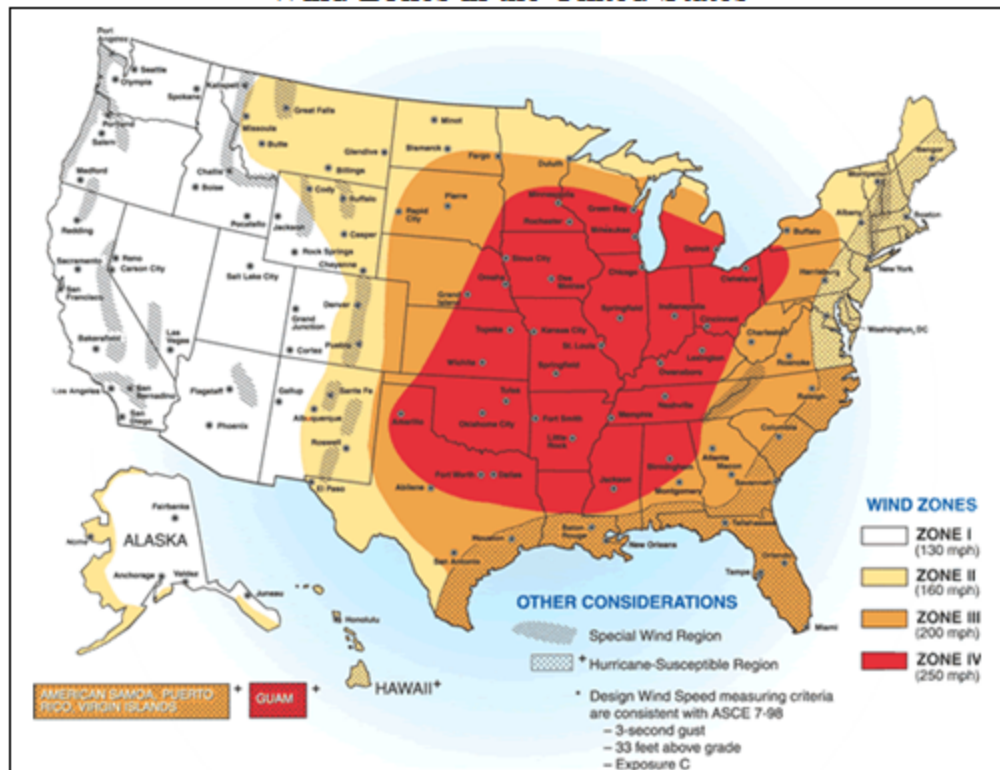
The following figure illustrates the number of F3, F4, and F5 tornadoes recorded in the United States between 1950 and 2006. Each colored block indicates an area of approximately 2,470 square miles. Data from the map indicates the northeast Kansas region falls within areas that range from 5-10 to >15 recorded events.



Source: FEMA Taking Shelter From the Storm, 2008

Additionally, the following figure shows that northeast Kansas is in Wind Zone IV, indicating that the area has the strongest and most frequent tornado activity.

Wind Zones in the United States



Source: FEMA Taking Shelter From the Storm, 2008

By using the data derived from the above maps and the risk rating table from FEMA, it is possible to see that northeast Kansas is in a high risk area for tornados.

Area Risk Rating

		Wind Zone			
Number of Tornados Per 2,470 Square Miles		I	II	III	IV
	<1	Low Risk	Low Risk	Low Risk	Moderate Risk
	1-4	Low Risk	Moderate Risk	High Risk	High Risk
	5-10	Low Risk	Moderate Risk	High Risk	High Risk
	11-15	High Risk	High Risk	High Risk	High Risk
	>15	High Risk	High Risk	High Risk	High Risk

Source: Taking Shelter from the Storm, FEMA, 2008

Previous Occurrences and Extent

In the past ten years, tornados have impacted northeast Kansas repeatedly, including seven Presidential Disaster Declarations since 2003. Details about some of these events as well as the Presidential Disaster Declarations that included tornados can be found on the following pages.

Kansas Presidential Declarations Involving Tornadoes

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost**
4010	07/29/2011 (5/19-6/4/2011)	Severe Storms, Straight-Line Winds, Tornadoes and Flooding	Washington	\$8,259,620
1932	08/10/2010 (6/7-7/21/2010)	Severe Storms, Flooding and Tornadoes	Atchison, Brown, Doniphan, Jackson, Marshall and Washington	\$9,279,257
1776	07/09/2008 (05/22-06/16/2008)	Severe Storms, Flooding and Tornadoes	Brown and Jackson	\$70,629,544
1699	5/6/2007 (5/4/2007)	Severe Storms, Tornadoes and Flooding	Brown, Doniphan, Douglas, Jackson, Marshall, Nemaha and Washington	\$117,565,269
1638	4/14/2006 (3/12-13/2006)	Severe Storms, Tornadoes and Straight- Line Winds	Douglas	\$6,233,044
1562	09/30/2004 (8/27-30/2004)	Severe Storms, Flooding and Tornadoes	Douglas	\$2,103,376
1462	5/6/2003 (5/4-30/2003)	Severe Storms, Tornadoes and Flooding	Douglas	\$988,056
1254	10/14/1998 (10/1-10/8/1998)	Severe Storms, Flooding and Tornadoes	Jackson and Jefferson	\$9,770,769
714	6/22/1984 (6/7-6/9/1984)	Severe Storms, Tornadoes and Flooding	Atchison, Brown, Doniphan, Jackson and Nemaha	\$5,002,299
644	7/18/1981	Severe Storms, Flooding and Tornadoes	Douglas	\$670,436
403	9/28/1973	Severe Storms, Tornadoes and Flooding	Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marion, Nemaha and Washington	\$4,296,913
267	7/15/1969	Tornadoes , Severe Storms and Flooding	Douglas	\$733,524
229	7/18/1967	Tornadoes , Severe Storms and Flooding	Atchison, Doniphan, Douglas, Jackson, Jefferson, Marion, 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 and may include additional ,unlisted counties

The following are brief descriptions of some of the above referenced tornado events:

FEMA-4010-DR: Severe Storms, Straight-line Winds, Tornadoes and Flooding – July 29, 2011 (May 19 to June 4, 2011): Supercell thunderstorms developed in advance of a cold front and dry line during the late afternoon of Saturday May 21st. Several of the supercell thunderstorms produced tornadoes including at least 2 brief touchdowns in Topeka. The strongest tornado was rated an EF3 and hit the town of Reading, Kansas. It claimed the life of one man when his mobile home was destroyed and injured 5 others in Reading. In all there were 8 tornadoes across northeast Kansas that evening. There was one fatality which occurred in the town of Reading where a man was killed when his mobile home was destroyed. There were 5 injuries that required treatment in Reading.

FEMA-1932-DR: Severe Storms, Flooding and Tornadoes – August 10, 2010 (June 7 to July 21, 2010): There were thunderstorms that developed Tornadoes during this timeframe, but no widespread tornado damage. The majority of the declaration damage was from flooding to public roads and bridges.

FEMA-1776-DR: Severe Storms, Flooding and Tornadoes - July 9, 2008 (May 22 to June 16, 2008): A series of intense supercell thunderstorms moved north across northwest Kansas during the afternoon and early evening hours of May 23rd. Long-track tornadoes, flash flooding, large hail and damaging winds were reported.

FEMA-1699-DR: Severe Storms, Tornadoes and Flooding - May 6, 2007 (May 4, 2007): A 1.7 mile-wide EF5 tornado with wind estimated at 205 mph struck Greensburg in Kiowa County, destroying approximately 90 percent of the town and severely damaging the remaining 10 percent. Tornado sirens sounded in the City twenty minutes before the tornado struck, and a tornado emergency was issued, undoubtedly saving many lives in the town of 1,580. Nevertheless, the storm killed 12 people, 10 in Greensburg, one in Pratt, and one in Stafford, and hospitalized 13 others.

FEMA-1638-DR: Severe Storms, Tornadoes and Straight-Line Winds - April 14, 2006 (March 12-13, 2006): A significant tornado outbreak occurred over portions of eastern Kansas and western Missouri. Damage estimates in the Kansas City metropolitan area alone reached \$6,580,000.

The following provide further descriptions and other notable tornado events.

February 28, 2012: A line of thunderstorms moved eastward across northeast Kansas one of the strongest storms created a very strong tornado, which impacted the town of Harveyville, Wabaunsee County. The EF2 tornado struck after dark and was short-lived but was able to destroy a large portion of the town. Several houses were completely destroyed as was a church. At least a dozen injuries occurred with this storm, one of which became fatal after a day in the hospital.

June 11, 2008: Two long lived super cells wreaked havoc across portions of north central and northeast Kansas on the night of June 11th. Three significant tornadoes touched down, caused millions of dollars in damage, killed two, and critically injured three citizens.

June 4, 2005: An F2 tornado damaged or destroyed 15 buildings in Brown County.

May 8, 2003: Nine tornadoes struck the Topeka National Weather Service County Warning Area. Four injuries were reported. In Douglas County, three tornadoes were confirmed, an F0, F1 and F2. The F2 caused one injury and damaged 40 structures.

June 15, 1992: This day set Kansas' record for the most tornadoes on one day: 39.

The following table shows NCDC information for the 11 years from 2003 to 2013. Additionally, the strongest rated tornado event is indicated.

NCDC Tornado Events, 2003-2013

County	Number of Tornadoes	Strongest Tornado Event	Deaths	Total Property Damage	Crop Damage
Atchison	3	F0	0	\$0	\$0
Brown	8	F2	0	\$825,000	\$0
Doniphan	5	F0	0	\$0	\$0
Douglas	10	F2	0	\$6,600,000	\$0
Jackson	3	EF2	1	\$100,000	\$0
Jefferson	3	F0	0	\$500	\$0
Marshall	5	F1	0	\$10,000	\$0
Nemaha	9	EF3	0	\$200,000	\$0
Washington	10	F2	0	\$760,000	\$0
Regional Total	56	EF3	1	\$8,395,500	\$0

Source: NCDC Storm Events Database

Local Events

The following detail locally reported events:

May 28, 2013: Nemaha County: A tornado damaged power utilities, including approximately 1.5 miles of lines.

May 18, 2013: City of Vining, Washington County: An F2 tornado damaged properties and trees on the south side of town.

May 18, 2013: City of Washington, Washington County: An F0 tornado damaged power utilities, including poles and lines. Most of the city was without power for 20 hours.

May, 2008: Douglas County: An EF2 tornado touched down causing \$260,000 in property damages.

February 28, 2012: Douglas County: An EF2 tornado damaged structures.

September 12, 2008: South of the City of Eudora, Douglas County: An EF1 tornado caused damage to structures. A cedar tree was snapped off at its base and a power pole was snapped off mid-way. A large barn sustained significant roofing damage. A barn with a cinderblock wall was destroyed.

Hazard Vulnerability and Impact

To refine and access the relative vulnerability of each of northeast Kansas' counties to tornados, ratings were assigned to pertinent factors at the county level. These factors are: social vulnerability index, prior events, prior annualized property damage, building exposure valuation, population density, crop exposure and annualized crop loss. Then a rating value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the most vulnerable counties.

Tornados that touch-down can create a unique path of destruction. So using the prior events as a factor can give the perception that a county has a higher overall vulnerability to tornados.

The following information was used for this analysis:

- Social Vulnerability Index for Kansas from the Hazards and Vulnerability Research Institute at the University of South Carolina
- National Climatic Data Center storm events 2000 – 2012
- U.S. Census Bureau (2010)
- USDA's Census of Agriculture (2007)
- USDA Risk Management Agency Kansas Hazard Mitigation Plan (2002 – 2011)

Regional Counties Tornado Vulnerability Factors

County	SoVI Rating	Prior Events 1993-2012	Property Damages	Annualized Property Damage	Total Building Exposure (\$000)	Population Density	Crop Exposure	Crop Loss Insurance Paid	Annualized Crop Loss Insurance Paid
Atchison	3	6	\$625,000	\$31,250	\$1,333,363	39	\$42,536,000	\$0	\$0
Brown	5	18	\$1,875,000	\$93,750	\$713,225	17	\$86,532,000	\$2,009	\$201
Doniphan	3	5	\$500,000	\$25,000	\$557,109	20	\$67,800,000	\$0	\$0
Douglas	1	15	\$7,815,000	\$390,750	\$6,614,269	202	\$27,973,000	\$0	\$0
Jackson	3	13	\$790,000	\$39,500	\$788,323	20	\$21,169,000	\$6,573	\$657
Jefferson	1	12	\$1,299,000	\$64,950	\$1,130,852	34	\$33,429,000	\$0	\$0
Marshall	4	10	\$1,706,000	\$85,300	\$2,054,603	11	\$81,815,000	\$2,803	\$280
Nemaha	4	37	\$12,780,000	\$639,000	\$711,896	14	\$67,091,000	\$7,465	\$747
Washington	4	20	\$1,298,000	\$64,900	\$396,656	6	\$65,762,000	\$0	\$0
Regional Total		136	\$28,688,000	\$1,434,400	\$14,300,296	-	\$494,107,000	\$18,850	\$1,885

Using the above information, a value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the greatest vulnerable counties. The Social Vulnerability Index is in a range of 1- 5. To give Social Vulnerability Index the same weight as the other factors, the numbers were multiplied by two.

Ranges for Tornado Vulnerability Ratings

Ratings	Social Vulnerability	Prior Events	Annualized Property Damage	Building Exposure Valuation	Population Density *	Crop Exposure	Annualized Crop Loss Insurance Paid
1		3 - 7	\$500 - \$500,000	\$117,421 - \$4,492,825	1.6 - 116.3	0 - \$18,548,500	\$0 - \$1,000
2	1	8 - 12	\$500,001 - \$1,000,000	\$4,492,826 - \$8,868,229	116.4 - 231.1	\$18,548,501 - \$32,126,000	\$1,001 - \$2,000
3		13 - 17	\$1,000,001 - \$1,300,000	\$8,868,230 - \$13,243,634	231.2 - 345.9	\$32,126,001 - \$45,703,500	\$2,001 - \$3,000
4	2	18 - 22	\$1,300,001 - \$2,000,000	\$13,243,635 - \$17,619,039	346 - 460.7	\$45,703,501 - \$59,281,000	\$3,001 - \$4,000
5		23 - 27	\$2,000,001 - \$3,000,000	\$17,619,040 - \$21,994,444	460.8 - 575.5	\$59,281,001 - \$72,858,500	\$4,001 - \$5,000
6	3	28 - 32	\$3,000,001 - \$4,000,000	\$21,994,445 - \$26,369,848	575.6 - 690.3	\$72,858,501 - \$86,436,000	\$5,001 - \$6,000
7		33 - 37	\$4,000,001 - \$7,000,000	\$26,369,849 - \$30,745,253	690.4 - 805.1	\$86,436,001 - \$100,013,500	\$6,001 - \$7,000
8	4	38 - 42	\$8,000,001 - \$11,000,000	\$30,745,254 - \$35,120,658	805.2 - 919.9	\$100,031,501 - \$113,591,000	\$7,001 - \$8,000
9		43 - 47	\$11,000,001 - \$13,000,000	\$35,120,659 - \$39,496,062	920 - 1,034.7	\$113,591,001 - \$127,168,500	\$8,001 - \$9,000
10	5	48 - 54	Above \$13,000,001	\$39,496,063 - \$43,871,468	1,034.8 - 1,149.6	\$127,168,501 - \$140,746,000	\$9,001 and up

Based on the above ratings system, ranges were applied to each county to determine their potential vulnerability. The following related the scoring to a vulnerability assessment:

- **Medium:** Score range of 9 - 19
- **Medium-High:** Score range of 20 - 29
- **High:** Score range of 30 - 40

Vulnerability of Regional Counties to Tornadoes

County	So Vi Rating	Prior Event Rating	Annualized Property Damage Rating	Bldg Exposure Valuation Rating	Population Density Rating	Crop Exposure Rating	Annualized Crop Insurance Rating	Overall Vulnerability Rating	Tornado Vulnerability
Atchison	6	1	1	1	1	3	1	14	Medium
Brown	10	4	1	1	1	7	1	25	Medium-High
Doniphan	6	1	1	1	1	5	1	16	Medium
Douglas	2	3	1	2	3	2	1	14	Medium
Jackson	6	3	1	1	1	2	1	15	Medium
Jefferson	2	2	1	1	1	3	1	11	Medium
Marshall	8	2	1	1	1	6	1	20	Medium-High
Nemaha	8	7	2	1	1	5	1	25	Medium-High
Washington	8	4	1	1	1	5	1	21	Medium-High

Between 2001 and 2010 by tornadoes, 51 percent of those killed by tornadoes were living in mobile homes, according to the NOAA. The *2012 Kansas Severe Weather Awareness Week* reports people living in mobile homes are killed by tornadoes at a rate 20 times higher than people living in permanent homes. The following table represents the number of mobile homes per county, and the percentage of total housing stock.

Percentage of Mobile Homes per Regional County

County	Number of Housing Units	Number of Mobile Homes	Percentage Mobile Homes
Atchison	6,978	466	6.7%
Brown	4,754	178	3.7%
Doniphan	3,574	475	13.3%
Douglas	46,999	1,586	3.4%
Jackson	5,817	505	8.7%
Jefferson	8,157	895	11.0%
Marshall	4,828	212	4.4%
Nemaha	4,570	184	4.0%
Washington	2,920	166	5.7%
Regional Total	88,597	4,667	5.3%

Sources: United States Census Bureau and U.S. Census Bureau American Community Survey 2005–2009 and 2012

	Magnitude/Severity
Tornado	3.20

Future Development

Future development, increases in population and additional development of agricultural resources and would tend to increase the risk of this hazard. New development anywhere in

northeast Kansas will be susceptible to tornado impacts. New manufactured housing development will be most susceptible to damage, particularly if not anchored properly. The extent of new manufactured housing development is not known.

Probability of Future Hazard Events

According to the NCDC, there were 56 tornados in northeast Kansas between 2003 and 2013. Based on this information, the probability that at least one tornado will occur in northeast Kansas in any given year is high.

The following calculations of probability are used for illustrative purposes only. The calculations were sourced from the FEMA Benefit-Cost Analysis Reengineering Tornado Safe Room Module Methodology Report, Version 4.5 Final, Dated May 2009. Revisions to the calculation methodology include using the entire area of the county as opposed to the 80 km by 80 km cell sized. Additionally, tornados reported on the Fujita Scale were converted to the Enhanced Fujita Scale using available data. Finally, probabilities were not calculated for EF class tornados with zero occurrence.

The following equation was used to determine probabilities equation:

$$\text{Prob. Tornado}(EF) = (EF \text{ count} * EF \text{ area}) / (Cell \text{ area} * Years)$$

Where:

- EF count = Estimate tornado count for EF class from mapping
- EF area = Area of tornado for EF class in km²
- Cell area = Area of analysis cell, county size in KM²
- Years = Years of record from 2003 to 2013 or 11 years

Mean Tornado Length and Width

EF Class	Length (km ²)	Width (km ²)	EF Area
EF0	1.4	0.0284	0.03976
EF1	4.7	0.064	0.3008
EF2	10.7	0.1259	1.34713
EF3	22.5	0.2636	5.931
EF4	43.6	0.4607	20.08652
EF5	54.6	0.5555	30.3303

The following table details the illustrative calculated probability for the occurrence of a tornado in each regional county.

Illustrative Calculated Probability of Tornado

County	Approximate Area (KM2)	Tornado Rating (EF Scale)	Tornado Area (KM2)	Number of Occurrences	Number of Years	Probability
Atchison	1,131	0	0.03976	2	11	0.0000063918
Brown	1,487	0	0.03976	5	11	0.0000121538
		1	0.30080	2	11	0.0000367794
		2	1.34713	1	11	0.0000823580
Doniphan	1,032	0	0.03976	5	11	0.0000175123
Douglas	1,492	0	0.03976	5	11	0.0000121131
		1	0.30080	3	11	0.0000549842
		2	1.34713	2	11	0.0001641640
Jackson	1,711	0	0.03976	2	11	0.0000042251
		2	1.34713	1	11	0.0000715759
Jefferson	1,448	0	0.03976	3	11	0.0000074887
Marshall	2,350	0	0.03976	4	11	0.0000061524
		1	0.30080	1	11	0.0000116364
Nemaha	1,869	0	0.03976	3	11	0.0000058018
		1	0.30080	5	11	0.0000731553
		3	5.931	1	11	0.0002884868
Washington	2,337	0	0.03976	6	11	0.0000092800
		1	0.30080	3	11	0.0000351033
		2	1.34713	1	11	0.0000524032

	Probability
Tornado	2.80

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Tornado Consequence Analysis

Subject	Ranking	Impacts of Tornado
Health and Safety of Persons in the Area of the Incident	Severe	Impact of the immediate area could be severe depending on whether individuals were able to seek shelter and get out of the trajectory of the tornado. Casualties are dependent on warning systems and warning times.
Responders	Minimal	Impact to responders is expected to be minimal unless responders live within the affected area.
Continuity of Operations	Minimal to Severe	Temporary to permanent relocation may be necessary if government facilities experience damage.
Property, Facilities, and Infrastructure	Minimal to Severe	Localized impact could be severe in the trajectory path. Roads, buildings, and communications could be adversely affected. Damage could be severe.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities due to damages sustained. Depending on the incident size the damage could be severe.
Environment	Minimal to Severe	Impact will be severe for the immediate impacted area. Impact will lessen as distance increases from the immediate incident area.
Economic Conditions	Minimal to Severe	Impacts to the economy will greatly depend on the trajectory of the tornado. If a jurisdiction takes a direct hit then the economic conditions will be severe. With an indirect hit the impact could be low to severe.
Public Confidence in Governance	Minimal to Severe	Response and recovery will be in question if not timely and effective. Warning systems and warning time will also be questioned.

3.7.19 UTILITY/INFRASTRUCTURE FAILURE

	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Utility/Infrastructure Failure	3.15	2.20	3.50	2.90	2.89

Description

Critical infrastructure involves several different types of facilities and systems including:

- Electric power
- Transportation routes
- Natural gas and oil pipelines
- Water and sewer systems, storage networks
- Internet/telecommunications systems

Failure of utilities or infrastructure components in northeast Kansas can seriously impact public health, functioning of communities and the region's economy. Disruptions to utilities can occur from many of the hazards detailed in this plan, but the most likely causes include:

- Floods
- Lightning
- Tornadoes and Windstorms
- Winter Storms

In addition to being impacted by another listed hazard, utilities and infrastructure can fail as a result of faulty equipment, lack of maintenance, degradation over time, or accidental damage.

	Warning Time
Utility / Infrastructure Failure	3.50

	Duration
Utility / Infrastructure Failure	2.90

Hazard Location

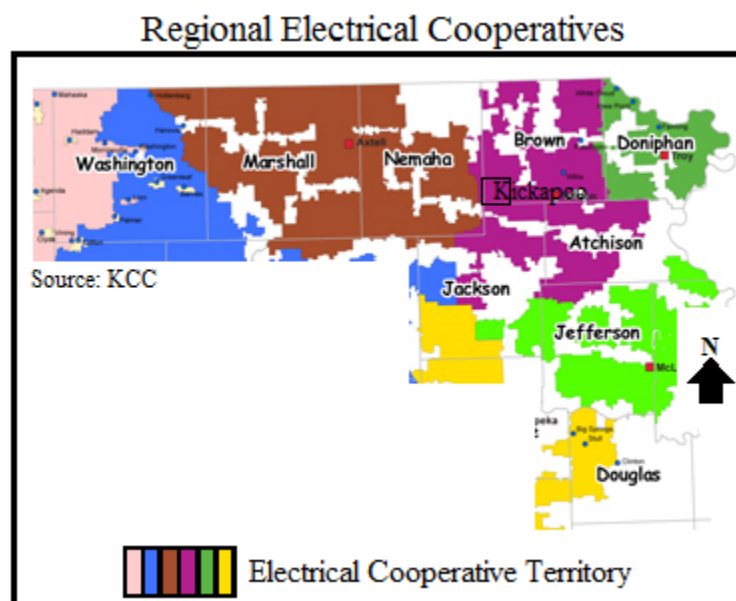
All of northeast Kansas is at risk for utility and/or infrastructure failure. The following sections discuss the major utilities in further detail.

Electric Power

The most common hazards analyzed in this plan that may disrupt the power supply are flood, lightning, tornado, windstorm, and winter weather. In addition, extreme heat can disrupt power supply when air conditioning use spikes during heat waves resulting in brownouts or rolling blackouts.

Electricity in northeast Kansas is provided by either investor-owned utilities or rural electric cooperatives. Electric utilities in Kansas are regulated by both the KCC and the Federal Energy Regulatory Commission.

Rural electric cooperatives (RECs) are not-for-profit, member-owned electric utilities. Distribution cooperatives deliver electricity to consumers. Generation and transmission cooperatives generate and transmit electricity to distribution co-ops. Kansas RECs are governed by a board of trustees elected from the membership. Most Kansas RECs were set up under the Kansas Electric Cooperative Act, which, together with the federal Rural Electrification Act of 1934, made electric power available to rural customers. RECs serving the area include Nemaha-Marshall Electric Cooperative, Brown-Atchison Electric Cooperative, LJEK McLouth, Doniphan Electrical Cooperative, Bluestem Electrical Cooperative, and Kaw Valley Electrical Cooperative. The following map shows the coverage area of regional RECs:



The following maps indicate the locations of electric certified areas, transmission lines and power plants in northeast Kansas.

[illegible]

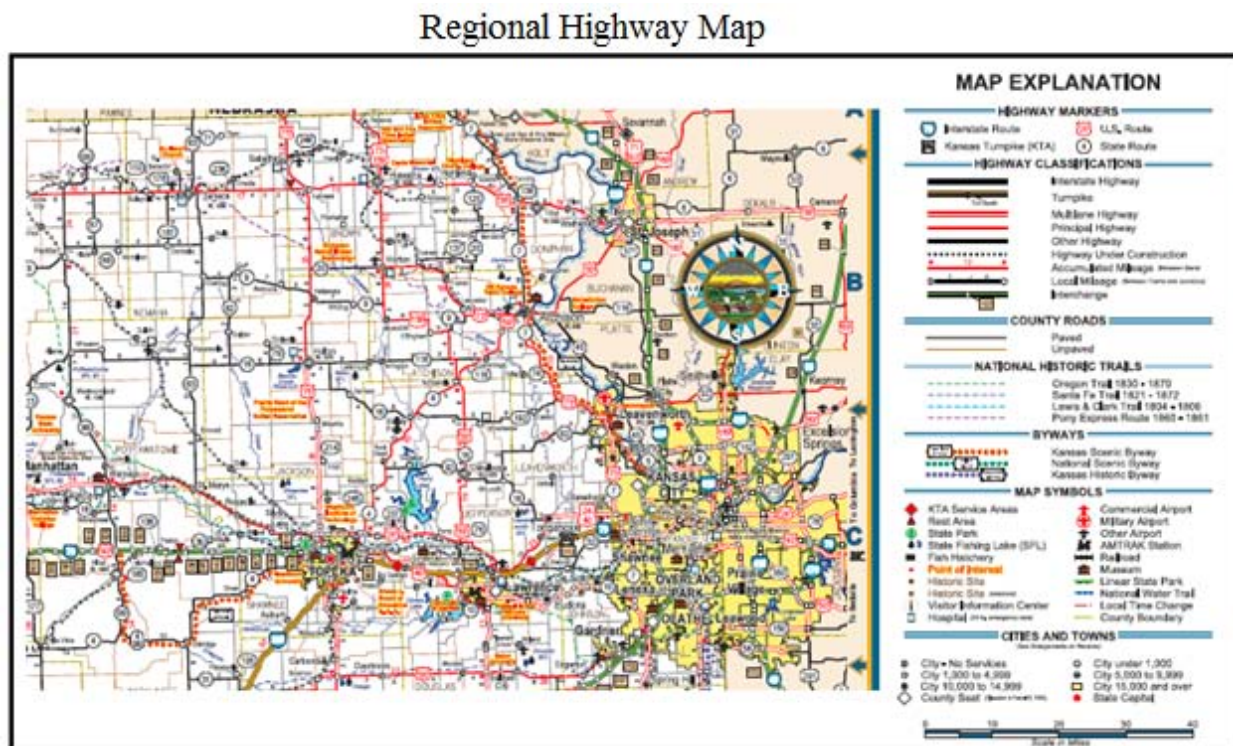
Source: KCC

- Electrical Plants
- ▲ Power Plants
- Transmission Lines

Transportation Routes

Transportation routes can also be impacted by many of the hazards discussed in this plan. The primary hazards that impact transportation are flood, hazardous materials, and winter weather. Flood events can make roads and bridges impassible due to high water. Flood waters can also erode or scour road beds and bridge abutments. Highway and railroad accidents that involve hazardous materials can impact transportation routes through closures and/or evacuations. Winter weather frequently impacts transportation as roads become treacherous or impassible due to ice and snow. Other hazards that impact transportation routes include dam and levee failures if routes are in inundation areas, extreme temperatures that can cause damage to pavement, land subsidence that can damage roads/railroads, landslides that can cause debris and rock falls onto roadways, terrorism that can target routes, tornados that can directly damage infrastructure or deposit debris in routes, wildfires that can cause decreased visibility on transportation routes due to smoke, and windstorms that can cause vehicle accidents or overturning.

The following figure shows the highways in northeast Kansas.

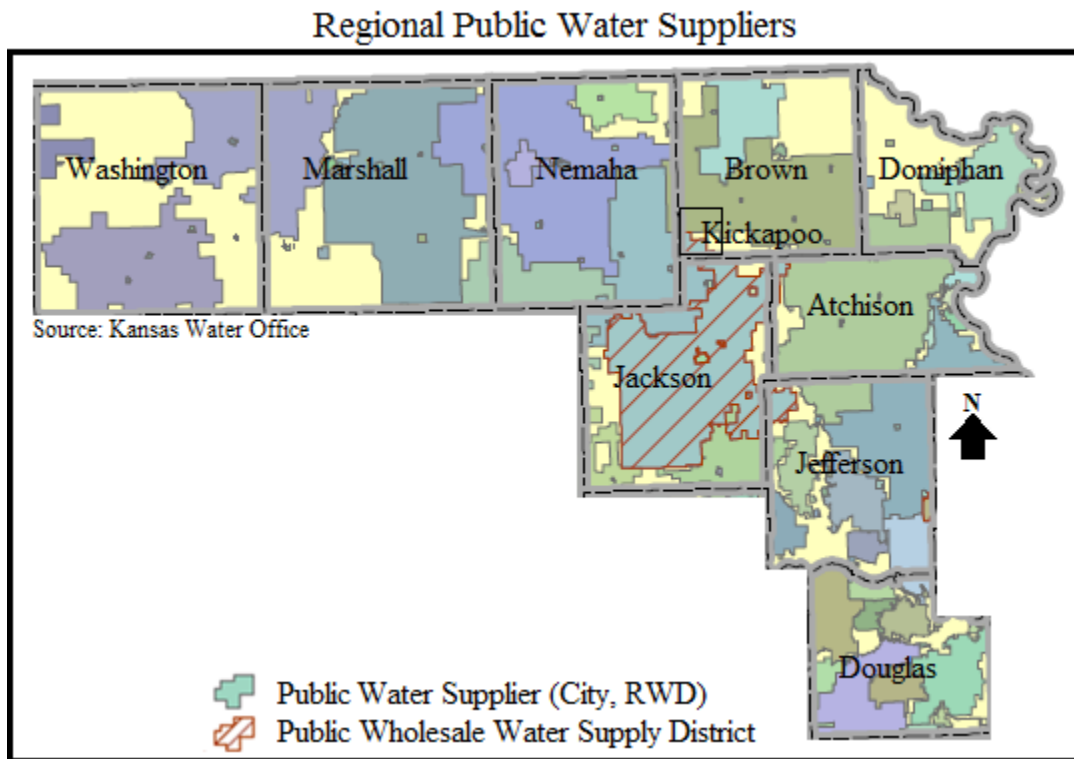


Natural Gas and Oil Pipelines

Hazards that can impact natural gas and oil pipelines include earthquakes, expansive soils, land subsidence, landslide, and terrorism. Natural gas and oil pipelines have been previously discussed.

Water and Sewer Systems

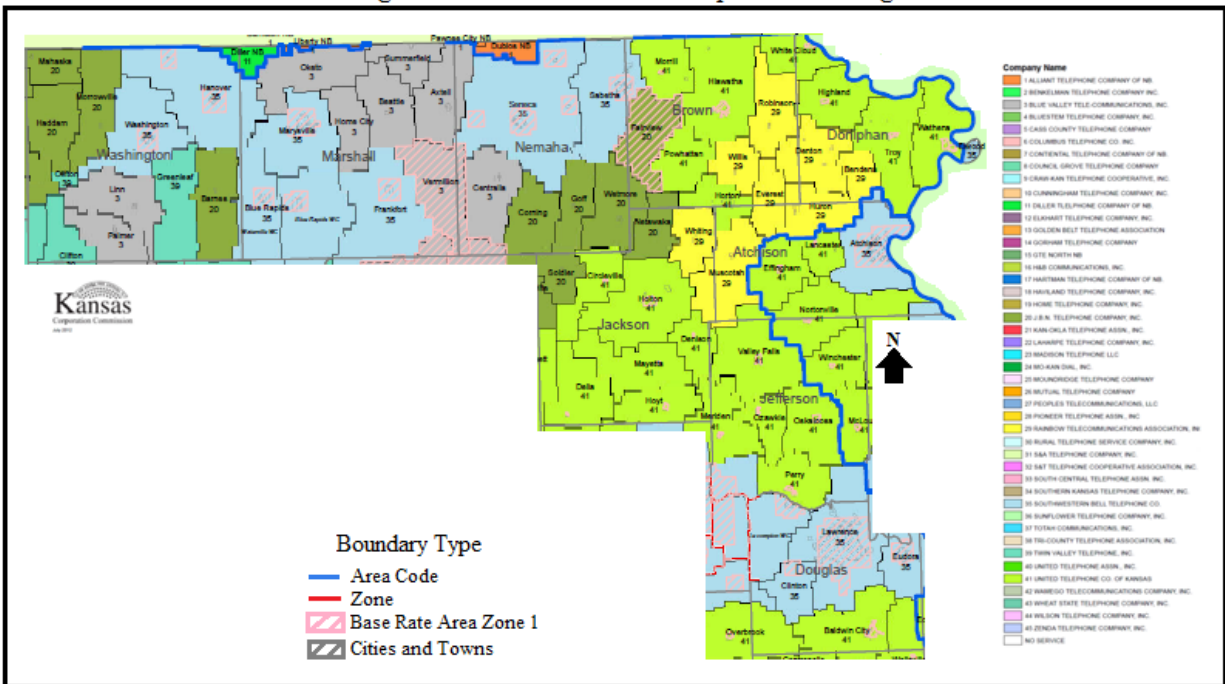
The primary hazards that can impact water supply systems include drought, floods, hazardous materials, and terrorism. The following figure provides a map of public water suppliers in northeast Kansas.



Internet and Telecommunications

Internet and telecommunications infrastructure can be impacted by floods, lightning, tornados, windstorms, and winter weather. Land line phone lines often utilize the same poles as electric lines, so when weather events such as windstorm or winter weather cause lines to break both electricity and telephone services may experience outages. With the increasing utilization of cellular phones, hazard events such as tornado that can damage cellular repeaters can cause outages. In addition, during any hazard event, internet and telecommunications systems can become overwhelmed due to the surge in call and usage volume. The following map indicates telephone service providers in northeast Kansas.

Regional Certified Areas of Telephone Exchanges



Previous Occurrences and Extent

Each year disruptions to utility services ranging from minor to serious are a secondary result of other hazard events including drought, flood, tornado, windstorm, winter storm, lightning, and extreme heat. The following provide discussions of previous events that resulted in a utility or infrastructure failure.

FEMA-4035-DR: Flooding: September 23, 2011: Four counties in northeast Kansas were declared for flooding that occurred from June 1 to August 1, 2011 along the Missouri River. The counties included are Atchison, Doniphan, Leavenworth, and Wyandotte. Damages as a result of this event were estimated to be nearly \$7,400,000,000 and primarily involved damages to roads and bridges.

FEMA-4010-DR: Severe Storms, Straight-line Winds, Tornadoes, and Flooding: July 29, 2011: From May 10 to June 4, 2011 severe storms, straight-line winds, tornadoes, and flooding caused damages in 25 Kansas Counties. The primary impacts of this event were to public roads and bridges with an estimated \$9,800,000 in damages.

FEMA-1932-DR: Severe Storms, Flooding, and Tornadoes: August 10, 2010: From June 7 to July 21, 2010, severe storms, flooding, and tornadoes caused damages in 41 Kansas Counties. The primary impacts of this event were to public roads and bridges with an estimated \$11,200,000 in damages.

FEMA-1868-DR: Winter Storms: December 2009 (November 14-16, 2009): This event resulted in extremely heavy snows that caused severe damage to electric infrastructure and disrupting power to several thousand customers. The majority of the snowfall occurred in the northern counties along the US-36 corridor. Northern Republic County reported eight inches of snow. Morrowville in Washington County reported a 12 inch accumulation. Marshall, Nemaha, and Brown Counties reported accumulations of five to seven inches. Damage estimates of \$1,600,000 included damage to power poles across Washington, Marshall, Republic and Cloud Counties with the worst damage across Washington and Marshall Counties. FEMA's Public Assistance funds spent \$43,217,690 on this disaster. Rolling Hills Electric Cooperative stated that around 750 power poles snapped in Republic, Washington, and Marshall Counties due to the weight on the lines.

FEMA-1741-DR: February, 2008 (December 6-19, 2007): An ice storm caused numerous power outages and approximately 130,000 Kansas customers were without power. Specifically, Kansas Rural Electric Cooperatives reported 49,000 customers without power, Westar reported 76,000 customers, Kansas City Power & Light reported 4,300 customers, and Kansas City, Kansas Board of Public Utilities reported 800 customers without power. FEMA's Public Assistance costs were \$355,651,857 for this disaster.

FEMA-1626-DR: January 26, 2006 (November 27-28, 2005): Much of the state was affected by this storm. Winds of 40 to 60 mph combined with two to seven inches of snow resulted in a blizzard, which raged across parts of north central Kansas. The wind whipped the snow into drifts 10 to 15 feet high in some places. Interstate 70 was closed west of Russell, and numerous other highways were impassable during the storm. There were several reports of auto accidents, including a 25-car pileup, and sporadic power outages. At least three auto-related deaths were attributed to the storm. FEMA's Public Assistance costs were \$50,281,517 for this disaster.

Local Events

August 11, 2013: Nemaha County: A power utility failure caused 346 people to be without power.

June 19 - 20, 2010: Nemaha County: High winds damaged electrical poles, wires and transformers resulting in power failure. Crews worked for three days to fully restore power.

Summer 2006: During the summer of 2006, a heat wave caused a train derailment and rerouting of train traffic north of Topeka toward Atchison. The derailment were caused by sun kinks as the metal tracks expanded from the heat.

Hazard Vulnerability and Impact

While every community in the region is at risk to utility/infrastructure failure, the vulnerability is somewhat mitigated in northeast Kansas due to the lower population density, development, and economic activities in large portions of the region that would be disrupted by a major infrastructure failure event. However, regional counties with major cities, such as Lawrence, and high population densities, including Douglas County, would be at greater risk for disruptions.

Regionally smaller utility suppliers generally have limited resources for mitigation. Thus, the large number of small electric providers could mean greater vulnerability in the event of a major, widespread disaster, such as a major flood, severe winter storm or ice storm. In recent years, regional electric power grid system failures in the western and northeastern United States have demonstrated that similar failures could happen in northeast Kansas. This vulnerability is most appropriately addressed on a multi-state regional or national basis.

Since utility/infrastructure failure is generally a secondary or cascading impact of other hazards, it is not possible to quantify estimated potential losses specific to this hazard due to the variables associated with affected population, duration of outages, etc..

Although the limitless variables make it difficult to estimate future losses on a statewide basis, FEMA has developed standard loss of use estimates in conjunction with their Benefit-Cost Analysis methodologies to estimate the cost of lost utilities on a per-person, per-use basis.

FEMA Benefit-Cost Analysis

Loss of Electric Power	Cost of Complete Loss of Service
Total Economic Impact	\$126 per person per day
Loss of Potable Water Service	Cost of Complete Loss of Service
Total Economic Impact	\$93 per person per day
Loss of Wastewater Service	Cost of Complete Loss of Service
Total Economic Impact	\$41 per person per day
Loss of Road/Bridge Service	Cost of Complete Loss of Service
Vehicle Delay Detour Time	\$38.15 per vehicle per hour
Vehicle Delay Mileage	\$0.55 per mile (or current federal mileage rate)

Source: FEMA BCA Reference Guide, June 2009, Appendix C

	Magnitude/Severity
Utility / Infrastructure Failure	2.20

Future Development

Future development and increases in population would increase the risk of this hazard. In addition, lack of maintenance and system upgrades could also increase the risk of this hazard occurring on a more frequent basis.

Probability of Future Hazard Events

Based on historical records, utility failures occur annually across the region. As such, the likelihood of a utility failure event occurring is likely within the next year.

	Probability
Utility / Infrastructure Failure	3.15

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Utility/Infrastructure Failure Consequence Analysis

Subject	Ranking	Impacts of Utility / Infrastructure Failure
Health and Safety of Persons in the Area of the Incident	Moderate to Severe	Localized impact will be moderate to severe for persons with functional and access needs, and the elderly, depending on length of failure and time of year.
Responders	Minimal	Impact to responders will be minimal if properly trained and equipped.
Continuity of Operations	Minimal	COOP plans are not expected to be activated If the recovery time is excessive then temporary relocation may become necessary.
Property, Facilities, and Infrastructure	Minimal	Impact is dependent on the nature of the incident, and electric, water, sewage, gas and communication disruptions.
Delivery of Services	Minimal	Delivery of services could be affected within and around the affected area.
Environment	Minimal	Impact should be minimal.
Economic Conditions	Minimal	Economic conditions could be adversely affected depending on extent of damage.
Public Confidence in Governance	Minimal	Impact will be dependent on whether response, recovery, and planning were timely and effective.

3.7.20 WILDFIRE

Hazard	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Wildfire	3.08	2.78	4.00	2.00	3.02

Description

Wildfires in northeast Kansas typically originate in pasture or prairie areas following the ignition of dry grasses (by natural or human sources). On occasion, ranchers and farmers intentionally ignite vegetation to restore soil nutrients or alter the existing vegetation growth. These fires have the potential to erupt into wildfires. Wildfires are also associated with lightning and drought conditions, as dry conditions make vegetation more flammable. Wildfires may also originate, or spread to forested areas, or other areas with concentrations of woody fuel that can cause wildfires to increase in intensity and spread. Since protecting people and structures takes priority, a wildfire's cost to natural resources, crops, and pastured livestock can be ecologically and economically devastating. In addition to the health and safety impacts to those directly affected by fires, the region is also concerned about the health effects of smoke emissions to surrounding areas.

The region experiences most of its wildfires in March and April when people are conducting controlled burns in grassland and fields. As the plant mass greens up later in the summer and the humidity is higher, the risk of wildfires is generally lower. This trend, however, does not continue in years of extreme drought when hot and dry weather prevail.

The wildland/urban interface is the area where human improvements such as homes, ranches and farms come in contact with the wildlands. Urban expansion has driven the increased building of homes in wildland areas. Wherever people are living in or adjacent to wildland areas, the threat of wildfire exists. As the rural population increases, so does the risk to life and property from wildfire.

	Warning Time
Wildfire	4.00

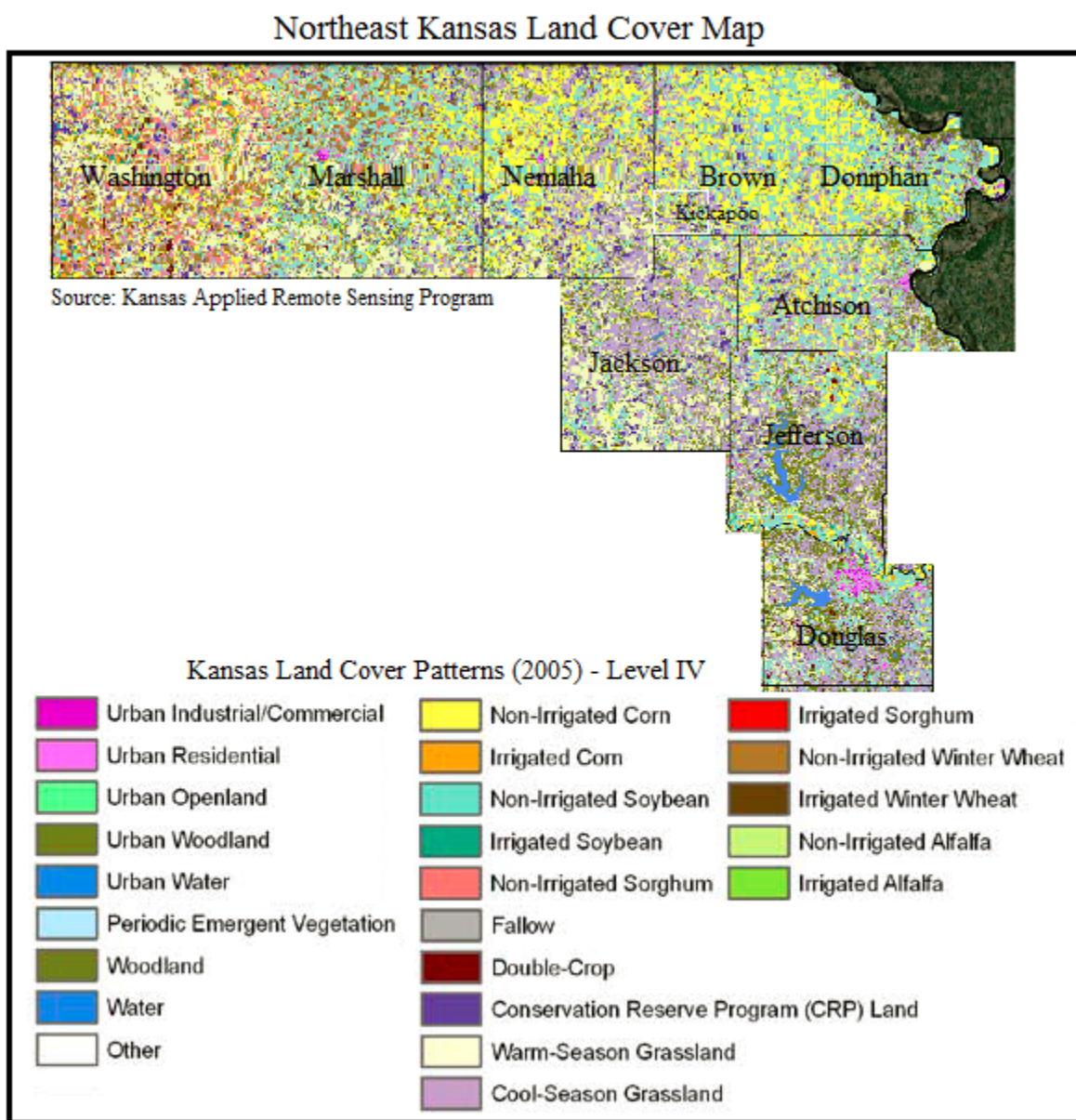
	Duration
Wildfire	2.00

Hazard Location

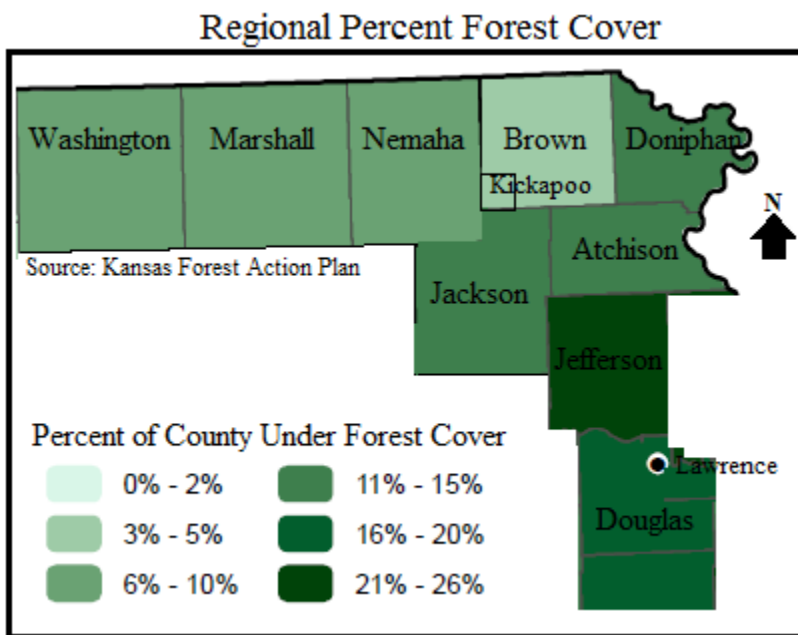
Wildfires in northeast Kansas typically originate in pasture or prairie areas following the ignition of dry grasses (by natural or human sources). The Eastern Red Cedar is of concern in areas of northeast Kansas. This invasive evergreen species can take over fence rows and un-planted fields, adding to wildfire fuel and risk. Additionally, this type of fuel, as well as other tree plantings near structures can cause structures to be consumed by wildfires, putting inhabitants at risk.

Due to the primarily rural and agricultural characteristics of the region, as well as the existence of wild land and grassland areas, the entire region is susceptible to wildfires. However, due to lower population densities in large areas of the region the number of people potentially affected by a wildfire is often minimal. Additionally, due to the built up nature of the larger cities in the region, the risk of wildfires in these areas is also lower.

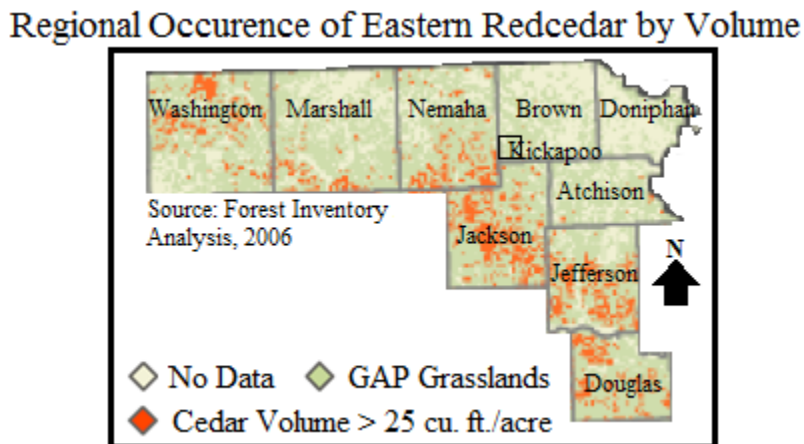
According to the 2011 *Kansas Forest Action Plan*, with the exception of Eastern Redcedar/hardwood, most forest types in Kansas do not pose significant fire management issues. However, grasslands which make up a majority of the open areas in northeast Kansas due pose fire management issues. These areas, and the wild land-urban interface where development has occurred, are the focus of wild land fire management issues in Kansas. The following figure shows the land cover in northeast Kansas



Forests have increased in volume by a billion cubic feet and in density by 106 percent since 1965 with an estimated 74 million dry tons of total biomass. Growing stock volume has been increasing steadily for the past 40 years. The average age of Kansas forests is getting younger with the majority of volume and trees occurring between 30 and 59 years of age. The following figure shows the percent forest cover in northeast Kansas counties.



Although Eastern Redcedar makes up less than 4 percent of forest types, it has increased in volume by 23,000 percent since 1965 and is the primary specie of concern in grasslands. The following figure shows the occurrence of Eastern Redcedar by volume.



Previous Occurrences and Extent

The following provide brief details on notable regional wildfire events.

2012: More than 41,000 acres and 26 structures burned across the state from April through September due to extreme drought conditions. This places 2012 as one of the worst years for wildfires in Kansas on record.

February 24, 1996: A fast moving grass fire in northeast Kansas consumed 25 square miles (25,000 acres) of grass and timber and required the evacuation of part of the town of Auburn. The fire was stopped about a half mile from the town, preventing any significant property damage. Three firefighters were injured and two homes and several other buildings were destroyed. Property damages were estimated at \$250,000.

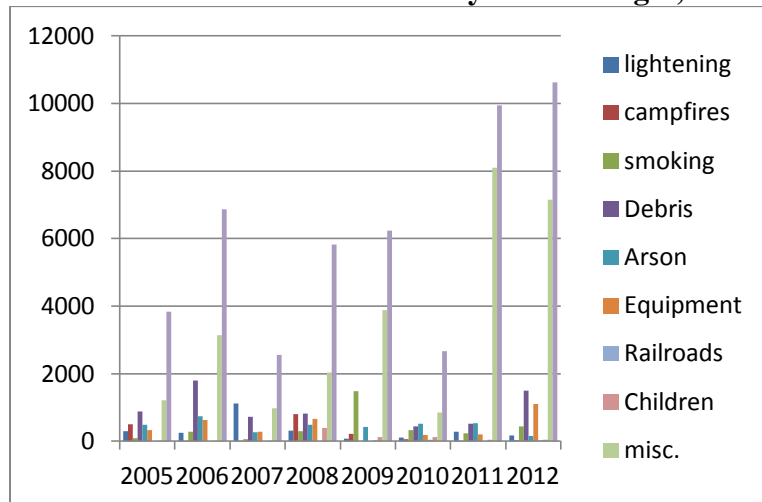
Local Events

April 11, 2010: Harvey County: A wildfire burned approximately 1,600 acres.

Hazard Vulnerability and Impact

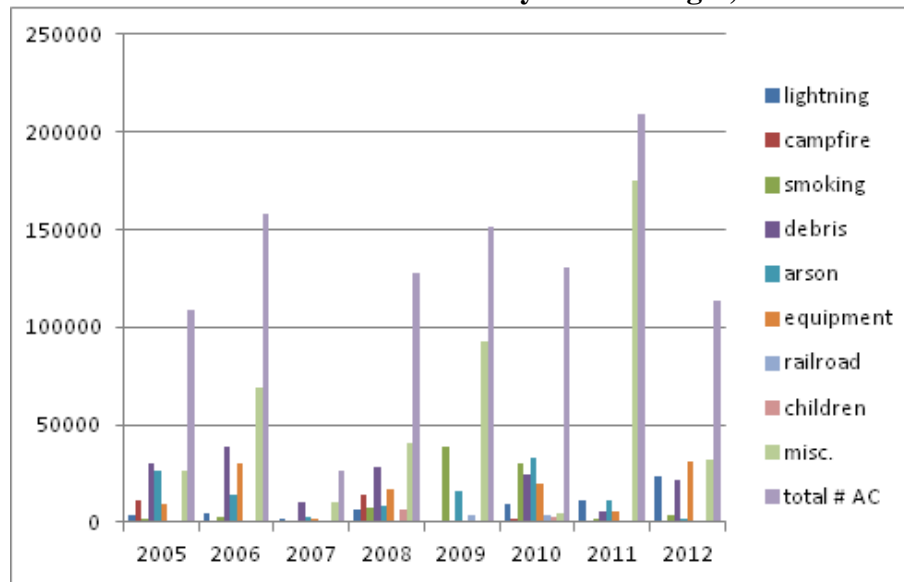
The Kansas Forest Service provided the following charts based on statistics from the National Fire Incident Reporting System regarding occurrence of wildfires in Kansas from 2005-2012. The first figure provides the total number of wild land fires in Kansas by cause/origin and the second figure provides the number of acres burned in Kansas each year by cause/origin.

Number of Kansas Wild Land Fires by Cause/Origin, 2005-2012



Source: Kansas Forest Service

Number of Kansas Acres Burned by Cause/Origin, 2005-2012



Source: Kansas Forest Service

USDA's Risk Management Agency on Crop insurance payments for loss of crops due to wildfire indicates that no payments were made as a result of wildfires to the northeast Kansas region.

Although some data is available from the National Fire Incident Reporting System (NFIRS) in terms of previous events, this data has limitations in providing useful statistical data for an overview regional vulnerability analysis. The most problematic issues are that not all fire departments report to NFIRS and of those that report, not all incidents are reported. This current lack of local level requirements and a past lack of enforcement of state statutes has led to a lack of fire occurrence data for both prescribed burns and wildfires being available in northeast Kansas. Changes in enforcement of wildfire reporting requirements at the state level, as well as prescribed fire reporting requirements that are part of the EPA-mandated Kansas Flint Hills Smoke Management Plan (approved in 2011) will give the Kansas Forest Service a much greater opportunity to begin using real-time fire occurrence data to assist in making the best fire management decisions.

In light of the data limitations associated with available statistics, and with the publication of the 2011 *Kansas Forest Action Plan*, it has been determined that the best available data for the regional vulnerability analysis is the weighted sum analysis that was completed and utilized to develop a wildfire risk composite layer as part of the Forest Action Plan. The weighted sum analysis combined six data layers produced from a combination of eight separate datasets. In close consultation with the Kansas Forest Service's Fire Management Coordinator and other Fire Management staff six data inputs were developed to represent Wildfire Risk in Kansas. These data inputs and their corresponding analysis weight are listed below:

Kansas Forest Action Plan Wildfire Data Sets and Weighted Sums

Data Set	Analysis Weight
Wildland Urban Interface	0.85
ISO Fire Station Coverage Gaps	0.75
Conservation Reserve Program Lands	0.60
Eastern Redcedar in Grasslands	0.75
Moderate Fire Potential risk	0.53
High Fire Potential risk	0.80

Source: *Kansas Forest Action Plan*,

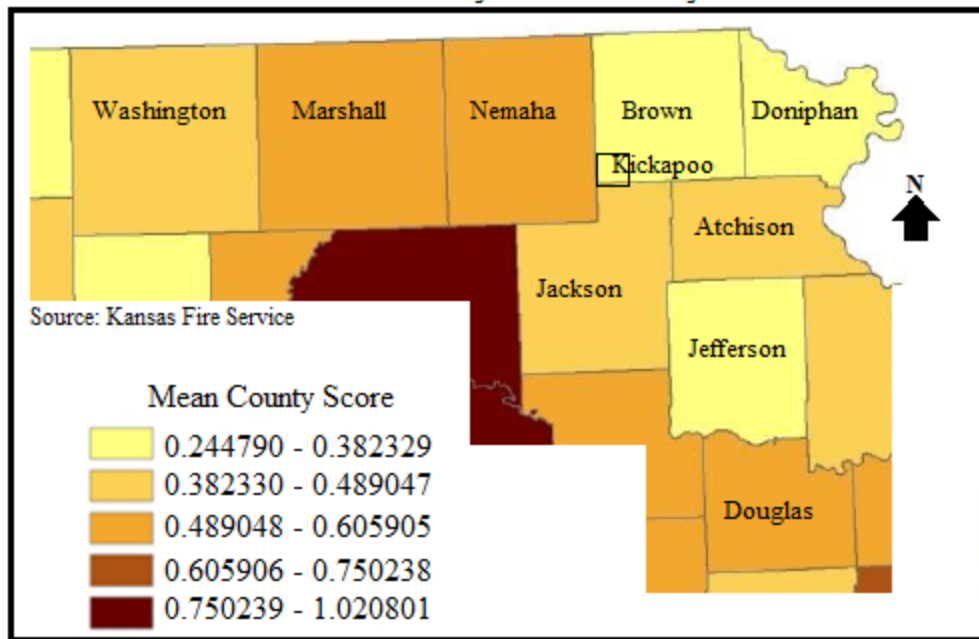
The resulting score contains values ranging from 0 to 3.48, with the higher the numbers indicating higher wildfire risk. The following table provides the mean score for each county within the northeast Kansas region.

Wildfire Risk Score

County	Mean Wildfire Risk Score
Atchison	0.43419876695
Brown	0.33541154862
Doniphan	0.35770264268
Douglas	0.53378498554
Jackson	0.43833905459
Jefferson	0.34613996744
Marshall	0.55832988024
Nemaha	0.51145887375
Washington	0.48299509287
Regional Average	0.44426231252

The following figure provides a map indicating the mean score for each county.

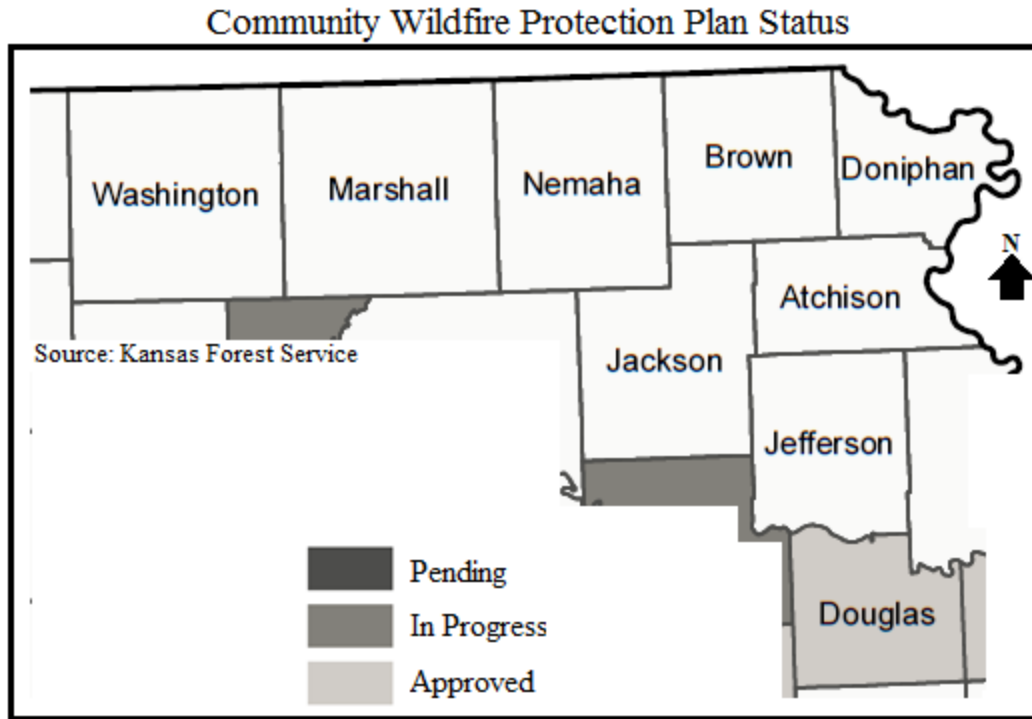
Wildfire Risk by Mean County Score



Community Wildfire Protection Plans

One way for communities at risk to wildfire to reduce their overall vulnerability is development of Community Wildfire Protection Plans (CWPP) to identify specific areas at risk and actions that can be taken to reduce risk. The Healthy Forests Restoration Act (HFRA) provided communities with an opportunity to influence where and how federal agencies implement fuel reduction projects on federal lands. A CWPP is the most effective way to take advantage of this opportunity. Additionally, communities with Community Wildfire Protection Plans in place are given priority for funding of HFRA hazardous fuels reduction projects.

The following figure shows the status of CWPPs in northeast Kansas counties.



	Magnitude/Severity
Wildfire	2.78

Local Concerns

The following detail specific local concerns as related to wildfires:

- In Douglas County, the areas near Clinton Lake, Kanwaka, and Wakarusa were assigned a high hazard risk. This risk was assigned due to the greater slopes, heavier concentrations of tall grass and evergreen (cedar) timber fuels, and lots with little to no defensive clearance.

Future Development

Future development and increases in population would tend to increase the risk of this hazard. As cities continue to expand they often build in areas that are prone to wildfires and may not have adequate fire coverage.

Probability of Future Hazard Events

Wildfires occur on an annual basis in the region. Although wildfires occur every year, the outlook through December 2013 for northeast Kansas from the National Interagency Fire Center Predictive Services for a wildfire event in Kansas that will require mobilization of additional

resources from outside the area in which the fire situation originated is considered to be in the normal range.

	Probability
Wildfire	3.08

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Wildfire Consequence Analysis		
Subject	Ranking	Impacts of Wildfire
Health and Safety of Persons in the Area of the Incident	Severe	Impact of the immediate area could be severe for affected areas.
Responders	Minimal to Severe	Impact to responders could be severe depending on the size and scope of the fire, especially for fire fighters. Impact will be low to moderate for support responders with the main threat being smoke inhalation.
Continuity of Operations	Minimal to Severe	Temporary relocation may be necessary if government facilities experience damage.
Property, Facilities, and Infrastructure	Severe	Localized impact could be severe to facilities and infrastructure in the incident area as all are vulnerable to destruction by wildfire.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities due to damages sustained.
Environment	Severe	Impact will be severe for the immediate area with regards to trees, bushes, animals, and crops. Impact will lessen as distance increases.
Economic Conditions	Minimal to Moderate	Impacts to the economy could be moderate in the immediate area.
Public Confidence in Governance	Minimal to Severe	Response and recovery will be in question if not timely and effective. Evacuation orders and shelter availability could be called in to question.

3.7.21 WINDSTORM

Hazard	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Windstorm	3.70	2.40	3.00	1.90	3.03

Description

Relatively frequent strong winds are a weather characteristic of northeast Kansas. High winds, often accompanying severe thunderstorms, can cause significant property and crop damage, threaten public safety, and have adverse economic impacts from business closures and power loss.

Straight-line winds are generally any thunderstorm wind that is not associated with rotation. It is these winds, which can exceed 100 mph that represent the most common type of severe weather and are responsible for most wind damage related to thunderstorms. Since thunderstorms do not have narrow tracks like tornados, the associated wind damage can be extensive and affect entire counties or regions. Objects like trees, barns, outbuildings, high-profile vehicles, and power lines/poles can be toppled or destroyed, and roofs, windows, and homes can be damaged as wind speeds increase. In 2005, hail and wind damage made up 45% of homeowners' insurance losses. One type of straight-line wind is the downburst, which can cause damage equivalent to a strong tornado and can be extremely dangerous to aviation.

Thunderstorms over northeast Kansas typically happen between late April and early September, but, given the right conditions, they can develop as early as March. They are usually produced by supercell thunderstorms or a line of thunderstorms that typically develop on hot and humid days.

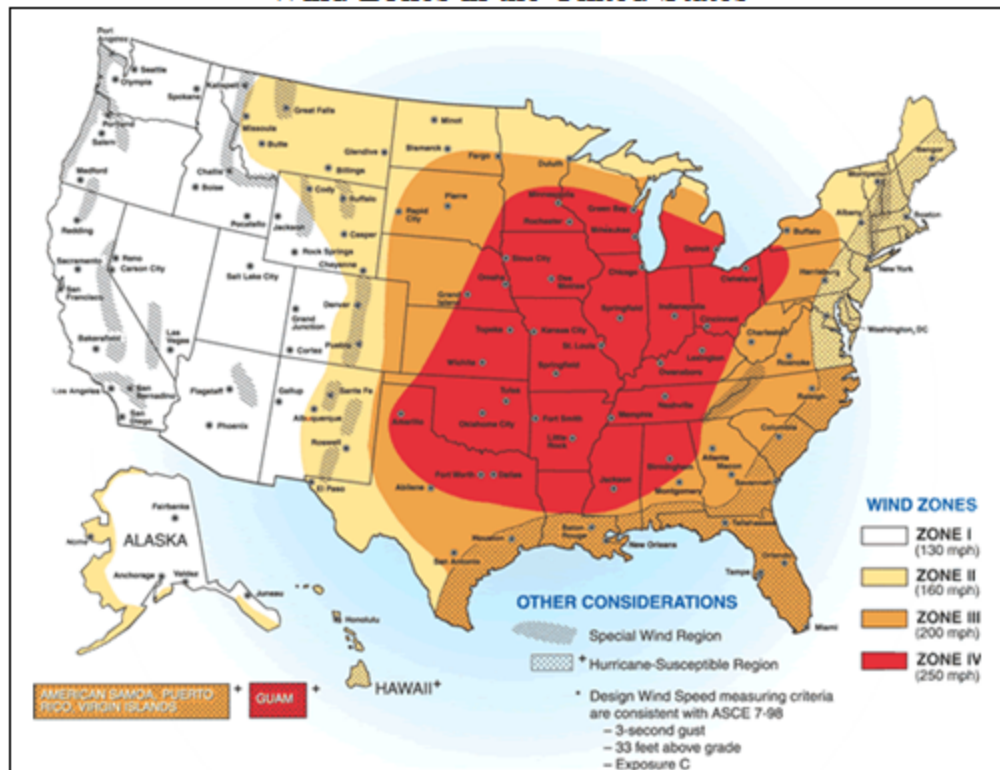
	Warning Time
Windstorm	3.00

	Duration
Windstorm	1.90

Hazard Location

The following figure shows the wind zones of the United States based on maximum wind speeds. Northeast Kansas is located within wind zones IV, the highest inland category.

Wind Zones in the United States



Source: FEMA Taking Shelter From the Storm, 2008

Previous Occurrences and Extent

The following are notable high wind events that have occurred in the region.

May 5, 2007: Straight-line winds in Clay County estimated at 80 to 90 mph damaged numerous farm buildings, grain bins, homes, trees, outbuildings, and power poles. Wind damage from straight-line winds estimated at 70 to 80 mph was found across Washington County.

April 23, 2006: Large hail and straight-line winds were reported in northeast Kansas. Straight-line winds of 70 mph blew roofs off two boat houses on Perry Lake Marina.

March 12, 2006: A severe thunderstorm produced straight-line winds of up to 90 mph and damage throughout Lawrence. Seventy buildings on the University of Kansas campus were damaged, semi-trailers were overturned, 60-foot silos fell, and homes and trees were damaged. Damage was estimated at \$8 million. Severe straight-line winds in Frontenac caused structure damage estimated at \$20,000.

According to the NCDC Storm Events database, there were 465 high wind, strong wind and thunderstorm wind events in northeast Kansas between 2003 and 2013. The average recorded high wind over that period was 73 mph, with the strongest wind measured at 78 mph. Total property damage for events between 2003 and 2013 is estimated at \$9,181,500 with an estimated

\$40,000 in crop damages. The data reported below is from the NCDC who receives storm data from the NWS, which receives information from a variety of sources, which include but are not limited to county, state, and federal emergency management officials, local law enforcement officials, Skywarn spotters, NWS damage surveys, newspaper clipping services, the insurance industry and the general public. The wind events represent wind reports, not necessarily individual storms, and thus likely over count the actual number of windstorms.

NCDC Wind Events, 2003- 2013

County	Number of Days with Wind Events	Strongest Measured Wind (Knots)	Total Property Damage	Total Crop Damage
Atchison	41	70	\$85,500	\$0
Brown	49	78	\$120,000	\$30,000
Doniphan	38	70	\$305,000	\$0
Douglas	76	70	\$8,164,000	\$10,000
Jackson	51	78	\$123,500	\$0
Jefferson	73	78	\$97,000	\$0
Marshall	53	70	\$146,500	\$0
Nemaha	32	70	\$68,000	\$0
Washington	52	70	\$74,000	\$0
Regional Total	465	73 (Average)	\$9,181,500	\$40,000

Source: NCDC Storm Events Database, Strong Wind and Thunderstorm Wind

Local Events:

The following detail locally reported events:

2012: Baker University, Douglas County: A windstorm caused damages to buildings and vegetation on campus.

August 11, 2010: City of Lawrence, Douglas County: A windstorm damaged trees and power poles within the city.

June 26, 2010: City of Lancaster, Atchison County: A severe windstorm with winds in excess of 90 mph damaged roofs, vehicles and power lines resulting in power failure and road closures.

June, 2010: Marshall County: A severe windstorm with winds in excess of 90 mph damaged trees, bleachers and power lines resulting in power failure and road closures.

May 12, 2010: Douglas County: A cement block silo was blown down. Several grain bins and tin sheds were damaged. Tin debris was blown nearly a quarter of a mile downstream. The house on the farm property had several windows broken out on its southern side. Several tree branches around 6 inches in diameter were blown down as well. Power lines down. Windmill and barn damage

August 19, 2004: City of Lancaster, Atchison County: A microburst damaged roofs, trees and power lines resulting in power failure and road closures. In addition, there was major crop damage in affected areas.

April, 2003: USD #429, Troy, Doniphan County: A windstorm damaged school buildings.

Hazard Vulnerability and Impact

All counties in northeast Kansas are vulnerable to windstorms. To refine and assess the relative vulnerability of each of northeast Kansas' counties to wind events, the region assigned ratings to pertinent factors that were examined at the county level. These factors are: social vulnerability index, prior events, prior annualized property damage, building exposure valuation, population density, crop exposure and annualized crop loss. Then a rating value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the most vulnerable counties.

The following information was used for this analysis:

- Social Vulnerability Index for Kansas from the Hazards and Vulnerability Research Institute at the University of South Carolina
- National Climatic Data Center storm events 2006 – 2012
- U.S. Census Bureau (2010)
- USDA's Census of Agriculture (2007).

Vulnerability Factor Amounts for Wind

County	SoVI Rating (1-5)	Prior Events 2006-2012	Property Damages	Annualized Property Damages	Total Building Exposure (\$000)	Population Density	Crop Exposure (2007 Census of Agriculture)	Crop Insurance Paid for Wind	Annualized Crop Insurance Paid
Atchison	3	15	\$17,500	\$2,500	\$1,333,363	39	\$42,536,000	\$9,182	\$918
Brown	5	33	\$26,000	\$3,714	\$713,225	17	\$86,532,000	\$123,514	\$12,351
Doniphan	3	10	\$30,200	\$4,314	\$557,109	20	\$67,800,000	\$591,792	\$59,179
Douglas	1	55	\$8,029,000	\$1,147,000	\$6,614,269	202	\$27,973,000	\$123,445	\$12,345
Jackson	3	22	\$48,000	\$6,857	\$788,323	20	\$21,169,000	\$5,300	\$530
Jefferson	1	53	\$16,000	\$2,286	\$1,130,852	34	\$33,429,000	\$40,572	\$4,057
Marshall	4	33	\$24,500	\$3,500	\$2,054,603	11	\$81,815,000	\$261,272	\$26,127
Nemaha	4	42	\$33,000	\$4,714	\$711,896	14	\$67,091,000	\$87,997	\$8,800
Washington	4	23	\$5,000	\$714	\$396,656	6	\$65,762,000	\$423,085	\$42,309
Regional Total	-	286	\$8,229,200	\$1,175,600	\$14,300,296	-	\$494,107,000	\$1,666,159	\$166,616

Using the above information, a value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the greatest vulnerable counties. The Social Vulnerability Index is in a range of 1- 5. To give Social Vulnerability Index the same weight as the other factors, the numbers were multiplied by two.

Wind Data Rating Determination

Ratings	Social Vulnerability	NCDC Prior Events	Annualized Property Damage	Building Exposure Valuation	Population Density	Crop Exposure	Annualized Crop Loss
1		9 - 34	\$0 - \$200,000	\$117,421 - \$4,492,825	1.6 - 116.3	0 - \$18,548,500	19 - \$40,800
2	1	35 - 56	\$200,001 - \$400,000	\$4,492,826 - \$8,868,229	116.4 - 231.1	\$18,548,501 - \$32,126,000	\$40,801 - \$81,576
3		57 - 78	\$400,001 - \$600,000	\$8,868,230 - \$13,243,634	231.2 - 345.9	\$32,126,001 - \$45,703,500	\$81,577 - \$122,352
4	2	79 - 100	\$600,001 - \$800,000	\$13,243,635 - \$17,619,039	346 - 460.7	\$45,703,501 - \$59,281,000	\$122,353 - \$163,128
5		101 - 122	\$800,001 - \$1,000,000	\$17,619,040 - \$21,994,444	460.8 - 575.5	\$59,281,001 - \$72,858,500	\$163,129 - \$203,904
6	3	123 - 144	\$1,000,001 - \$3,000,000	\$21,994,445 - \$26,369,848	575.6 - 690.3	\$72,858,501 - \$86,436,000	\$203,905 - \$244,680
7		145 - 165	\$3,000,001 - \$5,000,000	\$26,369,849 - \$30,745,253	690.4 - 805.1	\$86,436,001 - \$100,013,500	\$244,681 - \$285,456
8	4	166 - 187	\$5,000,001 - \$7,000,000	\$30,745,254 - \$35,120,658	805.2 - 919.9	\$100,031,501 - \$113,591,000	\$285,457 - \$326,232
9		188 - 209	\$7,000,001 - \$9,000,000	\$35,120,659 - \$39,496,062	920- 1,034.7	\$113,591,001 - \$127,168,500	\$326,233 - \$367,008
10	5	210 - 232	\$9,000,001 - \$25,460,428	\$39,496,063 - \$43,871,468	1,034.8 - 1,149.6	\$127,168,501 - \$140,746,000	\$367,009 - \$407,783

Based on the above ratings system, ranges were applied to each county to determine their potential vulnerability. The following related the scoring to a vulnerability assessment:

- **Low:** Score range of 9 -14
- **Medium-Low:** Score range of 15 - 19
- **Medium:** Score range of 20 - 24
- **Medium-High:** Score range of 25 - 29
- **High:** Score range of 30 - 35

The following table provides the factor's amount per county that are considered for wind vulnerability.

Vulnerability of Northeast Kansas Counties to Wind

County	SoVi Rating	NCDC Prior Event Rating	Annualized Property Damage Rating	Bldg Exposure Valuation Rating	Population Density Rating	Crop Exposure Rating	Annualized Crop Loss Rating	Overall Vulnerability Rating	Wind Vulnerability
Atchison	6	1	1	1	1	3	1	14	Low
Brown	10	1	1	1	1	7	1	22	Medium
Doniphan	6	1	1	1	1	5	2	17	Medium-Low
Douglas	2	2	6	2	3	2	1	18	Medium-Low
Jackson	6	1	1	1	1	2	1	13	Low
Jefferson	2	2	1	1	1	3	1	11	Low
Marshall	8	1	1	1	1	6	1	19	Medium-Low
Nemaha	8	2	1	1	1	5	1	19	Medium-Low
Washington	8	1	1	1	1	5	2	19	Medium-Low

	Magnitude/Severity
Windstorm	2.40

Future Development

Future development projects should consider windstorm hazard at the planning, engineering and architectural design stage with the goal of reducing vulnerability.

Probability of Future Hazard Events

Available data suggests that northeast Kansas has experienced 465 high wind event over the 11 year period from 2003 to 2013, with a total damage amount of \$9,221,500. This would equate to an average of 42 events per year with an average loss of \$838,313 per year. As such, the probability of this hazard occurring during future years is likely.

	Probability
Windstorm	3.70

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Windstorm Consequence Analysis

Subject	Ranking	Impacts of Windstorm
Health and Safety of Persons in the Area of the Incident	Minimal to Moderate	Impact of the immediate area could be minimal to moderate for affected areas.
Responders	Minimal	Impact to responders is expected to be minimal unless responders live within the affected area.
Continuity of Operations	Minimal	Temporary relocation may be necessary if government facilities experience damage.
Property, Facilities, and Infrastructure	Minimal to Severe	Localized impact could be minimal to moderate in the incident area. Utility lines would likely be severely affected.
Delivery of Services	Minimal	Delivery of services could be affected if there is any disruption to the roads and/or utilities..
Environment	Minimal to Severe	Impact may be severe for the immediate impacted area with regards to trees, bushes, and crops. Impact will lessen as distance increases from the immediate incident area.
Economic Conditions	Minimal to Severe	Impacts to the economy will greatly depend on the trajectory of the windstorm. Revenue could be impacted if businesses are halted due to structural damages and infrastructure damage.
Public Confidence in Governance	Minimal	Response and recovery will be in question if not timely and effective. Warning systems in place and the timeliness of those warnings could be questioned.

3.7.22 WINTER STORM

Hazard	Probability	Magnitude/Severity	Warning Time	Duration	CPRI
Winter Storm	3.90	2.50	1.90	3.20	3.11

Description

Winter storms in northeast Kansas usually come in the form of heavy snow or freezing rain. Regardless of form, they can have significant impacts to the region and its residents for days, weeks or months. They can immobilize a region by blocking roads and railways and closing airports, which can disrupt emergency and medical services, hamper the flow of supplies and isolate homes and farms. Heavy snow can collapse roofs and knock down trees and power lines. Unprotected livestock may be lost. Economic impacts include cost of snow removal, damage repair, business and crop losses, and power failures.

A major winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall, and cold temperatures. The NWS describes different types of winter storm events as follows:

- **Blizzard**—Winds of 35 mph or more with snow and blowing snow reducing visibility to less than 1/4 mile for at least three hours.
- **Blowing Snow**—Wind-driven snow that reduces visibility. Blowing snow may be falling snow and/or snow on the ground picked up by the wind.
- **Snow Squalls**—Brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant.
- **Snow Showers**—Snow falling at varying intensities for brief periods of time. Some accumulation is possible.
- **Freezing Rain**—Rain that falls onto a surface with a temperature below freezing. This causes it to freeze to surfaces forming a coating or glaze of ice. Most freezing-rain events are short lived and occur near sunrise between the months of December and March.
- **Sleet**—Rain drops that freeze into ice pellets before reaching the ground. Sleet usually bounces when hitting a surface and does not stick to objects.

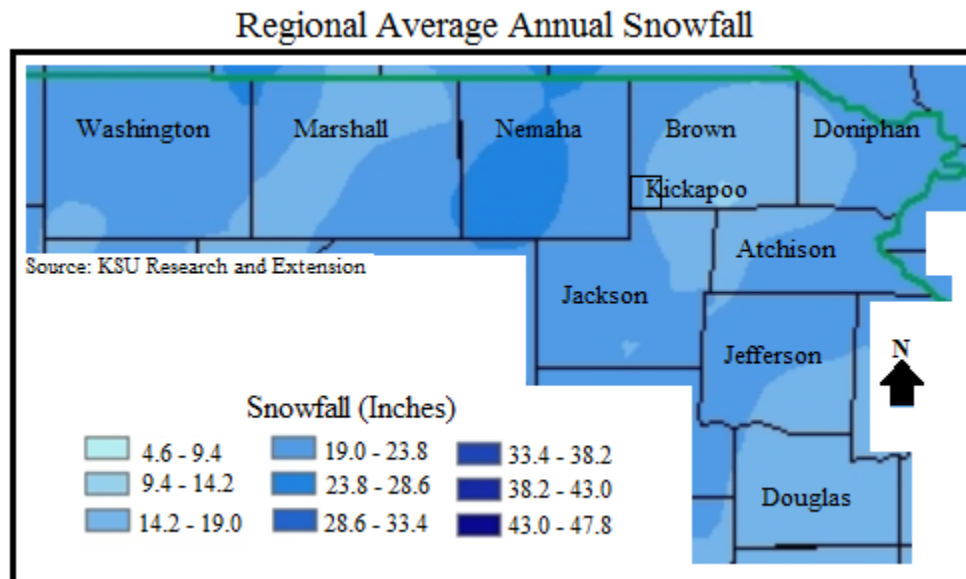
Heavy accumulations of ice, often the result of freezing rain, can bring down trees, utility poles, and communications towers and disrupt communications and power for days. Even small accumulations of ice can be extremely dangerous to motorists and pedestrians.

	Warning Time
Winter Storm	1.90

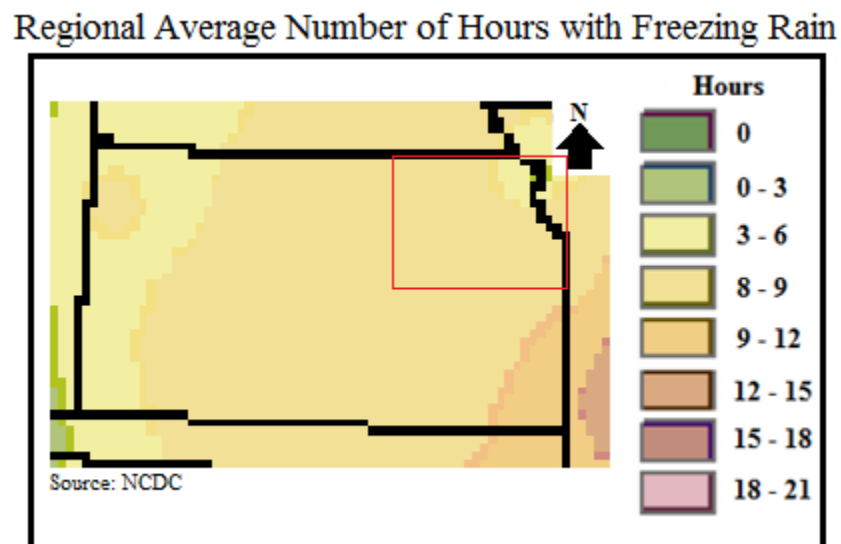
	Duration
Winter Storm	3.20

Hazard Location

The entire planning region is vulnerable to heavy snow and freezing rain. The following map illustrates the average annual snowfall for the region.



Freezing rains occurs frequently in northeast Kansas. The following map indicates the average number of hours of freezing rain per year.



In recent years, except the winter of 2011-2012, the weather patterns have created significant snow accumulations and ice storms throughout the region. Also future development could

potentially increase vulnerability to this hazard by increasing the demand on the utilities and increasing the exposure of aging infrastructure networks.

Previous Occurrences and Extent

The following table lists the five most recent presidential disaster declarations for northeast Kansas.

Presidential Disaster Declarations, Winter Storm

Declaration Number	Declaration Date*	Disaster Description	Regional Counties Involved	Disaster Cost**
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	Washington	\$43,217,690
1741	02/01/2008 (12/6-12/19/2008)	Severe Winter Storms	Atchison, Brown, Doniphan, Jackson, Jefferson, Marshall, Nemaha and Washington	\$359,557,345
1579	2/8/2005 (1/4-6/2005)	Severe Winter Storm, Heavy Rains, and Flooding	Atchison, Brown, Jackson and Jefferson	\$106,873,672
1402	2/6/2002 (1/29-2/15/2002)	Ice Storm	Douglas and Jefferson	\$60,185,754

Sources: FEMA and KDEM

* Incident dates are in parentheses.

** Disaster costs include Public Assistance and Individual Assistance for all impacted counties, including those not shown

The following are brief discussions of the above noted events.

FEMA-1885-DR: March 9, 2010 (December 21, 2009 - January 10, 2010): Beginning December 22nd a strong, slow moving storm moved into the western Kansas leaving heavy snow causing icy and snow packed roads in portions of northwestern Kansas. The storm system continued easterly and continued to significantly impact portions of north central, northeastern, and southeastern areas of the State. This storm system created

blizzard conditions with dangerously high winds causing blowing/drifting snow, treacherous travel conditions, and impassable roads. Two fatalities and three injuries occurred in two of the more severe accidents. FEMA Public Assistance funding for this disaster was \$19,100,658.

FEMA-1868-DR: December 23, 2009 (November 14-16, 2009): The storm system began as rain on Saturday evening, November 14th and transitioned into snow early Sunday morning. The storm continued to move across the State on Sunday and Monday. This system produced extremely heavy snows that caused severe damage to electric infrastructure and disrupting power to several thousand customers. The majority of the snowfall occurred in the northern tier counties along the US-36 corridor. Northern Republic County reported eight inches of snow. Morrowville in Washington County reported a 12 inch accumulation. Marshall, Nemaha, and Brown Counties reported accumulations of five to seven inches. Areas south of the main storm system reported 2 inch accumulations or less. Damage estimates of \$1,600,00 included damage to power poles across Washington, Marshall, Republic and Cloud Counties with the worst damage across Washington and Marshall Counties. FEMA Public Assistance funding for this disaster was \$43,217,690.

FEMA-1741-DR: February, 2008 (December 6-19, 2007): Winter weather started across central and southeast Kansas with two different ice storms that moved across the area and produced significant accumulations. The ice caused numerous power outage and approximately 130,000 Kansas customers were without power. Specifically, Kansas Rural Electric Cooperatives reported 49,000 customers without power, Westar reported 76,000 customers, Kansas City Power & Light reported 4,300 customers, and Kansas City, Kansas Board of Public Utilities reported 800 customers without power. Then a major winter storm moved through Kansas during the evening hours of December 14th and the heaviest snow targeted areas still suffering from the ice storm that hit earlier in the week. FEMA Public Assistance funding for this disaster was \$355,651,857.

FEMA-1579-DR: February 8, 2005 (January 4-6): This was one of the worst ice storms on record to hit central, south central, and southeast Kansas. Although freezing rain was the primary culprit, sleet also played a vital role in coating nearly the entire region with one-two inches of ice, which caused incredible damage to trees, power lines, and power poles. Roads and highways were blocked by tree debris and downed power poles and lines. Many areas were without power for more than a week. Between three and five inches of snow accumulated in Russell, Lincoln and Saline Counties. Particularly hard hit were Butler and Sedgwick Counties, which sustained an estimated \$8.5 Million and \$15 Million damage, respectively. Three deaths were attributed to the storm. FEMA Public Assistance funding for this disaster was \$106,873,672.

FEMA-1402-DR: Ice Storm—February 6, 2002 (January 29–February 15): Beginning on January 29, a three-day severe winter storm hit 35 Kansas counties in the southeast corner of the State with freezing rain, drizzle, sleet and snow. With one to two inches of ice accumulation, utility poles and power lines snapped, transportation was treacherous and fallen trees damaged many structures. The resulting power outages affected nearly the entire region and lasted nearly a week in some areas. Loss of power was particularly problematic for many nursing homes. There were seven fatalities. This

was the worst ice storm in the metropolitan Kansas City area. FEMA Public Assistance funding for this disaster was \$45,020,240.

The following provide further descriptions and other notable winter storm events.

November 29–December 1, 2006: A winter storm produced a period of freezing precipitation and sleet in east central Kansas on November 29 followed by snowfall of six to ten inches on the 30th through the early morning of December 1. Counties that were hit particularly hard include Franklin, Anderson, Coffey, Osage, Lyon, and Douglas. The storm also affected southeast Kansas where snowfall amounts exceeded 12 inches in some locations and almost paralyzed the area for a couple of days.

January 25-26, 2004: A wintry mix of freezing rain, sleet and snow fell across north central, northeast and east central Kansas. Ice accumulations of 1/4 to 1/2 of an inch were reported across northeast and parts of east central Kansas. The ice built up on trees and power lines and caused numerous power outages and downed limbs across north central and northeast Kansas. Slick roads led to numerous accidents across the region. Strong winds on the 26th caused near whiteout conditions as the snow blew and drifted.

According to the NCDC there were 173 winter storms (blizzard, extreme wind chill, freeze, ice, sleet, and snow events) in northeast Kansas between 2003 and 2013. Total property damage during that period was estimated by the NCDC at \$334,000, whereas the total public assistance and individual assistance from the five Presidential Declarations listed above totaled over \$599,935,119 for all involved counties, including the counties from the northeast Kansas region. This suggests that although there are more winter storm events recorded in NCDC than there have been declarations, and that damages to NCDC are likely under-reported.

NCDC Winter Storm Events, 2003 -2013

County	Number of Winter Storm and Weather Events	Total Property Damage Winter Weather and Storms	Number of Ice Storm Event	Total Property Damage, Ice Storms
Atchison	11	\$0	3	\$60,000
Brown	23	\$23,000	2	\$0
Doniphan	9	\$0	1	\$250,000
Douglas	26	\$1,000	2	\$0
Jackson	23	\$0	3	\$0
Jefferson	25	\$0	2	\$0
Marshall	20	\$0	2	\$0
Nemaha	19	\$0	2	\$0
Washington	17	\$0	2	\$0
Regional Total	173	\$24,000	19	\$310,000

Source: NCDC Storm Events Database

Local Events

The following are locally reported events:

February, 2013: City of Eudora, Douglas County: A winter storm caused building and power line damages in the city. Schools were closed as a result of the storm.

February, 2012: USD 497 - Lawrence, Douglas County: Heavy snowfall caused school closings.

December 2011: Doniphan County: An ice storm downed electrical lines and damaged roads.

December 22 , 2009 - January 8, 2010: USD 497 - Lawrence, Douglas County: Heavy snowfall, more than 24” in 2 weeks, caused school closings.

December 22, 2009: City of Effingham, Atchison County: A winter storm closed schools and business sporadically during a two week period. Streets were damaged from the melting and refreezing of the snow. \$16,479.98 in disaster funding was received.

December 17, 2007: City of Lancaster, Atchison County: An ice storm downed electrical lines and caused extensive property damage. FEMA reimbursement for infrastructure repairs was received.

December 2007: City of Hiawatha, Brown County: A severe winter storm disabled the city for 5 days, causing considerable property damage and closing schools and businesses.

December, 2007: Jefferson County: An ice storm caused damage to homes and buildings from falling tree limbs and water damage from ice dams causing water to enter structures. Many businesses were force to close for several days due to power outages. Many business lost refrigerated perishables from power outages. All the school districts in the jurisdiction were force to close for several days. In addition, there was significant crop damage to winter plants.

December, 2007: Kickapoo Tribe, Brown County: A severe ice storm damaged structures, power lines and vegetation. The Kickapoo Nation School and Kickapoo Head Start closed for over five days. \$80,000 in disaster aid was received.

December 2007: City of Axtell, Washington County: A winter storm closed schools, damaged electrical lines and resulted in the city receiving disaster relief

February 2007, City of Huron, Atchison County: An ice storm struck the city.

February 2007, City of Troy, Doniphan County: Heavy snow caused resulted in tree limbs falling on power lines within the city. Power was out for five days, resulting in school and business closure.

December 2006: City of Muscotah, Atchison County: An ice storm downed electrical lines and damaged roads. Power was out to areas for several days and street were closed due to debris and downed lines. \$10,075.57 in aid was received from FEMA.

December 3 - 5, 2005: City of Effingham, Atchison County: An ice storm caused infrastructure damage and closed schools and business'. \$9,730.22 in disaster relief funding was received.

Hazard Vulnerability and Impact

All counties in northeast Kansas are vulnerable to winter storms. To refine and access the relative vulnerability of each of northeast Kansas' counties to winter storm events, the region assigned ratings to pertinent factors that were examined at the county level. These factors are: social vulnerability index, prior events, prior annualized property damage, building exposure valuation, population density, crop exposure and annualized crop loss. Then a rating value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the most vulnerable counties.

The following information was used for this analysis:

- Social Vulnerability Index for Kansas from the Hazards and Vulnerability Research Institute at the University of South Carolina
- National Climatic Data Center storm events 1993 – 2012
- U.S. Census Bureau (2010)
- USDA's Census of Agriculture (2007).

Vulnerability Factor Amounts for Winter Storm

County	SoVI Rating (1-5)	Prior Events 1993-2012	Property Damages	Annualized Property Damages	Total Building Exposure (\$000)	Population Density	Crop Exposure (2007 Census of Agriculture)	Crop Insurance Paid for Wind	Annualized Crop Insurance Paid
Atchison	3	36	\$560,000	\$28,000	\$1,333,363	39	\$42,536,000	\$306,509	\$30,651
Brown	5	66	\$6,220,000	\$311,000	\$713,225	17	\$86,532,000	\$379,982	\$37,998
Doniphan	3	30	\$550,000	\$27,500	\$557,109	20	\$67,800,000	\$14,305	\$1,431
Douglas	1	73	\$18,235,000	\$911,750	\$6,614,269	202	\$27,973,000	\$436,844	\$43,684
Jackson	3	65	\$18,200,000	\$910,000	\$788,323	20	\$21,169,000	\$274,993	\$27,499
Jefferson	1	64	\$18,190,000	\$909,500	\$1,130,852	34	\$33,429,000	\$312,963	\$31,296
Marshall	4	79	\$19,930,000	\$996,500	\$2,054,603	11	\$81,815,000	\$2,955,616	\$295,562
Nemaha	4	75	\$14,975,000	\$748,750	\$711,896	14	\$67,091,000	\$1,395,463	\$139,546
Washington	4	74	\$16,208,000	\$810,400	\$396,656	6	\$65,762,000	\$3,737,803	\$373,780
Regional Total	-	562	\$113,068,000	\$5,653,400	\$14,300,296	-	\$494,107,000	\$9,814,478	\$981,448

Using the above information, a value of 1-10 was assigned to the data obtained for each factor and then weighted equally and factored together to obtain overall vulnerability scores for comparison and to determine the greatest vulnerable counties. The Social Vulnerability Index is in a range of 1- 5. To give Social Vulnerability Index the same weight as the other factors, the numbers were multiplied by two.

Winter Storm Data Rating Determination

Ratings	Social Vulnerability	NCDC Prior Events	Annualized Property Damage	Building Exposure Valuation	Population Density	Crop Exposure	Annualized Crop Loss
1		14 - 21	\$2,000 - \$50,000	\$117,421 - \$4,492,825	1.6 - 116.3	0 - \$18,548,500	0 - \$200,000
2	1	21 - 29	\$50,001 - \$100,000	\$4,492,826 - \$8,868,229	116.4 - 231.1	\$18,548,501 - \$32,126,000	\$200,001 - \$400,000
3		30 - 36	\$100,001 - \$300,000	\$8,868,230 - \$13,243,634	231.2 - 345.9	\$32,126,001 - \$45,703,500	\$400,000 - \$600,000
4	2	37 - 44	\$300,001 - \$500,000	\$13,243,635 - \$17,619,039	346 - 460.7	\$45,703,501 - \$59,281,000	\$600,001 - \$800,000
5		45 - 52	\$500,001 - \$700,000	\$17,619,040 - \$21,994,444	460.8 - 575.5	\$59,281,001 - \$72,858,500	\$800,001 - \$1,000,000
6	3	53 - 60	\$700,001 - \$900,000	\$21,994,445 - \$26,369,848	575.6 - 690.3	\$72,858,501 - \$86,436,000	\$1,000,001 - \$1,300,000
7		61 - 69	\$900,001 - \$1,100,000	\$26,369,849 - \$30,745,253	690.4 - 805.1	\$86,436,001 - \$100,013,500	\$1,300,001 - \$1,500,000
8	4	70 - 77	\$1,100,001 - \$1,700,000	\$30,745,254 - \$35,120,658	805.2 - 919.9	\$100,031,501 - \$113,591,000	\$1,500,001 - \$1,700,000
9		78 - 85	\$1,700,001 - \$2,200,000	\$35,120,659 - \$39,496,062	920 - 1,034.7	\$113,591,001 - \$127,168,500	\$1,700,001 - \$2,700,000
10	5	86 - 93	\$2,200,001 - \$2,800,000	\$39,496,063 - \$43,871,468	1,034.8 - 1,149.6	\$127,168,501 - \$140,746,000	\$2,700,001 - \$3,700,000

Based on the above ratings system, ranges were applied to each county to determine their potential vulnerability. The following related the scoring to a vulnerability assessment:

- **Low:** Score range of 13 -17
- **Medium-Low:** Score range of 18 - 22
- **Medium:** Score range of 23 - 27
- **Medium-High:** Score range of 28 - 32
- **High:** Score range of 33 - 37

The following table provides the factor's amount per county that are considered for winter storm vulnerability.

Regional Vulnerability to Winter Storms

County	SoVI Converted Rating	Prior Event Rating	Annualized Property Damage Rating	Bldg Exposure Valuation Rating	Population Density Rating	Crop Exposure Rating	Annualized Crop Insurance Rating	Overall Vulnerability Rating	Winter Storm Vulnerability
Atchison	6	3	1	1	1	3	1	16	Low
Brown	10	7	4	1	1	7	1	31	Medium-High
Doniphan	6	3	1	1	1	5	1	18	Medium-Low
Douglas	2	8	7	2	3	2	1	25	Medium
Jackson	6	7	7	1	1	2	1	25	Medium
Jefferson	2	7	7	1	1	3	1	22	Medium-Low
Marshall	8	9	7	1	1	6	2	34	High
Nemaha	8	8	6	1	1	5	1	30	Medium-High
Washington	8	8	6	1	1	5	2	31	Medium-High

In addition, the Kansas Department of Transportation (KDOT) incurs statewide annual costs for snow and ice removal. The average cost per year for snow and ice efforts for fiscal years 2008-2011 is \$15,900,000 for labor, equipment and materials. However, the cost for snow and ice efforts in fiscal year 2012 was only \$6,700,000 because it was a mild winter (source: Translines Express, KDOT, April 11, 2012).

	Magnitude/Severity
Winter Storm	2.50

Future Development

Future development projects should consider winter storm hazard at the planning, engineering and architectural design stage with the goal of reducing vulnerability.

Probability of Future Hazard Events

According to the NCDC there were 173 winter storms and blizzard events in northeast Kansas between 2003 and 2013. Based on this information, it is likely that at least one winter storm will occur in northeast Kansas in any given year.

	Probability
Winter Storm	3.90

Consequence Analysis

The information in the following table provides the Consequence Analysis.

Winter Storm Consequence Analysis

Subject	Ranking	Impacts of Winter Storm
Health and Safety of Persons in the Area of the Incident	Severe	Impact of the immediate area could be severe for affected areas and moderate to light for other less affected areas.
Responders	Minimal	Impact to responders could be severe for unprotected personnel and moderate to light for prepared personnel.
Continuity of Operations	Minimal	Minimal expectation of execution of the COOP.
Property, Facilities, and Infrastructure	Minimal to Severe	Localized impact to facilities and infrastructure in the incident area. Utility lines most affected.
Delivery of Services	Minimal to Severe	Delivery of services could be affected if there is any disruption to the roads and/or utilities due to damages sustained.
Environment	Severe	Greatest impact will be to trees, bushes, foliage, crops, and wildlife, which could be severe.
Economic Conditions	Minimal to Severe	Impacts to the economy will greatly depend on the severity of the winter storm, longevity of the storm, and any damages sustained such as utilities and roads.
Public Confidence in Governance	Minimal to Severe	Response and recovery will be in question if not timely and effective. Utility failure could be called in to question if outages are persistent.

3.8 DATA SOURCES

The following table details the data sources used for this section.

Data on the past impacts and future probability of these hazards in the northeast Kansas planning area was collected from the following sources:

- Bureau of Alcohol, Tobacco, Firearms and Explosives Standards
- Electronic Mass Casualty Assessment and Planning Scenarios developed by Johns Hopkins University
- Emergency Management Accreditation Program
- Environmental Protection Agency
- Federal Bureau of Investigation
- Federal Emergency Management Agency
- Federal Emergency Management Agency Benefit-Cost Analysis Reengineering Tornado Safe Room Module Methodology Report, Version 4.5 Final, Dated May 2009
- Federal Emergency Management Agency Flood Insurance Administration
- Federal Emergency Management Agency Flood Insurance Rate Maps
- Federal Emergency Management Agency HAZUS-Multi Hazard-2.1
- Federal Emergency Management Agency Mid-Term Levee Inventory
- Federal Emergency Management Agency National Flood Insurance Program
- Federal Emergency Management Agency National Flood Insurance Program
- Federal Emergency Management Agency "Local Mitigation Planning Handbook, March 2013"
- Federal Emergency Management Agency, Taking Shelter From the Storm, 2008
- Federal Emergency Management Agency's "Policy and Loss Data by Community with County and State Data"
- Federal Emergency Management Agency's Policy and Claim Statistics for Flood Insurance
- Hazards and Vulnerability Research Institute at the University of South Carolina
- Homeland Security Act of 2002
- Kansas Corporation Commission
- Kansas Data Access & Support Center
- Kansas Department of Agriculture, Division of Animal Health
- Kansas Department of Agriculture, Division of Water Resources
- Kansas Department of Agriculture, Division of Water Resources, Water Structures Program
- Kansas Department of Agriculture, Plant Protection and Weed Control Division
- Kansas Department of Health & Environment, Bureau of Water, Livestock Waste Management
- Kansas Department of Health and Environment "Subsurface Void Space and Sinkhole/Subsidence Area Inventory for the State of Kansas", 2006

- Kansas Department of Health and Environment Bureau of Epidemiology and Public Health Informatics
- Kansas Department of Health and Environment Surface Mining Section
- Kansas Department of Health and Environment, Division of Environment
- Kansas Department of Health and Environment's Kansas Environmental Public Health Tracking Program
- Kansas Division of Emergency Management
- Kansas Division of Emergency Management 2012 Kansas Severe Weather Awareness Week
- Kansas Division of Emergency Management, Technological Hazards Section
- Kansas Fire Service
- Kansas Flint Hills Smoke Management Plan
- Kansas Forest Action plan
- Kansas Forest Service
- Kansas Geological Survey
- Kansas Geological Survey, "Earthquakes in Kansas"
- Kansas Operations Plan
- Kansas Response Plan
- Kansas State University College of Engineering
- Kansas State University Research and Extension Climatic Map of Kansas
- Kansas Statutes Annotated
- Kansas Unified HazMat Response Program Statewide Contract # 35167
- Kansas Water Office
- Kansas Water Office Kansas Drought Stage Declarations
- Kansas Water Office, 2009 Kansas Water Plan
- Kansas Water Office, Kansas 2013 Drought Update
- Kansas University Geological Survey
- Kansas Commission on Emergency Planning and Response Annual Report, Managing the Risk: 2011
- Modified Mercalli Intensity Scale
- National Climatic Data Center
- National Dam Safety Act
- National Drought Mitigation Center Drought Impact Reporter
- National Fire Incident Reporting System
- National Fire Incident Reporting System
- National Interagency Fire Center Predictive Services
- National Oceanic and Atmospheric Administration Storm Prediction Center
- National Oceanic and Atmospheric Administration
- National Resources Conservation Service
- National Seismic Hazard Mapping Project
- National Weather Service
- National Weather Service Heat Index Program

- Oklahoma Climatological Survey
- Palmer Drought Severity Index
- Spatial Hazard Event and Loss Database
- Stanford University's National Performance of Dams Program
- "Surface Water in Kansas and its Interactions with Groundwater" 2000 M. A. Sophocleous, B. B. Wilson
- "The Annual Impact of Seasonal Influenza in the US: Measuring Disease Burden and Costs" by NA Molinari
- The Southern Poverty Law Center
- Tornado and Storm Research Organization
- Translines Express, Kansas Department of Transportation, April 11, 2012
- United States Army Corps of Engineers
- United States Army Corps of Engineers Levee Safety Program
- United States Army Corps of Engineers National Levee Database
- United States Bureau of Reclamation
- United States Census Bureau
- United States Census Bureau
- United States Census Bureau American Community Survey 2005 – 2009
- United States Centers for Disease Control and Prevention
- United States Department of Agriculture 2011 Kansas Crop Insurance Profile Report
- United States Department of Agriculture National Resources Inventory
- United States Department of Agriculture, Division of Water Resources
- United States Department of Agriculture, National Agricultural Statistics Service
- United States Department of Agriculture, Risk Management Agency
- United States Department of Agriculture's Census of Agriculture
- United States Department of Transportation Pipeline and Hazardous Materials Safety Administration
- United States Drought Monitor
- United States Fish and Wildlife Service
- United States Geological Survey Fact Sheet, "Water Use in Kansas 1990-2000"
- United States Geological Survey, Earthquake Hazards Program
- University of Kansas Institute for Policy and Social Research
- USA Patriot Act
- Vaisala's National Lightning Detection Network
- Other agencies and data collections as noted

4.0 CAPABILITY ASSESSMENT

4.1 INTRODUCTION

44 CFR 201.6 does not require a capability assessment to be completed for local hazard mitigation plans. However, 201.6(c)(3) states "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 discusses the current capacity of the communities of northeast Kansas to mitigate the effects of identified hazards. A capability assessment is conducted to determine the ability of a jurisdiction to execute a comprehensive mitigation strategy, and to identify potential opportunities for establishing or enhancing specific mitigation policies, programs or projects. This assessment includes a comprehensive examination of the following capabilities:

- Planning Capabilities
- Policies and Ordinances
- Programs
- Studies, Reports and Maps
- Departmental Staff
- Non-Governmental Organizations (NGOs)
- Financial Resources

A capability assessment helps to determine which mitigation actions are practical based on a jurisdictions fiscal, staffing and political resources. A capability assessment consists of:

- An inventory of relevant plans, ordinances, or programs already in place
- An analysis capacity to carry them out.

A thoughtful review of jurisdictional capabilities will assist in determining gaps that could limit current or proposed mitigation activities, or potentially aggravate a jurisdictions vulnerability to an identified hazard. Additionally, a capability assessment can detail current successful mitigation actions that should continue to receive support.

For the 2013 update each participating jurisdiction was given an opportunity to review and revise their capability assessment information presented from their previous plan.

4.2 METHODOLOGY

In order to facilitate this plan update and consolidation the following capability questions were asked of participating jurisdictions:

Planning Capabilities

Comprehensive Plan
Capital Improvement Plan
City Emergency Operations Plan
County Emergency Operations Plan
Local Recovery Plan
County Recovery Plan
Debris Management Plan
Economic Development Plan
Transportation Plan
Land-use Plan
Flood Mitigation Assistance Plan
Watershed Plan
Firewise or other fire mitigation plan
Critical Facilities Plan (Mitigation/Response/Recovery)

Policies/Ordinances

Zoning Ordinance
Building Code
Floodplain Ordinance
Subdivision Ordinance
Tree Trimming Ordinance
Nuisance Ordinance
Storm Water Ordinance
Drainage Ordinance
Site Plan Review Requirements
Historic Preservation Ordinance
Landscape Ordinance
Wetlands / Riparian Areas Conservation Plan

Programs

Zoning/Land Use Restrictions
Codes Building Site/Design
Hazard Awareness Program
National Flood Insurance Program
Community Rating System program under the NFIP
National Weather Service Storm Ready Certification
Firewise Community Certification
Building Code Effectiveness Grading
ISO Fire Rating
Economic Development Program
Land Use Program
Public Education/Awareness
Hazard Analysis/Risk Assessment (City)

Programs, Continued

Hazard Analysis/Risk Assessment (County)
Evacuation Route Map
Critical Facilities Inventory
Vulnerable Population Inventory
Land Use Map

Staff/Department

Building Code Official
Building Inspector
Mapping Specialist (GIS)
Engineer
Development Planner
Public Works Official
Emergency Management Coordinator
NFIP Floodplain Administrator
Bomb and/or Arson Squad
Emergency Response Team
Hazardous Materials Expert
Local Emergency Planning Committee
County Emergency Management Commission
Sanitation Department
Transportation Department
Economic Development Department
Housing Department
Historic Preservation

NGOs

American Red Cross
Salvation Army
Veterans Groups
Local Environmental Organization
Homeowner Associations
Neighborhood Associations
Chamber of Commerce
Community Organizations (Lions, Kiwanis, etc.)

Financial Resources

Apply for Community Development Block Grants
Fund projects thru Capital Improvements funding
Authority to levy taxes for specific purposes
Fees for water, sewer, gas, or electric services
Impact fees for new development
Incur debt through general obligation bonds
Incur debt through special tax bonds
Incur debt through private activities
Withhold spending in hazard prone areas

Gathering this information from participating northeast Kansas jurisdictions assisted in assessing capabilities and served as a guide to potential future changes to create robust policies, procedures, plans and teams to strengthen hazard mitigation planning.

4.3 REGIONAL SCHOOL, COLLEGES AND UNIVERSITIES

In order to facilitate this plan update and consolidation the following capability questions were asked of participating jurisdictions:

Schools, Colleges and Universities Capability Questions

Full-time building official (i.e. Principal)
Emergency Manager
Grant Writer
Public Information Officer
Capital improvements project funding
Local funds
General obligation bonds
Special tax bonds
Private activities/donations
State and federal funds

4.4 GOVERNANCE

The planning area is comprised of nine counties in northeast Kansas, along with participating jurisdictions within those counties. All of the counties in the planning area operate under a county commissioner form of governance. In this form of government, the elected board of commissioners oversee county operations. The following table details each counties form of governance.

County Governance

Jurisdiction	Government Structure	Number of Commissioners
Atchison County	Commission	3
Brown County	Commission	3
Doniphan County	Commission	3
Douglas County	Commission	3
Jackson County	Commission	3
Jefferson County	Commission	3
Kickapoo Tribe	Tribal Council	7
Marshall County	Commission	3
Nemaha County	Commission	3
Washington County	Commission	3

In general, the participating towns and cities operate either under a Mayoral form of governance or an elected city council form of governance.

4.5 JURISDICTIONAL CAPABILITIES

Information as to the current capacity of participating jurisdictions is summarized in the following sections and tables. All capability information was provided by jurisdictional officials through the above referenced questions and through outreach from the HMPC.

The ability of a local government to develop and implement mitigation projects, policies, and programs is directly tied to its ability to direct staff time and resources for that purpose. Administrative capability can be evaluated by determining how mitigation-related activities are assigned to local departments and if there are adequate personnel resources to complete these activities. The degree of intergovernmental coordination among departments will also affect administrative capability for the implementation and success of proposed mitigation activities.

Many smaller jurisdictions have very limited to no planning, management, response or mitigation capabilities. Often these jurisdiction rely on the county or nearby larger municipalities for assistance. This lack of capabilities is reflected in the following tables. Additionally, many very small or extremely limited participating small jurisdictions, largely townships, are not listed on the capability list. **This in no way diminishes the participation in the process of these jurisdictions.** Finally, special district capabilities are included in their overarching counties.

In implementing a mitigation plan or specific action, a local jurisdiction may utilize any or all of the four broad types of government authority granted by the State of Kansas. The four types are defined as:

- Regulation
- Acquisition
- Taxation
- Spending

Regulation

The scope of this local authority is subject to constraints, however, as all of Kansas' political subdivisions must not act without proper delegation from the State. Under a principle known as "Dillon's Rule," all power is vested in the State and can only be exercised by local governments to the extent it is delegated.

Acquisition

The power of acquisition can be a useful tool for pursuing local mitigation goals. Local governments may find the most effective method for completely "hazard-proofing" a particular piece of property or area is to acquire the property, thus removing the property from the private market and eliminating or reducing the possibility of inappropriate development occurring. Kansas legislation empowers cities, towns, counties to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain (County Home Rule Powers, K.S.A. 19-101, 19-101a, 19-212).

Taxation

The power to levy taxes and special assessments is an important tool delegated to local governments by Kansas law. The power of taxation extends beyond merely the collection of revenue, and can have a profound impact on the pattern of development in the community. Communities have the power to set preferential tax rates for areas which are more suitable for development in order to discourage development in otherwise hazardous areas. Local units of government also have the authority to levy special assessments on property owners for all or part of the costs of acquiring, constructing, reconstructing, extending or otherwise building or improving flood control within a designated area. This can serve to increase the cost of building in such areas, thereby discouraging development. Because the usual methods of apportionment seem mechanical and arbitrary, and because the tax burden on a particular piece of property is often quite large, the major constraint in using special assessments is political. Special assessments seem to offer little in terms of control over land use in developing areas. They can, however, be used to finance the provision of necessary services within municipal or county boundaries. In addition, they are useful in distributing to the new property owners the costs of the infrastructure required by new development.

Spending

The Kansas General Assembly allocated the ability to local governments to make expenditures in the public interest. Hazard mitigation principles can be made a routine part of all spending decisions made by the local government, including the adoption of annual budgets and a Capital Improvement Plan. A Capital Improvement Plan is a schedule for the provision of municipal or county services over a specified period of time. Capital programming, by itself, can be used as a growth management technique, with a view to hazard mitigation. By tentatively committing itself to a timetable for the provision of capital to extend services, a community can control growth to some extent. In addition to formulating a timetable for the provision of services, a local community can regulate the extension of and access to services. A Capital Improvement

Plan that is coordinated with extension and access policies can provide a significant degree of control over the location and timing of growth. These tools can also influence the cost of growth. If the Capital Improvement Plan is effective in directing growth away from environmentally sensitive or high hazard areas.

4.5.1 KICKAPOO TRIBE CAPABILITY REVIEW

A discussion with the Kickapoo Tribe HMPC representative indicated that there have been no substantial changes in the capabilities of the Tribe since the submission of the May, 2009 Kickapoo Tribe in Kansas Multi-Hazard Mitigation Plan.

4.5.2 PLANNING CAPABILITIES

The planning capability assessment is designed to provide a general overview of the key planning and regulatory tools or programs in place or under development. This information helps identify opportunities to address existing planning gaps and provides an opportunity to review areas that mitigation planning actions can be utilized with existing plans. Jurisdictions were asked if they had completed the following plans:

Comprehensive Plan

A comprehensive plan establishes the overall vision for a jurisdiction and serves as a guide to governmental decision making. A comprehensive plan generally contains information on demographics, land use, transportation, and facilities. As a comprehensive plan is broad in scope the integration of hazard mitigation measures can enhance the likelihood of achieving risk reduction goals.

Capital Improvement Plan

A capital improvement plan guides scheduling of, and spending on, public improvements. A capital improvement plan can guide future development away from identified hazard areas, an effective mitigation strategy.

Emergency Operations Plan

An emergency operations plan outlines responsibilities, means and methods by which resources are deployed during and following an emergency or disaster.

Recovery Plan

A disaster recovery plan guides the recovery and reconstruction process following a disaster. Hazard mitigation principles should be incorporated into disaster recovery plans to assist in breaking the cycle of disaster loss.

Debris Management Plan

A debris management plan covers the response and recovery from debris-causing incidents such as tornados or floods. Planning considerations include debris removal and disposal, disposal locations, equipment availability, and personnel training.

Economic Development Plan

An economic development plan assists in advancing a strong and sustainable economy over the long term. This plan provides strategies, programs, and policies that will foster the jurisdictions business climate.

Transportation Plan

A transportation plan aids with the evaluation, review, design and locating of transportation infrastructure, including streets, highways, public transport lines, and transportation centers.

Land Use Plan

Land-use planning is used to regulate land use in an efficient and equitable manner, and to assist jurisdictions in managing the development of land within their boundaries.

Flood Mitigation Assistance Plan

The purpose of the flood mitigation assistance plan is to reduce or eliminate the long-term risk of flood damage to buildings and other structures insured under the National Flood Insurance Program.

Watershed Management Plan

A watershed management plan is used to provide assessment and management information for a geographically defined watershed.

Fire Mitigation Plan

A fire mitigation plan is used to mitigate a jurisdictions wildfire risk and vulnerability. The plan documents areas with an elevated risk of wildfires, and identifies the actions taken to decrease the risk.

Critical Facilities Plan

A critical facilities plan is used to identify a jurisdictions critical facilities, including fire stations, police stations, hospitals, schools, day care centers, senior care facilities, major roads and bridges, critical utility sites, and hazardous material storage areas. Additionally, this plan is used to determine methods to mitigate damage to these facilities.

The table below summarizes relevant local planning capabilities.

Jurisdictional Planning Capabilities

Jurisdiction	Comprehensive Plan	Capital Improvement Plan	City Emergency Operations Plan	County Emergency Operations Plan	Local Recovery Plan	County Recovery Plan	Debris Management Plan	Economic Development Plan	Transportation Plan	Land-use Plan	Flood Mitigation Assistance Plan	Watershed Plan	Firewise or other Fire Mitigation Plan	Critical Facilities Plan (Mitigation/ Response/ Recovery)
Atchison County	x			x			x	x	x		x	x		x
City of Atchison	x	x		x				x	x	x	x	x		
City of Effingham	x		x		x									x
City of Huron														
City of Lancaster				x										
City of Musotah	x			x			x							
Brown County		x		x						x	x	x		
City of Everest			x											x
City of Fairview	x													
City of Hiawatha	x	x	x	x			x	x		x	x			x
City of Horton				x										
City of Morrill														
City of Reserve														
City of Robinson	x													
City of Willis														
Doniphan County	x			x						x				
City of Denton				x										
City of Elwood	x			x				x						

Jurisdiction	Comprehensive Plan	Capital Improvement Plan	City Emergency Operations Plan	County Emergency Operations Plan	Local Recovery Plan	County Recovery Plan	Debris Management Plan	Economic Development Plan	Transportation Plan	Land-use Plan	Flood Mitigation Assistance Plan	Watershed Plan	Firewise or other Fire Mitigation Plan	Critical Facilities Plan (Mitigation/ Response/ Recovery)
City of Highland										x				
City of Troy	x		x	x						x				
City of Wathena										x				
Douglas County	x		x	x	x	x	x		x			x	x	x
City of Baldwin City	x	x	x				x							x
City of Eudora	x		x	x				x		x				x
City of Lawrence	x	x						x	x	x		x		
City of Lecompton	x							x	x	x	x			
Clinton Township		x												
Kanwaka Township														
Lecompton Township														
Wakarusa Township														
Willow Springs Township														
Jackson County	x			x						x			x	
City of Circleville			x											x
City of Delia				x										
City of Denison			x											
City of Holton	x	x	x							x	x			x
City of Hoyt			x											
City of Mayetta	x	x	x	x										

Jurisdiction	Comprehensive Plan	Capital Improvement Plan	City Emergency Operations Plan	County Emergency Operations Plan	Local Recovery Plan	County Recovery Plan	Debris Management Plan	Economic Development Plan	Transportation Plan	Land-use Plan	Flood Mitigation Assistance Plan	Watershed Plan	Firewise or other Fire Mitigation Plan	Critical Facilities Plan (Mitigation/ Response/ Recovery)
City of Netawaka				x										
City of Soldier			x											
City of Whiting														
Jefferson County	x	x		x										
City of McLouth		x	x	x	x									
City of Meriden	x	x	x	x							x			
City of Nortonville														
City of Okaloosa	x	x	x	x		x	x	x		x			x	
City of Perry														
City of Valley Falls	x	x	x	x		x	x	x		x			x	
City of Winchester	x	x	x	x		x	x	x		x			x	
Kickapoo Tribe	x			x			x					x		
Marshall County				x			x		x					x
City of Axtell				x										
City of Beattie				x		x								
City of Blue Rapids				x						x				
City of Frankfort	x	x	x	x	x	x	x	x	x	x	x	x	x	x
City of Marysville		x		x					x	x				
City of Oketo				x										
City of Summerfield				x										

Jurisdiction	Comprehensive Plan	Capital Improvement Plan	City Emergency Operations Plan	County Emergency Operations Plan	Local Recovery Plan	County Recovery Plan	Debris Management Plan	Economic Development Plan	Transportation Plan	Land-use Plan	Flood Mitigation Assistance Plan	Watershed Plan	Firewise or other Fire Mitigation Plan	Critical Facilities Plan (Mitigation/ Response/ Recovery)
City of Vermillion			x											
City of Waterville			x	x		x								
Nemaha County				x										
City of Bern														
City of Centralia			x											
City of Corning														
City of Goff														
City of Oneida														
City of Sabetha			x											
City of Seneca			x											
City of Wetmore														
Washington County				x				x						
City of Barnes														
City of Clinton			x											
City of Greenleaf		x	x	x	x									
City of Haddam				x										
City of Hanover				x										
City of Hollenberg														
City of Linn			x											
City of Mahaska														
City of Morrowville			x	x		x								

Jurisdiction	Comprehensive Plan	Capital Improvement Plan	City Emergency Operations Plan	County Emergency Operations Plan	Local Recovery Plan	County Recovery Plan	Debris Management Plan	Economic Development Plan	Transportation Plan	Land-use Plan	Flood Mitigation Assistance Plan	Watershed Plan	Firewise or other Fire Mitigation Plan	Critical Facilities Plan (Mitigation/ Response/ Recovery)
City of Palmer			x											
City of Vining						x								
City of Washington			x											

4.5.3 POLICIES AND ORDINANCES

Based on the types of state of Kansas government authority granted, participating jurisdictions were asked if the following ordinances and plans were enacted and enforced.

Zoning

Zoning is the traditional and most common tool available to local jurisdictions to control the use of land. State of Kansas statutes grant municipalities and counties authority to engage in zoning for land use. Counties may also regulate inside municipal jurisdiction at the request of a municipality. Zoning is used to promote health, safety, and the general welfare of the community. Zoning is used to dictate the type of land use and to set minimum specifications for use such as lot size, building height and setbacks, and density of population. Local governments are authorized to divide their jurisdiction into districts, and to regulate and restrict the erection, construction, reconstruction, alteration, repair or use of buildings, structures, or land within those districts. Districts may include general use districts, overlay districts, special use districts or conditional use districts. Zoning ordinances consist of maps and written text.

Building Code

Many structural mitigation measures involve constructing and retrofitting homes, businesses and other structures according to standards designed to make the buildings more resilient to the impacts of natural hazards. Many of these standards are imposed through the building code. Kansas does not have state mandatory building codes. However, municipalities and counties may adopt codes for their respective areas if approved by the state as providing "adequate minimum standards." Local governments in Kansas are also empowered to carry out building inspections, and may empower cities and counties to create an inspection department to enforce construction codes and ordinances.

Floodplain Ordinance

In 1992 the Kansas General Assembly approved legislation for floodplain management (Kansas Statutes Annotated 12-766, "Floodplain Management") authorizing the Department of Agriculture, Division of Water Resources as the primary department to oversee and approve local zoning regulation. The regulation requires planning and approval to prevent inappropriate development in the one hundred-year floodplain and to reduce flood hazards. The purpose of the law is to:

- Minimize the extent of floods by preventing obstructions that inhibit water flow and increase flood height and damage.
- Prevent and minimize loss of life, injuries, and property damage in flood hazard areas.
- Promote the public health, safety and welfare of citizens of Kansas in flood hazard areas.

The statute affects local governments by directing, them to:

- Manage planned growth
- Adopt local ordinances to regulate uses in flood hazard areas
- Enforce those ordinances
- Grant permits for use in flood hazard areas that are consistent with the ordinance

The act also makes certain that local ordinances meet the minimum requirements of participation in the NFIP. The incentive for local governments adopting such ordinances is that they will afford their residents the ability to purchase flood insurance through the NFIP. In addition, communities with such ordinances in place will be given priority in the consideration of applications for loans and grants from the Clean Water Revolving Loan and Grant Fund.

Subdivision Ordinance

Subdivision regulations control the division of land into parcels for the purpose of building development or sale. Flood-related subdivision controls typically require that sub-dividers install adequate drainage facilities and design water and sewer systems to minimize flood damage and contamination. They prohibit the subdivision of land subject to flooding unless flood hazards are overcome through filling or other measures, and they prohibit filling of floodway areas. Subdivision regulations require that subdivision plans be approved prior to the division and/or sale of land. Subdivision regulations are a more limited tool than zoning and only indirectly affect the type of use made of land and the specifications for structures on that land.

Broad subdivision control authority resides with the county for areas outside of municipalities and municipal extra-territorial planning jurisdictions. Subdivision is defined as all divisions of a tract or parcel of land divided into two or more lots and all divisions involving new streets.

Tree Trimming Ordinance

These ordinances may place requirements for the removal, pruning, planting, and other tree work depending upon whether the tree is in the public right-of-way or on a private lot as well as tree size or species, and property zoning.

Nuisance Ordinance

Kansas' local governments have been granted broad regulatory powers in their jurisdictions. Kansas General Statutes bestow the general police power on local governments, allowing them to enact and enforce ordinances which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people, and to define and abate nuisances. Since hazard mitigation can be included under the police power (as protection of public health, safety and welfare), towns, cities, and counties may include requirements for hazard mitigation in local ordinances. Local governments may also use their ordinance-making power to abate "nuisances," which could include, by local definition, any activity or condition making people or property more vulnerable to any hazard.

Stormwater Ordinance

The purpose of a stormwater ordinance is to protect the quality and quantity of local, regional and state waters from the potential harm of unmanaged stormwater. Stormwater ordinances include protection from activities that result in the degradation of properties, water quality, stream channels, and other natural resources.

Drainage Ordinance

The purpose of a drainage ordinance is to improve storm sewer systems for the management and control of storm water runoff to prevent polluted waters from entering the water supply and other receiving waters.

Site Plan Review Ordinance

The purpose of a site plan review ordinance is to ensure orderly growth, and to minimize the adverse effects growth that could be caused by the development of commercial, industrial, retail or institutional structures.

Historic Preservation Ordinance

The purpose of a preservation ordinance is created to protect buildings and neighborhoods from destruction or modifications. A preservation ordinance protects designated historic properties through review requirements for renovations and protects historic neighborhoods through design guidelines for new development.

Landscape Ordinance

A landscape ordinance generally provides rules and procedures for the protection and maintenance of vegetation and landscaping.

Wetlands/Riparian Areas Conservation Plan

The purpose of a Wetlands/Riparian Areas Conservation Plan is to preserve and protect wetlands, water resources, and adjacent upland areas.

The table below summarizes relevant local policies and ordinances.

Jurisdictional Policies and Ordinances

Jurisdiction	Zoning Ordinance	Building Code	Floodplain Ordinance	Subdivision Ordinance	Tree Trimming Ordinance	Nuisance Ordinance	Storm Water Ordinance	Drainage Ordinance	Site Plan Review Requirements	Historic Preservation Ordinance	Landscape Ordinance	Wetlands / Riparian Areas Conservation Plan
Atchison County			X			X		X	X			
City of Atchison	X	X	X	X	X	X		X	X			
City of Effingham					X	X						
City of Huron			X			X						
City of Lancaster						X						
City of Musotah						X						
Brown County			X									
City of Everest						X						
City of Fairview						X						
City of Hiawatha	X	X	X	X	X	X	X	X	X	X		X
City of Horton	X	X		X		X						
City of Morrill		X				X	X	X				
City of Reserve						X						
City of Robinson						X						
City of Willis												

Jurisdiction	Zoning Ordinance	Building Code	Floodplain Ordinance	Subdivision Ordinance	Tree Trimming Ordinance	Nuisance Ordinance	Storm Water Ordinance	Drainage Ordinance	Site Plan Review Requirements	Historic Preservation Ordinance	Landscape Ordinance	Wetlands / Riparian Areas Conservation Plan
Doniphan County	x		x	x								
City of Denton												
City of Elwood	x			x		x			x			
City of Highland	x		x	x					x		x	
City of Troy	x			x	x	x	x	x	x		x	
City of Wathena	x			x	x	x			x			
Douglas County			x		x		x	x				
City of Baldwin City	x	x	x	x	x	x	x	x		x	x	
City of Eudora	x	x	x	x	x	x	x	x	x		x	
City of Lawrence	x	x	x	x	x	x	x	x	x	x	x	x
City of Lecompton	x	x	x	x	x	x			x			
Clinton Township												
Kanwaka Township												
Lecompton Township												
Wakarusa Township												
Willow Springs Township												

Jurisdiction	Zoning Ordinance	Building Code	Floodplain Ordinance	Subdivision Ordinance	Tree Trimming Ordinance	Nuisance Ordinance	Storm Water Ordinance	Drainage Ordinance	Site Plan Review Requirements	Historic Preservation Ordinance	Landscape Ordinance	Wetlands / Riparian Areas Conservation Plan
Jackson County	x		x	x								
City of Circleville	x	x				x						
City of Delia						x						
City of Denison	x	x				x						
City of Holton	x	x	x	x	x	x			x		x	
City of Hoyt	x					x						
City of Mayetta	x			x	x	x						
City of Netawaka		x				x						
City of Soldier						x						
City of Whiting						x			x			
Jefferson County	x								x			
City of McLouth	x	x	x	x		x						
City of Meriden	x	x	x	x		x	x	x	x			
City of Nortonville												
City of Oskaloosa	x	x	x	x								
City of Perry	x	x				x						
City of Valley Falls	x	x	x	x		x	x	x				
City of Winchester	x	x	x	x								
Kickapoo Tribe												x

Jurisdiction	Zoning Ordinance	Building Code	Floodplain Ordinance	Subdivision Ordinance	Tree Trimming Ordinance	Nuisance Ordinance	Storm Water Ordinance	Drainage Ordinance	Site Plan Review Requirements	Historic Preservation Ordinance	Landscape Ordinance	Wetlands / Riparian Areas Conservation Plan
Marshall County			x									
City of Axtell						x						
City of Beattie												
City of Blue Rapids	x	x										
City of Frankfort		x	x		x	x	x	x	x	x	x	x
City of Marysville	x		x	x					x			
City of Oketo												
City of Summerfield												
City of Vermillion						x						
City of Waterville	x	x				x	x	x				
Nemaha County			x									
City of Bern												
City of Centralia												
City of Corning												
City of Goff												
City of Oneida												
City of Sabetha	x											
City of Seneca	x											
City of Wetmore												

Jurisdiction	Zoning Ordinance	Building Code	Floodplain Ordinance	Subdivision Ordinance	Tree Trimming Ordinance	Nuisance Ordinance	Storm Water Ordinance	Drainage Ordinance	Site Plan Review Requirements	Historic Preservation Ordinance	Landscape Ordinance	Wetlands / Riparian Areas Conservation Plan
Washington County												
City of Barnes												
City of Clinton						x						
City of Greenleaf		x				x		x				
City of Haddam			x									
City of Hanover			x	x	x	x	x					
City of Hollenberg						x					x	
City of Linn												
City of Mahaska												
City of Morrowville	x					x						
City of Palmer						x						
City of Vining						x						
City of Washington			x		x	x						

4.5.4 PROGRAMS

This part of the capabilities assessment includes the identification and evaluation of existing programs. Many of the programs have been generally discussed in the previous sections.

Hazard Awareness Program

A program designed to inform citizens as to the nature and extent of local and regional natural and manmade hazards.

National Flood Insurance Program

In 1968, Congress created the NFIP to help provide a means for property owners to financially protect themselves. The NFIP offers flood insurance to homeowners, renters, and business owners if their community participates in the NFIP. Participating communities agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.

Community Rating System program under the National Flood Insurance Program

The NFIP's Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Participants are offered flood insurance premium rates at a discount to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS. These goals are the reduction of flood damage to insurable property, the strengthening and support of insurance aspects of the NFIP, and the encouragement of a comprehensive approach to floodplain management.

Firewise Community Certification

The Firewise Communities Program encourages local solutions for safety by involving homeowners in taking individual responsibility for preparing their homes from the risk of wildfire. Firewise is a key component of Fire Adapted Communities, a collaborative approach that connects all those who play a role in wildfire education, planning and action with comprehensive resources to help reduce risk. The program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.

Building Code Effectiveness Grading

The Building Code Effectiveness Grading Schedule assesses the building codes in effect and how the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards.

ISO Fire Rating

ISO's Fire Rating gauges the fire protection capability of the local fire department to respond to fires.

Land Use Program

A Land Use Program is designed with the goal of balancing environmental protection with economic development. This program, coupled with various other planning efforts, provides resources to local leaders to establish policies to guide the development of the community, including annexation, expansion, and building.

Public Education/Awareness

Education programs for the public that provide education and awareness about hazards, hazard planning and mitigation efforts.

Stream Maintenance Program

Programs designed to keep streams free from debris and blockages to prevent or minimize flooding.

Engineering Studies for Streams (Local/County/Regional)

Studies that detail information concerning flow data, potential trouble spots, and improvement recommendations for streams.

Mutual Aid Agreements

Mutual Aid Agreements are understanding among localities to lend assistance across jurisdictional boundaries. This may occur due to an emergency response that exceeds local resources, such as a disaster. Mutual aid may be requested only when such an emergency occurs. Or may be a formal standing agreement on a continuing basis.

The table below summarizes relevant local programs.

Jurisdictional Programs

Jurisdiction	Zoning/Land Use Restrictions	Codes Building Site/Design	Hazard Awareness Program	National Flood Insurance Program	Community Rating System program under the National Flood Insurance Program	National Weather Service Storm Ready Certification	Firewise Community Certification	Building Code Effectiveness Grading	ISO Fire Rating	Economic Development Program	Land Use Program	Public Education/Awareness	Property Acquisition	Planning/Zoning Boards	Stream Maintenance Program	Tree Trimming Program	Engineering Studies for Streams	Mutual Aid Agreements
Atchison County				x		x				x		x				x	x	x
City of Atchison	x	x		x					4	x	x	x	x	x			x	
City of Effingham			x							x						x		
City of Huron							x											
City of Lancaster			x			x			8									
City of Muscotah				x		x				x						x	x	
Brown County				x								x		x				x
City of Everest									6									x
City of Fairview									x									
City of Hiawatha	x	x	x			x			5	x		x	x	x		x		x
City of Horton	x	x				x								x				x
City of Morrill		x							7									x
City of Reserve																		
City of Robinson																		
City of Willis																		
Doniphan County	x			x					9	x				x				x
City of Denton									9									
City of Elwood	x			x					5		x			x				

Jurisdiction	Zoning/Land Use Restrictions	Codes Building Site/Design	Hazard Awareness Program	National Flood Insurance Program	Community Rating System program under the National Flood Insurance Program	National Weather Service Storm Ready Certification	Firewise Community Certification	Building Code Effectiveness Grading	ISO Fire Rating	Economic Development Program	Land Use Program	Public Education/Awareness	Property Acquisition	Planning/Zoning Boards	Stream Maintenance Program	Tree Trimming Program	Engineering Studies for Streams	Mutual Aid Agreements
City of Highland	x								8		x			x				
City of Troy	x	x						x	7		x			x		x		
City of Wathena	x			x					6		x			x				
Douglas County				x		x					x					x		x
City of Baldwin City	x	x							x					x	x	x		x
City of Eudora	x	x		x					6	x	x	x		x				x
City of Lawrence	x	x		x	8					x	x	x		x	x	x	x	
City of Lecompton	x			x					5	x				x				
Clinton Township																		
Kanwaka Township									10							x		
Lecompton Township																		
Wakarusa Township																		
Willow Springs Township									9									x
Jackson County	x			x					7	x		x		x				x
City of Circleville		x							5									
City of Delia				x					7									

Jurisdiction	Zoning/Land Use Restrictions	Codes Building Site/Design	Hazard Awareness Program	National Flood Insurance Program	Community Rating System program under the National Flood Insurance Program	National Weather Service Storm Ready Certification	Firewise Community Certification	Building Code Effectiveness Grading	ISO Fire Rating	Economic Development Program	Land Use Program	Public Education/Awareness	Property Acquisition	Planning/Zoning Boards	Stream Maintenance Program	Tree Trimming Program	Engineering Studies for Streams	Mutual Aid Agreements
City of Denison	x								9									x
City of Holton	x	x		x					5		x	x	x	x		x		x
City of Hoyt	x			x					6					x				
City of Mayetta	x			x					7					x				
City of Netawaka		x							9									
City of Soldier									9									
City of Whiting	x	x							9									
Jefferson County	x		x	x					9	x		x	x	x	x			x
City of McLouth	x	x	x	x								x		x				x
City of Meriden	x	x		x				x						x			x	x
City of Nortonville																	x	
City of Oskaloosa	x	x	x	x					8									x
City of Perry	x													x				
City of Valley Falls	x	x	x	x					8									x
City of Winchester	x	x	x	x					9									x
Kickapoo Tribe										x	x		x					x
Marshall County			x									x						x
City of Axtell									7									
City of Beattie									7							x		
City of Blue Rapids	x	x																

Jurisdiction	Zoning/Land Use Restrictions	Codes Building Site/Design	Hazard Awareness Program	National Flood Insurance Program	Community Rating System program under the National Flood Insurance Program	National Weather Service Storm Ready Certification	Firewise Community Certification	Building Code Effectiveness Grading	ISO Fire Rating	Economic Development Program	Land Use Program	Public Education/Awareness	Property Acquisition	Planning/Zoning Boards	Stream Maintenance Program	Tree Trimming Program	Engineering Studies for Streams	Mutual Aid Agreements
City of Frankfort			x	x					6	x		x				x		x
City of Marysville																		
City of Oketo																		
City of Summerfield																		
City of Vermillion									9									
City of Waterville	x								7			x		x				x
Nemaha County			x	x														x
City of Bern																		x
City of Centralia				x														x
City of Corning																		x
City of Goff																		x
City of Oneida																		
City of Sabetha	x		x	x										x				x
City of Seneca	x		x	x										x				x
City of Wetmore																		x
Washington County			x	x								x						x
City of Barnes																		

Jurisdiction	Zoning/Land Use Restrictions	Codes Building Site/Design	Hazard Awareness Program	National Flood Insurance Program	Community Rating System program under the National Flood Insurance Program	National Weather Service Storm Ready Certification	Firewise Community Certification	Building Code Effectiveness Grading	ISO Fire Rating	Economic Development Program	Land Use Program	Public Education/Awareness	Property Acquisition	Planning/Zoning Boards	Stream Maintenance Program	Tree Trimming Program	Engineering Studies for Streams	Mutual Aid Agreements
City of Clinton																		x
City of Greenleaf																		
City of Haddam					x				8									
City of Hanover			x	x		x			5			x				x		x
City of Hollenberg									10									
City of Linn									8									
City of Mahaska																		
City of Morrowville																		
City of Palmer									10									
City of Vining																		
City of Washington		x	x	x					6			x	x			x		x

4.5.5 AVAILABLE STUDIES, REPORTS AND MAPS

Mitigation planning can be informed by existing information for a jurisdiction, including studies, reports and maps. The following is a brief description of the types of usable studies, reports or maps that may be available to a jurisdiction.

Hazard Analysis/Risk Assessment

A hazard analysis is the identification of different type of hazards that may affect a jurisdiction. A risk assessment is the determination of quantitative or qualitative value of risk related to a situation and a recognized hazard.

Evacuation Route Map

A map detailing the evacuation routes for a jurisdiction, often incorporating road, services, and travel time information.

Critical Facilities Inventory

A list of all critical facilities within a jurisdictions, which may include fire stations, police stations, hospitals, schools, day care centers, senior care facilities, major roads and bridges, critical utility sites, and hazardous material storage areas.

Vulnerable Population Inventory

A vulnerable population inventory may include members of the jurisdictions population who are elderly, limited in functional capacity, homeless, or have limited financial means. These populations may be poorly equipped with the resources and capabilities necessary to prepare for, and respond to, disasters without additional assistance.

Land Use Map

A jurisdictional map detailing current land uses.

The table below summarizes relevant local studies, reports and maps.

Available Jurisdictional Studies, Reports and Maps

Jurisdiction	Hazard Analysis/Risk Assessment (City)	Hazard Analysis/Risk Assessment (County)	Evacuation Route Map	Critical Facilities Inventory	Vulnerable Population Inventory	Land Use Map
Atchison County		x		x		x
City of Atchison		x		x		x
City of Effingham	x			x		
City of Huron						
City of Lancaster	x		x			
City of Muscotah						
Brown County		x				
City of Everest	x			x	x	
City of Fairview						
City of Hiawatha	x	x	x	x		x
City of Horton						
City of Morrill				x		
City of Reserve						
City of Robinson	x			x	x	
City of Willis						
Doniphan County		x	x	x	x	x
City of Denton						
City of Elwood						
City of Highland						x
City of Troy						x
City of Wathena						x
Douglas County	x	x	x			
City of Baldwin City						x
City of Eudora		x		x	x	x
City of Lawrence	x	x		x		x
City of Lecompton						x
Clinton Township						
Kanwaka Township						x
Lecompton Township						
Wakarusa Township						
Willow Springs Township						

Jurisdiction	Hazard Analysis/Risk Assessment (City)	Hazard Analysis/Risk Assessment (County)	Evacuation Route Map	Critical Facilities Inventory	Vulnerable Population Inventory	Land Use Map
Jackson County		x	x			x
City of Circleville						
City of Delia						
City of Denison						
City of Holton	x			x	x	x
City of Hoyt			x	x		x
City of Mayetta			x			x
City of Netawaka						
City of Soldier			x			
City of Whiting				x		x
Jefferson County		x			x	x
City of McLouth				x		x
City of Meriden	x	x				x
City of Nortonville						
City of Oskaloosa				x		x
City of Perry						
City of Valley Falls				x		x
City of Winchester						
Kickapoo Tribe					x	x
Marshall County		x	x	x	x	
City of Axtell		x				
City of Beattie		x				
City of Blue Rapids		x				
City of Frankfort						
City of Marysville		x		x		x
City of Oketo		x				
City of Summerfield		x				
City of Vermillion		x				
City of Waterville		x				

Jurisdiction	Hazard Analysis/Risk Assessment (City)	Hazard Analysis/Risk Assessment (County)	Evacuation Route Map	Critical Facilities Inventory	Vulnerable Population Inventory	Land Use Map
Nemaha County		X	X	X	X	
City of Bern						
City of Centralia						
City of Corning						
City of Goff						
City of Oneida						
City of Sabetha						
City of Seneca						
City of Wetmore						
Washington County		X	X	X		
City of Barnes						
City of Clinton						
City of Greenleaf						
City of Haddam						
City of Hanover	X		X	X	X	X
City of Hollenberg						
City of Linn						
City of Mahaska						
City of Morrowville						
City of Palmer						
City of Vining		X				
City of Washington	X			X		

4.5.6 STAFFING AND DEPARTMENTAL CAPABILITIES

A comprehensive mitigation program relies on many skilled professionals. These professionals include:

- Planners
- Engineers
- Inspectors
- Emergency managers
- Floodplain managers
- GIS personnel

While exact responsibilities differ from jurisdiction to jurisdiction, the general duties of applicable departments are described below.

Building Code Official

Building officials are generally the jurisdictional administrator of building and construction codes, engineering calculation supervision, permits, facilities management, and accepted construction procedures.

Building Inspector

A building inspector is an official who inspects structures to ensure compliance with the plans and to check workmanship as well as code compliance,

GIS Mapping Specialist

A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. A GIS mapping specialist uses this data to create county maps, including flood plain, fire hazard, drought and other mitigation maps.

Engineer

An engineer may be responsible for the oversight, management and development of jurisdictions' road and infrastructure network

Development Planner

A development planner may be responsible for guiding a jurisdictions worth and development through the application of codes, ordinances, building regulations and public input.

Public Works Official

Public works officials usually provide management and oversight of infrastructure projects such as public buildings (municipal buildings, schools, hospitals), transport infrastructure (roads, railroads, bridges, pipelines, airports), public spaces (public squares, parks), public services (water supply, sewage, electrical grid, dams), and other, physical assets and facilities.

Emergency Management Coordinator

The Emergency Management office is responsible for the mitigation, preparedness, response and recovery operations that deal with both natural and man-made disaster events. The formation of an emergency management department in each county is mandated under Kansas General Statutes.

NFIP Floodplain Administrator

The NFIP floodplain administrator ensures a jurisdiction is meeting the minimum requirements of participation in the NFIP, and often is tasked with applying for funding or grants.

Bomb or Arson Squad

A bomb or arson squad is used to respond to, and investigate the cause of, fire and bomb events.

Emergency Response Team

A emergency response team is used to respond to emergency events.

Hazardous Materials Expert

A hazardous material expert provides response and recovery information for hazardous material events.

Local Emergency Planning Committee

Local Emergency Planning Committees are generally housed at the county or municipal level. They do not function in actual emergency situations, but attempt to identify and catalogue potential hazards, identify available resources, mitigate hazards when feasible, and write emergency plans. The role of the LEPC is to anticipate and plan the initial response for foreseeable disasters in their jurisdiction.

Sanitation Department

Sanitation Departments are generally the agency responsible for garbage collection and recycling collection. Sanitation departments may also be tasked with street cleaning and snow removal.

Transportation Department

In general, transportation departments are responsible for road and bridge maintenance and transportation planning. Transportation departments may also be tasked with snow removal.

Economic Development Department

The economic development department is generally responsible for guiding a jurisdiction's economic policies, fostering business development, and nurturing existing business'.

Housing Department

Duties of a housing department may include enforcing fair housing laws, assisting low income citizens with finding housing, and managing jurisdictional housing properties.

Historic Preservation

A historic preservation department or society may provide expertise on environmental impacts to cultural resources, administer historic preservation grants, encourage historic preservation through local governments, and provide technical assistance for historic rehabilitation.

The table below summarizes relevant local staffing and departmental capabilities.

Staffing and Departmental Capabilities

Jurisdiction	Building Code Official	Building Inspector	Mapping Specialist (GIS)	Engineer	Development Planner	Public Works Official	Emergency Management Coordinator	NFIP Floodplain Administrator	Bomb and/or Arson Squad	Emergency Response Team	Hazardous Materials Expert	Local Emergency Planning Committee	County Emergency Management Commission	Sanitation Department	Transportation Department	Economic Development Department	Housing Department	Historic Preservation
Atchison County			x				x	x		x		x			x	x		x
City of Atchison	x	x	x	x	x	x	x	x				x		x		x	x	
City of Effingham		x				x	x						x	x		x		
City of Huron		x											x					
City of Lancaster						x				x		x						
City of Muscotah						x	x	x					x	x		x		
Brown County							x			x		x	x					
City of Everest						x								x				
City of Fairview						x												
City of Hiawatha	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
City of Horton	x	x				x	x							x				
City of Morrill						x												
City of Reserve																		
City of Robinson						x												
City of Willis																		
Doniphan County			x			x	x	x				x			x	x		x
City of Denton							x											
City of Elwood						x												

Jurisdiction	Building Code Official	Building Inspector	Mapping Specialist (GIS)	Engineer	Development Planner	Public Works Official	Emergency Management Coordinator	NFIP Floodplain Administrator	Bomb and/or Arson Squad	Emergency Response Team	Hazardous Materials Expert	Local Emergency Planning Committee	County Emergency Management Commission	Sanitation Department	Transportation Department	Economic Development Department	Housing Department	Historic Preservation
City of Highland							x											
City of Troy						x				x		x	x	x				
City of Wathena						x												
Douglas County							x			x	x	x			x			
City of Baldwin City	x	x				x												
City of Eudora	x	x				x	x	x		x		x			x			x
City of Lawrence	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x
City of Lecompton						x												
Clinton Township																		
Kanwaka Township						x					x							
Lecompton Township																		
Wakarusa Township																		
Willow Springs Township																		
Jackson County			x			x	x	x				x						
City of Circleville						x								x				
City of Delia						x								x				
City of Denison		x				x												
City of Holton	x	x	x		x	x	x	x		x	x	x			x			x
City of Hoyt						x												

Jurisdiction	Building Code Official	Building Inspector	Mapping Specialist (GIS)	Engineer	Development Planner	Public Works Official	Emergency Management Coordinator	NFIP Floodplain Administrator	Bomb and/or Arson Squad	Emergency Response Team	Hazardous Materials Expert	Local Emergency Planning Committee	County Emergency Management Commission	Sanitation Department	Transportation Department	Economic Development Department	Housing Department	Historic Preservation
City of Mayetta		x		x		x												
City of Netawaka						x												
City of Soldier						x												
City of Whiting						x	x			x								
Jefferson County			x			x	x	x		x		x		x				
City of McLouth	x	x				x	x	x		x		x		x				
City of Meriden	x	x	x	x		x	x	x		x			x	x	x			x
City of Nortonville						x								x				
City of Oskaloosa						x								x				
City of Perry						x												
City of Valley Falls						x								x		x		
City of Winchester						x								x				
Kickapoo Tribe			x		x	x	x			x	x				x		x	x
Marshall County						x	x	x		x		x	x	x	x			x
City of Axtell													x					
City of Beattie						x						x						
City of Blue Rapids																		
City of Frankfort	x	x				x	x			x	x	x						
City of Marysville	x							x						x	x			
City of Oketo																		

Jurisdiction	Building Code Official	Building Inspector	Mapping Specialist (GIS)	Engineer	Development Planner	Public Works Official	Emergency Management Coordinator	NFIP Floodplain Administrator	Bomb and/or Arson Squad	Emergency Response Team	Hazardous Materials Expert	Local Emergency Planning Committee	County Emergency Management Commission	Sanitation Department	Transportation Department	Economic Development Department	Housing Department	Historic Preservation
City of Summerfield																		
City of Vermillion						x												
City of Waterville		x					x			x			x	x				x
Nemaha County			x	x			x	x		x		x		x	x			
City of Bern																		
City of Centralia																		
City of Corning																		
City of Goff																		
City of Oneida																		
City of Sabetha	x																x	
City of Seneca	x																x	
City of Wetmore																		
Washington County						x	x	x		x		x	x					
City of Barnes																		
City of Clinton						x												
City of Greenleaf		x				x	x	x				x	x	x				
City of Haddam												x						
City of Hanover	x	x	x			x	x	x		x	x	x	x	x				
City of Hollenberg																		

Jurisdiction	Building Code Official	Building Inspector	Mapping Specialist (GIS)	Engineer	Development Planner	Public Works Official	Emergency Management Coordinator	NFIP Floodplain Administrator	Bomb and/or Arson Squad	Emergency Response Team	Hazardous Materials Expert	Local Emergency Planning Committee	County Emergency Management Commission	Sanitation Department	Transportation Department	Economic Development Department	Housing Department	Historic Preservation
City of Linn		x											x				x	
City of Mahaska																		
City of Morrowville	x	x				x												
City of Palmer													x					
City of Vining																		
City of Washington						x		x				x			x			

4.5.7 NON-GOVERNMENTAL ORGANIZATIONS CAPABILITIES

NGOs are legally constituted corporations that operate independently from any form of government and are not conventional for-profit businesses. In the cases in which NGOs are funded totally or partially by a government agency, the NGO maintains its non-governmental status by excluding government representatives from membership in the organization.

There are many types of NGOs, including:

- **Charitable:** Generally directed toward meeting the needs of the poor or those impacted by disasters.
- **Service:** Generally directed toward providing health, family planning or education services.
- **Participatory:** Generally directed toward self-help and/or community development projects.

NGOs can further be divided into community, local or national organizations. The following is a brief discussion of NGOs operating within northeast Kansas.

American Red Cross

The American Red Cross is a humanitarian organization that provides emergency assistance, disaster relief and education. In addition to domestic disaster relief, the American Red Cross offers services in five other areas: community services that help the needy; communications services and comfort for military members and their family members; the collection, processing and distribution of blood and blood products; educational programs on preparedness, health, and safety; and international relief and development programs.

Salvation Army

The Salvation Army is a Christian denomination and international charitable organization with a worldwide membership of over 1.5 million. In addition to being among the first to arrive with help after natural or man-made disasters, the Salvation Army runs charity shops and operates shelters for the homeless.

Veterans Groups

Generally veteran groups are local chapters of national groups that provide aid to active and retired soldiers and provide charitable support to target communities.

Local Environmental Organizations

An environmental organization may seek to protect, analyze or monitor the environment against misuse or degradation.

Homeowners Associations

Homeowner associations are residents of a community who form a board to monitor, control and oversee many aspects of a building, area or development. An association may have elected leaders and often has mandatory dues

Neighborhood Associations

Neighborhood associations are groups of residents or property owners who advocate for or organize activities within a neighborhood. An association may have elected leaders and voluntary dues.

Chamber of Commerce

A chamber of commerce is generally a group of a local businesses whose goal is to further the interests of businesses. Business owners in towns and cities form these local societies to advocate on behalf of the business community. Local businesses are members, and they elect a board of directors or executive council to set policy for the chamber. The board or council then hires a President, CEO or Executive Director, plus staffing appropriate to size, to run the organization.

Community Organizations

Generally community organizations are local chapters of national groups, such as the Elks, Shriners, or Kiwanis, that provide charitable support to citizens in need.

The table below summarizes the presence of relevant local NGOs.

Jurisdictional NGOs

Jurisdiction	American Red Cross	Salvation Army	Veterans Groups	Local Environmental Organization	Homeowner Associations	Neighborhood Associations	Chamber of Commerce	Community Organizations (Lions, Kiwanis)
Atchison County	x	x	x		x	x	x	x
City of Atchison	x	x	x				x	x
City of Effingham	x	x	x				x	x
City of Huron	x	x	x					
City of Lancaster	x	x						x
City of Muscotah	x	x						x
Brown County							x	x
City of Everest			x				x	x
City of Fairview			x					
City of Hiawatha	x	x	x				x	x
City of Horton			x				x	x
City of Morrill							x	
City of Reserve								
City of Robinson								
City of Willis								
City of Winfield								
Doniphan County	x	x	x	x			x	x
City of Denton	x	x	x				x	
City of Elwood	x	x					x	
City of Highland	x	x					x	x
City of Troy	x	x	x				x	x
City of Wathena	x	x	x	x			x	x
Douglas County	x	x					x	x
City of Baldwin City			x				x	x
City of Eudora	x	x	x		x	x	x	x
City of Lawrence	x	x	x	x	x	x	x	x

Jurisdiction	American Red Cross	Salvation Army	Veterans Groups	Local Environmental Organization	Homeowner Associations	Neighborhood Associations	Chamber of Commerce	Community Organizations (Lions, Kiwanis)
City of Lecompton								x
Clinton Township								
Kanwaka Township	x	x						
Lecompton Township								
Wakarusa Township								
Willow Springs Township	x	x						
Jackson County			x				x	x
City of Circleville								x
City of Delia								
City of Denison								
City of Holton			x				x	x
City of Hoyt								x
City of Mayetta							x	x
City of Netawaka								
City of Soldier								
City of Whiting								
Jefferson County			x		x	x	x	x
City of McLouth			x				x	x
City of Meriden			x				x	x
City of Nortonville			x					
City of Oskaloosa							x	x
City of Perry								
City of Valley Falls						x	x	x
City of Winchester							x	x
Kickapoo Tribe								
Marshall County	x	x	x				x	x
City of Axtell								x
City of Beattie								x
City of Blue Rapids								
City of Frankfort	x	x	x					x
City of Marysville			x				x	x
City of Oketo								

Jurisdiction	American Red Cross	Salvation Army	Veterans Groups	Local Environmental Organization	Homeowner Associations	Neighborhood Associations	Chamber of Commerce	Community Organizations (Lions, Kiwanis)
City of Summerfield								
City of Vermillion								x
City of Waterville			x				x	x
Nemaha County			x				x	x
City of Bern								
City of Centralia								
City of Corning								
City of Goff								
City of Oneida								
City of Sabetha			x				x	x
City of Seneca			x				x	x
City of Wetmore								
Washington County	x	x	x	x				x
City of Barnes								
City of Clinton			x					
City of Greenleaf			x				x	
City of Haddam	x	x						x
City of Hanover			x				x	x
City of Hollenberg								
City of Linn								x
City of Mahaska								
City of Morrowville								x
City of Palmer								x
City of Vining								
City of Washington			x				x	x

4.5.8 FISCAL CAPABILITIES

In general, the jurisdictions of northeast Kansas receive the majority of their revenue through state and local sales tax and federal and state pass through dollars. Based on available revenue information, and given that both the state and counties are experiencing budget deficits, funding for mitigation programs and disaster response is at a premium. Adding to the budget crunch is the increased reliance on local accountability by the federal government.

The following provide brief definitions of applicable fiscal programs.

Community Development Block Grant

The Community Development Block Grant (CDBG) is a U.S. Department of Housing and Urban Development program that funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development. CDBG, like other block grant programs, differ from categorical grants, made for specific purposes, in that they are subject to less federal oversight and are largely used at the discretion of the state and local governments and their sub-grantees.

Capital Improvement Funding

A Capital Improvement Plan is generally a short-range plan, usually four to ten years, which identifies capital projects and equipment purchases, provides a planning schedule and identifies options for financing the plan. Essentially, the plan provides a link between a municipality, school district, parks and recreation department and/or other local government entity and a comprehensive and strategic plans and the entity's annual budget. Funding may be drawn from this plan, if funding has been set aside as part of the planning process, and if the action works with the overall planning objectives and goals.

Authority to Levy Taxes

The authority to levy taxes would allow the jurisdiction to tax its population base.

Impact Fees for New Developments

Impact fees for new developments allow a jurisdiction to charge fees to developers to mitigate against any impact that development may have.

Incur Debt through General Obligation Bonds

General obligation bonds are issued with the belief that a municipality will be able to repay its debt obligation through taxation or revenue from projects. No assets are used as collateral.

Incur Debt through Special Tax Bonds

A government bond where repayment is guaranteed by a tax that the issuer levies specifically for that purpose.

Incur Debt through General Private Activities

In general, these tend to be tax-exempt bonds issued by or on behalf of local or state government for the purpose of providing special financing benefits for qualified projects. The financing is most often for projects of a private user, and the government generally does not pledge its credit.

Withhold Spending in Hazard Prone Areas

The ability of a jurisdiction to not provide funding for activities or actions in an area that is known to be prone to specific hazards.

The following is a discussion of fiscal capabilities solely related to the Kickapoo tribe.

Public Law 93-638: Indian Self-Determination and Education Assistance Act, as Amended

The Indian Self-Determination and Education Assistance Act of 1975 (Public Law 93-638) authorized the Secretary of the Interior, the Secretary of Health, Education, and Welfare, and some other government agencies to enter into contracts with, and make grants directly to, federally recognized Indian tribes. The tribes have authority for how they administer the funds, which gives them greater control over their welfare. The Indian Self-Determination and Education Assistance Act is codified at Title 25, United States Code, beginning at section 450.

The following table highlights each jurisdiction's fiscal capabilities.

Jurisdictional Fiscal Capabilities

Jurisdiction	Apply for Community Development Block Grants	Fund projects thru Capital Improvements funding	Authority to levy taxes for specific purposes	Fees for water, sewer, gas, or electric services	Impact fees for new development	Incur debt through general obligation bonds	Incur debt through special tax bonds	Incur debt through private activities	Withhold spending in hazard prone areas
Atchison County	x	x	x			x	x	x	x
City of Atchison	x	x	x	x		x	x	x	x
City of Effingham	x	x	x	x	x	x	x		
City of Huron	x	x	x	x					
City of Lancaster	x	x	x	x		x	x		
City of Muscotah	x	x		x		x			
Brown County	x	x	x			x	x		
City of Everest	x	x		x		x			
City of Fairview	x	x		x		x			
City of Hiawatha	x	x	x	x		x	x	x	
City of Horton				x	x				
City of Morrill	x	x	x	x		x	x		
City of Reserve	x			x					
City of Robinson	x	x		x		x			
City of Willis	x	x		x		x			
Doniphan County	x	x	x			x	x		
City of Denton	x	x	x						
City of Elwood	x	x	x	x		x	x		
City of Highland	x			x		x			
City of Troy	x	x	x	x		x	x		x
City of Wathena	x	x	x	x		x	x		
City of White Cloud									
Douglas County									
City of Baldwin City	x	x	x	x	x	x	x		
City of Eudora	x	x	x	x	x	x	x	x	
City of Lawrence	x	x	x	x	x	x	x	x	x
City of Lecompton	x		x	x		x	x	x	

Jurisdiction	Apply for Community Development Block Grants	Fund projects thru Capital Improvements funding	Authority to levy taxes for specific purposes	Fees for water, sewer, gas, or electric services	Impact fees for new development	Incur debt through general obligation bonds	Incur debt through special tax bonds	Incur debt through private activities	Withhold spending in hazard prone areas
Clinton Township									
Kanwaka Township	x		x			x	x		
Lecompton Township									
Wakarusa Township									
Willow Springs Township		x	x			x			
Jackson County	x	x	x			x	x		
City of Circleville	x	x	x	x	x	x	x		
City of Delia	x	x	x	x	x	x	x		
City of Denison	x	x	x	x	x	x	x		
City of Holton	x	x	x	x	x	x	x		
City of Hoyt	x	x	x	x	x	x	x		
City of Mayetta	x	x	x	x	x	x	x		
City of Netawaka	x	x	x	x	x	x	x		
City of Soldier	x	x	x	x		x	x		
City of Whiting	x	x	x	x		x	x		
Jefferson County	x	x	x		x	x	x		
City of McLouth	x	x	x	x	x	x	x		
City of Meriden	x	x	x	x	x	x	x		x
City of Nortonville	x	x	x	x	x	x	x		
City of Oskaloosa	x	x	x	x	x	x	x		
City of Perry			x	x		x			
City of Valley Falls	x	x	x	x	x	x	x		
City of Winchester	x	x	x	x	x	x	x		
Kickapoo Tribe	x	x		x					
Marshall County	x	x	x			x	x		
City of Axtell	x		x	x		x			
City of Beattie	x		x	x	x				
City of Blue Rapids			x						
City of Frankfort	x	x	x	x	x	x	x		
City of Marysville	x	x	x	x	x	x	x	x	

Jurisdiction	Apply for Community Development Block Grants	Fund projects thru Capital Improvements funding	Authority to levy taxes for specific purposes	Fees for water, sewer, gas, or electric services	Impact fees for new development	Incur debt through general obligation bonds	Incur debt through special tax bonds	Incur debt through private activities	Withhold spending in hazard prone areas
City of Oketo									
City of Summerfield									
City of Vermillion	x		x	x		x		x	
City of Waterville	x	x	x	x		x	x		
Nemaha County	x	x	x		x	x	x	x	x
City of Bern	x	x	x	x	x	x	x	x	x
City of Centralia	x	x	x	x	x	x	x	x	x
City of Corning	x	x	x	x	x	x	x	x	x
City of Goff	x	x	x	x	x	x	x	x	x
City of Oneida	x	x	x	x	x	x	x	x	x
City of Sabetha	x	x	x	x	x	x	x	x	x
City of Seneca	x	x	x	x	x	x	x	x	x
City of Wetmore	x	x	x	x	x	x	x	x	x
Washington County	x	x	x		x	x	x		
City of Barnes									
City of Clinton	x	x	x	x		x	x		
City of Greenleaf	x	x	x	x		x			
City of Haddam	x	x	x	x					
City of Hanover	x	x	x	x		x	x		
City of Hollenberg	x		x						
City of Linn	x		x	x		x			
City of Mahaska									
City of Morrowville	x		x	x	x	x	x		
City of Palmer	x		x	x		x			
City of Vining	x	x	x			x	x		
City of Washington	x	x	x	x	x	x	x		x

4.5.9 SCHOOL, COLLEGE OR UNIVERSITY CAPABILITY ASSESSMENT

Participating schools, colleges and universities were provided with a different set of questions that participating governmental jurisdictions. These questions were asked to ascertain the level of preparedness of the institution.

The following provides brief definitions of terms used in the capability assessment of schools, colleges and universities.

Grant Writer

A grant writer writes applications for grant funding from an institution such as a government department, corporation, foundation or trust.

Public Information Officer

Public Information Officers (PIOs) are the communications coordinators or spokespersons. The primary responsibility of a PIO is to provide information to the media and public as required by law and according to the standards of their profession.

General Obligation Bond

A general obligation bond is a common type of municipal bond that is secured by a state or local government's pledge to use legally available resources, including tax revenues, to repay bond holders.

Special Tax Bond

A type of bond that is repaid by revenues derived from taxation of a particular activity or asset. These bonds are repaid with either excise taxes or special assessment taxes.

Information as to the current capacity of participating schools, colleges and universities is summarized in the following table.

School , College or University	Master Plan	Capital Improvement Plan	School Emergency Plan, Shelter in Place Protocols, Evacuation Protocols	Weapons Policy	Full-time building official (i.e. Principal)	Emergency Manager	Grant Writer	Public Information Officer	Capital improvements project funding	Local funds	General obligation bonds	Special tax bonds	Private activities/donations	State and federal funds
Atchison County														
USD #377 - Atchison County	x		x	x	x	x		x						x
USD #409 - Atchison	x	x	x	x	x	x		x	x	x	x		x	x
Brown County														
USD #415 - Hiawatha			x	x	x	x	x	x	x	x				x
USD #430 - Horton	x		x	x	x		x	x	x	x				x
Doniphan County														
USD #114 - Riverside	x	x	x	x	x	x	x	x	x	x	x	x	x	x
USD #429 - Troy			x	x	x			x	x					x
Douglas County														
Baker University	x	x	x	x	x	x		x	x	x			x	x
University of Kansas	x	x	x	x	x	x	x	x	x		x		x	x
USD #343 - Perry / Lecompton					x				x		x			x
USD #348 - Baldwin City			x		x	x			x		x			x
USD #491 - Eudora	x		x	x	x	x		x	x	x	x	x		x
USD #497 - Lawrence	x	x	x	x	x	x	x	x	x	x	x			x
Jackson County														
USD #335 - Jackson Heights		x	x	x	x	x	x	x	x	x	x		x	x
USD #336 - Holton		x	x	x	x	x	x	x	x	x			x	x
USD #337 - Royal Valley		x	x	x	x			x	x	x	x			x

School , College or University	Master Plan	Capital Improvement Plan	School Emergency Plan, Shelter in Place Protocols, Evacuation Protocols	Weapons Policy	Full-time building official (i.e. Principal)	Emergency Manager	Grant Writer	Public Information Officer	Capital improvements project funding	Local funds	General obligation bonds	Special tax bonds	Private activities/donations	State and federal funds
Jefferson County														
USD #338 - Valley Falls			x	x	x	x		x	x					
USD #339 - Jefferson County North	x	x	x	x	x									
USD #340 - Jefferson West		x	x	x	x	x		x	x	x	x			x
USD #341 - Okaloosa		x	x	x	x			x	x					x
USD #342 - McLouth		x	x	x	x				x	x				
USD #343 - Perry / LeCompton			x	x			x		x	x	x		x	x
Marshall County														
USD #113- Prairie Hills			x	x										x
USD #364 - Maryville	x	x	x	x	x			x	x	x	x			x
USD #380 - Vermillion			x	x										x
USD #498 - Valley Heights			x	x										x
Good Shepherd School			x	x										
St. Gregory School			x	x	x			x					x	
St. Michael's School			x	x										
Nemaha County														
USD #113 - Prairie Hills	x	x	x	x	x	x		x	x					
USD #115 - Nemaha Central			x	x	x			x	x	x			x	x
Washington County														
USD #108 - Washington County	x	x	x	x	x	x		x						
USD #223 - Barnes / Hanover / Linn	x		x	x	x	x	x	x	x	x	x	x	x	x

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, these 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 **completed** have been finished. Actions listed as **deleted** 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.

5.6.1 ATCHISON COUNTY

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Atchison County-1	Educate and promote participation in the NFIP.	Flood	Emergency Management Coordinator	High	2,4	Staff Time	Local, State	12/31/2015	On-going
Atchison County-2	Annually host a public "hazards workshop" at public venues to educate the public on the risk of hazards that threaten the county.	All Hazards	Emergency Management Coordinator	High	4	\$1,000 per event	Local	Continuous	On-going, Continuous
Atchison County-3	Provide educational material on individual and family preparedness/mitigation measures for property owners.	All Hazards	Emergency Management Coordinator	Medium	4	\$300 per year	Local	Continuous	On-going, Continuous
Atchison County-4	Encourage and construct safe rooms and storm shelters in public and private schools, day care centers, and senior care facilities.	Tornado, Windstorm	Emergency Management Coordinator	High	2,3	\$1,000,000	Local, State, Federal	12/31/2015	On-going
Atchison County-5	Educate residents about driving in winter storms and educate them on winter related health effects.	Winter Storm	Emergency Management Coordinator	High	4	Staff Time	Local	Continuous	On-going, Continuous
Atchison County-6	Educate public and private sectors on potential agricultural terrorism and bio-terrorism.	Terrorism / Agri-Terrorism, Civil Disorder	Emergency Management Coordinator	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Atchison County-7	Coordinate county and local mitigation efforts with Rural Electric Cooperatives (RECs).	Utility / Infrastructure Failure	Emergency Management Coordinator	High	3	Staff Time	Local	12/31/2015	On-going
Atchison County-8	Research and recommend appropriate building codes for the county for new construction. County should adopt and enforce codes that require certain minimum building practices and contractor licensing for wind loss reduction.	Tornado, Windstorm	Emergency Management Coordinator	High	2	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Atchison County-10	Develop a program to acquire and preserve parcels of land subject to repetitive flooding.	Flood	Floodplain Manager	Medium	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Atchison County-11	Annually contact property owners with property in the high-risk flood areas about various programs/buy-outs, grants that are available to them and to gauge their interest.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Atchison County-12	Identify flash-flood prone areas to consider flood reduction measures to county planners.	Flood	Floodplain Manager	Medium	1,2	Staff Time	Local	12/31/2015	On-going
Atchison County-13	Research and design an appropriate stream buffer ordinance to further protect water resources and limit future flood damages adjacent to major waterways.	Flood	Floodplain Manager	Medium	1,2	\$40,000	Local, State, Federal	12/31/2015	On-going
Atchison County-14	Inventory/survey the emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources.	All Hazards	Emergency Management Coordinator	Medium	1	Staff Time	Local, State	12/31/2015	On-going
Atchison County-15	Research and recommend ordinance/resolution to require tornado saferooms for new major manufactures and/or mobile home parks with more than 10 mobile home spaces.	Tornado, Windstorm	Emergency Management Coordinator	High	2	Staff Time	Local	12/31/2015	On-going
Atchison County-16	Develop cross-departmental information collection capabilities and incorporate cadastral data utilizing a GIS for more detailed hazard risk assessments and tracking.	All Hazards	County Appraiser	High	1	\$8,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Atchison County-17	Develop and implement a wildfire prevention/education program. In addition to providing education to the general public, the program should also target children, fire and equipment users, builders and developers, and homeowners. Atchison County has burn-ban resolutions which require special permission to conduct open burning operations. In periods of drought or extreme weather conditions a burn ban may be declared. When a ban is declared all radio stations, TV stations, and regional newspapers in the area are notified as well as mayors, fire chiefs, etc. To better educate the public at large, Atchison County should expand their existing fire protection program to include wildfire workshops to all age groups and commercial operations.	Wildfire	Emergency Management Coordinator	Medium	1,4	\$30 per student	Local	12/31/2015	On-going
Atchison County-18	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the long-range goal of reducing damage to structures and systems within the jurisdiction.	Wildfire	Emergency Management Coordinator	High	1,3	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Atchison County-19	Create a working group to evaluate the firefighting water supply resources within the county. This should include both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult for firefighters to suppress fires. Whenever possible, increasing access to water along water service delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Management Coordinator	Medium	1,3	Staff Time	Local	12/31/2015	On-going
Atchison County-20	Atchison County and Atchison-Doniphan Drainage District No.15-45 will review and update current inspection criteria for levee no. LAT-0021. Levee No. LAT-0021 was last inspected on April 8, 2009, by the Army Corps of Engineers and yielded an "Acceptable" rating for the Drainage District No.15-45 levee. However, the Corps reported that the levee was constructed using the National Geodetic Vertical Datum of 1929 (NGVD 29), which is no longer the current standard, and has recommended reviewing and updating the current operations and maintenance activities to more recent standards.	Dam and Levee Failure	Emergency Management Coordinator	Medium	1,3	Staff Time	Local	31-Dec-15	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
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.	Flood	Emergency Management Coordinator	High	4	Staff Time	Local	Continuous	On-going, Continuous
Atchison County-22	Identify the county's most at-risk critical facilities, and evaluate potential mitigation techniques for protecting each facility to the maximum extent possible. A thorough evaluation of potential mitigation opportunities for Atchison County's critical facilities must still be completed. Currently, there is very little available data on these facilities. An inventory /database on critical facilities should be created and maintained by the county and shared with the Kansas Division of Emergency Management. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	All Hazards	Emergency Management Coordinator	Medium	1,3	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Atchison County-23	Develop an annex to the Local Emergency Operations Plan (LEOP) for dam failure response and evacuation for high hazard dams in Atchison County. Atchison County has 162 dams in the that are regulated by the Kansas Department of Agriculture (KDA) - Division of Water Resources (DWR). Four (4) of these dams are classified as “High Hazard Class C” structures, and are owned and operated local water districts and the Kansas Department of Transportation. The State evaluation of the dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads. It is important to note that a high hazard dam is not necessarily unsafe, as defined by the State of Kansas. An individual dam’s hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Emergency Management Coordinator	High	1,3	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
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.	Flood	Mayor	High	2,4	Staff Time	Local, State	12/31/2015	On-going
Atchison-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited public offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
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.	All Hazards	Mayor	Medium	4	\$300 per workshop	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
Atchison-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Atchison-5	Educate residents about driving in winter storms and handling winter-related health effects. US Department of Transportation (USDOT), the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Atchison-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Atchison County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Atchison-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local	12/31/2015	On-going
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.	Flood	City Planners	Medium	1,2	Staff Time	Local	7/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
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.	Flood	Mayor	High	2,4	Staff Time	Local, State	12/31/2015	On-going
Effingham-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited public offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Effingham-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.	All Hazards	Mayor	Medium	4	\$200 per workshop	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
Effingham-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems. Individuals and families need advance warning and protection from the dangerous forces of extreme winds.	Tornado, Windstorm	Mayor	High	2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Effingham-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Effingham-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Atchison County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Effingham-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/ Infrastructure Failure	Mayor						Deleted
Effingham-8	Promote the use of NOAA All Hazards Weather Radios for the entire community of Effingham. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system in Dresden provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	3,4	\$3,000	Local, State, Federal	Completed	Completed

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Huron-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.	Flood	Mayor	High	2,4	Staff Time	Local, State	12/31/2015	On-going
Huron-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited public offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Huron-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.	All Hazards	Mayor	Medium	4	\$250 per workshop	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
Huron-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Huron-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Huron-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Atchison County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	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
Huron-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local	12/31/2015	On-going
Huron-8	Conduct a study to determine the efficacy of the existing warning siren system within the Jurisdiction, and repair of install new sirens as needed to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by maintaining and upgrading the early warning system for the City of Huron.	All Hazards	Mayor	Medium	1,3	\$3,000	Local, State, Federal	7/31/2015	On-going
Huron-9	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	Mayor	Low	2,3	\$300,000	FEMA	7/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lancaster-1	The County and local governments will work with the Kansas Department of Agriculture - 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.	Flood	Mayor	High	2,4	Staff Time	Local, State	12/31/2015	On-going
Lancaster-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited public offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Lancaster-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.	All Hazards	Mayor	Medium	4	\$500 per workshop	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
Lancaster-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Lancaster-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Lancaster-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Atchison County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Lancaster-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local	12/31/2015	On-going
Lancaster-8	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	tornado	Mayor	Low	2,3	\$300,000	Local	12/31/2015	On-going
Muscotah-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.	Flood	Mayor	High	2,4	Staff Time	Local, State	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
Muscotah-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited public offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Muscotah-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.	All Hazards	Mayor	Medium	4	\$300 per workshop	Local	Continuous	On-going, Continuous
Muscotah-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3	Staff Time	Local, State, Federal	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
Muscotah-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Muscotah-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Muscotah-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility /Infrastructure Failure	Mayor	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
Muscotah-8	Promote the use of NOAA All Hazards Weather Radios for the entire community of Muscotah. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system in Dresden provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	3,4	\$4,000	Local, State, Federal	Continuous	On-going, Continuous
Highland Community College HCC-1	Consider mitigation projects for the construction of a tornado safe room for the Electrical Technology Building located in the City of Atchison. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded during new school construction, as part of school additions, or as retrofits.	Tornado	President	Low	2,3	\$1,000,000	Local, State, Federal	7/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD #377-1	Develop and fund mitigation projects for the construction of tornado safe rooms in Unified School District 377 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	2,3	\$1,000,000	Local, State, Federal	7/31/2010	On-going
USD #409-1	Develop and fund mitigation projects for the construction of tornado safe rooms in Unified School District 409 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	2,3	\$1,000,000	Local, State, Federal	12/31/2015	On-going

5.6.2 BROWN COUNTY

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-1	Brown County is committed to continued participation and compliance with the NFIP. There is no Federal law that requires a jurisdiction to join the program, and 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. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	Emergency Manager	High	1,2,3	Staff Time	State, FEMA Grants	Continuous	On-going, Continuous
Brown County-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Emergency Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. There are currently 23 policies in effect, with a total coverage amount of \$826,600. Since the jurisdiction joined the program, there has been one (1) claim paid. The specific amount was not available. (Source: FEMA, 2008). NFIP flood insurance policies protect property owners by offering affordable rates for both structures and contents.	Flood	Emergency Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Brown County-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Emergency Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Brown County-5	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Emergency Manager	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-6	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Emergency Manager	High	3	Staff Time	Local/State/Federal	12/31/2014	On-going
Brown County-7	Annually host a public “hazards workshop” for the residents in combination with local festivals, fairs, or other appropriate events. A hazard workshop for county residents should be added to an established community event drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten the County, and the mitigation and preparedness measures available to protect them. Guest speakers from the National Weather Service, the KDEM, and other relevant agencies should be invited to attend, and educational displays/handouts such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Emergency Manager	Medium	4	\$1,000 per workshop	Local/State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-8	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Emergency Manager	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous
Brown County-9	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Emergency Manager	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Brown County-10	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a Foreign Animal Disease (FAD) would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the Kansas Animal Health Department (KAH) to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Emergency Manager	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-11	<p>Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Brown County has 328 dams in the county that are regulated by the KDA-DWR. Four of these structures are classified as “High Hazard Class C” structures. Three structures are owned and operated by local water districts, the forth by the City of Horton. Dam identification is as follows: FRD NO GS-18 / Owned by Walnut Creek WD #1 FRD NO Y-3 / Owned by Walnut Creek WD #1 FRD NO M-3 / Owned by Walnut Creek WD #1 Mission Lake / Owned by the City of Horton The State evaluation of the dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads and bridges. It is important to note that a high hazard dam is not necessarily unsafe, as defined by the State of Kansas. An individual dam’s hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure</p>	Dam and Levee Failure	Emergency Manager	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-12	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Emergency Manager	Medium	1,3	\$60,000	Local, State, Federal	12/31/2014	On-going
Brown County-13	Appoint a planning committee to research and develop a Comprehensive Land Use Plan for Brown County. A Comprehensive Land Use Plan is a policy document that describes the official vision of the physical form and appearance desired for the town as it continues to grow over the coming years.	Flood	County Planner	Medium	1,2	Staff Time	Local	12/31/2014	On-going
Brown County-14	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	Floodplain Manager	Medium	1,2,3	Staff Time	Local	6/30/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-15	Develop and recommend an amendment to the County Flood Damage Prevention Ordinance to include a “no-rise (in base flood elevation)” clause for the county. Many floodplain permitting systems, including those that meet NFIP standards, allow projects outside the floodway to increase base flood elevations by up to one foot. By prohibiting any rise throughout the 100-year floodplain, a “no rise” clause ensures that the cumulative impact of multiple permitted projects will not cause flood elevations to rise to unacceptable levels.	Flood	Floodplain Manager	Medium	1,2	Staff Time	Local	12/31/2014	On-going
Brown County-16	Research, design, and recommend an appropriate stream buffer ordinance to protect water resources and to limit future flood damages. Riparian buffers serve as boundaries between waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose, but 50-100 feet is generally considered to be sufficient for bank stabilization and sediment control and 200 feet for flood control. Special consideration should be given to exempting agricultural operations from buffer regulations.	Flood	County Planner, Floodplain Manager	Medium	1,2	\$40,000	Local, State, Federal	1/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-18	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can enhance the jurisdiction's capability to manage, analyze and display spatially referenced data. Further development of this capability for functional use across all departments will enhance the county's overall capabilities to document building /structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	County Planner, county Appraiser	High	1,3	\$10,000	Local, State, Grants	Continuous	On-going, Continuous
Brown County-19	Conduct inventory/survey for the county's emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the county's current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations to the Commission for emergency service enhancements.	All Hazards	Emergency Manager	Medium	1	Staff Time	Local, State	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-20	Identify the county's most at-risk critical facilities, and evaluate potential mitigation techniques for protecting each to the maximum extent possible. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	All Hazards	Emergency Manager	Medium	1,3	Staff Time	Local	12/31/2014	On-going
Brown County-21	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the long-range goal of reducing damage to structures and systems within the jurisdiction.	Wildfire	Emergency Manager	Medium	1,3	Staff Time	Local	Continuous	On-going, Continuous
Brown County-22	Create a working group to evaluate the firefighting water supply resources within the County, including both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult to suppress fires. Increasing access to water along delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Manager	Medium	1,3	Staff Time	Local	6/30/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-23	Research and recommend appropriate building codes that includes wind-resistant design techniques for new construction. The County does not have any building code requirements. Incorporated and unincorporated areas of the county should adopt and enforce codes that require certain minimum building practices and contractor licensing for wind loss reduction. Techniques include adding protection for windows (i.e., shutters), anchoring door frames with multiple hinges, stiffening garage doors with additional bracing, reinforcing masonry chimneys with vertical steel, and strengthening connections between walls and the roof with hurricane straps and ties. These techniques should be promoted to building contractors and homebuyers by the county for all new residential construction, to the maximum extent possible during the building permit process.	Tornado, Windstorm	County Planner, County Appraiser	High	2	Staff Time	Local, State, Federal	6/30/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-24	Distribute assessment report examples provided by the Kansas Forest Service to applicable parties to develop an understanding of the Community Wildfire Protection Plan (CWPP). Recommend joining the program and completing an assessment report for approval. The probability of grass/cropland fire in Brown County is relatively high. The likelihood of future events is estimated to remain the same as currently calculated. Brown County can expect an average of 4.48 significant wildfires per year that damage or destroy a total of 149.67 acres annually. The average loss is estimated to be \$2,267 a year. The Kansas Forest Service staff would provide assistance to interested communities in the form of a Community Wildfire Hazard Assessment Report and some mitigation action items.	Wildfire	Emergency Manager	High	1,3,4	Staff Timen	Local, State, Federal	1/31/2012	On-going
Brown County-25	Appoint a rural fire committee to schedule meetings with the Kansas Forest Service to map suspected hazardous wildfire areas in the county for potential participation in the CWPP. In order for a community to take advantage of the Community-based Healthy Forests Restoration Act (HFRA), 2003, a community must develop a CWPP. To develop qualifications the community must identify and map potential hazard areas as an initial step towards participation.	Wildfire	Emergency Manager	High	1,3,4	Staff Time	Local, State, Federal	7/31/2012	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-26	<p>Incorporate wildfire maps, develop actions and projects for wildfire prevention, and complete an assessment report to meet CWPP requirements for submittal to the Kansas Forest Service.</p> <p>The minimum requirements for participation in the Community Wildfire Protection Plans (CWPP) as described in the HFRA are: (1) Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties. (2) Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure. (3) Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.</p>	Wildfire	Emergency Manager	High	1,3,4	\$5,000	Local, State, Federal	12/31/2012	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-27	<p>Incorporate the inspection and management of trees that may pose a threat to the county's routine maintenance process. A significant amount of property damage during high wind events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. The jurisdiction's ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on county property, which pose immediate threats to property, utility lines and other critical facilities should be addressed.</p>	Windstorm, Tornado, Utility/ Infrastructure Failure	Emergency Manager	Medium	1,3	\$10,000	Local	Continuous	On-going, Continuous
Brown County-28	<p>Encourage the repositioning of as many utility lines as possible underground. Consider local regulations to require the placement of all new utility lines underground. Encourage utility providers and municipalities within the incorporated and unincorporated areas of the county to require that utility lines and mains be installed underground. Buried power lines offer the security of uninterrupted power during and after storms. However, consideration needs to be made for maintenance and repair, particularly in cold climates where soil freezes more readily.</p>	Utility/ Infrastructure Failure	Emergency Manager	High	2,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-29	Pony Creek Joint Watershed District No. 78 will continue to protect the water and land resources within its jurisdiction. It will evaluate the need for further floodwater control and erosion control actions or projects. Additional effort will be made to seek alternative funding resources as they become available. The Watershed was formed in May of 1975 to provide installation, maintenance, and operation of flood control projects within the watershed to protect local resources. Responsibilities also include maintenance of projects and waterways within the watershed.	Flood	Emergency Manager	Medium	1,2,3	Unknown	Local, State, Federal	Continuous	On-going, Continuous
Brown County-30	Walnut Creek Watershed will continue to protect the water and land resources within its jurisdiction. It will evaluate the need for further floodwater control and erosion control actions or projects. Additional effort will be made to seek alternative funding resources as they become available. The Watershed was formed in the late 1950s to provide installation, maintenance, and operation of flood control projects within their watershed to protect local resources. The organization's primary responsibilities include hauling rock, tree trimming, weed control, fence repair, and maintenance of projects and waterways within the watershed.	Flood	Emergency Manager	Medium	1,2,3	Unknown	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-31	Appoint a committee to develop and submit an Emergency Action Plan (EAP) for each of the three High Hazard Dams owned and maintained by the Walnut Creek Watershed. Approval is granted through the KDA-DWR - State Engineering Office. The EAPs should be integrated into the Brown County LEOP. The three watershed dams are required to have an EAP filed with the State of Kansas. The State evaluation of the dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads. It is important to note that a high hazard dam is not necessarily unsafe, as defined by the State of Kansas. An individual dam's hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Emergency Manager	High	1,2,3	Staff Time	Local	3/31/2011	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Brown County-32	Wolf River Watershed will continue to protect the water and land resources within its jurisdiction. It will evaluate the need for further floodwater control and erosion control actions or projects. Additional effort will be made to seek alternative funding resources as they become available. Wolf River Watershed District No. 66 was formed to provide installation, maintenance, and operation of flood control projects within their watershed including: pollution and erosion control, and installation of dams to protect local resources. The organization has completed seventeen (17) of the proposed 200 water control dams since they organized in 1965.	Flood	Emergency Manager	Medium	1,2,3	Unknown	Local State, Federal	Continuous	On-going, Continuous
Everest-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Everest-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Everest-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Everest-4	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Everest-5	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, FEMA	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Everest-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$300 per workshop	Local, State	Continuous	On-going, Continuous
Everest-7	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous
Everest-8	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Everest-9	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Everest-10	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Everest-11	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2014	On-going
Everest-12	Appoint a planning committee to research and develop a Comprehensive Land Use Plan for Brown County. A Comprehensive Land Use Plan is a policy document that describes the official vision of the physical form and appearance desired for the town as it continues to grow over the coming years.	Tornado	Mayor	High	1,3	Staff Time	Local, State, Federal	12/31/2014	On-going
Everest-13	Seek funding to purchase and install a backup power generator for the second outdoor warning siren. Tornadoes and severe weather events are a serious risk to people who live in Kansas. A lack of backup power for the warning system can create a hardship on the community in the event of loss of power.	Utility/ Infrastructure Failure	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Fairview-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Fairview-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Fairview-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Fairview-4	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Fairview-5	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all within the jurisdiction. Power loss during extreme temperatures increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, Federal	12/31/2014	On-going
Fairview-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$300 per workshop	Local State	Continuous	On-going, Continuous
Fairview-7	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Fairview-8	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local State	Continuous	On-going, Continuous
Fairview-9	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Fairview-10	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Fairview-11	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2014	On-going
Fairview-12	Seek funding to design and build safe rooms for the town of Fairview. The community of Fairview does not have any protection from tornado and high wind, and very few residents have basements. Additionally, funding resources are scarce. Consideration should be given to constructing community safe rooms for residents during tornado events.	Tornado	Mayor	High	2,3	\$300,000	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Fairview-13	Incorporate the inspection and management of trees into the city maintenance program that may pose a threat to the electrical lines that could result in power outages. Significant amounts of property damage occur during winter/ice storms that results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. The jurisdiction's ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on jurisdictional property, which pose immediate threats to property, utility lines and other critical facilities should be addressed.	Winter Storm, Utility/ Infrastructure Failure	Mayor	Medium	1,3	\$5,000	Local, State, Federal	12/31/2014	On-going
Hiawatha-1	Hiawatha is committed to continued participation and compliance with the NFIP. Participation is voluntary, but 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 will be sanctioned. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	Floodplain Manager	High	1,2,3	Staff Time	State, FEMA Grants	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hiawatha-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Hiawatha-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Hiawatha-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Hiawatha-5	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hiawatha-6	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, Federal	12/31/2014	On-going
Hiawatha-7	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$1,000 per workshop	Local, State	Continuous	On-going, Continuous
Hiawatha-8	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hiawatha-9	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Hiawatha-10	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Hiawatha-11	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hiawatha-12	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards'	Mayor	Medium	1,3	\$45,000	Local, State, Federal	12/31/2014	On-going
Hiawatha-13	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to city planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	Mayor	Medium	1,2,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hiawatha-14	Incorporate the inspection and management of trees that may pose a threat to the City's routine maintenance system process. A significant amount of property damage during tornado and high wind events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. The jurisdiction's ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on jurisdictional property, which pose immediate threats to property, utility lines and other critical facilities should be addressed.	Tornado, Windstorm, Utility/ Infrastructure Failure	Mayor	Medium	1,3	\$10,000	Local	12/31/2014	On-going
Hiawatha-15	Encourage the repositioning of as many utility lines as possible underground. Consider local regulations to require the placement of all new utility lines underground. Encourage utility providers and municipalities within the county to require that utility lines and mains be installed underground. Buried power lines offer the security of uninterrupted power during and after storms. However, consideration needs to be made for maintenance and repair, particularly in cold climates where soil freezes more readily.	Utility/ Infrastructure Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hiawatha-16	Seek funding to complete a stormwater drainage study for the jurisdiction that will lead to a stormwater management ordinance that maintains pre-development runoff rates. The study should include an evaluation of existing dams/levee systems, vulnerable streams, and other major waterways in the region that may impact growth patterns established for the community. Stormwater management best practices for Hiawatha are addressed in the Hiawatha Land Use Plan. A stormwater drainage study/plan will identify drainage problems and address solutions through detention, retention, and drainage system maintenance among other specific mitigation measures.	Flood	City Planner	Medium	1	\$40,000	Local, State, Federal	12/31/2014	On-going
Horton-1	Horton 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. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	Mayor	High	1,2,3	Staff Time	State, FEMA Grants	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Horton-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Horton-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Horton-5	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local State	Continuous	On-going continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-6	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local State Federal	12/31/2014	On-going
Horton-7	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$600 per workshop	Local, State	Continuous	On-going, Continuous
Horton-8	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-9	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Horton-10	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Horton-11	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-12	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$45,000	Local, State, Federal	12/31/2014	On-going
Horton-13	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	Floodplain Manager	Medium	1,2,3	Staff Time	Local	6/30/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-14	Appoint a planning committee to develop an Evacuation Plan for Horton in the event of dam failure. Coordinate efforts with County Emergency Management to include the evacuation plan in the LEOP. The KDA-DWR identified one high hazard Dam (Mission Lake Dam) that is owned and operated by the city of Horton. The State evaluation of dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads. It is important to note that a high hazard dam is not necessarily unsafe nor does it reflect the physical condition of the dam. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or failure.	Dam and Levee Failure	Mayor	High	1,3	Staff Time	NA	12/31/2014	On-going
Horton-15	Promote the use of weather radios in commercial, city and residential buildings. When severe weather threatens, citizens need advance warning and protection from the dangerous forces of extreme winter storms and high wind events such as tornado. Citizens in high-risk areas should utilize advance warning systems to prepare for severe weather events. The city is also encouraged to seek out grant programs that may sponsor NOAA emergency radio distribution and/or subsidized costs.	All Hazards	Mayor	High	1,3	\$8,000	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-16	Incorporate the inspection and management of trees into the city's routine maintenance process to remove trees that may pose a threat to people and the infrastructure. A significant amount of property damage during tornado or high wind events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. The jurisdiction's ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on city property, which pose immediate threats to property, utility lines and other critical facilities should be addressed.	Tornado, Windstorm, Utility/ Infrastructure Failure	Mayor	High	1,3	\$10,000	Local	12/31/2014	On-going
Horton-17	Encourage the repositioning of as many utility lines as possible underground. Consider local regulations to require the placement of all new utility lines underground. Encourage utility providers and municipalities within the county to require that utility lines and mains be installed underground. Buried power lines offer the security of uninterrupted power during and after storms. However, consideration needs to be made for maintenance and repair, particularly in cold climates where soil freezes more readily.	Winter Storm	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Horton-18	Appoint a team to evaluate and assess potential downstream damage in the event of dam failure from the Mission Lake Dam, and update the current Emergency Action Plan. The City of Horton Water Department is responsible for dam inspection, evaluation and reporting. Additional information regarding potential inundation impact and assessment of damage exposure is needed to complete the Emergency Action Plan. The City should also contact the Kansas Department of Agriculture, Structures Division, to apply for inundation mapping and evaluation assistance for their high hazard dam.	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	7/31/2011	On-going
Morrill-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Morrill-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrill-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Morrill-4	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Morrill-5	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrill-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$300 per workshop	Local, State	Continuous	On-going, Continuous
Morrill-7	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous
Morrill-8	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrill-9	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Morrill-10	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrill-11	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$15,000	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrill-12	<p>Appoint a committee to research and develop a FEMA application package for participation in the NFIP. Steps include: Application for Participation, a resolution of Intent, and adoption of Floodplain Management Regulations. When the jurisdiction chooses to join it must adopt and enforce minimum floodplain management standards for participation. FEMA works closely with State and local officials to identify flood hazard areas and flood risks. The floodplain management requirements within the SFHA are designed to prevent new development from increasing the flood threat and to protect new and existing buildings from anticipated flood events. When a community chooses to join it must require permits for all development in the SFHA and ensure that construction materials and methods used will minimize future flood damage. Permit files must contain documentation to substantiate how buildings were actually constructed. In return, the Federal Government makes flood insurance available for almost every building and its contents within the community. Communities must ensure that their adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations must be updated when additional data are provided by FEMA or when Federal or State standards are revised. (FEMA).</p>	Flood	Mayor	High	1,2	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrill-13	Incorporate the inspection and management of trees that may pose a threat to the electrical lines that could result in power outages during severe winter/ice storms into the city maintenance program. Significant amounts of property damage occur during winter/ice storms that results from tree failure. Trees that fall into utility lines have consequences such as causing power outages, surges, fires and other damage. The jurisdiction's ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on jurisdictional property, which pose immediate threats to property, utility lines and other critical facilities should be addressed.	Winter Storm	Mayor	Medium	1,3	\$5,000	Local, State, Federal	12/31/2014	On-going
Reserve-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Reserve-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Reserve-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Reserve-4	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Reserve-5	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Reserve-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$300 per workshop	Local, State	Continuous	On-going, Continuous
Reserve-7	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous
Reserve-8	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Reserve-9	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Reserve-10	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Reserve-11	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$20,000	Local, State, Federal	12/31/2014	On-going
Reserve-12	Seek funding to design and build safe rooms for the town of Reserve. The community of Reserve does not have any protection from tornado and high wind, and very few residents have basements. Additionally, funding resources are scarce. Consideration should be given to constructing community safe rooms for residents during tornado events.	Tornado	Mayor	High	1,2,3	\$250,000	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Reserve-13	Promote and educate citizens on the use of severe weather alert radios for the entire community of Reserve. Seek funding to subsidize purchase and distribution of weather radios. The NOAA Weather Radio All Hazards (NWR) is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system in Reserve provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards such as winter storms, high wind, or tornadoes.	All Hazards	Mayor	High	1,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Robinson-1	Robinson is committed to continued participation and compliance with the NFIP. There is no Federal law that requires a jurisdiction to join the program, and 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. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	Mayor	High	1,2,3	Staff Time	State, FEMA Grants	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Robinson-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Robinson-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Robinson-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going
Robinson-5	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Robinson-6	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, Federal	12/31/2014	On-going
Robinson-7	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$250 per workshop	Local, State	Continuous	On-going, Continuous
Robinson-8	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff Time	Local, School Districts, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Robinson-9	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Robinson-10	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Robinson-11	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Robinson-12	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2014	On-going
Robinson-13	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to city planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	Floodplain Manager	Medium	1,2,3	Staff Time	Local	12/31/2014	On-going
Willis-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Flood	Floodplain Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Willis-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Floodplain Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Willis-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Flood	Floodplain Manager	Medium	4	Staff Time	Local, State	6/1/2014	On-going, Continuous
Willis-4	Collect educational materials on individual and family preparedness and/or mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Willis-5	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power is beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property	Utility/ Infrastructure Failure	Mayor	High	3	Staff Time	Local, State, Federal	12/31/2014	On-going
Willis-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	All Hazards	Mayor	Medium	4	\$250 per workshop	Local, State	Continuous	On-going, Continuous
Willis-7	Encourage the construction of safe rooms in public and private schools, day care centers and senior care facilities and improve advanced warning systems. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	3	Staff time	Local, School Districts, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Willis-8	Educate residents about driving in winter storms and handling winter-related health effects. The USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local, State	Continuous	On-going, Continuous
Willis-9	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. An intentional introduction of a FAD would be devastating to the local economy as well as the rest of the state and country. The County formed a FAD Committee to address these concerns. Specific education programs should be developed in coordination with the KAH to inform ranchers, farmers, and veterinary professionals on the methods to identify, prevent, and treat animal disease outbreaks.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	Medium	4	Staff Time	Local, State, KS Animal Health, Federal	Continuous	On-going, Continuous
Willis-10	Appoint a planning committee to develop and adopt an annex to the LEOP for dam/levee failure response and evacuation for high hazard dams/levees in the jurisdiction. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure	Dam and Levee Failure	Mayor	High	1,3	Staff Time	Local	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Willis-11	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Reduce the possibility of damages to the citizens by upgrading the early warning system for the Jurisdiction. Seek grant funding to purchase and install the new system.	All Hazards	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2014	On-going
Willis-12	Seek funding to design and build safe rooms for the town of Willis. The community of Willis does not have any protection from tornado and high wind, and very few residents have basements. Additionally, funding resources are scarce. Consideration should be given to constructing community safe rooms for residents during tornado events.	Tornado	Mayor	High	2,3	\$300,000	Local, State, Federal	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Willis-13	Promote and educate citizens on the use of severe weather alert radios for the entire community of Willis. Seek funding to subsidize purchase and distribution of weather radios. The NOAA Weather Radio All Hazards (NWR) is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system in Willis provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,3	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Willis-14	Develop a workshop to educate citizens of Willis regarding the Severe Weather Alert System, and develop an Action Plan for distribution. The city of Horton maintains and manages the severe weather alert system for the town of Willis. A seminar on alert signals and their corresponding meanings within the "protective zone" is imperative to ensure correct response measures are taken during severe weather events.	All Hazards	Mayor	High	1,4	\$200 per workshop	Local, State	12/31/2014	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD415-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 415 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits	Tornado	Superintendent	Medium	2,3	\$1,000,000	Local, State, Federal	12/31/2014	On-going
USD430-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 430 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Medium	2,3	\$1,000,000	Local, State, Federal	12/31/2014	On-going

5.6.3 DONIPHAN COUNTY

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-1	Doniphan County and the incorporated cities will work in coordination with the KDA-DWR and FEMA to develop D-FIRMs for the county and incorporated cities. Doniphan 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.	Flood	Emergency Manager	High	2	Staff Time	Local, State, Federal	12/31/2015	On-going
Doniphan County-1a	Continued participation in the 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.	Flood	Zoning Administrator	High	2	Staff Time	None	Continuous	On-going, Continuous
Doniphan County-2	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 make available flood insurance to individuals whose local governments participate in the program. Flood insurance policies are continuous, and are not non-renewed for repeat losses.	Flood	Emergency Manager	High	1,2	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Emergency Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Doniphan County-4	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.	All Hazards	Emergency Manager	High	3,4	\$1,000 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Doniphan County-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Emergency Manager	High	2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT, and other agencies provide informational brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Emergency Manager	High	4	Staff Time	Local	Continuous	On-going, Continuous
Doniphan County-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Doniphan County is primarily an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional, and state economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri-Terrorism, Civil Disorder	Emergency Manager	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Doniphan County-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Emergency Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-9	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the capability to manage, analyze and display spatially referenced data. Further development of this capability for use across all departments and local governments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	Emergency Manager	Medium	4	Staff Time	Local, State	12/31/2015	On-going
Doniphan County-10	Doniphan 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.	Flood	Emergency Manager	High	1,2	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-11	Update the Comprehensive Land Use Plan for the County. A Land Use Plan is a policy document that describes the official vision of the physical form and appearance desired for the county as it continues to grow over the coming years. The Plan provides a long-range vision (guide) for growth management. The current plans vision does not extend beyond 1985, and a revision reflecting current information is needed for future planning.	All Hazards	Emergency Manager	Medium	1,2	Staff Time	Local	12/31/2015	On-going
Doniphan County-12	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Doniphan County can apply for grant funding to acquire flood-prone parcels of land from voluntary and willing property owners.	Flood	Emergency Manager	High	1,2	Dependent on fair market value	Local, State, Federal	Continuous	On-going, Continuous
Doniphan County-13	Contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Flood	Emergency Manager	High	1,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-14	Identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	Emergency Manager	High	1,2,4	Staff Time	Local	12/31/2015	On-going
Doniphan County-15	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction's water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting Doniphan County's agricultural operations from buffer regulations.	Flood	Emergency Manager	High	1,2	\$40,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-16	Consider researching and recommending appropriate building codes for the County that include wind-resistant design techniques for new construction. Doniphan County (unincorporated) should consider adopting and enforcing codes that require certain minimum building practices and contractor licensing for wind loss reduction. Experts agree that structures built to exceed high wind provisions have a much greater chance of surviving violent windstorms. Additional techniques include adding protection for windows (i.e., shutters), anchoring door frames with multiple hinges, stiffening garage doors with additional bracing, reinforcing masonry chimneys with vertical steel, and strengthening connections between walls and the roof with hurricane straps and ties. These techniques should be promoted to building contractors and homebuyers by the county for all new residential construction, to the maximum extent possible during the building permit process.	Tornado, Windstorm	Emergency Manager	High	2	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-17	Research, develop and recommend an ordinance /resolution to require installation of tornado shelters for any new major manufactured and/or mobile home parks with more than 10 mobile home spaces. Mobile homes are particularly vulnerable to damage from high winds. Residents, even those who live in mobile homes with tie-downs, should seek safe shelter when a tornado threatens. Tornado shelters should be constructed in major mobile home parks to ensure a safe place for residents to go during a tornado event. The shelter structure, which should be designed to withstand a minimum of 120mph winds, could easily serve an alternate purpose such as a community center, laundry facility, etc. Tornado shelters should be for last minute protection for high wind events.	Tornado, Windstorm	Emergency Manager	High	2,3	Staff Time	Local	12/31/2015	On-going
Doniphan County-18	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the long-range goal of reducing damage to structures and systems within the jurisdiction.	Wildfire	Emergency Manager	High	1,3	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-19	Evaluate the firefighting water supply resources within the County., including both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult to suppress fires. Increasing access to water along water service delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Manager	Medium	1,3	Staff Time	Local	12/31/2015	On-going
Doniphan County-20	Develop and implement a wildfire prevention/education program. In addition to providing education to the general public, the program should also target children, fire and equipment users, builders and developers, and homeowners. The jurisdiction currently does not have burn-ban resolutions in place. However, in periods of drought or extreme weather conditions a burn ban may be declared. When a ban is declared all radio stations, TV stations, and newspapers in the area are notified as well as mayors, fire chiefs, etc. To better educate the public at large, the jurisdiction should expand the existing fire protection program to include wildfire workshops to all age groups and commercial operations.	Wildfire	Emergency Manager	Medium	4	\$300 per workshop	Local	Continuous	On-going, Continuous
Doniphan County-21	Conduct inventory/survey for the county emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. This should result in specific recommendations for emergency service enhancements.	All Hazards	Emergency Manager	Medium	1,3	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-22	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities should be completed. Currently, there is very little available data on these facilities. An inventory /database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	All Hazards	Emergency Manager	Medium	1,3,4	Staff Time	Local, State	12/31/2015	On-going
Doniphan County-23	Incorporate the inspection and management of trees that may pose a threat to the county's routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Doniphan County's ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Utility/Infra-structure Failure	Emergency Manager	Medium	3	\$8,000	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-24	The Doniphan Electric Cooperative Association, Inc. will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies, including the upgrade of poles and conductors.	Utility/Infrastructure Failure	Emergency Manager	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Doniphan County-25	The Elwood-Gladden Drainage District will continue to operate and maintain their levee in accordance with appropriate regulatory requirements. The Elwood-Gladden Drainage District owns and maintains the levee located near the cities of Elwood and Wathena, in the area near the Missouri River. The drainage district performs maintenance and repair activities on the levee, as needed.	Dam and Levee Failure	Emergency Manager	High	1	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Doniphan County-26	Emergency Generators. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that critical facilities maintain power during severe weather events. The current generator does not allow all critical county entities to maintain power. Acquire and install a permanently mounted generator capable of handling all emergency operations at the Doniphan County Courthouse	Utility/Infrastructure Failure	Emergency Management Coordinator	High	1,2	\$30,000	Local, Grant	5 years	New

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Doniphan County-27	The Elwood Gladden Drainage District will work in coordination with Doniphan County and the cities of Elwood and Wathena to research and pursue funding options for the purchase and installation of discharge pumps and outlet drainages for both city's sewage lagoons, allowing effluent discharge to flow beyond the levee systems to the Missouri River. The cities of Elwood and Wathena, and the Elwood Gladden Drainage District, have identified the need to allow effluent discharge from the cities lagoon systems to flow beyond the current containment area to the Missouri River, beyond the existing levee.	Utility/Infra-structure Failure	Emergency Manager	Medium	3	Staff Time	Local, State, Federal	12/31/2015	On-going
Doniphan County-28	The Burr Oak Drainage District will continue to maintain and operate flood control structures and channels, allowing storm water runoff to pass through the district without causing flooding of property. The general mission of the drainage district is to pass stormwater run-off through the District without causing flooding of property through maintenance and operation of flood control structures and channels. The organization will evaluate the need for further maintenance projects, and additional effort will be made to seek alternative funding as they become available.	Dam and Levee Failure	Emergency Manager	Medium	1	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Denton-1	Doniphan County and the incorporated cities will work in coordination with the KDA-DWR and FEMA to develop D-FIRMs for the county and incorporated cities. 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.	Flood	Mayor	Medium	2	Staff Time	Local, State, Federal	12/31/2015	On-going
Denton-2	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.	Flood	Mayor	High	1,2	Staff Time	Local, State	12/31/2015	On-going
Denton-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Denton-4	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.	All Hazards	Mayor	High	3,4	200 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Denton-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems	Tornado, Windstorm	Mayor	High	2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Denton-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT, and other agencies provide informational brochures and pamphlets on safe driving measures at no cost..	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Denton-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Doniphan County is primarily an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional, and state economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Denton-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Denton-8a	Emergency Generators. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that critical facilities maintain power during severe weather events. Acquire and Install emergency generator for the City of Denton.	Utility/Infra-structure Failure	Council Member/Coordinator	High	1,2	\$30,000	Local, Grant	5 years	New

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Denton-9	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the County's technical capability to manage, analyze and display spatially referenced data. Further development of this capability for use across all departments and local governments will enhance the ability to document building/structure cost data, and further hazard mitigation goals in developing cadastral data.	All Hazards	Mayor	Medium	4	\$5,000	Local, State	12/31/2015	On-going
Denton-10	Research the cost and funding options to install an outside warning system for the city of Denton. Reduce the possibility of damages and loss of life to the citizens by installing a early warning system for the City of Denton.	All Hazards	Council Member/Coordinator	High	1,2	\$30,000	Local, State, Federal	5 years	On-going
Elwood-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 to gather important data, allowing the county to identify potential hazard areas and impacted properties for future planning activities.	Flood	Mayor	Medium	2	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Elwood-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.	Flood	City Clerk	High	2	Staff Time	None	Continuous	New
Elwood-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.	Flood	Mayor	High	1,2	Staff Time	Local, State	12/31/2015	On-going
Elwood-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Elwood-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.	All Hazards	Mayor	High	3,4	\$300 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Elwood-6	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Elwood-7	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT, and other agencies provide informational brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Elwood-8	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Doniphan County is primarily an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional, and state economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri- Terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Elwood-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra- structure Failure	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Elwood-10	Emergency Generators. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that critical facilities maintain power during severe weather events. Acquire and Install emergency generators for the City of Elwood's water tower, Community Buildings and City Hall.	Utility/Infra-structure Failure	City Clerk	High	1,2	\$30,000	Local, Grant	5 years	New

Elwood-11	Seek funding to design community tornado shelters and apply for grant funding for construction. A lack of tornado shelters poses a serious risk to the safety of the community. The City of Elwood has identified a need for Community Storm Shelters.	Tornado, Windstorm	Mayor	Medium	2,3	\$300,000	Local, State, Federal	12/31/2015	On-going
Elwood-12	Research and pursue funding options to map and upgrade the city of Elwood storm drain system to minimize overflow and subsequent damage to property. In instances of heavy rains the city of Elwood storm drainage system has the potential to overflow, which can cause damage to private and public properties. The mapping, review, and maintenance of the existing storm drain system may enable the city of Elwood to revise the existing system in an attempt to minimize the instances of overflow.	Flood	Mayor	Medium	1,3,4	Unknown	Local, State, Federal	12/31/2015	On-going
Elwood-13	Research and pursue funding options for the mapping of utility services provided in the city of Elwood, including water, sewer, and electrical utilities. In the event of the loss of utility services due to	Utility/Infra-structure Failure	Mayor	Medium	1,3	\$15,000	Local, State, Federal	12/31/2015	On-going

	weather events, the mapping of the services would provide an efficient way of identifying customers affected by the outage. Timely identification of customers affected may reduce medical complications for customers using home oxygen or other medical equipment.								
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Elwood-14	The city of Elwood will work in coordination with Doniphan County and the Elwood Gladden Drainage District to research and pursue funding options for the purchase and installation of discharge pumps and outlet drainages for the city of Elwood's sewage lagoon, allowing effluent discharge to flow beyond the levee system to the Missouri River. Both the city of Elwood and the Elwood Gladden Drainage District have identified the need to allow effluent discharge from the city's lagoon system to flow beyond the current containment area to the Missouri River, beyond the existing levee.	utility/Infra-structure Failure, Flood,, Dam and Levee Failure	Mayor	Medium	3	Unknown	Local, State, Federal	12/31/2015	On-going
Highland-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.	Flood	Mayor	Medium	2	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Highland-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.	Flood	City Clerk	High	2	Staff time	None	Continuous	New
Highland-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.	Flood	Mayor	High	1,2	Staff Time	Local, State	12/31/2015	On-going
Highland-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Highland-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.	All Hazards	Mayor	High	3,4	\$500 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Highland-6	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Highland-7	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT, and other agencies provide informational brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Highland-8	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Doniphan County is primarily an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional, and state economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri-Terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Highland-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Highland-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the County's technical capability to manage, analyze and display spatially referenced data. Further development of this capability for functional use across all departments and local governments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	Mayor	Medium	4	\$6,000	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Highland-11	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for Critical Facilities, including the City of Elwood's city hall, emergency shelters, and emergency services building. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities maintain power during severe weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,3	\$40,000	Local, State, Federal	12/31/2015	On-going
Highland-12	Research and pursue funding options for the mapping of utility services provided in the city of Highland, including water, sewer, and electrical utilities. In the event of the loss of utility services due to weather events, the mapping of the services would provide an efficient way of identifying customers affected by the outage. Timely identification of customers affected may reduce medical complications for customers using home oxygen or other medical equipment.	All Hazards	Mayor	Medium	1,3	\$10,000	Local, State, Federal	12/31/2015	On-going
Troy-1	Doniphan County and the incorporated cities will work in coordination with the KDA-DWR and FEMA to develop D-FIRMs for the county and incorporated cities. Doniphan County is currently working with the State of Kansas and FEMA to develop new flood maps for the county and incorporated cities in an	Flood	Mayor	Medium	2	Staff Time	Local, State, Federal	12/31/2015	On-going

	effort to gather important flood plain data, allowing the county to identify potential hazard areas and impacted properties for future planning activities.								
Troy-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.	Flood	Chief of Police	High	1,2	Staff Time	None	Continuous	New

Troy-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.	Flood	Mayor	High	1,2	Staff Time	Local, State	12/31/2015	On-going
Troy-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Troy-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.	All Hazards	Mayor	High	3,4	\$300 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Troy-6	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Troy-7	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT, and other agencies provide informational brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Troy-8	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Doniphan County is primarily an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional, and state economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri- Terrorism, Civil Disorder	Mayor	High	3,4	Staff time	Local, State, Federal	12/31/2015	On-going
Troy-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra- structure Failure	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Troy-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the County's technical capability to manage, analyze and display spatially referenced data. Further development of this capability for functional use across all departments and local governments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	Mayor	Medium	4	\$5,000	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Troy-11	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for Critical Facilities, including the City of Elwood's city hall, emergency shelters, and emergency services building. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities maintain power during severe weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2015	On-going

Troy-12	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood		Medium	1,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Troy-13	Research and pursue funding options to map and upgrade the city storm drain system to minimize overflow and subsequent damage to property. In instances of heavy rains the city storm drainage system has the potential to overflow, which can cause damage to properties. The mapping, review, and maintenance of the existing storm drain system may enable the city to revise the existing system in an attempt to minimize the instances of overflow.	Flood	Mayor	Medium	1,3,4	\$30,000	Local, State, Federal	12/31/2015	On-going
Troy-14	Research and pursue funding options for the purchase and installation of an additional outdoor warning siren in the city. The city of Troy has identified a	All Hazards	Mayor	Medium	1,3	\$30,000	Local, State, Federal	12/31/2015	On-going

	need for an additional outdoor warning siren system within the city limits, specifically on the southwest side of the city, which includes a new housing development that is currently outside the existing warning system range.								
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.	Flood	Mayor	Medium	2	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
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.	Flood	City Clerk	High	2	Staff Time	None	Continuous	New
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	Flood	Mayor	High	1,2	Staff Time	Local, State	12/31/2015	On-going

	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.								
Wathena-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited jurisdiction offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
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.	All Hazards	Mayor	High	3,4	\$250 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Wathena-6	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and	Tornado, Windstorm	Mayor	High	2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous

	communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.								
Wathena-7	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT, and other agencies provide informational brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Wathena-8	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Doniphan County is primarily an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional, and state economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/ Agri- Terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Wathena-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra- structure Failure	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Wathena-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the capability to manage, analyze and display spatially referenced data. Further development of this capability for use across all departments and local governments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	Mayor	Medium	4	\$4,000	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Wathena-12	Seek funding to design community tornado shelters and apply for grant funding for construction. A lack of tornado shelters poses a serious risk to the safety of the community. The City of Wathena has identified a need for Community Storm Shelters.	Tornado, Windstorm	Mayor	Medium	2,3	\$350,000	Local, State, Federal	12/31/2015	On-going
Wathena-13	Research and pursue funding options for the mapping of utility services provided in the city of Wathena, including water, sewer, and electrical utilities. In the event of the loss of utility services due to weather events, the mapping of the services would provide an efficient way of identifying customers affected by the outage. Timely identification of customers affected may reduce medical complications for customers using home oxygen or other medical equipment.	Utility/Infra-structure Failure	Mayor	Medium	1,3	\$10,000	Local, State, Federal	12/31/2015	On-going
Wathena-14	Consider researching and developing a Comprehensive Land Use Plan for the city of Wathena, as well as the creation and adoption of Zoning Ordinances for the city. The city of Wathena considers the availability of a Comprehensive Land Use Plan and the adoption of Zoning Ordinances vital to the safety and welfare of the citizens in the event of a natural disaster which may result in the destruction of residential and commercial buildings within the city of Wathena.	All Hazards	Mayor	Medium	1,3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Wathena-15	<p>Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for Critical Facilities, including the water treatment plant and pumping station in the city of Wathena. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities maintain power during severe weather events. For potable water services, the installation of emergency generators at the water treatment plant and the pumping station is considered vital to the safety and welfare of the citizens of Wathena.</p>	Utility/Infra-structure Failure	Mayor	Medium	1,3	Unknown	Local, State, Federal	12/31/2015	On-going
Wathena-16	<p>The city of Wathena will work in coordination with Doniphan County and the Elwood Gladden Drainage District to research and pursue funding options for the purchase and installation of discharge pumps and outlet drainages for the city of Wathena's sewage lagoon, allowing effluent discharge to flow beyond the levee system to the Missouri River. Both the city of Wathena and the Elwood Gladden Drainage District have identified the need to allow effluent discharge from the city's lagoon system to flow beyond the current containment area to the Missouri River, beyond the existing levee.</p>	Flood, Dam and Levee Failure	Mayor	Medium	3	Unknown	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Highland Community College-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Highland Community College structures located in the City of Highland. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	President	Low	2,3	\$1,000,000	Local, State, Federal	12/31/2015	On-going
USD114-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 114 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	2,3	\$1,000,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Entity	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD114-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare school districts such as USD 114 for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/ Agri- Terrorism, Civil Disorder	Superintendent	Low	1,3	\$50,000	Local, State, Federal	12/31/2015	On-going
USD429-1	Safe Rooms. A lack of tornado shelters poses a serious risk to the safety of USD429 has identified a need for safe rooms. Create school safe rooms.	Tornado, Windstorm	Superintendent	High	1,2	\$1,000,000	Unknown	5 years	New
USD429-2	Audio and visual emergency alert systems. As the number of school shootings continue to increase, USD429 recognizes the need for audio and visual communication/notification systems for security of its students. Acquire audio and visual emergency communication and notification systems for interior and exterior of school grounds.	All Hazards	Superintendent	High	1,2	\$25,000	Unknown	5 years	New

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	New
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	New
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	New
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	New
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	New

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	New
DouglasCo-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	New
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	New
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	New

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/upsized 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	New
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	New
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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	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	Superintendent	Medium	1, 2, 3	\$10,000	Local, State, Federal	6 - 12 months	New
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	Superintendent	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	Superintendent	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	Superintendent	High	2	\$15M for reinforced, \$22M for FEMA Standard	Local, Grants	4 years	New

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	New
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	New

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	New
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	New
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	New
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	New
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	New
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	New

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	New

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	New
RWD#5-1	Replace and upgrade pump stations and water towers.	All Hazards	Director	High	1,2	\$1,000,000	Local, State, Federal	2017	New
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	New

5.6.5 JACKSON COUNTY

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.	Flood	County Planner	High	1,2,3	Staff Time	Local, State	12/31/2020	On-going
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.	Flood	Emergency Manager	High	1,2,3	Staff time	State, Fema	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
Jackson County-3	<p>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.</p>	Flood	Emergency Manager	High	3	Staff Time	Local	Continuous	On-going, Continuous
Jackson County-4	<p>Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.</p>	All Hazards	Emergency Manager	High	3	Staff time	Local	Continuous	On-going, Continuous
Jackson County-5	<p>Annually host a public “hazards workshop” for the residents of the county in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating on the hazards that threaten the County and the mitigation and preparedness measures available to them. Speakers from the NWS, 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.</p>	All Hazards	Emergency Manager	High	3	\$1,000 per workshop	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
Jackson County-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost to local governments.	All Hazards	Emergency Manager	High	3	Staff time	Local	Continuous	On-going, Continuous
Jackson County-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Jackson County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the Local Emergency Operations Plan, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Emergency Manager	Medium	3	Staff Time	Local, State, Federal	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
Jackson County-8	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County. In Jackson County there are 341 known dams included in the KDA-DWRs database. The state data includes public and private-owned dams, as well as Federal Reservoirs, if within the county boundary. The volume of water impounded, and the density, type, and value of development downstream determine the potential severity and potential classification of dam/levee failure. The DWR identified one high - hazard dam in Jackson County that could impact the county in the event of breach or dam failure. An EAP for the referenced dam is on file with the Jackson County Emergency Management Department. The State evaluation of the dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads. It is important to note that a high hazard dam is not necessarily unsafe, rather each dam's hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Emergency Manager	High	1,2	Staff Time	Local	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jackson County-9	<p>Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.</p>	Utility/Infrastructure Failure, All Hazards	Emergency Manager	Medium	1,2	Staff Time	Local, State	12/31/2015	On-going
Jackson County-10	<p>Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.</p>	All Hazards	Emergency Manager	Medium	1,2	Staff time	Local, State	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jackson County-11	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Emergency Manager	Medium	4	\$3,000	State	12/31/2020	On-going
Jackson County-12	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Emergency Manager	High	4	Staff Time	Local	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jackson County-13	Research and recommend appropriate building codes for the County that include Wind -resistant design techniques for new construction. The county should adopt and enforce codes that require certain minimum building practices and contractor licensing for wind loss reduction. Experts agree that structures built to exceed high wind provisions have a much greater chance of surviving violent windstorms. Additional techniques include adding protection for windows (i.e., shutters), anchoring door frames with multiple hinges, stiffening garage doors with additional bracing, reinforcing masonry chimneys with vertical steel, and strengthening connections between walls and the roof with hurricane straps and ties. These techniques should be promoted to building contractors and homebuyers by the county for all new residential construction, to the maximum extent possible during the building permit process.	Tornado, Windstorm	County Planner	High	1,2	Staff time	Local	12/31/2020	On-going
Jackson County-14	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Jackson County will apply for grant funding to acquire flood-prone parcels of land as acquisition data becomes available.	Flood	County Planner, Emergency Management Director	High	1,2	Subject to fair market value	Local, KDEM, FEMA	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jackson County-15	Contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Flood	Jackson County Emergency Management Director	High	1,2,4	Staff Time	Local	Continuous	On-going, Continuous
Jackson County-16	Identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	County Planner, Emergency Management Director	High	1,2,4	Staff Time	Local	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jackson County-17	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction's water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting Jackson County's agricultural operations from buffer regulations.	Flood	County Planner, Floodplain Manager	High	1,2	Staff Time	Local, State, Federal	12/31/2020	On-going
Jackson County-18	The Delaware Watershed District No. 10 will continue to construct, operate, and maintain water detention dams for flood reduction in the watershed district. The organization will evaluate the need for further construction, operation, and maintenance projects, and additional effort will be made to seek alternative funding as they become available.	Tornado, Windstorm	County Planner	High	1,2	Staff Time	Local	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jackson County-19	Develop an ordinance/resolution to require the jurisdiction's Manufactured Housing and Travel Trailer Park Ordinance to install tornado shelters for major manufactured and/or mobile home parks with more than 10 spaces. Mobile homes are particularly vulnerable to damage from high winds. Tornado shelters should be constructed in major mobile home parks to ensure a safe place for residents to go during a tornado event. The shelter structure, which should be designed to withstand a minimum of 120mph winds, could easily serve an alternate purpose such as a community center, laundry facility, etc.	Tornado, Windstorm	County Planner	High	1,2	Staff Time	Local	12/31/2020	On-going
Jackson County-20	Develop and implement a wildfire prevention/education program. In addition to providing education to the general public, the program should also target children, fire and equipment users, builders and developers, and homeowners. The jurisdiction has burn-ban resolutions which require special permission to conduct open burning operations. In periods of drought or extreme weather conditions a burn ban may be declared. When a ban is declared all radio stations, TV stations, and newspapers in the area are notified as well as mayors, fire chiefs, etc. To better educate the public at large, the jurisdiction should expand the existing fire protection program to include wildfire workshops to all age groups and commercial operations.	Wildfire	Emergency Manager	Medium	3	\$500 per workshop	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
Jackson County-21	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the long-range goal of reducing damage to structures and systems within the jurisdiction	Wildfire	Emergency Manager	High	3,4	Staff Time	Local	12/31/2025	On-going
Jackson County-22	Evaluate the firefighting water supply resources within the County, including both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult to suppress fires. Increasing access to water along water service delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Manager	Medium	1,2	Staff Time	Local	12/31/2020	On-going
Jackson County-23	The Jackson County RWDs will seek funding sources to mitigate damage to critical infrastructure, including water line enhancements and the replacement of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. The Jackson County RWDs provide potable water, meter sales, and line extensions to assigned areas of Jackson County. Maintaining distribution capabilities of potable water are the District's top priority.	Utility/Infrastructure Failure	Emergency Manager	Low	1,2	Unknown	Local, State, Federal	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
Jackson County-24	Determine the feasibility and actions necessary, including funding options, to place full-time firefighting personnel at the Mayetta Fire District No. 1. Jackson County and the Jackson County Fire District Board has identified a need for full-time firefighting personnel to be located at the Fire District station in Mayetta to provide firefighting service to the over 100 square mile territory served by the Fire District.								Deleted due to no budget
Circleville-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 policies are continuous, and are not non-renewed for repeat losses.	Flood	County Planner	High	1,3,4	Staff Time	Local, State	12/31/2025	On-going
Circleville-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Circleville-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	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
Circleville-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	4	\$300 per workshop	Local	Continuous	On-going, Continuous
Circleville-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Circleville-6	Promote and educate the jurisdiction’s public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	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
Circleville-7	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Mayor	High	1,2	Staff Time	Local	12/31/2030	On-going
Circleville-8	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infra-structure Failure	Mayor	Medium	1,2,4	\$20,000	Local, State	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Circleville-9	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2020	On-going
Circleville-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$2,000	State	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Circleville-11	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	12/31/2030	On-going
Circleville-12	Determine the efficacy of the existing warning siren system within the City of Circleville, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Circleville.	Tornado	Mayor	Medium	1,2,3	\$20,000	Local, State, Federal	10/31/2025	On-going
Circleville-13	Determine the efficacy of the existing generators located within Critical Facility structures and consider funding options for any Critical Facilities that may require generators and/or transfer switches to maintain power in the event of severe weather events. Ensure that Critical Facilities located within the City of Circleville maintain power during severe weather events.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	10/21/2025, One generator purchased in 2011 for shelter	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Delia-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.	Flood	Mayor	High	1,2,3,4	Staff Time	Local, State	12/31/2025	On-going
Delia-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Delia-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost to local governments.	All Hazards	Mayor	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
Delia-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	3	\$250 per workshop	Local	Continuous	On-going, Continuous
Delia-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost to local governments.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Delia-6	Promote and educate the jurisdiction’s public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local and regional economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	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
Delia-7	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local	12/31/2020	On-going
Delia-8	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infrastructure Failure	Mayor	Medium	1,2,4	\$30,000	Local, State	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Delia-9	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2025	On-going
Delia-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$2,000	State	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Delia-11	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	12/31/2025	On-going
Delia-12	Determine the efficacy of the existing warning siren system within the City of Delia, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Delia.	Tornado	Mayor	Medium	1,2,3	\$25,000	Local	10/21/2025	On-going
Delia-13	Determine the efficacy of the existing generators located within Critical Facility structures and consider funding options for any Critical Facilities that may require generators and/or transfer switches to maintain power in the event of severe weather events. Ensure that Critical Facilities located within the City of Delia maintain power during severe weather events.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	10/21/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Delia-14	The City of Delia will continue to assess the impact of natural hazards on water lines throughout the city, and will seek funding sources to upgrade existing water lines. The city has identified a need to upgrade existing water lines in order to continue the distribution of potable water throughout the city.	Utility/Infra-structure Failure	Mayor	Low	1,2	Unknown	Local, State, Federal	10/28/2025	On-going
Denison-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 policies are continuous, and are not non-renewed for repeat losses.	Flood	Mayor	High	1,2,4	Staff Time	Local, State	12/31/2025	On-going
Denison-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Denison-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	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
Denison-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	3	\$200 per workshop	Local	Continuous	On-going, Continuous
Denison-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Denison-6	Promote and educate the jurisdiction’s public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
Denison-7	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local	12/31/2030	On-going
Denison-8	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	Local, State	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Denison-9	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2020	On-going
Denison-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$2,000	State	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Denison-11	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	12/31/2020	On-going
Denison-12	Determine the efficacy of the existing warning siren system within the City of Denison, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Denison.	Tornado	Mayor	Medium	1,2,3	\$25,000	Local, State, Federal	10/30/2025	On-going
Denison-13	Determine the efficacy of the existing generators located within Critical Facility structures and consider funding options for any Critical Facilities that may require generators and/or transfer switches to maintain power in the event of severe weather events. Ensure that Critical Facilities located within the City of Denison maintain power during severe weather events.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	10/23/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Holton-1	Outdoor Warning Sirens. The City of Holton does not meet adequate/safe coverage. Our existing sirens are constantly breaking down, and are unreliable. We would like to replace with new and efficient outdoor warning sirens.	All Hazards	City Manager	High	1,2	\$225,000	Unknown	2 - 3 years	New
Holton-2	Water treatment plant. The current treatment plant's poor condition and deterioration over time is creating a liability. We would like to rebuild and update to ensure high quality drinking and potable water for residents.	Utility/Infrastructure Failure	City Manager	High	1,2	\$10,000,000	Unknown	2 - 3 years	New
Holton-3	Tree Trimming. To prevent damage and future damage to electrical lines. Tree and tree limbs falling into electrical lines. We would like to establish an aggressive tree trimming program.	Utility/Infrastructure Failure	City Manager	High	1,2	\$300,000 - \$500,000	Unknown	2 - 3 years	New
Holton-4	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.	Flood	County Planner	High	1,2,4	Staff Time	Local, State	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Holton-5	Holton 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.	Flood	Mayor	High	1,2	Staff Time	State, FEMA	12/31/2020	On-going
Holton-6	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Holton-7	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	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
Holton-8	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	3	\$500 per workshop	Local	Continuous	On-going, Continuous
Holton-9	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Holton-10	Promote and educate the jurisdiction’s public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	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
Holton-11	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local	12/31/2025	On-going
Holton-12	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$20,000	Local, State	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Holton-13	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2030	On-going
Holton-14	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$4,000	State	12/31/2035	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Holton-15	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	12/31/2030	On-going
Holton-16	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	High	1,2	Staff Time	Local	3/31/2025	On-going
Holton-17	The City of Holton will continue to assess the impact of natural hazards on the city sewer system, and will seek funding sources to upgrade the existing sewer system. The City of Holton has identified a need to upgrade the existing sewer system which has serviced the city for 100 years.	Utility/Infra-structure Failure	Mayor	Low	1,2	Unknown	Local, State, Federal	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Holton-18	The City of Holton will continue to assess the impact of natural hazards on water lines throughout the city, and will seek funding sources to upgrade existing water lines. The City of Holton has identified a need to upgrade existing water lines in order to continue the distribution of potable water throughout the city.	Utility/Infra-structure Failure	Mayor	Low	1,2	Unknown	Local, State, Federal	12/31/2030	On-going
Holton-19	Seek funding options to purchase and install security fencing at the city-owned power plant, water plant, and wastewater plant to improve site security. The City of Holton has identified a need to improve site security at several city-owned critical facilities against potential acts of domestic terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	1,2	\$30,000	Local, State, Federal	1/1/2018	On-going
Hoyt-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.	Flood	County Planner	High	1,2,4	Staff Time	Local, State	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hoyt-2	Hoyt is committed to continued participation and compliance with the NFIP. Participation means 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.	Flood	Mayor	High	1,2	Staff Time	State, Fema	12/31/2020	On-going
Hoyt-3	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Hoyt-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	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
Hoyt-5	Annually host a public hazards workshop for the residents of the jurisdiction, 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 the County, and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	High	3	\$500 per workshop	Local	Continuous	On-going, Continuous
Hoyt-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Hoyt-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Jackson County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
Hoyt-8	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County.	Dam and Levee Failure	Mayor	High	1,2,3,4	Staff Time	Local	12/31/2025	On-going
Hoyt-9	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	Local, State	12/31/2020	On-going
Hoyt-10	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hoyt-11	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$3,000	State	12/31/2020	On-going
Hoyt-12	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	Staff Time	Local	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hoyt-13	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	High	1,2	Staff Time	Local	12/31/2025	On-going
Hoyt-14	Determine the efficacy of the existing warning siren system within the City of Hoyt, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Hoyt.	Tornado	Mayor	Medium	1,2	\$20,000	Local, State, Federal	10/21/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mayetta-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.	Flood	County Planner	High	1,2,4	Staff Time	Local, State	12/31/2025	On-going
Mayetta-2	Continued participation in 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.	Flood	Mayor	High	1,2,4	Staff Time	State, Fema	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mayetta-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost to local governments.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Mayetta-5	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	3	\$300 per workshop	Local	Continuous	On-going, Continuous
Mayetta-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost to local governments.	All Hazards	Mayor	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
Mayetta-7	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Mayetta-8	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local	12/31/2030	On-going
Mayetta-9	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infra-structure Failure	Mayor	Medium	1,2	Unknown	Local, State	12/31/2020	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mayetta-10	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2025	On-going
Mayetta-11	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$2,000	State	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mayetta-12	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	12/31/2030	On-going
Mayetta-13	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	High	1,2	Staff Time	Local	12/31/2020	On-going
Mayetta-14	Determine the efficacy of the existing warning siren system within the City of Mayetta, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Mayetta.	Tornado	Mayor	Medium	1,2	\$25,000	Local, State, Federal	10/23/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mayetta-16	Seek funding to retain an engineer to design a community safe room within the city limits of Mayetta and apply for grant funding for construction. A lack of tornado shelters poses a serious risk to the community of Mayetta. The City of Mayetta has identified a need for a community safe room within the city limits of Mayetta.	Tornado	Mayor	Medium	1,2	\$40,000	Local, State, Federal	12/31/2030	On-going
Mayetta-17	Determine and evaluate the need for additional firefighting and potable water storage capabilities, and consider funding sources for the installation of additional water storage tanks. The City of Mayetta currently has two water storage tanks (38,000 gallon and 100,000 gallon capacities) for the city and surrounding areas. Historically, the capacities have been low for the potable water supply and for firefighting capabilities. With the expected demand for potable water in the future, as well as the need for adequate firefighting pressure, the City of Mayetta has identified a need for additional water storage capabilities.	Wildfire							Deleted

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Netawaka-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.	Flood	County Planner	High	4	Staff Time	Local, State	12/31/2025	On-going
Netawaka-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Netawaka-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	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
Netawaka-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	4	\$250 per workshop	Local	Continuous	On-going, Continuous
Netawaka-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Netawaka-6	Promote and educate the jurisdiction’s public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	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
Netawaka-7	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County.	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local	12/31/2030	On-going
Netawaka-8	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	Local, State	12/31/2020	On-going
Netawaka-9	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2	Staff Time	Local, State	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Netawaka-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$2,000	State	12/31/2030	On-going
Netawaka-11	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	High	4	Staff Time	Local	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Netawaka-12	Determine the efficacy of the existing warning siren system within the City of Netawaka, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Netawaka.	Tornado	Mayor	Medium	1,2	\$25,000	Local, State, Federal	10/21/2020	On-going
Soldier-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.	Flood	County Planner	High	1,2,4	Staff Time	Local, State	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Soldier-2	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost..	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Soldier-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Soldier-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	3	\$250 per workshop	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
Soldier-5	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Soldier-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. Jackson County is basically an agricultural community. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the EOP with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Soldier-7	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County.	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Soldier-8	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. A thorough evaluation of potential mitigation opportunities for the jurisdiction's critical facilities must be completed. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State	12/31/2025	On-going
Soldier-9	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the county's and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2,4	Staff Time	Local, State	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Soldier-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$2,000	State	12/31/2025	On-going
Soldier-11	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	High	4	Staff Time	Local	12/31/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Soldier-12	Determine the efficacy of the existing warning siren system within the City of Soldier, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Soldier.	Tornado	Mayor	Medium	1,2	\$25,000	Local, State, Federal	10/30/2025	On-going
Soldier-13	Seek funding options for the purchase and installation of a new wastewater lift station for the City of Soldier. In order to continue enhancement of current emergency services to protect public health and safety, the City of Soldier has identified a need for ensuring that the city wastewater treatment facilities remain operable during emergency weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,2	Unknown	Local, State, Federal	Completed via local/grant monies 30 Oct 2011	Completed

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Whiting-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	Flood	County Planner	High	1,2,4	Staff Time	Local, State	12/31/2020	On-going

	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.								
Whiting-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Whiting-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost..	All Hazards	Mayor	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
Whiting-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	All Hazards	Mayor	High	3	\$250 per workshop	Local	Continuous	On-going, Continuous
Whiting-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, the KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	All Hazards	Mayor	High	3	Staff Time	Local	Continuous	On-going, Continuous
Whiting-6	Promote and educate the jurisdiction’s public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	Medium	3	Staff Time	Local, State, Federal	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
Whiting-7	Develop an annex to the LEOP for dam failure response and evacuation plans for high hazard dams in Jackson County.	Dam and Levee Failure	Mayor	High	1,2,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Whiting-8	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	Local, State	12/31/2030	On-going
Whiting-9	Conduct inventory/survey for the county and incorporated cities emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the counties and cities current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Mayor	Medium	1,2	Staff Time	Local, State	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Whiting-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	\$3,000	State	12/31/2030	On-going
Whiting-11	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	High	4	Staff Time	Local	12/31/2030	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Whiting-12	Determine the efficacy of the existing warning siren system within the City of Whiting, and maintain existing sirens or install new sirens as necessary to ensure area coverage. Reduce the possibility of damages and loss of life to the citizens by upgrading the existing early warning system and maintaining coverage areas for the City of Whiting.	Tornado	Mayor	Medium	1,2	\$25,000	Local, State, Federal	10/21/2025	On-going
USD335-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 335 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	1/1/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD335-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare school districts such as USD 335 for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Low	1,2	\$40,000	Local, State, Federal	1/1/2025	On-going
USD336-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 336 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	1/1/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD336-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare school districts such as USD 336 for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Low	1,2	\$45,000	Local, State, Federal	1/1/2025	On-going
USD337-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 337 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	1/1/2025	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD337-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict, updating building, school and district security plans can help prepare for potential events. Companies can provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-Terrorism, Civil Disorder	Superintendent	Low	1,2	\$45,000	Local, State, Federal	1/1/2025	On-going
Nemaha-Marshall Electric Coop-1	The Nemaha Marshall Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	President	Medium	4	Staff Time	Local, State, Federal	Continuous	New
Nemaha-Marshall Electric Coop-2	Refit poles and electrical wire throughout the county. Failure of lines causes the cessation of critical services and infrastructure.	Utility/Infrastructure Failure	President	Medium	1,2	Unknown	Local, State, Federal	Continuous	New

5.6.6 JEFFERSON COUNTY

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Planning and Zoning Director	Medium	1,2,4	Staff Time	Local, State	12/31/2015	On-going
Jefferson County-2	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. There are currently 95 policies in effect, with a total coverage amount of \$13,159,500. Since the jurisdiction joined the program, there have been 48 claims paid for a total loss paid amount of \$600,153. (Source: FEMA, April 2010). NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Flood	Planning and Zoning Director	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
Jefferson County-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Emergency Management Director	Medium	3	Staff Time	Local	Continuous	On-going, Continuous
Jefferson County-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Emergency Management Director	Medium	3	\$1,000 per workshop	Local	Continuous	On-going, Continuous
Jefferson County-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Emergency Management Director	High	1,2	Staff Time	Local, State, Federal	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
Jefferson County-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Emergency Management Director	High	3	Staff Time	Local	Continuous	On-going, Continuous
Jefferson County-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Emergency Management Director	Medium	3	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-8	Develop an annex to the LEOP for dam failure response and evacuation for the Perry Reservoir in Jefferson County. Jefferson County has 567 dams in the county that are regulated by the KDA-DWR. One dam is classified as a “High Hazard Class C” structure, and is owned and operated by the US Army Corps of Engineers. The State evaluation of the dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads. It is important to note that a high hazard dam is not necessarily unsafe, and the rating is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Emergency Management Director	High	1,2,4	Staff Time	Local	12/31/2015	On-going
Jefferson County-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Emergency Management Director	High	4	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
Jefferson County-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Jefferson county a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	Emergency Management Director	High	1,2,3,4	\$100,000	Local, State, Federal	12/31/2015	On-going
Jefferson County-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	Emergency Management Director	High	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the county website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	Emergency Management Director	High	1,2,3,4	\$3,000	Local	12/31/2015	On-going
Jefferson County-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. Rural water districts need to have connectivity to larger municipal water departments to continue growth and to assure continuous water supply to all districts if one district is jeopardized with loss of water or supply contamination.	Utility/Infra-structure Failure	Emergency Management Director	Low	1,2	Staff Time	Local, State, Federal	12/31/2015	On-going
Jefferson County-14	Jefferson County is committed to voluntary continued 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. 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 will be sanctioned. Jurisdictions that regulate development in floodplains are able to participate in the NFIP, but the jurisdiction must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	Planning and Zoning Director	High	3,4	Staff Time	Local, State, Federal	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
Jefferson County-15	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Jefferson County can apply for grant funding to acquire flood-prone parcels of land from voluntary and willing property owners.	Flood	Mitigation Officer, County Planner	High	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Jefferson County-16	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted every year to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Flood	Mitigation Officer	High	1,3	Staff Time	Local	Continuous	On-going, Continuous
Jefferson County-17	Identify flash-flood prone areas to consider flood reduction measures to county planners. Flood zone mapping will provide initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flash-flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	County Planner	Medium	1,2	Staff Time	Local	6/30/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-18	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction's water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting the County's agricultural operations from buffer regulations.	Flood	County Planner	Medium	1,2	Staff Time	Local, State, Federal	12/31/2015	On-going
Jefferson County-19	Conduct an inventory/survey for the emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to verify the county's current emergency services are adequate to protect public health and safety from hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations to the County Commission for emergency service enhancements.	All Hazards	Emergency Management Director	High	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-20	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the county. A comprehensive catalog of data can greatly enhance the capability to manage, analyze and display spatially referenced data. Further development of this capability for functional use across all departments and local governments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	County Appraiser	High	4	\$3,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-21	Develop and implement a wildfire prevention/education program. In addition to providing education to the general public, the program should also target children, fire and equipment users, builders and developers, and homeowners. The County has burn-ban resolutions which require special permission to conduct open burning operations. In periods of drought or extreme weather conditions a burn ban may be declared. When a ban is declared all radio stations, TV stations, and regional newspapers in the area are notified as well as mayors, fire chiefs, etc. To better educate the public at large, Jefferson County should expand their existing fire protection program to include wildfire workshops to all age groups and commercial operations.	Wildfire	Emergency Management Director	Medium	3	\$300 per program	Local	Continuous	On-going, Continuous
Jefferson County-22	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the Long - range goal of reducing damage to structures and systems within the jurisdiction.	Wildfire	Emergency Management Director	Medium	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-23	Create a working group to evaluate the firefighting water supply resources within the County, including both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult to suppress fires. Increasing access to water along water service delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Management Director	Medium	4	Staff Time	Local	12/31/2015	On-going
Jefferson County-24	Identify the most at-risk critical facilities and evaluate potential mitigation techniques for protecting each facility to the maximum extent possible. A thorough evaluation of potential mitigation opportunities for Jefferson County's critical facilities must still be completed. Currently, there is very little available data on these facilities. An inventory /database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	All Hazards	Emergency Management Director	Medium	1,2	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Jefferson County-25	Appoint a committee to explore the feasibility of participation in the NFIP CRS. The NFIP CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: 1. Reduce flood losses; 2. Facilitate accurate insurance rating; and 3. Promote the awareness of flood insurance.	Flood	Floodplain Manager	Medium	4	Staff Time	Local	12/31/2015	On-going
McLouth-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	4	Staff Time	Local, State	12/31/2015	On-going
McLouth-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	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
McLouth-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
McLouth-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3	\$200 per workshop	Local	Continuous	On-going, Continuous
McLouth-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	Staff Time	Local, State, Federal	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
McLouth-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
McLouth-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural and bio terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3	Staff Time	Local, State, Federal	12/31/2015	On-going
McLouth-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	3,4	Staff Time	Local	12/31/2015	On-going
McLouth-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	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
McLouth-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of McLouth a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	City Administrator	High	1,2	\$30,000	Local, State, Federal	12/31/2015	On-going
McLouth-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
McLouth-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the city website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	1,2,4	Staff Time	Local	12/31/2015	On-going
McLouth-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts need to have some connectivity to larger municipal water departments to continue growth, and to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply.	Utility/Infra-structure Failure	City Administrator	Low	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
McLouth-14	McLouth is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	City Administrator	High	1,2	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
McLouth-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	City Administrator	Medium	1,2	Staff Time	Local	12/31/2015	On-going
Meriden-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	3,4	Staff Time	Local, State	12/31/2015	On-going
Meriden-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Meriden-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	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
Meriden-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3	\$200 per workshop	Local	Continuous	On-going, Continuous
Meriden-5	Encourage and construct safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	\$150,000	Local, State, Federal	Continuous	On-going, Continuous
Meriden-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	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
Meriden-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3	Staff Time	Local, State, Federal	12/31/2015	On-going
Meriden-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	1,2,4	Staff Time	Local	12/31/2015	On-going
Meriden-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	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
Meriden-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Meriden a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	City Administrator	High	1,2	\$25,000	Local, State, Federal	12/31/2015	On-going
Meriden-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Meriden-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the city website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	2,4	Staff Time	Local	12/31/2015	On-going
Meriden-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts need to have some connectivity to larger municipal water departments to continue growth, and to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply.	Utility/Infra-structure Failure	City Administrator	Low	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Meriden-14	Meriden is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	City Administrator	High	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Meriden-15	Seek funding to perform improvements to minimize flood damage to existing development by maximizing the effectiveness of the storm sewer infrastructure. The City of Meriden has indicated that the existing storm drainage in the town is inadequate as large rains causes the streets to become flooded. Meriden will look into future improvements that will help to minimize this problem following rain storms.	Flood	City Administrator	Low	1,2,3	Unknown	Local, State, Federal	12/31/2015	On-going
Meriden-16	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	City Administrator	Medium	1,2	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nortonville-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas Division of Water Resources provides	Flood	City Administrator	Medium	4	Staff Time	Local, State	12/31/2015	On-going

	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 policies are continuous, and are not non-renewed or canceled for repeat losses.								
Nortonville-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Nortonville-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	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
Nortonville-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County	All Hazards	City Administrator	Medium	3	\$300 per workshop	Local	Continuous	On-going, Continuous

	and the mitigation and preparedness measures available to protect them. 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.								
Nortonville-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Nortonville-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	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
Nortonville-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3	Staff Time	Local, State, Federal	12/31/2015	On-going

	these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.								
Nortonville-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	1,2,4	Staff Time	Local	12/31/2015	On-going
Nortonville-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	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
Nortonville-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor	All Hazards	City Administrator	High	1,2,4	\$30,000	Local, State, Federal	12/31/2015	On-going

	warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Nortonville a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.								
Nortonville-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nortonville-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the city website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going

Nortonville-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts need to have some connectivity to larger municipal water departments to continue growth, and to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply.	Utility/Infra-structure Failure	City Administrator	Low	1,2,3	Unknown	Local, State, Federal	12/31/2015	On-going
Nortonville-14	Nortonville is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	City Administrator	High	1,2,3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nortonville-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such	Flood	City Administrator	Medium	1,2,3,4	Staff Time	Local	12/31/2015	On-going

	as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.								
Oskaloosa-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	3,4	Staff Time	Local, State	12/31/2015	On-going
Oskaloosa-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Oskaloosa-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	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
Oskaloosa-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3	\$300 per workshop	Local	Continuous	On-going, Continuous
Oskaloosa-5	Encourage and construct safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	\$200,000	Local, State, Federal	Continuous	On-going, Continuous
Oskaloosa-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	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
Oskaloosa-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3	Staff Time	Local, State, Federal	12/31/2015	On-going
Oskaloosa-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going
Oskaloosa-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	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
Oskaloosa-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Oskaloosa a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	City Administrator	High	1,2	\$45,000	Local, State, Federal	12/31/2015	On-going, Continuous
Oskaloosa-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Oskaloosa-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the city website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	1,2,3,4	Staff Time	Local	12/31/2015	On-going
Oskaloosa-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts need to have some connectivity to larger municipal water departments to continue growth, and to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply.	Utility/Infra-structure Failure	City Administrator	Low	1,2,3	Unknown	Local, State, Federal	12/31/2015	On-going
Oskaloosa-14	Oskaloosa is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	City Administrator	High	1,2,3,,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Oskaloosa-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	City Administrator	Medium	1,2,3,4	Staff Time	Local	12/31/2015	On-going
Oskaloosa-16	Seek funding to retain an engineer to design a community tornado shelter and apply for grant funding for construction. A lack of tornado shelters poses a serious risk to the safety of the community. The City of Oskaloosa has identified a need for Community Storm Shelters.	Tornado, Windstorm	City Administrator	Low	1,2	\$350,000	Federal	12/31/2015	On-going
Perry-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	3,4	Staff Time	Local, State	12/31/2015	On-going
Perry-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	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
Perry-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Perry-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3	\$400 per workshop	Local	Continuous	On-going, Continuous
Perry-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	Staff Time	Local, State, Federal	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
Perry-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Perry-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Perry-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going
Perry-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	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
Perry-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Perry a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	City Administrator	High	1,2	\$45,000	Local, State, Federal	12/31/2015	On-going
Perry-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	Ongoing

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Perry-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the city website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going
Perry-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts need to have some connectivity to larger municipal water departments to continue growth, and to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply.	Utility/Infra-structure Failure	City Administrator	Low	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Perry-14	Perry is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	City Administrator	High	1,2,3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Perry-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	City Administrator	Medium	1,2,4	Staff Time	Local	12/31/2015	On-going
ValleyFalls-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
ValleyFalls-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
ValleyFalls-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	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
ValleyFalls-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3	\$300 per workshop	Local	Continuous	On-going, Continuous
ValleyFalls-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
ValleyFalls-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	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
ValleyFalls-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
ValleyFalls-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going
ValleyFalls-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	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
ValleyFalls-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Valley Falls a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	City Administrator	High	1,2	\$45,000	Local, State, Federal	12/31/2015	On-going
ValleyFalls-11	Work with county and city leaders in developing standardized procedures for identifying shelters as pre-disaster tornado shelters, and post-disaster shelters. Develop MOUs with facility owners. Coordinate this measure with the American Red Cross. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
ValleyFalls-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the city website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	1,2,4	Staff Time	Local	12/31/2015	On-going
ValleyFalls-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts need to have some connectivity to larger municipal water departments to continue growth, and to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply.	Utility/Infra-structure Failure	City Administrator	Low	3	Staff Time	Local, State, Federal	12/31/2015	On-going
ValleyFalls-14	Valley Falls is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Flood	City Administrator	High	1,2,3,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
ValleyFalls-15	Seek funding to design and construct a tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado areas need structurally sound shelters and early alert systems.	Tornado	City Administrator	Low	1,2	\$350,000	Federal	12/31/2015	On-going
ValleyFalls-16	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	City Administrator	Medium	1,2,3,4	Staff Time	local	12/31/2015	On-going
Winchester-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	3,4	Staff Time	Local, State	12/31/2015	On-going
Winchester-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Flood	City Administrator	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
Winchester-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Winchester-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3	\$200 per workshop	Local	Continuous	On-going, Continuous
Winchester-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	Staff Time	Local, State, Federal	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
Winchester-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	High	3	Staff Time	Local	Continuous	On-going, Continuous
Winchester-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural and bio terrorism and issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	City Administrator	Medium	3,4	Staff Time	Local, State, Federal	12/31/2015	On-going
Winchester-8	Develop an annex to the LEOP for dam failure response and evacuation.	Dam and Levee Failure	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going
Winchester-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	High	4	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
Winchester-10	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Winchester a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	All Hazards	City Administrator	High	3,4	\$20,000	Local, State, Federal	12/31/2015	On-going
Winchester-11	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost .	Tornado, Windstorm	City Administrator	High	4	Staff Time	Local	12/31/2015	On-going
Winchester-12	Develop a centralized county database of shelter facilities, both pre-disaster and Post -disaster, for jurisdictions. Post on the county website for public use. Accurate records will provide individuals and families precise information in the event shelter is required.	All Hazards	City Administrator	High	1,2,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Winchester-13	Establish, promote, and fund continuity of water systems supply between rural water districts and water departments. The rural water districts are in need to have some connectivity to larger municipal water departments to continue growth, and also to assure continuous water supply to all districts if one district is jeopardized with loss of water or contamination of the supply. Seek funding through Federal and State grants to accomplish this task.	Utility/Infrastructure Failure	City Administrator	Low	1,2,3,4	Unknown	Local, State, Federal	12/31/2015	On-going
Winchester-14	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	All Hazards	City Administrator	Medium	1,2,3	Staff Time	Local, State, Federal	12/31/2015	On-going
Winchester-15	Seek funding for the purchase of backup generators for the city's community building and well house. The jurisdiction has expressed the desire to have backup power available to ensure the transportation of potable water and provide a location that with electricity and heat to that residents in the community will have a place to seek refuge following a natural disaster event.	Utility/Infrastructure Failure	City Administrator	Medium	1,2	\$50,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD338-1	Develop and fund mitigation projects for the construction of tornado safe rooms in USD 338 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going
USD339-1	Develop and fund mitigation projects for the construction of tornado safe rooms in USD 339 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	L	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going
USD339-2	Seek funding for the purchase and installation of backup power sources in USD 339 facilities. As USD 339 schools could potentially be utilized as critical facilities for shelter making it important to maintain power following a disaster and subsequent power loss.	Utility/Infrastructure Failure	Superintendent	Low	1,2	\$50,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD340-1	Develop plans and fund tornado safe rooms in Unified School District 340 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	High	1,2	\$300,000 - \$500,000	Local, State, Federal	1 - 3 years	On-going
USD340-2	Replace glass in windows and doors with storm rated glass to provide for a safe area in the building for tornado/severe storm shelter and safe room. Our high school does not have a safe room to protect occupants from severe weather such as a tornado. We need to identify glass in doors and windows that should be replaced to provide a safe area in the building.	Tornado, Windstorm	Superintendent	High	1,2	\$200,000 - \$400,000	Local, State, Federal	1 - 3 years	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD341-1	Plan, Design and Construct a water containment well and irrigation system for exterior grass and ground conservation. Current Rural Water District is under voluntary restrictions due to a drought in the county since June of 2012. As such, we are not able to use that water source to maintain grass or vegetation on our outside facilities. Specifications for the project would be established. Then bids would then go out to prospective vendors/contractors. Bids would be compared and the Board of Education would grant a particular vendor/contractor the project. Timelines and decisions would be made in conjunction with the USD Maintenance Department as well as the USD 341 Superintendent. Project would meet all OSHA, ADA, City, State of Kansas and Federal Guidelines.	Drought	Superintendent	Medium	1,2	140000	Unknown	4 months after funding availability	New
USD341-2	Develop and fund mitigation projects for the construction of tornado safe rooms in Unified School District 341 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD342-1	Upgrade phone system throughout the district providing phones for every classroom and office. Currently all of the phones are concentrated in the offices and workrooms. In the event of a crisis (intruder in the building, lockdown,) we have no way to communicate with each classroom. Administration would work to create specifications for the project. Those specifications would be provided to vendors in accordance with Kansas Bid Law. Final bids would be submitted to the board of education for possible approval. Work would be scheduled once bids were approved. Phones and cable would need to be run throughout the building. Each office would be able to communicate with the classrooms and classrooms could dial out.	All Hazards	Superintendent	Medium	1,2,3,4	75000	Local, State, Federal	Within six months of funding availability	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD342-2	<p>Develop and fund mitigation projects for the construction of tornado safe rooms in USD 342 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens.</p> <p>Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits. In the event of a natural disaster we are the main evacuation point not only for the school but the community of McLouth. If such an event occurs during the course of the school day, we will have to potentially place students, staff, and community members in hallways above ground in order to have enough capacity. We would like to construct a large open shelter accessible to the school as well as the community .Administration would work to create specifications for the project. This could be used by area emergency management in the event of exceptional damage to the surrounding area and the need for space. Would also implement emergency backup power system..</p>	Tornado	Superintendent	Low	1,2	\$1.2M	Local, State, Federal	8 - 12 months of funding availability	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD342-3	Seek funding for the purchase and installation of backup power sources in USD 342 facilities. As USD 342 schools are considered critical facilities, and could potentially be utilized for public shelter. The district considers it critical to maintain power following a natural disaster and subsequent power loss.	Utility/Infra-structure Failure	Superintendent	Low	1,2	\$50,000	Local, State, Federal	12/31/2015	On-going
USD343-1	Develop and fund mitigation projects for the construction of tornado safe rooms in Unified School District 343 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going
USD343-2	Research and evaluate the benefits of purchasing flood insurance for the school district buildings. Using Manifold.Net GIS software to produce aerial images overlayed with FEMA FIRM maps it was determined that the Perry-Lecompton school is located in an identified Special Flood Hazard Area (SFHA) Zone A. USD 343 would like assess the potential benefits of flood insurance.	Flood	Superintendent	Medium	1,2	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD 343-3	Assess elevations and water flow in the district to qualify the benefit of flood control projects in the District. Perry-Lecompton Unified School District #343 would like to consider analyzing the potential benefits of constructing soil-based berms, and other flood control projects, around various facilities in the district to mitigate the effects from flooding.	Flood	Superintendent	Low	1,2	Staff Time	Local, State, Federal	12/31/2015	On-going
USD343-4	Seek funding for the purchase and installation of backup power sources in USD 343 facilities. As USD 343 schools are considered critical facilities, and could potentially be utilized for public shelter. The district considers it critical to maintain power following a natural disaster and subsequent power loss.	Utility/Infrastructure Failure	Superintendent	Low	1,2	\$50,000	Local, State, Federal	12/31/2015	On-going

5.6.7 KICKAPOO

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-1	<p>Completion of the Golden Eagle Project</p> <p>The surface water source for the Kickapoo Tribe is the Delaware River. Located on the Delaware River is a low water weir dam that increases the water volume. Due to high water events and the lack of adequate stream bank protection, significant erosion has occurred and jeopardizes the structure. The U.S. Army Corps of Engineers has designated this area for a special project. The Kickapoo Tribe and Corps of Engineers have agreed upon a contract to fix the erosion. The project will entail the following: reshaping of the existing upstream and downstream banks and plunge pool area. Large rock and rip rap will be placed and anchored in place to significantly reduce and eliminate the vast majority of erosion.</p>	Flooding, Drought, Utility/Infra-structure Failure, Wildfire	Kickapoo Tribal Council and Environmental Office	High	1,2	\$740,000	Federal	Spring 2009	Completed

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-2	<p>At the present time, the Kickapoo reservation is without acceptable safe rooms for the community members. Events like tornados, lightning and wind storms, floods, widespread wildfire, etc. happen frequently in this area. Community members need adequate protection and access to a safe room in time of refuge. Building protective below ground structures to properly hold a large majority of the community population during emergency events. The safe rooms could also double as an emergency shelter to house and feed the community. The safe room would include a kitchen, bathrooms, several large sleeping areas, communications, back-up generators, washers and dryers, and heating and cooling systems. Stockpiled food, cots, blankets, cleaning supplies, and paper products would always be kept on hand.</p>	Tornado, Windstorm, All Hazards	Kickapoo Tribal Council	High	1,2	\$200,000	Federal Grants, Tribal Funds	3 years	On-going
Kickapoo-3	<p>At the present time, the Kickapoo Nation School (KNS) is without an acceptable safe room for the students and faculty. KNS could access a safe room in time of refuge. The students currently use interior bathrooms and a converted boiler room during tornado drills and emergencies. Building a protective below ground structure to properly hold the entire KNS student body and faculty during emergency events will greatly decrease the likelihood of serious injury or death from high wind events such as tornados.</p>	Tornado, Windstorm, All Hazards	Tribal Departments	High	1,2	\$75,000	Federal Grants, Tribal Funds	3 years	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-4	<p>The NWS has indicated the location of the Kickapoo Reservation lies on the outer edges of the satellite towers coverage boundaries throughout the area; Topeka, KS, St. Joe, MO, and Shubert, NE. Therefore, the reservation has limited warning notification from the NWS and greatly decreases the warning time for the Kickapoo Reservation. The Kickapoo Reservation currently doesn't have an outdoor warning system and very few buildings have internal warning systems. The Kickapoo Tribe would like to be included in the satellite coverage which would make the reservation and patrons much safer. Installing outdoor warning sirens at the housing sites on the reservation will greatly decrease the potential loss of life and injury and notify the residents of severe approaching weather. The residents will have more time to take shelter or take immediate action. The Tribal buildings, with the exception of the Golden Eagle Casino, don't have any sort of indoor warning system and must rely on personal computers or radios to find out the weather information. By linking all of the tribal buildings together with indoor warning devices and then activating the sirens from a central command, the tribal employees would have increased time to seek shelter.</p>	Tornado, All Hazards	Tribal Departments, NWS, Contractors	High	1,2	\$225,000	Tribal, Federal, State	3 years	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-5	The Kickapoo Tribe relies on surface water for 100% of the drinking water supply. The water system covers a large majority of the reservation and serves populations off of the reservation as well. During a flood event in May 2007, the storage capacity of the low water weir was damaged beyond repair. A 30% decrease in storage capacity resulted from this flooding event. The dry summer months can leave the Kickapoo Water Plant unable to pump from the Delaware River and alternative action must take place. To meet the needs of the current customers, the weir needs repaired to return the storage capacity to its previous state. Before the flood event the storage structure was constructed of metal and wood. The new design will use concrete to improve the support and satiability of the structure. FEMA declared this a disaster event, but only provided enough funding to return the structure to pre-disaster state. The state of Kansas and the Indian Health Service also provided funding, but well short of the total project cost.	Drought, Flooding, Wildfire, Utility Infra-structure Failure	Kickapoo Environmental office, Tribal Council, Tribal programs	High	1,2	\$170,000	Tribal, Federal, State	3 years	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-6	Educating the public is an on-going task. The idea of having emergency and disaster speakers present to school and community members will hopefully increase their knowledge of how to prepare and handle themselves during an actual event. A variety of topics can be covered, including emergency preparedness, storm planning, community involvement, recovery efforts, etc.. Informing and educating the community's knowledge and preparedness of natural and manmade disasters and emergencies will help take the burden off of emergency responders to deal with more significant problems. Community members that learn about preparing one week survival kits will be much more adapted when an actual event arises.	All Hazards	Kickapoo Environmental Office, Kickapoo Police Department, Fire Department, and Health Clinic	M	3,4	\$20,000	Federal Grants, Tribal Funds	Continuous	On-going, Continuous
Kickapoo-7	Implementing emergency drills are very important to help prepare for an actual emergency. Events such as tornado and fire evacuation are critical for fast response by tribal employees and school children. Currently, KNS has such drills and practices on a routine basis. The Kickapoo Tribal buildings have no such written plans. Developing a plan that covers a variety of emergency issues for each tribal building. Practicing drills on a routine basis would greatly benefit the occupants. Posting exit signs and storm shelter plans in every building will also greatly increase the loss of lives or injury.	Tornado, Terrorism/Agri-Terrorism, Wildfire	Kickapoo Safety Office, Police Department, Fire Department, Environmental Office	M	1,2,3,4	\$15,000	Federal Grants, Tribal Funds	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
Kickapoo-8	<p>The ability to exit or take refuge during a natural disaster is very important for the Kickapoo Tribe. Currently, flood plain maps don't exist to inform community members of the possible areas to avoid during rain events. Developing maps of existing and potential hazard areas. The addition of community safe/storm shelters will greatly reduce the likelihood of casualties or injuries. Maps showing the location of such shelters will decrease the travel time for community members to reach these sites.</p>	Tornado, Terrorism/Agri-Terrorism, Wildfire	Kickapoo Environmental Office, Planning, Tribal Council	Medium	1,2	\$15,000	Federal Grants, Tribal Funds	Five Years	On-going
Kickapoo-9	<p>Coordinate and participate in trainings with tribal, federal, state, county, and local agencies on prevention, preparedness, response and recovery to common risks. The Kickapoo Tribe is very aware that not all hazards can be handled by tribal responder and the tribe must rely on other agencies to help fill voids that may present themselves during actual emergency events. By coordinating with other agencies, the tribe is building knowledge and professional relationships to prepare for events. Currently, tribal programs network with these agencies. This continued effort will help tribal programs see how other agencies function and prepare. The experience and shared knowledge will help tribal programs evaluate and possibly modify their current practices.</p>	Flood, Tornado, Winter Storm, All Hazards	Tribal Council, Police Department, Fire Department, Environmental Office, Road and Bridge Department, Water Plant	Medium	4	\$25,000	Federal Grants, Tribal Funds	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
Kickapoo-10	Power line and pole upgrades, trimming trees and trenching lines. Updating the power lines and poles will help remedy problems associated with ice storms. By installing new and better constructed poles and lines the utility services will withstand future ice or wind storms. Trimming trees back from buildings and roads will create fewer hazards. Emergency services will be able to access roads more easily due to the decreased amount of vegetation. Trenching power lines into buildings will decrease the probability of line or pole failure.	Utility/Infrastructure Failure, Winter Storm	Kickapoo Tribe, Road and Bridge Department, Maintenance Department	Medium	1,2	\$200,000	Federal Grants, Tribal Funds	5 years	On-going
Kickapoo-11	Revise and approve the Tribal Emergency Response Plan and conduct exercises to test the plan. The importance of planning for natural and manmade disasters is in the highest regarding for the Kickapoo Tribe. The Kickapoo Tribe currently has a draft Emergency Response Plan that details the operations during an actual disaster event. In the event of a disaster, Tribal Officials will utilize the plan for guidance and help to prevent further injury or loss of life. The effort to possibly revise and approve the Emergency Response Plan needs to be completed.	All Hazards	Kickapoo Environmental Office	Medium	1,2,3,4	\$5,000	Tribal Funds	2 years	On-going, should be finalized in the next 45 days.

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-12	Establish emergency management team/coordinator. Require certification under the Kansas Certified Emergency Management Program within 18 months of hiring. The Kickapoo Tribe historically hasn't had an Emergency Coordinator. At times, the Tribe had a Tribal Emergency Response Committee. However, at this time neither exists. The role of the Emergency Coordinator has been the responsibility of the Tribal Council. An individual who has received training is much better suited for this position. The major duties of his/her job would include evaluating and preparing the Tribal Staff for situations. The other major duty would be to coordinate and direct operations during an actual emergency. The idea of developing an Emergency Coordinator/team will help the Kickapoo Tribe prepare and manage during emergency situations.	All Hazards	Kickapoo Tribal Council	Medium	4	\$70,000	Kickapoo Tribe, FEMA, KDEM	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
Kickapoo-13	<p>Plan for prophylaxis of itinerant/vulnerable population (i.e. Casino clientele). A large majority of the clientele that frequent the Golden Eagle Casino comes from off the Kickapoo Reservation. The increased risk of transporting flu and other diseases onto the reservation from outside sources is a real possibility. The spread of a pandemic influenza is serious threat to the Kickapoo people and operation of the Golden Eagle Casino. Preparing and planning for the outbreak of a pandemic influenza on the Kickapoo Reservation or surrounding area is of great concern. Potential items that need addressed include: shelters, vaccines, food supply, and water supply. The Kickapoo Tribe needs to be prepared for such event and plan accordingly. The Kickapoo Tribal Council and other departments need to evaluate the current conditions and assess the areas of need.</p>	Major Disease Outbreak	Kickapoo Tribal Council and Departments	Medium	1,2	\$60,000	Tribal, State, Federal	2 years	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-14	Provide backup generator for critical facilities. The importance for critical facilities to function during extended power outages is of great concern for the Kickapoo Tribe. Critical facilities include the Administration Buildings, Fire Department, Police Department, Water Plant, Senior Citizens Center, Health Clinic, and the designated emergency shelter. These sites need electric power for the Tribe to regain operation order. By purchasing and installing backup generators at the critical facilities, the Kickapoo Tribe will be able to function properly during an emergency event. With electrical power to provide light, heat, air, and communication services tribal staff will be able gather information and make requests easier to help serve the Kickapoo Reservation.	Tornado, Flood, Windstorm, Winter Strom	Kickapoo Tribal Council and Departments	Medium	1,2	\$175,000	FEMA, KDEM, Contractors	2 years	On-going
Kickapoo-15	Continue and enhance Police and Fire Department mutual aid agreements. The Kickapoo Tribe has mutual aid agreements with surrounding towns and county police, fire and emergency responders. These individuals respond to emergency events to assist and aid the Kickapoo Tribe. The mutual aid agreements also allow the tribe to respond to emergencies outside of its jurisdiction. A positive working relationship has been formed presently and this must also continue.	Wildfire, Tornado, Terrorism/Agri Terrorism, Winter Storm	Kickapoo Police and Fire Departments	Medium	1,2,4	\$15,000	Tribal, Local, Federal, State	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
Kickapoo-16	Participate in federally-sponsored vulnerability assessment training to implement pre-disaster mitigation measures at critical sites. The Kickapoo Tribe will need to assess the current facilities they own and operate. These buildings range in age from one to 50 years old. These buildings need to be evaluated by a trained professional to ensure the safety of the structure. The structures also need to be assessed for mitigating action updates and repairs that can strengthen the entire building in an effort to reduce serious injury or death. Provide the tribal staff an opportunity to attend training to properly inspect buildings and structures. Staff members can then inspect tribally owned and operated buildings and structures to determine any action needed. Each building will be evaluated separately and include mitigation action items to improve safety.	Flood, Tornado, Winter Storm	Kickapoo Tribe in Kansas	Medium	3,4	\$25,000	Tribal, Federal, State	2 years	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Kickapoo-17	Foster the practice of sustainable agriculture. Sustainable agriculture is the technique that combines environmental stewardship and farm profitability. The goal is to use practices that benefit financially, but do not use irreversible techniques and practices that manage the land in an environmentally harmful way. Examples of practices include: no till farming, grass buffers, filter strips, reserve programs, acceptable grazing techniques, the use of fire for range control, and using pesticides wisely. Working with Tribal Farm Operators, the Road and Bridge Department and local land owners to establish guidelines that should be followed on tribally owned land is critical to the sustainability. Tribal codes and policy could also be created to enforce the vision and goals that need to be met.	Agricultural Infestation, Wildfire	Kickapoo Tribe in Kansas	Medium	1,2,3,4	\$300,000	Tribal, Federal, State	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
Kickapoo-18	Participate in the NFIP and request flood hazards affecting the Reservation be mapped by FEMA. The Kickapoo Tribe has never participated in the NFIP and may decide to in the future to greatly improve the financial assistance available for residents and landowners that rent or own land within the Kickapoo Reservation. By participating in the NFIP, landowners that received damage during flood events would be eligible for insurance claim monies. The Kickapoo Tribe is also requesting the reservation be incorporated into the Brown County Flood Plain Map. The Kickapoo Tribal Council will need to meet with representatives from the NFIP to discuss the details of the program. Historically, structures haven't been built within the floodplains on the Kickapoo Reservation. Although, without floodplain maps, that determination is hard to accurately decide.	Flood	Kickapoo Tribal Council	Medium	1,2,3,4	\$30,000	Tribal, State, Federal	3 years	On-going
Kickapoo-19	Provide education and outreach material for community members. The Kickapoo Tribe historically has not provided hazard education because they have not had an Emergency Coordinator. Educating the public on hazard preparedness and response would benefit the community. The idea of hazard education will help the Kickapoo Tribe prepare and manage during emergency situations.	All Hazards	Kickapoo Tribal Council	Medium	3	Staff Time	Unknown	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
Kickapoo-20	Updating emergency services radio communications. The KTIK radio communication for Fire, Police, and Emergency Services is outdated and lacks the narrow band capability to communicate effectively both internally and with external partnering departments. The repeaters for both Fire and Police have been in service in excess of ten years without upgrading to uniform standards. The mobile and handheld units for all departments need to be swapped out for new units.	All Hazards	Kickapoo Tribe in Kansas Fire and Police Chiefs	Medium	1,2,3,4	\$145,000	Federal, State	2 -4 Months	New

Mitigation action items indicated as on-going have not been completed for lack for lack of funding and/or available time and personnel.

While the following are not specifically related to identified mitigation action items they represent funding received by the Kickapoo Tribe during the past few years:

- The Kickapoo Tribe in Kansas has been awarded an Indian Community Development Block Grant from the U.S. Department of Housing and Urban Development. The \$541,600 award is for the tribe to build a new community services facility that will house the tribe's social services, education, child welfare, and other community service and cultural departments. The facility will also house a new jobs services department that will assist tribal members with developing job skills and finding employment. The new facility will allow the tribe to better serve its members and ensure that services can expand. Without the additional space, services to the tribal community have been limited.
- The U.S. Department of Housing and Urban Development announced that the Housing Authority of the Kickapoo Tribe of Kansas, based in Horton, would be awarded a grant worth about \$820,000, federal grants for affordable housing.

5.6.8 MARSHALL COUNTY

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-1	Enhance existing GIS for mitigation, preparedness, and response. Our current GIS capabilities are very limited and we would like to upgrade with more layers and better pictometry.	All Hazards	Emergency Management Director	High	1,2	\$150,000	Unknown	5 years	New
Marshall County-2	Marshall County is committed to continued voluntary 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. 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.	Flood	Emergency Management Director	High	1,2,3,4	Staff Time	State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-3	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Emergency Management Director	High	4	Staff Time	Local, State	12/31/2015	On-going
Marshall County-4	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Emergency Management Director	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Marshall County-5	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Emergency Management Director	Medium	3	\$400 per workshop	Local, State, Federal	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
Marshall County-6	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Emergency Management Director	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Marshall County-7	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Emergency Management Director	High	3	Staff Time	Local	Continuous	On-going, Continuous
Marshall County-8	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Emergency Management Director	High	3	Staff Time	Local, State, Federal	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
Marshall County-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Emergency Management Director	High	4	Staff Time	Local	Continuous	On-going, Continuous
Marshall County-10	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Emergency Management Director	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-11	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Emergency Management Director	Medium	1,2	\$10,000	Local	Continuous	On-going, Continuous
Marshall County-12	Consider development of a Comprehensive Land Use Plan for Marshall County. A Land Use Plan is a policy document that describes the official vision of the physical form and appearance desired for the county as it continues to grow over the coming years. The Plan provides a long-range vision (guide) for growth management.	All Hazards	Mitigation Officer	High	4	Staff time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-13	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Marshall County can apply for grant funding to acquire flood-prone parcels of land from voluntary and willing property owners.	Flood	Mitigation Officer	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Marshall County-14	Contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Flood	Mitigation Officer	High	1,2,3	Staff Time	Local	Continuous	On-going, Continuous
Marshall County-15	Identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Flood	Emergency Management Director	High	1,2,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-16	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction's water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting Marshall County's agricultural operations from buffer regulations.	Flood	Emergency Management Director	High	1,2,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-17	Research, develop and recommend an ordinance /resolution to require installation of tornado saferooms for any new major manufactured and/or mobile home parks with more than 10 mobile home spaces. Mobile homes are particularly vulnerable to damage from high winds. Residents, even those who live in mobile homes with tie-downs, should seek saferooms when a tornado threatens. Tornado saferooms should be constructed in major mobile home parks to ensure a safe place for residents to go during a tornado event. The saferoom structure, which should be designed to withstand a minimum of 250mph winds, could easily serve an alternate purpose such as a community center, laundry facility, etc.	Tornado, Windstorm	Emergency Management Director	High	1,2,4	Staff Time	Local	12/31/2015	On-going
Marshall County-18	Regularly calculate and document the amount of flood prone property that is preserved as open space to reduce flood insurance burden to the county. CRS credit is given for areas that are permanently preserved as open space. Although credit is not given for federal lands, the jurisdiction maintains and continues to expand floodplain areas preserved as open space through land acquisition projects (i.e., HMGP), which protect parcels from development through deed restrictions. The jurisdiction also has floodplain land within state parks or otherwise preserved as wildlife and natural preserves, which does qualify for additional CRS credit.	Flood	Emergency Management Director	High	1,2,3,4	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
Marshall County-19	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the Long - range goal of reducing damage to structures and systems within the jurisdiction.	Wildfire	Emergency Management Director	High	4	Staff Time	Local	12/31/2015	On-going
Marshall County-20	Evaluate the firefighting water supply resources within the County, including both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult for to suppress fires. Increasing access to water along water service delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Management Director	Medium	4	Staff time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-21	Develop and implement a wildfire prevention/education program. In addition to providing education to the general public, the program should also target children, fire and equipment users, builders and developers, and homeowners. The jurisdiction has burn-ban resolutions which require special permission to conduct open burning operations. In periods of drought or extreme weather conditions a burn ban may be declared. When a ban is declared all radio stations, TV stations, and newspapers in the area are notified as well as mayors, fire chiefs, etc. To better educate the public at large, the jurisdiction should expand the existing fire protection program to include wildfire workshops to all age groups and commercial operations.	Wildfire	Emergency Management Director	Medium	3	\$500 per workshop	Local	Continuous	On-going, Continuous
Marshall County-22	Conduct inventory/survey for the county emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to ensure the county's current emergency services are adequate to protect public health and safety from anticipated hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations for emergency service enhancements.	All Hazards	Emergency Management Director	Medium	4	Staff time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-23	Identify the most at-risk vital / critical facilities, and evaluate the potential mitigation techniques for protecting each facility in a cost effective manner. Currently, there is very little available data on these facilities. An inventory /database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider.	All Hazards	Emergency Management Director	Medium	1,2,4	Staff Time	Local, State	12/31/2015	On-going
Marshall County-24	Contact owners of high hazard dams in the county and inform them of their responsibility to provide and/or update EAPs to Marshall County Emergency Management as prescribed by the KDA-DWR, Chief Engineer. The County has 162 dams that are regulated by the Kansas Department of Agriculture, Water Resources Department. Four of these structures are classified as “High Hazard”. These structures should have EAPs on file with emergency management for the protection of life and property downstream of these structures. An individual dam or levee hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for a potential emergency is an essential planning step to secure the people and property downstream from a potential breach or dam failure.	Dam and Levee Failure	Emergency Management Director	High	1,2,3,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-25	Develop an annex to the LEOP for dam failure response and evacuation for high hazard dams in Marshall County. Marshall County has 162 dams that are regulated by the KDA-DWR. Four of these dams are classified as “High Hazard Class C” structures, and are owned and operated local water districts and KDOT. The State evaluation of the dams is based on location in areas where failure may cause extensive loss of life, serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads. It is important to note that a high hazard dam is not necessarily unsafe, and hazard classification is based upon the potential consequences of dam failure and does not reflect the physical condition of the dam. Preparing for a potential emergency is an essential step to secure the people and property downstream from a potential breach or dam failure.	Dam / Levee Failure	Emergency Management Director	High	4	Staff Time	Local	12/31/2015	On-going
Marshall County-26	The Blue Valley Telephone Cooperative will seek funding sources for possible, but not exclusively, capital improvement projects including updating headends and wireless equipment, overbuilds of cable plants, dial tones over the cable plants, cellular solutions, and fiber capabilities in Marshall County, among other possible projects. The Cooperative provides telecommunication services to the County.	Utility/Infrastructure Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-27	The Marshall County Rural Water District No. 3 will seek funding sources to mitigate damage to critical infrastructure, including line extensions, updating of radio read software, water line enhancements and the replacement of equipment including water pumps, meters, and valves. Also seek funding for generators and/or transfer switches to maintain power in the event of severe weather events.	Utility/Infrastructure Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going
Marshall County-28	The Washington County Rural Water District No. 1 will seek funding sources to mitigate damage to critical infrastructure, including extending and replacing water lines, water line enhancements, installing new wells and water towers, and the replacement/purchase of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. The Washington County Rural Water District No. 1 provides potable water for rural consumers and livestock use. Maintaining distribution capabilities of potable water are the District's top priority.	Utility/Infrastructure Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-29	The Home Rural Water District will seek funding sources to mitigate damage to critical infrastructure, including water line enhancements and the replacement of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Maintaining distribution capabilities of potable water is among our top priorities.	Utility/ Infrastructure Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going
Marshall County-30	The Pottawatomie County Rural Water District No. 3 will seek funding sources to mitigate damage to critical infrastructure, including water line enhancements and the replacement of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Maintaining distribution capabilities of potable water is among our top priorities.	Utility/ Infrastructure Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going
Marshall County-31	The Nemaha County Rural Water District No. 3 will seek funding sources to mitigate damage to critical infrastructure, including water line enhancements and the replacement of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Maintaining distribution capabilities of potable water is among the our top priorities.	Utility/ Infrastructure Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-32	The Marshall County Rural Water District No. 2 will seek funding sources to mitigate damage to critical infrastructure, including water line enhancements and the replacement of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. Maintaining distribution capabilities of potable water is among the our top priorities.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Unknown	Local, State, Federal	12/15/2015	On-going
Marshall County-33	The Mission Creek Watershed District No. 51 will continue to maintain watershed-related structures within their district, including the maintenance and repair of structure-related fences. The Mission Creek Watershed District No. 51 will evaluate the need for further construction, operation, and maintenance projects, and additional efforts will be made to seek alternative funding sources as they become available.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Staff Time	Local, State, Federal	12/15/2015	On-going
Marshall County-34	The Watershed District No. 69 will continue to construct, operate, and maintain water detention dams and related structures for flood reduction in their watershed district. The Watershed District No. 69 will evaluate the need for further construction, operation, and maintenance projects, and additional efforts will be made to seek alternative funding sources as they become available.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Staff Time	Local, State, Federal	12/15/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-35	The Horseshoe Creek Watershed District No. 10 will continue to construct, operate, and maintain water detention dams and related structures for flood reduction in their watershed district. The Horseshoe Creek Watershed District No. 10 will evaluate the need for further construction, operation, and maintenance projects, and additional efforts will be made to seek alternative funding sources as they become available.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Staff Time	Local, State, Federal	12/15/2015	On-going
Marshall County-36	The Robiboux Watershed No. 70 will continue to construct, operate, and maintain water detention dams and related structures for flood reduction in their watershed district. The Robiboux Watershed No. 70 will evaluate the need for further construction, operation, and maintenance projects, and additional efforts will be made to seek alternative funding sources as they become available.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Staff Time	Local, State, Federal	12/15/2015	On-going
Marshall County-37	The Upper Black Vermillion Watershed will continue to construct, operate, and maintain water detention dams and related structures for flood reduction in their watershed district. The Upper Black Vermillion Watershed will evaluate the need for further construction, operation, and maintenance projects, and additional efforts will be made to seek alternative funding sources as they become available.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Staff Time	Local, State, Federal	12/15/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-38	The Spring Creek Watershed No. 80 will continue to construct, operate, and maintain water detention dams and related structures for flood reduction in their watershed district. The Spring Creek Watershed No. 80 will evaluate the need for further construction, operation, and maintenance projects, and additional efforts will be made to seek alternative funding sources as they become available.	Dam and Levee Failure	Emergency Management Director	Medium	1,2	Staff Time	Local, State, Federal	12/15/2015	On-going
Marshall County-39	The Bluestem Electric Cooperative, Inc. will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Emergency Management Director	Medium	4	Staff Time	Local, State, Federal	12/15/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marshall County-40	The Nemaha Marshall Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Emergency Management Director	Medium	4	Staff Time	Local, State, Federal	12/15/2015	On-going
Axtell-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	3,4	Staff time	Local, State	12/31/2015	On-going
Axtell-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
Axtell-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3	\$200 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Axtell-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff time	Local, State, Federal	Continuous	On-going, Continuous
Axtell-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	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
Axtell-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Axtell-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	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
Axtell-8	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Axtell-9	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$4,000	Local	Continuous	On-going, Continuous
Axtell-10	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for any Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City of Axtell maintain power during severe weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	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
Beattie-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	3,4	Staff Time	Local, State	12/31/2015	On-going
Beattie-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Beattie-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$200 per workshop	Local, State, Federal	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
Beattie-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Beattie-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3	Staff Time	Local	Continuous	On-going
Beattie-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3	Staff Time	Local, State, Federal	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
Beattie-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Beattie-8	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Beattie-9	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$5,000	Local	Continuous	On-going, Continuous
Beattie-10	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for any Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City of Axtell maintain power during severe weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$50,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Beattie-11	The city of Beattie, on behalf of the Twin Valley Developmental Services, Inc. organization, will research funding options and consider the purchase of emergency generators to provide backup power for Twin Valley's sheltered workshop site in the city of Beattie. The Twin Valley Developmental Services, Inc. organization is the designated Community Development Disability Organization (CDDO) for Marshall County, and has identified a need for emergency generators for their sheltered workshop site in the city of Beattie. The sheltered workshop site in Beattie may be utilized as a community shelter for the city of Beattie.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$40,000	Local, State, Federal	12/31/2015	On-going
BlueRapids-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	3,4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
BlueRapids-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff time	Local	Continuous	On-going, Continuous
BlueRapids-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local, State, Federal	Continuous	On-going, Continuous
BlueRapids-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, windstorm	Mayor	High	1,2	Staff time	Local, State, Federal	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
BlueRapids-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff time	Local	Continuous	On-going, Continuous
BlueRapids-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff time	Local, State, Federal	Continuous	On-going, Continuous
BlueRapids-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	High	4	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
BlueRapids-8	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/ structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going
BlueRapids-9	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$5,000	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
BlueRapids-10	Consider developing an application package for participation in the NFIP. 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. The jurisdiction must submit an application package that includes the following: An Application for Participation (FEMA Form 81-64); a Resolution of Intent, indicating an explicit desire to participate in the NFIP and a commitment to recognize flood hazards and carry out the objectives of the program; The jurisdiction must an adopted Floodplain Management Regulations that exceed the minimum flood plain management requirements of the NFIP (Title 44 of the Code of Federal Regulations (44 CFR) section 60.3); and the jurisdiction's floodplain management regulations must be legally enforceable. The city is flood mapped, but does not participate in the NFIP. Review of the Flood Hazard Boundary Map for the city, dated March 1976, indicates SFHAs located on the east, north, and west sides of the city, due to the presence of the Big Blue River and its tributaries and in the center of the city, due to the presence of an unnamed tributary of the Big Blue River in this area. It is estimated that approximately 28.4% of the City of Blue Rapids is identified within a SFHA.	Flood	Mayor	High	1,2,3,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
BlueRapids-11	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for any Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City maintain power during severe weather events.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	On-going
Frankfort-1	Frankfort is committed to continued voluntary participation and compliance with the NFIP. TA 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.	Flood	Mayor	High	1,2,3,4	Staff Time	State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Frankfort-2	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	3,4	Staff Time	Local, State	12/31/2015	On-going
Frankfort-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Frankfort-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$300 per workshop	Local, State, Federal	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
Frankfort-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Frankfort-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Frankfort-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	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
Frankfort-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Frankfort-9	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building /structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Frankfort-10	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$4,000	Local	Continuous	On-going, Continuous
Frankfort-11	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	High	1,2,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Frankfort-12	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for any Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City can maintain power during severe weather events.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	On-going
Marysville-1	Marysville is committed to continued voluntary participation and compliance with the NFIP. TA 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.	Flood	Mayor	High	1,2,3,4	Staff Time	State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marysville-2	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	3,4	Staff Time	Local, State	12/31/2015	On-going
Marysville-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Marysville-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$400 per workshop	Local, State, Federal	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
Marysville-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Marysville-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Marysville-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	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
Marysville-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Marysville-9	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marysville-10	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$8,000	Local	Continuous	On-going, Continuous
Marysville-11	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	City Administrator	High	1,2,3,4	Staff time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marysville-12	The City of Marysville will continue to assess the impact of natural hazards on potable water supplies, distribution lines, pumps, systems, and equipment. Seek funding sources to mitigate damage to critical infrastructure and replace necessary equipment. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. The City of Marysville provides potable water to the residents within the city. Maintaining distribution capabilities of potable water is the jurisdiction's top priority.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$40,000	Local, State, Federal	Continuous	On-going, Continuous
Marysville-13	The City of Marysville will continue to assess the impact of natural hazards on its sewage lift station. Seek funding sources to mitigate damage to critical infrastructure and replace necessary equipment. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. The City of Marysville provides sanitary sewer service to its citizens through the use of a sewage lift station. Maintaining this infrastructure is a priority to the City of Marysville.	Utility/Infrastructure Failure	Mayor	Medium	1,2	Unknown	Local, State, Federal	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
Marysville-14	The City of Marysville will continue to operate and maintain their levee system in accordance with the appropriate regulatory requirements. The City of Marysville owns and maintains the levee located on the south and west sides of the city. Reportedly, this levee was constructed in 2004-2005 by the U.S. Army Corps of Engineers to provide flood protection to the city of Marysville due to the proximity of the Spring Creek and the Big Blue River. The City of Marysville reported that the levee is inspected annually. The levee system is identified on the Flood Insurance Rate Map for the City of Marysville, and areas located behind the levee system are designated as Zone X (shaded), which is defined as "an area inundated by 500-year flooding; an area inundated by 100-year flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile; or an area protected by levees from 100-year flooding".	Dam and Levee Failure	Mayor	High	1,2	Unknown	Local, State, Federal	Continuous	On-going, Continuous
Marysville-15	Research funding options and consider the purchase of a pumping system to aid in dewatering of the levee system in Marysville. The city of Marysville has identified a need to install a pumping system in the areas of the levee located in the city. This pumping system will be utilized to aid in dewatering of the ponding areas adjacent to the levee system.	Dam and Levee Failure	Mayor	Medium	1,2	Unknown	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Marysville-16	The city of Marysville, on behalf of the Twin Valley Developmental Services, Inc. organization, will research funding options and consider the purchase of emergency generators to provide backup power for Twin Valley's residential homes in the city of Marysville. The Twin Valley Developmental Services, Inc. organization is the designated Community Development Disability Organization (CDDO) for Marshall County, and has identified a need for emergency generators for their residential homes in the city of Marysville.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$40,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Oketo-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Oketo-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Oketo-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local, State, Federal	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
Oketo-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Oketo-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Oketo-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	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
Oketo-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Oketo-8	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Oketo-9	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$8,000	Local	Continuous	On-going, Continuous
Oketo-10	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City of Oketo maintain power during severe weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Summerfield-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Summerfield-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Summerfield-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local, State, Federal	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
Summerfield-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Summerfield-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Summerfield-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	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
Summerfield-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	Staff Time	Local	Continuous	On-going, Continuous
Summerfield-8	Develop cross-departmental information collection capabilities, and incorporate cadastral (building/parcel) data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Most jurisdictions have basic GIS capabilities. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Summerfield-9	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines have additional serious consequences such as causing power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$5,000	Local	Continuous	On-going, Continuous
Summerfield-10	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City maintain power during severe weather events.	Utility/Infrastructure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Vermillion-1	Vermillion is committed to continued voluntary participation and compliance with the NFIP. TA 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.	Flood	Mayor	High	1,2,3,4	Staff Time	State, Federal	12/31/2015	On-going
Vermillion-2	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	3,4	Staff time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Vermillion-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Vermillion-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Vermillion-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff time	Local, State, Federal	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
Vermillion-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Vermillion-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Vermillion-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	High	4	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
Vermillion-9	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going
Vermillion-10	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property damage during weather events results from tree failure. Trees that fall into utility lines may cause power outages, surges, fires and other damage. Marshall County's and the incorporated cities ability to recognize and prevent hazardous tree conditions (through inspection, pruning or removal) is the best defense against problems and costly damages resulting from tree failure. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$5,000	Local	Continuous	On-going, Continuous
Vermillion-11	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	High	1,2	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Vermillion-12	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	1,2	Staff Time	Local, State, Federal	12/31/2015	On-going
Waterville-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	High	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Waterville-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	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
Waterville-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local, State, Federal	Continuous	On-going, Continuous
Waterville-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Waterville-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	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
Waterville-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-terrorism, Civil Disorder	Mayor	High	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Waterville-7	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	High	4	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
Waterville-8	Develop cross-departmental information collection capabilities, and incorporate cadastral data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the jurisdiction. A comprehensive catalog of data can greatly enhance the jurisdiction's technical capability to manage, analyze and display spatially referenced data. Further development of this capability for functional use across all city and county departments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the cities and county.	All Hazards	Mayor	Medium	4	Staff Time	Local, State	12/31/2015	On-going
Waterville-9	Incorporate the inspection and management of trees that may pose a threat to the county and incorporated cities routine maintenance system process. A significant amount of property and utility damage during weather events results from tree failure. Waterville's ability to recognize and prevent hazardous tree conditions through inspection, pruning or removal is the best defense against problems and costly damages. Specifically, trees located on County, city, or critical facilities property, which pose immediate threats to property and utility lines, should be addressed.	Tornado, Windstorm, Winter Storm	Mayor	Medium	1,2	\$5,000	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
Waterville-10	Research funding options and consider the purchase of emergency generators and/or transfer switches to provide backup power for Critical Facilities. Winter storms generally create the greatest risk of power loss to critical facilities, although other hazards can also create outages. Heavy snow and ice accumulation often result in downed trees and power lines. Backup generators ensure that Critical Facilities located within the City maintain power during severe weather events.	Utility/Infra-structure Failure	Mayor	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	On-going
USD113-1 (formerly USD488)	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 113 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$500,000	Local, State, Federal	Dependent upon funding.	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD364-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 364 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going
USD364-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare school districts such as USD 364 for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD364-3	Seek funding options for the purchase and installation of backup power generators for the schools of USD 364. USD 364 has identified a need to quickly restore power in all of its schools, which may be utilized as a critical facility, in the event of a weather event and the subsequent loss of power.	Utility/Infrastructure Failure	Superintendent	Medium	1,2	\$50,000	Local, State, Federal	12/31/2015	On-going
USD364-4	Seek funding to evaluate and update the existing Marysville Junior High School / High School Emergency Plans / Evacuation Plans for technological hazards caused by severe weather events. The Marysville Junior High and High Schools are located approximately 1,200 feet north of a Union Pacific Railroad line. Hazardous materials are routinely transported along this railway. The schools would like to update the existing emergency plans / evacuations plans to reduce their exposure in the event of a severe weather event that would impact the rail line.	All Hazards	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	On-going
USD380-1	Develop and fund mitigation projects for the construction of tornado safe rooms for USD 380 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students during a tornado. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD498-1	<p>Develop and fund mitigation projects for the construction of tornado safe rooms for USD 498 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens.</p> <p>Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.</p>	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	On-going
USD498-2	<p>Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare school districts such as USD 498 for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.</p>	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD498-3	Seek funding options for the purchase and installation of backup power generators for the schools of USD 498. USD 498 has identified a need to quickly restore power in all of its schools, which may be utilized as a critical facility, in the event of a weather event and the subsequent loss of power.	Utility/Infrastructure Failure	Superintendent	Medium	1,2	\$50,000	Local, State, Federal	12/31/2015	New
USD498-4	Seek funding to evaluate and update the existing School Emergency Plans / Evacuation Plans for technological hazards caused by wrecks. Hwy 9 and 77 run within 120 ft of school. Hazardous materials are routinely transported along this Highway. The schools would like to update the existing emergency plans / evacuations plans to reduce their exposure in the event of a Hazmat event that would impact the highway we would seek shelter in place kits for classrooms.	All Hazards	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	New
St. Gregory School-1	Develop and fund mitigation projects for the construction of tornado safe rooms for schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
St. Gregory School-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare schools for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	New
St. Gregory School-3	Seek funding options for the purchase and installation of backup power generators for the schools. The school identified a need to quickly restore power in all of its schools, which may be utilized as a critical facility, in the event of a weather event and the subsequent loss of power.	Utility/Infrastructure Failure	Superintendent	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
St. Gregory School-4	Seek funding to evaluate and update the existing School Emergency Plans / Evacuation Plans for technological hazards caused by wrecks. Hwy 36 runs next to the school with UP tracks within ½ mile. Hazardous materials are routinely transported along this Highway and railway.. The schools would like to update the existing emergency plans / evacuations plans to reduce their exposure in the event of a Hazmat event that would impact the highway/railway we would seek shelter in place kits for classrooms.	All Hazards	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	New
Good Shepherd School-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Good Shepherd school. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$500,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Good Shepherd School -2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare schools for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	New
Good Shepherd School -3	Seek funding options for the purchase and installation of backup power generators for the schools of Good Shepherd. Good Shepherd has identified a need to quickly restore power in all of its schools, which may be utilized as a critical facility, in the event of a weather event and the subsequent loss of power.	Utility/Infrastructure Failure	Superintendent	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Good Shepherd School -4	Seek funding to evaluate and update the existing plans / Evacuation Plans for technological hazards caused by severe weather events.. Good shepherd schools are located approximately 1200 feet north a Union Pacific Railroad line. Hazardous materials are routinely transported along this railway. The schools would like to update the existing emergency plans / evacuations plans to reduce their exposure in an event that would impact the railway. We would seek shelter in place kits for classrooms.	All Hazards	Superintendent	Medium	1,2,3,4	\$40,000	Local, State, Federal	12/31/2015	New
St. Michael's School-1	Develop and fund mitigation projects for the construction of tornado safe rooms St. Michael's schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$500,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
St. Michaels School-2	Seek funding to retain a professional school safety and security firm to review and update the school's Security Plan for domestic acts of terrorism, building security, and contagious disease response. As domestic acts of terrorism are becoming more of reality, many officials believe that the next wave of terrorists acts may be aimed at public school systems. Although these events are impossible to predict with great accuracy, updating building security, school security plans, and USD emergency plans can prepare schools for these events. Companies such as the National School Safety and Security Services provide the expertise in this field to help review and upgrade plans for the district.	Terrorism/Agri-terrorism, Civil Disorder	Superintendent	Medium	3,4	\$40,000	Local, State, Federal	12/31/2015	New
St. Michaels School-3	Seek funding options for the purchase and installation of backup power generators for the schools of St. Michaels. St. Michaels has identified a need to quickly restore power in all of its schools, which may be utilized as a critical facility, in the event of a weather event and the subsequent loss of power.	Utility/Infrastructure Failure	Superintendent	Medium	1,2	\$30,000	Local, State, Federal	12/31/2015	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
St. Michael School-4	Seek funding to evaluate and update the existing Evacuation Plans for technological hazards caused by severe weather events.. Union Pacific tracks run within 1200 feet of school. Also a grain elevator is within 2 blocks of the school. Hazardous materials are routinely transported along this railway. The schools would like to update the existing emergency plans / evacuations plans to reduce their exposure in an event that would impact the railway. We would seek shelter in place kits for classrooms.	All Hazards	Superintendent	Medium	1,2,3,4	\$30,000	Local, State, Federal	12/31/2015	New
Nemaha-Marshall Electric Coop-1	The Nemaha Marshall Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	President	Medium	4	Staff Time	Local, State, Federal	Continuous	New
Nemaha-Marshall Electric Coop-2	Refit poles and electrical wire throughout the county. Failure of lines causes the cessation of critical services and infrastructure.	Utility/Infrastructure Failure	President	Medium	1,2	Unknown	Local, State, Federal	Continuous	New

5.6.9 NEMAHA COUNTY

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nemaha County-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Nemaha County regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Emergency Manager	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Nemaha County-2	Conduct training and public outreach to Nemaha county citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Emergency Manager	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Nemaha County-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Emergency Manager	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Nemaha County-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Emergency Manager	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Nemaha County-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Emergency Manager	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nemaha County-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Emergency Manager	Medium	1,2,3,4	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Nemaha County-7	Act as a sub-grantee for the Hazard Mitigation Grant Program to assist in constructing Storm Safe Rooms in Nemaha County schools. Utilize existing structural components in schools for protection against high winds.	Lightning, Hailstorm, Terrorism, Civil Disorder, Windstorm, Earthquake, Radiological, Tornado, Winter Storm							Deleted
Nemaha County-8	Utilize the Hazard Mitigation Grant Program and other funding means to identify structures and facilities located within the 100-year floodplain and implement a buy-out program to demolish or remove structures from hazardous areas.	Flood	Emergency Manager	Medium	1,2,3,4	\$291,000	Local, State, Federal	year 2014	On-going
Nemaha County-9	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Nemaha County.	Flood	Emergency Manager	Medium	3,4	\$12,000	Local, State, Federal	Contingent upon funding	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nemaha County-10	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Nemaha County.	Flood	Emergency Manager	High	1,2,3,4	\$12,000	Local, State, Federal	Continuous	On-going, Continuous
Bern-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Bern regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Bern-2	Conduct training and public outreach to Bern citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Bern-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Bern-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Bern-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Bern-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Bern-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Bern.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Bern-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Bern.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	Continuous	On-going, Continuous
Centralia-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Centralia regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Centralia-2	Conduct training and public outreach to Centralia citizens, businesses and local \ government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Centralia-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	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
Centralia-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Centralia-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going
Centralia-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Centralia-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Centralia.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Centralia-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Centralia.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	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
Corning-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Corning regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Corning-2	Conduct training and public outreach to Corning citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Corning-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Corning-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Corning-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Corning-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Corning-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Corning.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Corning-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Corning.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	Continuous	On-going, Continuous
Goff-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Goff regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Goff-2	Conduct training and public outreach to Goff citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Goff-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	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
Goff-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Goff-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going
Goff-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Goff-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Goff.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Goff-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Goff.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	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
Oneida-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Oneida regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Oneida-2	Conduct training and public outreach to Oneida citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Oneida-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Oneida-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Oneida-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Oneida-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Oneida-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Oneida.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Oneida-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Oneida.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	Continuous	On-going, Continuous
Sabetha-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Sabetha regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Sabetha-2	Conduct training and public outreach to Sabetha citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Sabetha-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	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
Sabetha-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Sabetha-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going
Sabetha-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Sabetha-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Sabetha.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Sabetha-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Sabetha.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	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
Seneca-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Seneca regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Seneca-2	Conduct training and public outreach to Seneca citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Seneca-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Seneca-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Seneca-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Seneca-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Seneca-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Seneca.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Seneca-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Seneca.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	Continuous	On-going, Continuous
Wetmore-1	Awareness. Provide information regarding hazard mitigation via the county website or the public library. To provide education programs for the citizens of Wetmore regarding threats faced from natural hazards and the ways and means to mitigate them.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Wetmore-2	Conduct training and public outreach to Wetmore citizens, businesses and local government regarding ways to protect against and mitigate natural hazards.	All Hazards	Mayor	High	3,4	\$6,000	Local, State, Federal	Continuous	On-going, Continuous
Wetmore-3	Allow the public to examine the Nemaha County Hazard Mitigation Plan and give written comment on concerns, changes or suggestions.	All Hazards	Mayor	High	4	\$6,000	Local, State, Federal	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
Wetmore-4	Assure that all citizens are equipped with NOAA Weather Radios. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$130,000	Local, State, Federal	Contingent upon funding	On-going
Wetmore-5	Install outdoor emergency warning systems that allow for voice communications. To ensure adequate systems for notifying the public at risk and providing emergency instruction during a disaster are available in all identified hazard areas.	All Hazards	Mayor	High	1,2	\$700,000	Local, State, Federal	Contingent upon funding	On-going
Wetmore-6	A study will be conducted to ascertain the vulnerability to hazards affecting government and emergency services structures and facilities, and how these can be mitigated. To have all buildings and facilities used for the operation of government and emergency services retrofitted or relocated from hazard areas in order to withstand the impacts of disasters.	All Hazards	Mayor	Medium	1,2	\$36,000	Local, State, Federal	Contingent upon funding	On-going
Wetmore-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Wetmore.	Flood	Mayor	Medium	1,2	\$12,000	Local, State, Federal	Contingent upon funding	On-going
Wetmore-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Wetmore.	Flood	Mayor	High	1,2,3,4	\$12,000	Local, State, Federal	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
USD113-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 113 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	L	1,2	\$500,000 x 6 bldgs = \$3,000,000	Local, State, Federal	Contingent upon funding	New
USD113-2	Power backup for each building. To develop a power source to back up freezers, refrigerators, technology, communication system. Add a power unit to each building.	Utility/Infrastructure Failure	Superintendent	Medium	1,2	\$500,000	Local, State, Federal	Contingent upon funding	New
USD115-1	Storm/Safe Rooms. Create safe areas/rooms for students and staff in the event of severe weather. Use existing structure components in schools for protection against high winds.	All Hazards	Superintendent	High	1,2	\$500,000	Local, State, Federal	Contingent upon funding	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Nemaha-Marshall Electric Coop-1	The Nemaha Marshall Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	President	Medium	4	Unknown	Local, State, Federal	Continuous	New
Nemaha-Marshall Electric Coop-2	Refit poles and electrical wire throughout the county. Failure of lines causes the cessation of critical services and infrastructure.	Utility/Infrastructure Failure	President	Medium	1,2	Unknown	Local, State, Federal	Continuous	New

5.6.10 WASHINGTON COUNTY

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Washington County-1	The County and local government 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 flood insurance to individuals whose local governments participate in the program. These policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Emergency Manager	Medium	3,4	Staff Time	Local, State	12/31/2015	On-going
Washington County-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Emergency Manager	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Washington County-3	Annually host a public hazards workshop in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward education on the hazards that threaten the county and mitigation and preparedness measures available. Speakers from the NWS, 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.	All Hazards	Emergency Manager	Medium	3,4	\$1,000 per workshop	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
Washington County-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Emergency Manager	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Washington County-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Emergency Manager	High	3,4	Staff time	Local	Continuous	On-going, Continuous
Washington County-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Emergency Manager	Medium	3,4	Staff Time	Local, State, Federal	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
Washington County-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Emergency Manager	High	1,2	\$75,000	Local	12/31/2015	On-going
Washington County-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Emergency Manager	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Washington County-9	Research and recommend a floodplain management ordinance for admittance to the NFIP to make flood insurance available to residents in the jurisdiction. When the jurisdiction chooses to join the NFIP, it must adopt and enforce minimum floodplain management standards for participation. A non-participating community can join the flood insurance program by taking three steps. First, local officials must complete an application for participation in the NFIP. Second, the local government must adopt a resolution indicating intent to participate in the flood insurance program. Finally, the governing body must adopt local flood plain management and permitting regulations, which place standards on new development and substantially improved existing buildings. In return, the Federal Government makes flood insurance available for almost every building and its contents within the community. Communities must ensure that their adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations must be updated when additional data are provided by FEMA or when Federal or State standards are revised. (FEMA)	Flood	Emergency Manager	High	1,2,3,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Washington County-10	Research and consider appropriate building codes for the County that include wind-resistant design techniques for new construction. Incorporated and unincorporated areas of the county should adopt and enforce codes that require certain minimum building practices and contractor licensing for wind loss reduction. Experts agree that structures built to exceed high wind provisions have a much greater chance of surviving violent windstorms. Additional techniques include adding protection for windows (i.e., shutters), anchoring door frames with multiple hinges, stiffening garage doors with additional bracing, reinforcing masonry chimneys with vertical steel, and strengthening connections between walls and the roof with hurricane straps and ties. These techniques should be promoted to building contractors and homebuyers by the county for all new residential construction.	Windstorm	Emergency Manager	Medium	1,2,4	Staff Time	Local	12/31/2015	On-going
Washington County-11	Research and consider development of a Comprehensive Land Use Plan for Washington County. A Land Use Plan is a policy document that describes the official vision of the physical form and appearance desired for the county as it continues to grow over the coming years. The Plan provides a long-range vision (guide) for growth management.	Flood	Emergency Manager	High	1,2,4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Washington County-12	Conduct an inventory/survey for the emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment or required resources. A survey should be completed in order to verify the county's current emergency services are adequate to protect public health and safety from most probable hazard events. Any identified needs or shortfalls should become documented and result in specific recommendations to the County Commission for emergency service enhancements.	All Hazards	Emergency Manager	Medium	1,2,4	Staff Time	Local, State	12/31/2015	On-going
Washington County-13	Research and recommend an ordinance/resolution to require tornado shelters for new major manufactured and/or mobile home parks with more than 10 mobile home spaces. Mobile homes are particularly vulnerable to damage from high winds. Residents, even those who live in mobile homes with tie-downs, should seek safe shelter when a tornado threatens. Tornado shelters should be constructed in major mobile home parks to ensure a safe place for residents to go during a tornado event. The shelter structure, which should be designed to withstand a minimum of 120mph winds, could easily serve an alternate purpose such as a community center, laundry facility, etc.	Tornado, Windstorm	Emergency Manager	Medium	1,2	Staff Time	NA	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Washington County-14	Develop cross-departmental information collection capabilities, and incorporate cadastral data utilizing a GIS for purposes of conducting more detailed hazard risk assessments and for tracking permitting / land use patterns, buildings and infrastructure replacement costs, and overall structural accounting for the county. A comprehensive catalog of data can greatly enhance the technical capability to manage, analyze and display spatially referenced data. Further development of this capability for functional use across all departments and local governments will enhance the overall capabilities to document building/structure cost data, and further hazard mitigation goals in developing cadastral data for the county.	All Hazards	Emergency Manager	High	4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Washington County-15	Develop and implement a wildfire prevention/education program. In addition to providing education to the general public, the program should also target children, fire and equipment users, builders and developers, and homeowners. The county has burn-ban resolutions which require special permission to conduct open burning operations. In periods of drought or extreme weather conditions a burn ban may be declared. When a ban is declared all radio stations, TV stations, and regional newspapers in the area are notified as well as mayors, fire chiefs, etc. To better educate the public at large, The county should expand their existing fire protection program to include wildfire workshops to all age groups and commercial operations.	Wildfire	Emergency Manager	Medium	1,2,3,4	\$500 per class	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
Washington County-16	Examine the current agreements within the county and assess the need to expand or update cooperative agreements for firefighting resources. Include agreements with local, state and federal agencies. Cooperative agreements provide the support needed in times of emergency, and are an important element of planning, with the Long - range goal of reducing damage to structures and systems within the jurisdiction.	Wildfire	Emergency Manager	Medium	4	Staff Time	Local	12/31/2015	On-going
Washington County-17	Create a working group to evaluate the firefighting water supply resources within the County, including both fixed and mobile supply issues. Lack of sufficient water supply makes it difficult to suppress fires. Increasing access to water along water service delivery lines (wet and dry hydrants) would provide additional resources for emergency responders.	Wildfire	Emergency Manager	Medium	4	Staff Time	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Washington County-18	The Washington County Rural Water District No. 1 will seek funding sources to mitigate damage to critical infrastructure, including extending and replacing water lines, water line enhancements, installing new wells and water towers, and the replacement/purchase of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. The Washington County Rural Water District No. 1 provides potable water for rural consumers and livestock use. Maintaining distribution capabilities of potable water are the District's top priority.	Utility/ Infrastructure Failure	Emergency Manager	Medium	1,2	Unknown	Local, State, Federal	Continuous	On-going, Continuous
Washington County-19	The Little Blue Rural Water District No. 1 will seek funding sources to mitigate damage to critical infrastructure, including extending and replacing water lines, water line enhancements, installing new wells and water towers, and the replacement/purchase of equipment including water pumps, meters, and valves. Also seek funding sources options for generators and/or transfer switches to maintain power in the event of severe weather events. The Washington County Rural Water District No. 1 provides potable water for rural consumers and livestock use. Maintaining distribution capabilities of potable water are the District's top priority.	Utility/ Infrastructure Failure	Emergency Manager	Medium	1,2	Unknown	Local, State, Federal	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
Washington County-20	The Bluestem Electric Cooperative, Inc. will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Emergency Manager	High	1,2,4	Unknown	Local, State, Federal	Continuous	On-going, Continuous
Washington County-21	The Nemaha Marshall Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Emergency Manager	High	1,2,4	Unknown	Local, State, Federal	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
Washington County-22	The Prairie Land Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Emergency Manager	High	1,2,4	Unknown	Local, State, Federal	Continuous	On-going, Continuous
Washington County-23	The Rolling Hills Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Emergency Manager	High	1,2,4	Unknown	Local, State, Federal	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
Washington County-24	Identify the County's most at-risk critical facilities, and evaluate potential mitigation techniques for protecting each facility to the maximum extent possible. Currently, there is very little available data on these facilities. An inventory/database on critical facilities should be created and maintained by the county and shared with the KDEM. This inventory should include information on the location and risk to each facility, and should also document any cost-effective mitigation techniques to consider when funding becomes available.	All Hazards	Emergency Manager	Medium	1,2,4	Staff Time	Local	12/31/2015	On-going
Barnes-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Barnes-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	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
Barnes-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$300 per workshop	Local	Continuous	On-going, Continuous
Barnes-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Barnes-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	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
Barnes-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Barnes-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Barnes-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce loss of electrical power are beneficial to all within the city. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Barnes-9	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	Mayor	Low	1,2	\$350,000	Local, State, Federal	12/31/2015	On-going
Barnes-10	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3,4	\$3,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Clifton-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Clifton-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Clifton-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten the County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	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
Clifton-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Clifton-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Clifton-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
Clifton-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going
Clifton-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Clifton-9	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	Mayor	Low	1,2	\$350,000	Local, State, Federal	12/31/2015	On-going
Clifton-10	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3,4	\$3,000	Local, State, Federal	12/31/2015	On-going
Greenleaf-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Greenleaf-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Greenleaf-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local	Continuous	On-going, Continuous
Greenleaf-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	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
Greenleaf-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Greenleaf-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural and bio terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Greenleaf-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all.	Tornado	Mayor	High	1,2,4	\$45,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Greenleaf-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce loss of electrical power are beneficial to all within the city. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Greenleaf-9	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	Mayor	Low	1,2	\$350,000	Local, State, Federal	12/31/2015	On-going
Greenleaf-10	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3,4	\$3,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Haddam-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Haddam-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Haddam-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	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
Haddam-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Haddam-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Haddam-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
Haddam-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going
Haddam-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Haddam-9	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	Mayor	Low	1,2	\$350,000	Local, State, Federal	12/31/2015	On-going
Haddam-10	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3,4	\$3,000	Local, State, Federal	12/31/2015	On-going
Hanover-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hanover-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Hanover-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local	Continuous	On-going, Continuous
Hanover-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	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
Hanover-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Hanover-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Hanover-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hanover-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Hanover-9	The City of Hanover is committed to continued voluntary 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. 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.	Flood	Mayor	High	1,2,3,4	Staff Time	Local, State, Federal	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
Hanover-10	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local	12/31/2015	On-going
Hanover-11	Purchase and install generator at public storm shelter The Kloppenberg Center has a storm shelter but no source of power in the event of a utility power failure.	Utility/Infra-structure Failure	Mayor	High	1,2	\$5000 - \$10,000	Local	12/31/2010	On-going
Hollenberg-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hollenberg-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Hollenberg-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local	Continuous	On-going, Continuous
Hollenberg-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	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
Hollenberg-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Hollenberg-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Hollenberg-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Hollenberg-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Hollenberg-9	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3	\$3,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Linn-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Linn-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Linn-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$300 per workshop	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
Linn-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Linn-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Linn-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff time	Local, State, Federal	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
Linn-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2,4	\$25,000	Local	12/31/2015	On-going
Linn-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Linn-9	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3	\$3,000	Local, State, Federal	12/31/2015	On-going
Linn-10	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	Mayor	Low	1,2	\$350,000	Local, State, Federal	12/31/2015	On-going
Mahaska-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	City Administrator	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mahaska-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	City Administrator	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Mahaska-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	City Administrator	Medium	3,4	\$250 per workshop	Local	Continuous	On-going, Continuous
Mahaska-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	City Administrator	High	1,2	Staff Time	Local, State, Federal	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
Mahaska-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	City Administrator	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Mahaska-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	City Administrator	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Mahaska-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all.	Tornado	City Administrator	High	1,2,4	\$25,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Mahaska-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce loss of electrical power are beneficial to all within the jurisdiction. Power loss during extreme temperatures increase damage potential to people and property.	Utility/Infrastructure Failure	City Administrator	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Mahaska-9	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	City Administrator	Medium	1,2,3	\$3,000	Local, State, Federal	12/31/2015	On-going
Mahaska-10	Seek funding to design and construct a community tornado shelter. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado	City Administrator	Low	1,2	\$350,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrowville-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Morrowville-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Morrowville-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	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
Morrowville-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Morrowville-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Morrowville-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
Morrowville-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going
Morrowville-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Morrowville-9	Purchase emergency back-up power generators to operate Morrowville's storm-warning alert system in the event of a power failure To enhance emergency alert system to better protect the safety and welfare of the citizens of Morrowville	Utility/Infra-structure Failure	Mayor	High	1,2	6500	Local, State, Federal	Spring 2012	On-going
Morrowville-10	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	Medium	1,2,4	Staff Time	Local	12/31/2015	On-going
Palmer-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Palmer-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Palmer-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$250 per workshop	Local	Continuous	On-going, Continuous
Palmer-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff time	Local, State, Federal	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
Palmer-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
Palmer-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Palmer-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Palmer-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce loss of electrical power are beneficial to all within the city. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Palmer-9	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	Medium	1,2,4	Staff Time	Local	12/31/2015	On-going
Palmer-10	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3,4	\$3,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Vining-1	Upgrade/Expand/Improve Stormwater Management System. The local community has a problem with the ability of storm water being able to get away. This could cause flooding of resident housing and other buildings within the city as well as causing the gravel on the streets to be washed away. The ditches within the city need to be cleaned out and possible culverts installed to allow the water to get away to the creek.	Flood	Mayor	High	1,2	Unknown	Local, and County	12/31/2020	New
Vining-2	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
Vining-3	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	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
Vining-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	Medium	3,4	\$300 per workshop	Local	Continuous	On-going, Continuous
Vining-5	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
Vining-6	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	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
Vining-7	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff time	Local, State, Federal	Continuous	On-going, Continuous
Vining-8	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2,4	\$30,000	Local	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Vining-9	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infra-structure Failure	Mayor	Medium	4	Staff Time	Local, State, Federal	12/31/2015	On-going
Vining-10	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,4	\$3,000	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
Vining-11	Develop a program or system for supporting vulnerable populations during emergency events. The population of the City of Vining is continually increasing in age. If there is a major disaster in the city there needs to be a network of people and equipment to help the elderly. Educate residents about what to do in the case of a major disaster. Also educate the residents who their neighbors are and create a plan that everyone in the community is contacted and helped during the disaster. A workshop should be geared toward education the residents on the hazards that threaten Washington County and the City of Vining and the mitigation and preparedness measures available to protect them.	All Hazards	Mayor	Low	1,2,3,4	Staff Time	Local, County, State, Federal	Continuous	New
Vining-12	Improve lighting and traffic controls at critical intersections and roadways to improve safety. The stop signs at many intersections are constantly being knocked down or stolen. Because the main street of Vining is half in Washington and half in Clay county there needs to be more patrols by the counties law enforcement. The cost of purchasing signs and posts is starting to add up.	Utility/Infrastructure Failure	Mayor	Low	1,2	Unknown	Local, County	Continuous	New

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
City of Washington-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Flood	Mayor	Medium	1,2,3,4	Staff Time	Local, State	12/31/2015	On-going
City of Washington-2	Collect educational materials on individual and family preparedness / mitigation measures for property owners, and display at both the library and routinely visited county offices. FEMA, the KDEM, the NWS and other agencies provide information brochures and pamphlets on property protection measures at no cost.	All Hazards	Mayor	High	3,4	Staff time	Local	Continuous	On-going, Continuous
City of Washington-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	All Hazards	Mayor	High	3,4	\$400 per workshop	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
City of Washington-4	Encourage the construction of safe rooms and storm shelters in public and private schools, day care centers and senior care facilities. When severe weather threatens, individuals and families need advance warning and protection from the dangerous forces of extreme winds. Individuals and communities in high-risk tornado and hurricane areas need structurally sound shelters and early alert systems.	Tornado, Windstorm	Mayor	High	1,2	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
City of Washington-5	Educate residents about driving in winter storms and handling winter-related health effects. USDOT, KDOT and other agencies provide information brochures and pamphlets on safe driving measures at no cost.	Winter Storm	Mayor	High	3,4	Staff Time	Local	Continuous	On-going, Continuous
City of Washington-6	Promote and educate the jurisdiction's public and private sectors on potential agricultural terrorism and bio-terrorism issues that can severely impact the county and regional economies, and develop and implement plans to address these issues. A natural or intentional introduction of a foreign animal disease would be devastating to the local, regional state, economies. This annex will be added to the LEOP, with additional annexes developed in the future to address other types of terrorism.	Terrorism/Agri-Terrorism, Civil Disorder	Mayor	Medium	3,4	Staff Time	Local, State, Federal	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
City of Washington-7	Prepare and adopt an Outdoor Warning Sirens Plan for the county, including consideration of the unique geographical locations, technical requirements, system types and operational procedures of each local jurisdiction. The plans should include a review of existing outdoor warning siren coverage and recommend new locations if and where there are coverage gaps. Seek funding to install new warning sirens in accordance with the plan recommendations. Some communities and rural areas of the county have older warning systems or none at all. To better serve the citizens of Washington County a study should be conducted to evaluate measures to be taken to improve overall emergency warning services.	Tornado	Mayor	High	1,2	\$30,000	Local	12/31/2015	On-going
City of Washington-8	Coordinate county and local government mitigation efforts with RECs, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	Mayor	Medium	3,4	Staff time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
City of Washington-9	The City of Washington is committed to continued voluntary 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. 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.	Flood	Mayor	High	1,2,3,4	Staff Time	Local, State, Federal	Continuous	On-going, Continuous
City of Washington-10	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Flood	Mayor	Medium	1,2,4	Staff Time	Local, State, Federal	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
City of Washington-11	Promote the use of NOAA All Hazards Weather Radios for the entire community. Seek funding to subsidize purchase and distribution of weather radios. The NOAA All Hazards Weather Radio with S.A.M.E. technology is a nationwide network that broadcasts Weather Service Warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Promoting the use of the system provides the opportunity to receive advanced warning and take measures to avoid or decrease the impact from various weather related hazards.	All Hazards	Mayor	Medium	1,2,3	\$5,000	Local, State, Federal	12/31/2015	On-going
USD108-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 108 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$400,000	Local, State	12/31/2015	On-going

Action Identification	Description	Hazard Addressed	Responsible Party	Overall Priority	Goal(s) Addressed	Estimated Cost	Potential Funding Source	Proposed Completion Timeframe	Current Status
USD223-1	Develop and fund mitigation projects for the construction of tornado safe rooms for Unified School District 223 schools. Schools are particularly vulnerable to potential damage from tornadoes and high winds. Students, faculty, and staff should seek safe shelter when a tornado threatens. Tornado safe rooms should be constructed in schools to ensure a safe place for students to go during a tornado event. Safe rooms may be funded by FEMA during new school construction, as part of school additions, or as retrofits.	Tornado	Superintendent	Low	1,2	\$1,000,000	Local, State	12/31/2015	On-going
Nemaha-Marshall Electric Coop-1	The Nemaha Marshall Electric Cooperative will continue to coordinate mitigation efforts with county and local governments, encourage identification of hazards potentially affecting their infrastructure, assessment of the vulnerabilities of the infrastructure to these hazards, and identification of mitigation strategies. Long-term planning goals that will reduce exposure to loss of electrical power are beneficial to all organizations and citizens within the jurisdiction. Power loss during extreme periods of cold or heat increase damage potential to people and property.	Utility/Infrastructure Failure	President	Medium	4	Unknown	Local, State, Federal	Continuous	New
Nemaha-Marshall Electric Coop-2	Refit poles and electrical wire throughout the county. Failure of lines causes the cessation of critical services and infrastructure.	Utility/Infrastructure Failure	President	Medium	1,2	Unknown	Local, State, Federal	Continuous	New

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
Atchison	Effingham-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	Huron-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
Atchison	Huron-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	Lancaster-1	The County and local governments will work with the Kansas Department of Agriculture - 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
Atchison	Lancaster-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	Muscotah-1	The County and local governments will work with the Kansas Department of Agriculture - 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, Continuous
Atchison	Muscotah-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

County	Action Identification	Description	Responsible Party	Current Status
Brown	Brown County-1	Brown County is committed to continued participation and compliance with the NFIP. There is no Federal law that requires a jurisdiction to join the program, and 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. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Emergency Manager	On-going, Continuous
Brown	Brown County-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Emergency Manager	On-going, Continuous
Brown	Brown County-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. There are currently 23 policies in effect, with a total coverage amount of \$826,600. Since the jurisdiction joined the program, there has been one (1) claim paid. The specific amount was not available. (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
Brown	Brown County-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Emergency Manager	On-going
Brown	Brown County-7	Annually host a public “hazards workshop” for the residents in combination with local festivals, fairs, or other appropriate events. A hazard workshop for county residents should be added to an established community event drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten the County, and the mitigation and preparedness measures available to protect them. Guest speakers from the National Weather Service, the KDEM, and other relevant agencies should be invited to attend, and educational displays/handouts such as FEMA publications, tornado information, safety tips, etc.	Emergency Manager	On-going, Continuous
Brown	Brown County-14	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Floodplain Manager	On-going
Brown	Brown County-15	Develop and recommend an amendment to the County Flood Damage Prevention Ordinance to include a “no-rise (in base flood elevation)” clause for the county. Many floodplain permitting systems, including those that meet National Flood Insurance Program standards, allow projects outside the floodway to increase base flood elevations by up to one foot. By prohibiting any rise throughout the 100-year floodplain, a “no rise” clause ensures that the cumulative impact of multiple permitted projects will not cause flood elevations to rise to unacceptable levels.	Floodplain Manager	On-going

County	Action Identification	Description	Responsible Party	Current Status
Brown	Brown County-16	Research, design, and recommend an appropriate stream buffer ordinance to protect water resources and to limit future flood damages. Riparian buffers serve as boundaries between waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose, but 50-100 feet is generally considered to be sufficient for bank stabilization and sediment control and 200 feet for flood control. Special consideration should be given to exempting agricultural operations from buffer regulations.	County Planner, Floodplain Manager	On-going
Brown	Brown County-29	Pony Creek Joint Watershed District No. 78 will continue to protect the water and land resources within its jurisdiction. It will evaluate the need for further floodwater control and erosion control actions or projects. Additional effort will be made to seek alternative funding resources as they become available. Pony Creek Watershed was formed in May of 1975 to provide installation, maintenance, and operation of flood control projects within their watershed to protect local resources. The organization has overseen the installation of one control structure, and design phase of a second project in the watershed. Responsibilities also include maintenance of projects and waterways within the watershed.	Administrator	On-going, Continuous
Brown	Everest-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Everest-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Everest-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Everest-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous
Brown	Fairview-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Fairview-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Brown	Fairview-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Fairview-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous
Brown	Hiawatha-1	Hiawatha is committed to continued participation and compliance with the NFIP. There is no Federal law that requires a jurisdiction to join the program, and 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. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Floodplain Manager	On-going, Continuous
Brown	Hiawatha-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Hiawatha-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Hiawatha-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Hiawatha-7	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous
Brown	Hiawatha-13	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to city planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Brown	Horton-1	Horton is committed to continued participation and compliance with the NFIP. There is no Federal law that requires a jurisdiction to join the program, and 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. Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	Mayor	On-going, Continuous
Brown	Horton-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Horton-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Horton-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Horton-7	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous
Brown	Morrill-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Morrill-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Morrill-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Morrill-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Brown	Morrill-12	<p>Appoint a committee to research and develop a FEMA application package for participation in the NFIP. Steps include: Application for Participation, a resolution of Intent, and adoption of Floodplain Management Regulations.</p> <p>When the jurisdiction chooses to join it must adopt and enforce minimum floodplain management standards for participation. FEMA works closely with State and local officials to identify flood hazard areas and flood risks. The floodplain management requirements within the SFHA are designed to prevent new development from increasing the flood threat and to protect new and existing buildings from anticipated flood events. When a community chooses to join it must require permits for all development in the SFHA and ensure that construction materials and methods used will minimize future flood damage.</p> <p>Permit files must contain documentation to substantiate how buildings were actually constructed. In return, the Federal Government makes flood insurance available for almost every building and its contents within the community. Communities must ensure that their adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations must be updated when additional data are provided by FEMA or when Federal or State standards are revised. (FEMA).</p>	Mayor	On-going
Brown	Reserve-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Reserve-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Reserve-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Reserve-6	<p>Annually host a public “hazards workshop” for the residents in combination with local festivals, fairs, or other appropriate events drawing large crowds.</p> <p>The workshop should be geared toward educating them on the hazards that threaten the 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 such as FEMA publications, tornado information, safety tips, etc.</p>	Mayor	On-going, Continuous
Brown	Robinson-1	<p>Robinson is committed to continued participation and compliance with the NFIP. There is no Federal law that requires a jurisdiction to join the program, and 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.</p> <p>Continued participation in the NFIP means the jurisdiction must enforce floodplain management regulations that meet or exceed the minimum requirements of the program.</p>	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Brown	Robinson-2	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Robinson-3	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Robinson-4	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going
Brown	Robinson-7	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous
Brown	Robinson-13	Appoint a planning committee to identify flash-flood prone areas to consider flood reduction measures to city planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Floodplain Manager	On-going
Brown	Willis-1	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures.	Floodplain Manager	On-going, Continuous
Brown	Willis-2	Advertise and promote the availability of flood insurance to county property owners by direct mail once a year. NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Floodplain Manager	On-going, Continuous
Brown	Willis-3	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. Flood insurance policies are continuous, and are not non-renewed or cancelled for repeat losses.	Floodplain Manager	On-going, Continuous
Brown	Willis-6	Annually host a public “hazards workshop” for the residents 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 the 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 such as FEMA publications, tornado information, safety tips, etc.	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Doniphan	Doniphan County-1	Doniphan County and the incorporated cities will work in coordination with the KDA-DWR and FEMA to develop D-FIRMs for the county and incorporated cities. Doniphan County is currently working with the State of Kansas 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.	Emergency Manager	On-going
Doniphan	Doniphan County-1a	Continued participation in the 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.	Zoning Administrator	On-going, Continuous
Doniphan	Doniphan County-2	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 make available flood insurance to individuals whose local governments participate in the program. Flood insurance policies are continuous, and are not non-renewed for repeat losses.	Emergency Manager	On-going
Doniphan	Doniphan County-4	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.	Emergency Manager	On-going, Continuous
Doniphan	Doniphan County-10	Doniphan 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
Doniphan	Doniphan County-12	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Doniphan County can apply for grant funding to acquire flood-prone parcels of land from voluntary and willing property owners.	Emergency Manager	On-going, Continuous
Doniphan	Doniphan County-13	Contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Emergency Manager	On-going, Continuous
Doniphan	Doniphan County-14	Identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Emergency Manager	On-going

County	Action Identification	Description	Responsible Party	Current Status
Doniphan	Doniphan County-15	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction's water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting Doniphan County's agricultural operations from buffer regulations.	Emergency Manager	On-going
Doniphan	Doniphan County-27	The Burr Oak Drainage District will continue to maintain and operate flood control structures and channels, allowing storm water runoff to pass through the district without causing flooding of property. The general mission of the drainage district is to pass stormwater run-off through the District without causing flooding of property through maintenance and operation of flood control structures and channels. The organization will evaluate the need for further maintenance projects, and additional effort will be made to seek alternative funding as they become available.	Emergency Manager	On-going, Continuous
Doniphan	Denton-1	Doniphan County and the incorporated cities will work in coordination with the KDA-DWR and FEMA to develop D-FIRMs for the county and incorporated cities. 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	Denton-2	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.	Mayor	On-going
Doniphan	Denton-4	Annually host a public "hazards workshop" in combination with local festivals, fairs, or other community events. A hazard workshop for county residents should be added to an established community event 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	Elwood-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 to gather important data, allowing the county to identify potential hazard areas and impacted properties for future planning activities.		On-going
Doniphan	Elwood-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.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Doniphan	Elwood-2	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	Elwood-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	Elwood-12	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.	Mayor	On-going, Continuous
Doniphan	Highland-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	Highland-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	Highland-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	Highland-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

County	Action Identification	Description	Responsible Party	Current Status
Doniphan	Highland-11	The City of Highland 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.	City Clerk, City Attorney	On-going, Continuous
Doniphan	Troy-1	Doniphan County and the incorporated cities will work in coordination with the Kansas Department of Agriculture - Water Resources Division and FEMA to develop D-FIRMs for the county and incorporated cities. Doniphan County is currently working with the State of Kansas 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	Troy-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	Chief of Police	new
Doniphan	Troy-2	The County and local governments will work with the Kansas Department of Agriculture – Division of Water Resources 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.	City Administrator	On-going
Doniphan	Troy-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	Troy-11	The City of Troy 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.	Mayor	On-going, Continuous

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

County	Action Identification	Description	Responsible Party	Current Status
Jackson	Jackson County-5	Annually host a public “hazards workshop” for the residents of the county in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating on the hazards that threaten the County and the mitigation and preparedness measures available to them. Speakers from the NWS, 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.	Emergency Manager	On-going, Continuous
Jackson	Jackson County-14	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Jackson County will apply for grant funding to acquire flood-prone parcels of land as acquisition data becomes available.	County Planner, Emergency Management Director	On-going
Jackson	Jackson County-15	Contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Jackson County Emergency Management Director	On-going, Continuous
Jackson	Jackson County-16	Identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	County Planner, Emergency Management Director	On-going
Jackson	Jackson County-17	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction’s water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting Jackson County’s agricultural operations from buffer regulations.	County Planner, Floodplain Manager	On-going
Jackson	Jackson County-18	The Delaware Watershed District No. 10 will continue to construct, operate, and maintain water detention dams for flood reduction in the watershed district. The organization will evaluate the need for further construction, operation, and maintenance projects, and additional effort will be made to seek alternative funding as they become available.	County Planner	On-going
Jackson	Circleville-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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Circleville-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Jackson	Circleville-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Delia-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 policies are continuous, and are not non-renewed for repeat losses.	Mayor	On-going
Jackson	Delia-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous
Jackson	Delia-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Denison-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 policies are continuous, and are not non-renewed for repeat losses.	Mayor	On-going
Jackson	Denison-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous
Jackson	Denison-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Holton-4	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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going

County	Action Identification	Description	Responsible Party	Current Status
Jackson	Holton-5	Holton 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.	Mayor	On-going
Jackson	Holton-6	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous
Jackson	Holton-8	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Holton-16	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going
Jackson	Hoyt-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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Hoyt-2	Hoyt is committed to continued participation and compliance with the NFIP. Participation means 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	Mayor	On-going
Jackson	Hoyt-3	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous
Jackson	Hoyt-5	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Jackson	Hoyt-13	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going
Jackson	Mayetta-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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Mayetta-2	Continued participation in 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	Mayor	On-going
Jackson	Mayetta-5	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Mayetta-7	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous
Jackson	Mayetta-13	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going
Jackson	Netawaka-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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Netawaka-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Jackson	Netawaka-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Soldier-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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Soldier-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jackson	Whiting-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 policies are continuous, and are not non-renewed for repeat losses.	County Planner	On-going
Jackson	Whiting-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	Mayor	On-going, Continuous
Jackson	Whiting-4	Annually host a public “hazards workshop” for the residents of the jurisdiction, 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 Jackson 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 Flood Insurance Rate Maps, FEMA publications, safety tips, etc.	Mayor	On-going, Continuous
Jefferson	Jefferson County-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Planning and Zoning Director	On-going

County	Action Identification	Description	Responsible Party	Current Status
Jefferson	Jefferson County-2	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. There are currently 95 policies in effect, with a total coverage amount of \$13,159,500. Since the jurisdiction joined the program, there have been 48 claims paid for a total loss paid amount of \$600,153. (Source: FEMA, April 2010). NFIP flood insurance policies protect property owners by offering affordable rates for protecting both structures and contents.	Planning and Zoning Director	On-going, Continuous
Jefferson	Jefferson County-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	Emergency Management Director	On-going, Continuous
Jefferson	Jefferson County-14	Jefferson County is committed to voluntary continued 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. 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 will be sanctioned. Jurisdictions that regulate development in floodplains are able to participate in the NFIP, but the jurisdiction must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program	Planning and Zoning Director	On-going, Continuous
Jefferson	Jefferson County-15	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Jefferson County can apply for grant funding to acquire flood-prone parcels of land from voluntary and willing property owners.	Mitigation Officer, County Planner	On-going
Jefferson	Jefferson County-16	On an annual basis, contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted every year to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Mitigation Officer	On-going, Continuous
Jefferson	Jefferson County-17	Identify flash-flood prone areas to consider flood reduction measures to county planners. Flood zone mapping will provide initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flash-flood prevention, or other planning steps to reduce exposure to this hazard.	County Planner	On-going

County	Action Identification	Description	Responsible Party	Current Status
Jefferson	Jefferson County-18	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction's water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting the County's agricultural operations from buffer regulations	County Planner	On-going
Jefferson	Jefferson County-25	Appoint a committee to explore the feasibility of participation in the NFIP CRS. The NFIP CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: 1. Reduce flood losses; 2. Facilitate accurate insurance rating; and 3. Promote the awareness of flood insurance.	Floodplain Manager	On-going
Jefferson	McLouth-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	McLouth-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous
Jefferson	McLouth-4	Annually host a public "hazards workshop" in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous
Jefferson	McLouth-14	McLouth is committed to continued to the voluntary 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. 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 Administrator	On-going
Jefferson	McLouth-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going

County	Action Identification	Description	Responsible Party	Current Status
Jefferson	Meriden-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	Meriden-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous
Jefferson	Meriden-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous
Jefferson	Meriden-14	Meriden is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	City Administrator	On-going
Jefferson	Meriden-15	Seek funding to perform improvements to minimize flood damage to existing development by maximizing the effectiveness of the storm sewer infrastructure. The City of Meriden has indicated that the existing storm drainage in the town is inadequate as large rains causes the streets to become flooded. Meriden will look into future improvements that will help to minimize this problem following rain storms.	City Administrator	On-going
Jefferson	Meriden-17	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going
Jefferson	Nortonville-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	Nortonville-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Jefferson	Nortonville-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous
Jefferson	Nortonville-14	Nortonville is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	City Administrator	On-going
Jefferson	Nortonville-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going
Jefferson	Oskaloosa-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	Oskaloosa-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous
Jefferson	Oskaloosa-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous
Jefferson	Oskaloosa-14	Oskaloosa is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	City Administrator	On-going
Jefferson	Oskaloosa-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going

County	Action Identification	Description	Responsible Party	Current Status
Jefferson	Perry-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	Perry-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous
Jefferson	Perry-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous
Jefferson	Perry-14	Oskaloosa is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	City Administrator	On-going
Jefferson	Perry-15	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going
Jefferson	ValleyFalls-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	ValleyFalls-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous
Jefferson	ValleyFalls-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Jefferson	ValleyFalls-14	Oskaloosa is committed to voluntary continued 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. 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 but must adopt and enforce floodplain management regulations that meet or exceed the minimum requirements of the program.	City Administrator	On-going
Jefferson	ValleyFalls-16	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going
Jefferson	Winchester-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Jefferson	Winchester-2	Advertise and promote the availability of flood insurance to property owners by direct mail once a year.	City Administrator	On-going, Continuous
Jefferson	Winchester-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	City Administrator	On-going, Continuous
Jefferson	USD 343-2	Research and evaluate the benefits of purchasing flood insurance for the school district buildings. Using Manifold.Net GIS software to produce aerial images overlaid with FEMA FIRM maps it was determined that the Perry-Lecompton school is located in an identified Special Flood Hazard Area (SFHA) Zone A. USD 343 would like assess the potential benefits of flood insurance.	Superintendent	On-going
Jefferson	USD 343-3	Assess elevations and water flow in the district to qualify the benefit of flood control projects in the District. Perry-Lecompton Unified School District #343 would like to consider analyzing the potential benefits of constructing soil-based berms, and other flood control projects, around various facilities in the district to mitigate the effects from flooding.	Superintendent	On-going
Marshall	Marshall County-2	Marshall County is committed to continued voluntary 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. 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

County	Action Identification	Description	Responsible Party	Current Status
Marshall	Marshall County-3	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Emergency Manager	On-going
Marshall	Marshall County-5	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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.	Emergency Manager	On-going, Continuous
Marshall	Marshall County-13	Develop a program to acquire and preserve parcels of land subject to repetitive flooding from willing and voluntary property owners. Land acquisition is an effective mitigation technique to permanently eliminate the potential for damages from future flood events. Marshall County can apply for grant funding to acquire flood-prone parcels of land from voluntary and willing property owners.	Mitigation Officer	On-going, Continuous
Marshall	Marshall County-14	Contact owners identified in high-risk flood areas and inform them of potential availability of assistance through the Federal Flood Mitigation Assistance (FEMA) program, in addition to other flood protection measures. Property owners should be contacted to promote the availability of the FEMA funding and to determine their level of interest in applying for the program.	Mitigation Officer	On-going, Continuous
Marshall	Marshall County-15	Identify flash-flood prone areas to consider flood reduction measures to county planners. Identification of high-risk areas will provide essential information for additional mitigation studies for development of actions and projects to prevent future damage from flash flooding events.	Emergency Manager	On-going
Marshall	Marshall County-16	Research and design an appropriate stream buffer ordinance to further protect the jurisdiction’s water resources and to limit future flood damages adjacent to major waterways. Riparian buffers serve as natural boundaries between local waterways and existing development and help protect resources by filtering pollutants, providing flood control, alleviating streambank erosion, mitigating stream warming, and providing room for lateral movement of the stream channel. Buffer widths can vary greatly depending upon stream channel size and the intended purpose of the buffer, but 50-100 feet is generally considered to be sufficient for purposes of bank stabilization and sediment control. Many communities require 200 feet for flood control purposes. Special consideration should be given to exempting Marshall County’s agricultural operations from buffer regulations.	Emergency Manager	On-going
Marshall	Marshall County-18	Regularly calculate and document the amount of flood prone property that is preserved as open space to reduce flood insurance burden to the county. CRS credit is given for areas that are permanently preserved as open space. Although credit is not given for federal lands, the jurisdiction maintains and continues to expand floodplain areas preserved as open space through land acquisition projects (i.e., HMGP), which protect parcels from development through deed restrictions. The jurisdiction also has floodplain land within state parks or otherwise preserved as wildlife and natural preserves, which does qualify for additional CRS credit.	Emergency Manager	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Marshall	Axtell-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Axtell-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	Beattie-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Beattie-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	BlueRapids-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	BlueRapids-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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

County	Action Identification	Description	Responsible Party	Current Status
Marshall	BlueRapids-10	Consider developing an application package for participation in the NFIP. 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. The jurisdiction must submit an application package that includes the following: An Application for Participation (FEMA Form 81-64); a Resolution of Intent, indicating an explicit desire to participate in the NFIP and a commitment to recognize flood hazards and carry out the objectives of the program; The jurisdiction must an adopted Floodplain Management Regulations that exceed the minimum flood plain management requirements of the NFIP (Title 44 of the Code of Federal Regulations (44 CFR) section 60.3); and the jurisdiction's floodplain management regulations must be legally enforceable. The city is flood mapped, but does not participate in the NFIP. Review of the Flood Hazard Boundary Map for the city, dated March 1976, indicates SFHAs located on the east, north, and west sides of the city, due to the presence of the Big Blue River and its tributaries and in the center of the city, due to the presence of an unnamed tributary of the Big Blue River in this area. It is estimated that approximately 28.4% of the City of Blue Rapids is identified within a SFHA.	Mayor	On-going
Marshall	Frankfort-1	Frankfort is committed to continued voluntary participation and compliance with the NFIP. TA 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.	Mayor	On-going
Marshall	Frankfort-2	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Frankfort-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	Frankfort-11	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Marshall	Marysville-1	Marysville is committed to continued voluntary 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. 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.	Mayor	On-going
Marshall	Marysville-2	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Marysville-4	Annually host a public "hazards workshop" in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	Marysville-11	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	City Administrator	On-going
Marshall	Marysville-14	The City of Marysville will continue to operate and maintain their levee system in accordance with the appropriate regulatory requirements. The City of Marysville owns and maintains the levee located on the south and west sides of the city. Reportedly, this levee was constructed in 2004-2005 by the U.S. Army Corps of Engineers to provide flood protection to the city of Marysville due to the proximity of the Spring Creek and the Big Blue River. The City of Marysville reported that the levee is inspected annually. The levee system is identified on the Flood Insurance Rate Map for the City of Marysville, and areas located behind the levee system are designated as Zone X (shaded), which is defined as "an area inundated by 500-year flooding; an area inundated by 100-year flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile; or an area protected by levees from 100-year flooding".	Mayor	On-going, Continuous
Marshall	Oketo-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Marshall	Oketo-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	Summerfield-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Summerfield-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	Vermillion-1	Vermillion is committed to continued voluntary participation and compliance with the NFIP. TA 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.	Mayor	On-going
Marshall	Vermillion-2	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Vermillion-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Marshall	Vermillion-11	Assess flood prone areas and recommend flood reduction measures to city officials. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Marshall	Waterville-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Marshall	Waterville-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Jefferson County and the mitigation and preparedness measures available to protect them. 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
Nemaha	Nemaha County-8	Utilize the Hazard Mitigation Grant Program and other funding means to identify structures and facilities located within the 100-year floodplain and implement a buy-out program to demolish or remove structures from hazardous areas.	Emergency Manager	On-going
Nemaha	Nemaha County-9	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Nemaha County.	Emergency Manager	On-going
Nemaha	Nemaha County-10	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Nemaha County.	Emergency Manager	On-going, Continuous
Nemaha	Bern-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Bern.	Mayor	On-going
Nemaha	Bern-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Bern.	Mayor	On-going, Continuous
Nemaha	Centralia-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Centralia.	Mayor	On-going
Nemaha	Centralia-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Centralia.	Mayor	On-going, Continuous
Nemaha	Corning-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Corning.	Mayor	On-going, Continuous
Nemaha	Goff-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Goff.	Mayor	On-going
Nemaha	Goff-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Goff.	Mayor	On-going, Continuous
Nemaha	Oneida-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Oneida.	Mayor	On-going
Nemaha	Oneida-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Oneida.	Mayor	On-going, Continuous

County	Action Identification	Description	Responsible Party	Current Status
Nemaha	Sabetha-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Sabetha.	Mayor	On-going
Nemaha	Sabetha-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Sabetha.	Mayor	On-going, Continuous
Nemaha	Seneca-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Seneca.	Mayor	On-going
Nemaha	Seneca-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Seneca.	Mayor	On-going, Continuous
Nemaha	Wetmore-7	Review or develop and promote plans and ordinances for restrictions to construction in flood hazard areas. To prevent and protect against the effects of flooding upon all citizens of Wetmore.	Mayor	On-going
Nemaha	Wetmore-8	Continue participation for communities already in NFIP. Promote participation for communities not in the program. To prevent and protect against the effects of flooding upon all citizens of Wetmore.	Mayor	On-going, Continuous
Washington	Washington County-1	The County and local government 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 flood insurance to individuals whose local governments participate in the program. These policies are continuous, and are not non-renewed or canceled for repeat losses.	Emergency Manager	On-going
Washington	Washington County-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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.	Emergency Manager	On-going, Continuous
Washington	Washington County-9	Research and recommend a floodplain management ordinance for admittance to the NFIP to make flood insurance available to residents in the jurisdiction. When the jurisdiction chooses to join the NFIP, it must adopt and enforce minimum floodplain management standards for participation. A non-participating community can join the flood insurance program by taking three steps. First, local officials must complete an application for participation in the NFIP. Second, the local government must adopt a resolution indicating intent to participate in the flood insurance program. Finally, the governing body must adopt local flood plain management and permitting regulations, which place standards on new development and substantially improved existing buildings. In return, the Federal Government makes flood insurance available for almost every building and its contents within the community. Communities must ensure that their adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations must be updated when additional data are provided by FEMA or when Federal or State standards are revised. (FEMA)	Emergency Manager	On-going

County	Action Identification	Description	Responsible Party	Current Status
Washington	Barnes-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Barnes-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Clifton-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Clifton-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Greenleaf-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Greenleaf-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Haddam-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Washington	Haddam-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Hanover-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Hanover-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Hanover-9	The City of Hanover is committed to continued voluntary 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. 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	Mayor	On-going, Continuous
Washington	Hanover-10	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going
Washington	Hollenberg-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Hollenberg-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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

County	Action Identification	Description	Responsible Party	Current Status
Washington	Linn-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Linn-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Mahaska-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	City Administrator	On-going
Washington	Mahaska-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Morrowville-1	The County and local government 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 policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Morrowville-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Morrowville-10	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Washington	Palmer-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Palmer-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	Palmer-9	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going
Washington	Vining-1	Upgrade/Expand/Improve Stormwater Management System. The local community has a problem with the ability of storm water being able to get away. This could cause flooding of resident housing and other buildings within the city as well as causing the gravel on the streets to be washed away. The ditches within the city need to be cleaned out and possible culverts installed to allow the water to get away to the creek.	Mayor	New
Washington	Vining-2	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going
Washington	Vining-4	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	City of Washington-1	The County and local government will work with the KDA-DWR to educate and promote local jurisdictional participation in the NFIP. The Kansas 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. Flood insurance policies are continuous, and are not non-renewed or canceled for repeat losses.	Mayor	On-going

County	Action Identification	Description	Responsible Party	Current Status
Washington	City of Washington-3	Annually host a public “hazards workshop” in combination with local festivals, fairs, or other events drawing large crowds. The workshop should be geared toward educating them on the hazards that threaten Washington County and the mitigation and preparedness measures available to protect them. 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
Washington	City of Washington-9	The City of Washington is committed to continued voluntary 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. 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.	Mayor	On-going, Continuous
Washington	City of Washington-10	Assess flood prone areas and recommend flood reduction measures to city planners. Flood zone mapping has provided initial identification of potential hazard areas that can be reviewed with other data sources, such as the watershed districts goals and objectives, in developing long range planning activities for flood prevention, or other planning steps to reduce exposure to this hazard.	Mayor	On-going

5.8 ACTION IMPLEMENTATION

Each participating jurisdiction is responsible for implementing their specifically identified mitigation actions. To foster accountability and increase the likelihood that actions will be implemented, every proposed action is assigned to a specific department. In general:

- A representative from the responsible department will be responsible for tracking and reporting on action status.
- The representative should provide input on whether the action as implemented is successful in reducing vulnerability, if applicable.
- If the action is unsuccessful in reducing vulnerability, the responsible department will be tasked with identifying deficiencies and additional required actions.

By identifying actions by specific jurisdiction it is hoped that future plan updates will be simplified as each jurisdiction can modify their individual actions without altering the actions of other jurisdictions. Additionally, each action has been assigned an proposed completion timeframe to determine if the action is being implemented according to plan.

6.0 PLAN MAINTENANCE

6.1 INTRODUCTION

44 CFR 201.6 (c)(4) requires "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."

This chapter details the regional strategy for plan maintenance and outlines the methodology for monitoring, updating, and evaluating the plan. The chapter also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

6.2 LOCAL EMERGENCY PLANNING COMMITTEE REQUIREMENTS

Regional Local Emergency Planning Committees (LEPCs) will be tasked with Plan monitoring, evaluation, and maintenance with assistance from KDEM. The LEPCs, led by county emergency management agencies and with facilitation by KDEM, will:

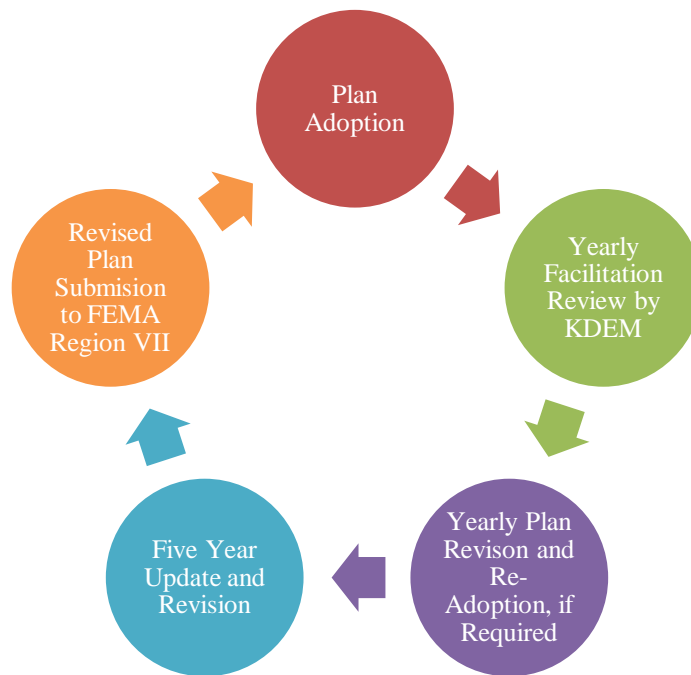
- Meet regularly to monitor and evaluate the implementation of the Plan
- When applicable, meet after a disaster event to evaluate the effectiveness of the Plan
- Act as a think tank for all issues related to hazard mitigation planning
- Act as a clearinghouse for hazard mitigation ideas and activities
- Assist with the implementation of all identified actions with available resources
- Monitor all available funding opportunities for mitigation actions
- Coordinate the cycle for the revision and update of the mitigation plan
- Report on Plan progress and recommended changes to the relevant governing bodies
- Inform and solicit input from the public

LEPC members will also be responsible for promoting the integration of the hazard mitigation plan into all relevant local and regional plans, policies, procedures and ordinances.

6.3 PLAN MAINTENANCE PROCESS

44 CFR 201.6 (c)(4) requires "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."

The following diagram present the process for Plan maintenance and updates. KDEM will facilitate a yearly Plan review and further facilitate any revisions, if necessary, and the subsequent re-adoption process.



Prior to Plan expiration, and working with all participating jurisdictions, a five-year update of the Plan will be submitted to the KDEM and FEMA Region VII as per the above noted requirement. The Plan will be reviewed to determine whether there have been any significant changes identified during the one year KDEM facilitated Plan reviews. These changes may include:

- Increased local or regional development or populations
- Increased or decreased exposure to identified hazards
- Emergence of newly identified hazards
- Changes in local or regional capabilities
- Legislative changes
- Newly available data
- Successful or unsuccessful implementation of identified actions
- New jurisdictions who would like to participate

The on-going Plan maintenance process provides participating jurisdictions the capability of evaluating identified actions for success or failure. Additionally, the process allows for the timely revision of the Plan as necessary. Changes to the Plan will be made to accommodate actions that have failed, are not considered feasible, or have been newly identified to address current needs. Updating of the Plan will be enacted through written changes and submissions as directed by the LEPCs and facilitated by KDEM.

Upon each successive revision the Plan will need to be re-adopted by all participating jurisdictions. Circumstances, including a major disaster or a change in regulations or laws, may modify the required five year planning cycle.

6.4 POST-DISASTER DECLARATION PROCEDURES

Following a disaster, the LEPCs may meet to review the plan to determine if any additional actions need to be identified, additional funding has become available, or any identified actions need to be re-prioritized.

6.5 INCORPORATION OF MITIGATION PLAN INTO OTHER PLANNING MECHANISMS

(44 CFR 201.6 (c)(4)(ii) requires "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."

All participating jurisdictions will strive to implement actions that minimize loss of life and property damage from hazards as to their current capabilities. Whenever possible, participating jurisdictions will use existing plans, policies, procedures and programs to aid in the implementation of identified hazard mitigation actions. Potential avenues for implementation may include:

- Operation plans
- General or master plans
- Ordinances
- Capital improvement plans
- Budget revisions or adoptions
- Hiring of staff
- Stormwater planning
- Land use planning

The governing bodies of the jurisdictions adopting this plan will encourage all other relevant planning mechanisms under their authority to consult this plan to ensure minimization of risk to natural hazards as well as coordination of activities.

6.6 CONTINUED PUBLIC INVOLVEMENT

44 CFR 201.6 (c)(4)(iii) requires a "Discussion on how the community will continue public participation in the plan maintenance process."

Public participation is an important part of the continued mitigation planning process. Every effort will be made by participating jurisdictions to keep the public informed on both relevant

mitigation issues and the five year plan revision cycle. Strategies for continued public involvement may include:

- Public hearings
- Postings on electronic media, to include websites
- Notifications, when possible, in local media
- Making plans available for review in public locations

6.7 KICKAPOO TRIBE PLAN MAINTENANCE

While the Kickapoo Tribe will adhere to many of the processes listed above, a few key difference do exist.

With adoption of this plan, the HMPC representative will take the lead in gathering the tribal departments for the HMPC. The tribal departments agree to:

- Meet annually and after a disaster event to monitor and evaluate the implementation of the plan
- Act as a forum for hazard mitigation issues
- Disseminate hazard mitigation ideas and activities to all tribal departments
- Pursue the implementation of high priority, low- or no-cost recommended actions
- Maintain vigilant monitoring of multi-objective, cost-share, and other funding opportunities to help the KTIK implement the plan's recommended actions for which no current funding exists
- Monitor and assist in implementation and update of this plan
- Keep the concept of mitigation in the forefront of the Tribal Council by identifying plan recommendations when other tribal goals, plans, and activities overlap influence, or directly affect increased tribal vulnerability to disasters
- Report on plan progress and recommended changes to the Tribal Council
- Inform and solicit input from the public

The HMPC representatives primary duty is to see the plan successfully carried out and to report to the Tribal Council the status of plan implementation and mitigation opportunities. Other duties hearing stakeholder concerns about hazard mitigation, passing concerns on to appropriate entities, and posting relevant information on the Kickapoo website.

Changes will be made to the plan to accommodate actions that have failed or are not considered feasible after a review of their adherence to established criteria, time frame, community priorities, and/or funding resources. Actions that were not ranked high but were identified as potential mitigation activities will be reviewed during the monitoring and update of this plan to determine feasibility of future implementation. Updating of the plan will be enacted through written changes and submissions to the Tribal Council.

In addition, the update process provides an opportunity to publicize success stories from the plan's implementation and seek additional public comment. Information will be posted on the

Kickapoo website following the annual review of the mitigation plan. If changes necessitate, a public hearing to receive public comment on plan maintenance and updating will be held during the update period. As part of the hearing, public notice will be posted and public participation will be invited, at a minimum, through available website postings and press releases to local media outlets such as the *Hiawatha World*.

APPENDIX A
ADOPTION RESOLUTIONS

APPENDIX B

MEETING INFORMATION

To **Region “K” Hazard Mitigation Planning Committee**

Through **Jeanne Bunting, Mitigation Planner**
Kansas Division of Emergency Management (KDEM)

From **Susan Belt, MT(ASCP), AMEC Environment & Infrastructure, Inc**
Tel / E-mail **785-272-6830 / susan.belt@amec.com**

Date **9/3/2013**

Subject **Minutes from the Region “K” Atchison, Doniphan, Jackson, and Jefferson Counties Regional Mitigation Planning Meeting held on 9/3/2013 in Garnett, KS.**

This document is a record of attendance and a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) an introduction to the purpose of hazard mitigation planning, (2) the benefits of a multi-jurisdictional approach, (3) the reasons for and benefits of the regional mitigation planning process, and (4) grant programs linked to an approved plan. The hazard mitigation planning process was reviewed to include requirements for public involvement and the use of data collection guides. The planning committee reviewed the list of hazards to be used as a part of the regional plan. Mrs. Belt explained that the State Hazard Mitigation Team had decided with the current update of the State Plan to profile the hazard Civil Disorder as a separate hazard rather than including it as a part of the Terrorism hazard. The group discussed mitigation actions and the availability of grant programs during the meeting. The meeting concluded with a discussion of the next steps in the planning process. The formal presentation portion of the meeting began at 9:00 am and concluded at 10:30 am.

Attendees

Name	Organization
Mike Baxter	Jefferson County Emergency Management
Bret Bauer	Holton City Administrator
Jeanne Bunting	Kansas Division of Emergency Management
Connie Ellerman	Atchison County Emergency Management
Matt Eyer	Blue Umbrella
Scott Fredrickson	City of Holton
Steve Greene	FEMA Region VII
Pat Korte	Jackson County Emergency Management
Nancy Lamb	Kansas Division of Emergency Management
Wesley Lanter	Atchison County Emergency Management
Julie Meng	Doniphan County Emergency Management
Steve Samuelson	KDA, Division of Water Resources
Janet Zwonitzer	Jackson County Commission

Introductions

Susan Belt with AMEC Environment & Infrastructure, Inc., began the meeting by welcoming and thanking the attendees. Participants introduced themselves and identified what jurisdiction they represented.

Introduction to Hazard Mitigation Planning

Mrs. Belt presented information on the purpose and requirements of the Disaster Mitigation Act of 2000. The attendees were reminded that this is a regional planning effort which will combine all of the current local mitigation plans in Region “K.” Those plans include: Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha, and Washington Counties. Once the regional plan is approved, it will supersede the previous plans. The presentation also addressed the benefits for jurisdictions participating in this mitigation plan update, including eligibility for federal hazard mitigation assistance funding programs. Historically, the region has received more than \$6.0 million in Hazard Mitigation Assistance grants. The group also discussed the Siren grant program that began in 2011. Region K has received more than \$150,000 for 10 warning sirens in the region.

Mrs. Belt described the benefits of participating in a multi-jurisdictional plan as improving coordination and communication among local jurisdictions and that these hazards do not stop at jurisdictional boundaries thus this multi-jurisdictional plan allows for a more comprehensive approach. The group also heard information regarding the significant cost savings being realized by the regional approach to planning. There are currently insufficient funds available to provide the full cost of updates to each county plan. The regional approach now being used allows planning services to be provided to each county for the update at no cost to the county. Matt Eyer with Blue Umbrella will be completing the Region “K” mitigation plan for committee review.

Mrs. Belt also described the role of the Hazard Mitigation Planning Committee (HMPC). Each jurisdiction participating in development of the plan must meet the following minimum requirements:

- Designate a representative to serve on the Region “K” Hazard Mitigation Planning Committee, which will meet **twice** during the planning process,
- Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact your jurisdiction,
- Provide data to describe current capabilities,
- Develop/update mitigation actions (at least one) specific to your jurisdiction,
- Provide comments on plan drafts as requested,
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REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET

Project: Region K Hazard Mitigation Plan – Kickoff Meeting

Meeting Date: 9/3/13

Facilitator: Susan Belt

Place/Room: Evangel United Methodist Church Holton, KS

Name	Department/Agency	County	Email	Phone #	Signature
Pat Korte	Emergency Mngmt	Jackson	emo@jasoks.org	785-364-2811	Pat Korte
Steve Samuelson	KS. Dept. Agriculture	State	steve.samuelson@kda.ks.gov	785-296-4622	Steve Samuelson
Matt Eyer	Blue Umbrella	—	Matt@BlueUmbrellaCo	303 552 1181	Matt Eyer
Mike Baxter	Emergency Mngmt	Jefferson	mbaxter@jfcountryks.com	785-863-2278	Mike Baxter
Steve Greene	FEMA		Steven.Greene@fema.dhs.gov	816-276-5065	Steve Greene
Wesley Lenter	Emergency Mngmt	Atchison	Wlenter@atcoks.org	913-833-4625	Wesley Lenter
CONNIE ELLERMAN	EM	ATCHISON	cellerman@atcoks.org	913-833-4625	Connie Ellerman
Bret Bauer	Adm.	JA	bbauer@holtonkansas.org	785-364-2721	Bret Bauer
Jeanne Bunting	KDEM				
Nancy Lamb	KDEM	State	nancy.j.lamb@nfg@mail.mil	785-817-6083	Nancy Lamb

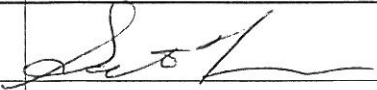
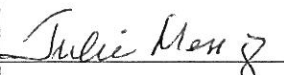

REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET

Project: Region K Hazard Mitigation Plan – Kickoff Meeting

Meeting Date: 9/3/13

Facilitator: Susan Belt

Place/Room: Evangel United Methodist Church Holtm Ks

Name	Department/Agency	County	Email	Phone #	Signature
Scott Fredrickson	City of Holt	Jackson	sfredrickson@holtokansas.org		
Julie Meng	Emergency Mgt.	Doniphan	donccemergency.mgt@hotmail.com	785 985 2229	
Janet Zwonitzer	Jr. City Com.	JACKSON	jzwonitzer@giantcomm.net	785-364-6504	

To **Region “K” Hazard Mitigation Planning Committee**

Through **Jeanne Bunting, Mitigation Planner**
Kansas Division of Emergency Management (KDEM)

From **Susan Belt, MT(ASCP), AMEC Environment & Infrastructure, Inc**
Tel / E-mail **785-272-6830 / susan.belt@amec.com**

Date **9/5/2013**

Subject **Minutes from the Region “K” Brown, Marshall, Nemaha, and Washington Counties Regional Mitigation Planning Meeting held on 9/4/2013 in Marysville, KS.**

This document is a record of attendance and a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) an introduction to the purpose of hazard mitigation planning, (2) the benefits of a multi-jurisdictional approach, (3) the reasons for and benefits of the regional mitigation planning process, and (4) grant programs linked to an approved plan. The hazard mitigation planning process was reviewed to include requirements for public involvement and the use of data collection guides. The planning committee reviewed the list of hazards to be used as a part of the regional plan. Mrs. Belt explained that the State Hazard Mitigation Team had decided with the current update of the State Plan to profile the hazard Civil Disorder as a separate hazard rather than including it as a part of the Terrorism hazard. The group discussed mitigation actions and the availability of grant programs during the meeting. The meeting concluded with a discussion of the next steps in the planning process. The formal presentation portion of the meeting began at 9:00 am and concluded at 10:30 am.

Attendees

Name	Organization
Jeanne Bunting	Kansas Division of Emergency Management
Steve Duryea	Nemaha County Emergency Management
Scott Elrod	Iowa Tribe
Matt Eyer	Blue Umbrella
Randy Freeman	USD 364
Steve Greene	FEMA Region VII
Nancy Lamb	Kansas Division of Emergency Management
Bill Orth	USD 113
Frank Staggenborg	City of Beattie
Bill Schwindamann	Marshall County Emergency Management
Deborah Swboda	Washington County Emergency Management
Todd Swart	Nemaha County Emergency Management
Carly Tyler	Marshall County Emergency Management

Introductions

Bill Schwindamann, Marshall County Emergency Manager began the meeting by welcoming and thanking the attendees. Participants introduced themselves and identified what jurisdiction they represented.

Introduction to Hazard Mitigation Planning

Mrs. Belt presented information on the purpose and requirements of the Disaster Mitigation Act of 2000. The attendees were reminded that this is a regional planning effort which will combine all of the current local mitigation plans in Region “K.” Those plans include: Atchison, Brown, Doniphan, Douglas, Jackson, Jefferson, Marshall, Nemaha, and Washington Counties. Once the regional plan is approved, it will supersede the previous plans. The presentation also addressed the benefits for jurisdictions participating in this mitigation plan update, including eligibility for federal hazard mitigation assistance funding programs. Historically, the region has received more than \$6.0 million in Hazard Mitigation Assistance grants. The group also discussed the Siren grant program that began in 2011. Region K has received more than \$150,000 for 10 warning sirens in the region.

Mrs. Belt described the benefits of participating in a multi-jurisdictional plan as improving coordination and communication among local jurisdictions and that these hazards do not stop at jurisdictional boundaries thus this multi-jurisdictional plan allows for a more comprehensive approach. The group also heard information regarding the significant cost savings being realized by the regional approach to planning. There are currently insufficient funds available to provide the full cost of updates to each county plan. The regional approach now being used allows planning services to be provided to each county for the update at no cost to the county. Matt Eyer with Blue Umbrella will be completing the Region “K” mitigation plan for committee review.

Mrs. Belt also described the role of the Hazard Mitigation Planning Committee (HMPC). Each jurisdiction participating in development of the plan must meet the following minimum requirements:

- Designate a representative to serve on the Region “K” Hazard Mitigation Planning Committee, which will meet **twice** during the planning process,
- Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact your jurisdiction,
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REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET

Project: Region K Hazard Mitigation Plan – Kickoff Meeting

Meeting Date: 9/4/13

Facilitator: Susan Belt

Place/Room: Helvering Center Marysville, KS

Name	Department/Agency	County	Email	Phone #	Signature
Nancy Lamb	KDEM	State	nancy.j.lamb@nfg@mail.mil	785-817-6083	Nancy Lamb
Jeanne Runtz	KDEM				
Scott Elrod	Iowa Tribe		selrod@iowatribe.org	785-595-6669	Scott Elrod
Frank Staggberg	City of Reattie	Marshall	COB@BlueValley.net	785-353-2534	Frank Staggberg
Steve Greene	FEMA		Steven.Greene@Fema.dhs.gov	816-276-5065	Steve Greene
Bill Orth	USD117	Nemaha	orthb@usd117.org	785-284-2171	Bill Orth
Carly Tyler	MSCO Emergency mgmt	Marshall	msco910@bluevalley.net	785-562-4550	Carly Tyler
Todd Swartz	NM EM	Nemaha	nmcowoods@nves.com	785-336-	Todd Swartz
STEVE DUNN	NM EM	Nemaha	steve@dunneac.net	785-364-7121	Steve Dunn
Mike Eyr	Blue Umbrella	-	Mike@BlueUmbrella.co	303-552-1181	Mike Eyr
Randy Freeman	USD 314	Marshall	rffreeman@marrysville.ky.us	785-562-5308	Randy Freeman
Wm Schwindemann Jr	Marshall Co	Marshall	msco911ep@bluevalley.net	785-562-4550	Wm Schwindemann Jr
Deborah Swoboda	Washington Co EM	Washington	wsemdir@bluevalley.net	785-325-2134	Deborah Swoboda

	REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET
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Project: Region K Hazard Mitigation Plan – Kickoff Meeting	Meeting Date: 9/4/13
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Place/Room: Helvering Center Marysville, Ks

Facilitator: Susan Bell	Place/Room: Helvering Center Marysville, Ks
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To **Region “K” Hazard Mitigation Planning Committee**

Through **Jeanne Bunting, Mitigation Planner**
Kansas Division of Emergency Management (KDEM)

From **Susan Belt, MT(ASCP), AMEC Environment & Infrastructure, Inc**
Tel / E-mail **785-272-6830 / susan.belt@amec.com**

Date **9/7/2013**

Subject **Minutes from the Region “K” Douglas and Jefferson Counties Regional Mitigation Planning Meeting held on 9/6/2013 in Lawrence, KS.**

This document is a record of attendance and a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) an introduction to the purpose of hazard mitigation planning, (2) the benefits of a multi-jurisdictional approach, (3) the reasons for and benefits of the regional mitigation planning process, and (4) grant programs linked to an approved plan. The hazard mitigation planning process was reviewed to include requirements for public involvement and the use of data collection guides. The planning committee reviewed the list of hazards to be used as a part of the regional plan. Mrs. Belt explained that the State Hazard Mitigation Team had decided with the current update of the State Plan to profile the hazard Civil Disorder as a separate hazard rather than including it as a part of the Terrorism hazard. The group discussed mitigation actions and the availability of grant programs during the meeting. The meeting concluded with a discussion of the next steps in the planning process. The formal presentation portion of the meeting began at 9:00 am and concluded at 10:30 am.

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REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET

Project: Region K Hazard Mitigation Plan – Kickoff Meeting

Meeting Date: Sept. 6, 2013

Facilitator: Kari Valentine

Place/Room: USD 497, Lawrence, KS

Name	Department/Agency	County	Email	Phone #	Signature
Nancy Lamb	KDEM	State	nancy.j.lamb2nfg@mail.mil	785-817-6083	Nancy Lamb
Jeanne Beating	KDEM	State			Jeanne Beating
Teri Smith	Douglas County EMA	Douglas	tsmith@douglas-county.com	785-838-2460	Teri Smith
Mark Bradford	Lawrence Fire	Douglas	mbradford@lawrenceks.org	785-830-7001	Mark Bradford
Greg Gardner	DHS		greg.gardner@dhs.gov	785-243-6192	Greg Gardner
Jillian Rodrigue	DCEM	Douglas	jrodrigue@douglas-county.com	838-1459	Jillian Rodrigue
RYAN WOUKEY	DCEM	DOUGLAS	rwokey@douglas-county.com	916-977-3737	Ryan Woukey
Joe Chandler	Fema		joe.chandler@fema.dhs.gov	816/223-7071	Joe Chandler
Jeanette Klammer	Utilities	DG	jklammer@lawrenceks.org	785-423-3379	Jeanette Klammer
Lori Alexander	DG ECC	DG	lalexander@douglas-county.com	785 3935124	Lori Alexander
Tammy Bennett	Lawrence PW	DG	tbennett@lawrenceks.org	785 8323133	Tammy Bennett
Ken Keiter	Eudora Fire	DG	kkeiter@cityofeudoraks.gov	913-915-4452	Ken Keiter
Ben Grover	KDEM	Shawnee	benjamin.f.grover3-nfg@mail.mil	785 274 1878	Ben Grover

REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET

Project: Region K Hazard Mitigation Plan – Kickoff Meeting

Meeting Date: Sept. 6, 2013

Facilitator: Kari Valentine

Place/Room: USD 497, Lawrence, KS

Name	Department/Agency	County	Email	Phone #	Signature
Steve Samuelson	KDA	State	steve.samuelson@kda.ks.gov	785-296-4622	Steve Samuelson
Eric Spurling	Douglas Co. Sheriff's Office	Douglas	espurling@dcso.org	785-832-5165	Eric Spurling
Ron May	Lawrence Public School	Douglas	rkmay@usd497.org	785-730-2584	Ron May
Tom Darnewood	Lawrence Memorial Hosp	Douglas	tom.darnewood@LHMH.org	785-5053051	Tom Darnewood
RICK HIRD	RCD #2	Douglas	rhirde@petefishlaw.com	785-843-0450	Rick Hird
JOHN MARMON	KU PUBLIC SAFETY	DOUGLAS	jmarmon@ku.edu	785-864-8010	John Marmon
Bryce Hirschman	DGCD	Douglas	bhirschman@douglas-county.com	785-832-5190	Bryce Hirschman
Dane Bailey	KDA	State	dane.bailey@kda.ks.gov	785-296-7769	Dane Bailey
Shawn Coffey	LDCFM	Douglas	scoffey@lawrenceks.org	785-830-7000	Shawn Coffey
Bill Noll	Floodplain Mgmt. Jefferson County P&Z	Jefferson	bnoll@yahoo.com	785-220-3692	Bill Noll
Linda M. Finger	DOUGLAS CO	DG	lfinger@douglas-county.com	785-331-1325	Linda M. Finger
Jason Oehlert	Edgemoor Schools	DG	jasonoehlert@edgemoorschools.org	785-542-4900	Jason Oehlert

REGION K MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN – KICKOFF MEETING, SIGN-IN SHEET

Project: Region K Hazard Mitigation Plan – Kickoff Meeting

Meeting Date: Sept. 6, 2013

Facilitator: Kari Valentine

Place/Room: USD 497, Lawrence, KS

Name	Department/Agency	County	Email	Phone #	Signature
Amy Miller	City of Lawrence	Douglas	amiller@lawrenceks.org	785-832-3111	Amy Miller
Micah Seybold	City of Lawrence	Douglas	mseybold@lawrenceks.org	785-832-3325	Micah Seybold
Charlie Bryan	LDC Health Dept	Douglas	cbryan@ldchealth.org	785-856-7357	Charlie Bryan
Steven Miles	Dg Cr Appraisals	Douglas	smiles@douglas-county.org	785-832-5588	Steven Miles

**Doniphan County (Region 14) Mitigation Plan
Kickoff/Planning Meeting**

Welcome

Regional Mitigation Plan

Grant Programs Availability Linked to Approved Plan

Data Collection Guides

Hazard Identification & Profiles

Adjourn

Regional
Mitigation meeting Oct 24, 2013
Commission room 10:00 AM

Preo multi hazard 2011

Julie explained program with declaration
when there are disasters.

tornadoes, flood, ice storms, & etc.

Kemah Brown Atch, Doniphan, Jackson, Jefferson
Make up Regional.

No Cost this year
Doniphan County will participate whether anyone
or cities do.

Julie asked if anyone had questions on their data.
Printing at least 2

NAME	TITLE	ORGANIZATION	MAILING ADDRESS	CONTACT NUMBER	E-MAIL
Brian Harris	Supt./Principal	USD 429	230 W. Poplar PO Box 190 Troy	985-3950	bharris@troyusd.org
Saved Wigger	Principal/MSHS	USD 429	PO Box 160	958-3533	jwigger@troyusd.org
Jim Richardson	City Clerk	city of Waltham	PO Box 27 66090	989-4711	jrich@cursecon.com
Susan Winchester	Council member	city of Denton			winchest@rainbowtel.net
Melanie Hollman	City Clerk	City of Highland	PO Box 387, MI035	442-3765	melanie@cityofhighlandks.com
Maech Wadman	Road Budget	Douphan County	PO Box 146	985-3535	Clarecoengr@earthlink.net
Depp Tranter	County Clerk	Douphan County	PO Box 278 Troy	985-3513	dpenick@earthlink.net
Janet	City Clerk	City of Elwood	PO Box 357, Elwood	913-365-671	Elwoodclerk@earthlink.net
Elmer Stevens	Chief of Police	City of Troy	P.O. Box 506, Troy, KS	785-850-0454	troyspd@yahoo.com
Dulcie Mery	Coordinator	Douphan County	PO Box 370, Troy, KS	785-965-2229	dcmcmery@earthlink.net

To **Region “K” Hazard Mitigation Planning Committee**

From/ **Matt Eyer, Blue Umbrella Solutions**
Through **Kansas Division of Emergency Management**

Date **01/22/2014**

Subject **Minutes from the Region “K” Mid-Term Meeting held on 01/22/2014 in Topeka, KS.**

This document is a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) a review of available grants with a mitigation plan, (2) a review of participation requirements and to date participating jurisdictions, (3) a review of hazards and assigned CPRIs (4) a review of mitigation goals, (5) a review of the plan (6), a discussion of to date public feedback, and (5) a discussion of next steps.

Attendees

A complete list of attendees may be found on the attached meeting sign-in forms.

Introductions

Matt Eyer, Blue Umbrella Solutions, began the meeting by welcoming and thanking the attendees. Matt Eyer, Blue Umbrella Solutions, provided the formal portion of the presentation.

Review of Available Grants

Attendees were reminded of the grant funding streams that were open and available with an approved mitigation plan.

Review of Participation Requirements and Participating Jurisdictions

Mr. Eyer presented information on the requirements imposed on jurisdictions in order to be considered participating. In addition, each county was presented with a review of what was required, if anything, from each jurisdiction within that county. Participating counties were provided with a handout that detailed the above discussion.

Review of Hazards and Assigned CPRIs

Each of the 22 identified hazards was briefly discussed along with the rationale for each CPRI rating. Participating counties were provided with a handout that detailed both their County specific CPRI for each hazard and the aggregate CPRI for the region. Agreement on the hazards and CPRIs was achieved.

Review of Mitigation Goals

Attendees were presented with the derived mitigation goals for the region. Attendees were asked to review each of the four goals and provide any suggestions for modification. All were in agreement that the goals presented were ideal.

Review of Plan

Attendees were presented with an overview of each plan section, including data contained within.

Review of Public Feedback

The local/regional hazard mitigation plan requirements state that the public must have the opportunity to comment on the plan. Meeting attendees were asked to continue providing an avenue for public feedback by making the [surveymonkey.com](https://www.surveymonkey.com) link available over participating jurisdiction websites if possible. Additionally, attendees were reminded of the two week open comment period when the draft plan is complete. To date public feedback was presented to the attendees.

Next Steps

The meeting concluded with a discussion of the remaining steps to complete the planning process as follows:

- County emergency managers receive Draft Plan for mid-term review
- Incorporation of changes and finalization of plan
- Two week public comment period
- Submission to KDEM for review and approval
- Submission to FEMA for review and approval pending adoption
- Adoption by participating jurisdictions

Northeast Regional Homeland Security Council

Date 1/22/2014

Counties		Initials
Anderson	J.D. Mersman	SM
Atchison	Wesley Lenter	WDL
Brown	Randy Linck	
Chase	Scott Wiltse	SEW
Coffey	Russel Stukey	RKS
Doniphan	Julie Meng	
Douglas	Teri Smith	TLS
Franklin	Alan Radcliffe	AR
Geary	Garry Berges	
Jackson	Vern Waechter	W
Jefferson	Mike Baxter	
Linn	Doug Barlet	DB
Lyon	Rick Frevert	RF
Marshall	William Schwindamann	
Miami	Tim Gibbs	TG
Morris	Chris Blackledge	
Nemaha	Todd Swart	TS
Osage	Bryce Romine	BR
Pottawatomie	Chris Trudo	CT
Riley	Pat Collins	PC
Shawnee	Dave Sterbenz	DS
Wabaunsee	Darrin Stewart	
Washington	Deb Swoboda	DS

Cities		Initials
Junction City	Rick Rook	
City of Atchison	Mike McDermid	
Lawrence	Michael Pattrick	
Manhattan	Scott French	
Topeka	Kris Kramer/Ron Miller	

Organizations		Initials
APCO	Gary Denny	
EM/KEMA	Alan Radcliffe	AR
EMS	Dave Adams	
Fire Services	Brandon Beck	BB
Fire Services	Karl McNorton	KM
Hospital	Julie Schmidt	J
KACP Law Enforce.	Todd Ackerman	
Ks Sheriffs	Herman Jones/Lance Royer	
Northeast KEMA	Dusty Nichols	
Public Health	Carl Lee	CL
Public Works	Tammy Bennett	
Region Fiscal Agent	John Cyr	JC
NE Regional Coord.	Nancy Lamb	NL

Updated 08/20/2013

Other Attendees:

Name
<u>Eric P. ... - KWA</u>
<u>Ryan Wolke - DCEM</u>
<u>Hank DuBois - KSEM</u>
<u>Sandy Johnson - KDA</u>
<u>Karen Schultze - KHP</u>
<u>Natasha Hunter - Linn Co EMP</u>
<u>Byron ... - KDEM</u>

Name
<u>Natalie Glenn - MCLD</u>
<u>Cortney Bartley - Coffey County EM</u>
<u>Luke Terry - Kickapoo Tribe</u>
<u>Chris Howell - Native American Affairs</u>
<u>Julie Meng - DCC Emergency Mgmt</u>
<u>Jessie Bunting - KDEM</u>

To **Region “K” Hazard Mitigation Planning Committee**

Through **Jeanne Bunting, Mitigation Planner**
Kansas Division of Emergency Management (KDEM)

From **Matthew Eyer, Blue Umbrella Solutions**
Tel / E-mail **303-552-1181 / Matt@blueumbrella.co**

Date **03/25/2014**

Subject **Minutes from the Region “K” Final Meeting held on 03/25/2104 in Marysville, KS.**

This document is a record of attendance and a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) a final review of plan participating jurisdictions, (2) a final review of mitigation goals, (3) a review of final hazards and CPRI, (4) a review of available grants with a mitigation plan, and (5) incorporation of final edits. The meeting concluded with a discussion of the next steps in the planning process. The formal presentation portion of the meeting began at 9:00 pm and concluded at approximately 10:00 pm.

Attendees

A complete list of attendees may be found on the attached meeting sign-in forms.

Introductions

Matt Eyer, Blue Umbrella Solutions, began the meeting by welcoming and thanking the attendees. Matt Eyer, Blue Umbrella Solutions, provided the formal portion of the presentation.

Review of Plan Participating Jurisdictions

Mr. Eyer presented information on highlighting participating jurisdictions by county. Attendees were present with a series of slides showing the participating jurisdictions. Attendees were given the opportunity to review each jurisdiction to ensure all were included in the plan. In addition, attendees were provided with information concerning special districts, such as rural Water Districts or Fire Districts. They were informed that while these districts were not required to formally adopt the plan, in doing so they are given the opportunity to oversee awarded grant funding rather than have the county oversee the funding.

Review of Mitigation Goals

Attendees were presented with the final regional mitigation goals for the region.

Review of Hazards and Assigned CPRI

Each of the 22 identified hazards was briefly discussed along with the rationale for each CPRI rating.

Review of Available Grants

Attendees were reminded of the grant funding streams that were open and available with an approved mitigation plan.

Incorporation of Final Edits

Attendees were given an opportunity to review the completed draft plan. Any changes or additions were noted to be included in the final plan edit.

Next Steps

The meeting concluded with a discussion of the remaining steps to complete the planning process as follows:

- **April 2014 — Make plan available to public for two week final review**
- **May 2014 — Submit Plan to KDEM**
- **May 2014 — Submit Plan to FEMA**
- **June 2014 — Plan approval and availability for adoption**

Location: Helvering Center, Marysville, Kansas

Date: March 25, 2014

Start:

Name	Organization	County	Phone and Email
Todd Swart	Nemaha Co. EM	NM CO	785-336-2429 nmco weeds@nucs.com
Carly Tyler	MSCO EM	MSCO	785-562-4550 MSCO910@bluevalley.net
Jeanne Bentley	KSEM	Shawnee	
Will O. Th	WD 113	Nemaha	785-744-3448 orthb@wd113.org
Darrell Cook	City of Oketo	Marshall	785-744-3448 ccook@bluevalley.net
Kathleen O'Brien	Nemaha-Marshall Electric	Marshall, Nemaha Pott Jackson Wash	785-736-2345 kmbrien@nemaha-marshall.coop



To **Region “K” Hazard Mitigation Planning Committee**

Through **Jeanne Bunting, Mitigation Planner**
Kansas Division of Emergency Management (KDEM)

From **Matthew Eyer, Blue Umbrella Solutions**
Tel / E-mail **303-552-1181 / Matt@blueumbrella.co**

Date **03/27/2014**

Subject **Minutes from the Region “K” Final Meeting held on 03/27/2104 in Holton, KS.**

This document is a record of attendance and a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) a final review of plan participating jurisdictions, (2) a final review of mitigation goals, (3) a review of final hazards and CPRI, (4) a review of available grants with a mitigation plan, and (5) incorporation of final edits. The meeting concluded with a discussion of the next steps in the planning process. The formal presentation portion of the meeting began at 9:00 pm and concluded at approximately 10:00 pm.

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Review of Mitigation Goals

Attendees were presented with the final regional mitigation goals for the region.

Review of Hazards and Assigned CPRI

Each of the 22 identified hazards was briefly discussed along with the rationale for each CPRI rating.

Review of Available Grants

Attendees were reminded of the grant funding streams that were open and available with an approved mitigation plan.

Incorporation of Final Edits

Attendees were given an opportunity to review the completed draft plan. Any changes or additions were noted to be included in the final plan edit.

Next Steps

The meeting concluded with a discussion of the remaining steps to complete the planning process as follows:

- **April 2014 — Make plan available to public for two week final review**
- **May 2014 — Submit Plan to KDEM**
- **May 2014 — Submit Plan to FEMA**
- **June 2014 — Plan approval and availability for adoption**

Start:

[illegible]

To **Region “K” Hazard Mitigation Planning Committee**

Through **Jeanne Bunting, Mitigation Planner**
Kansas Division of Emergency Management (KDEM)

From **Matthew Eyer, Blue Umbrella Solutions**
Tel / E-mail **303-552-1181 / Matt@blueumbrella.co**

Date **03/28/2014**

Subject **Minutes from the Region “K” Final Meeting held on 03/28/2104 in Lawrence, KS.**

This document is a record of attendance and a summary of the issues discussed during the above meeting. Topics covered during the meeting included: (1) a final review of plan participating jurisdictions, (2) a final review of mitigation goals, (3) a review of final hazards and CPRI, (4) a review of available grants with a mitigation plan, and (5) incorporation of final edits. The meeting concluded with a discussion of the next steps in the planning process. The formal presentation portion of the meeting began at 9:00 pm and concluded at approximately 10:00 pm.

Attendees

A complete list of attendees may be found on the attached meeting sign-in forms.

Introductions

Matt Eyer, Blue Umbrella Solutions, began the meeting by welcoming and thanking the attendees. Matt Eyer, Blue Umbrella Solutions, provided the formal portion of the presentation.

Review of Plan Participating Jurisdictions

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Review of Mitigation Goals

Attendees were presented with the final regional mitigation goals for the region.

Review of Hazards and Assigned CPRI

Each of the 22 identified hazards was briefly discussed along with the rationale for each CPRI rating.

Review of Available Grants

Attendees were reminded of the grant funding streams that were open and available with an approved mitigation plan.

Incorporation of Final Edits

Attendees were given an opportunity to review the completed draft plan. Any changes or additions were noted to be included in the final plan edit.

Next Steps

The meeting concluded with a discussion of the remaining steps to complete the planning process as follows:

- **April 2014 — Make plan available to public for two week final review**
- **May 2014 — Submit Plan to KDEM**
- **May 2014 — Submit Plan to FEMA**
- **June 2014 — Plan approval and availability for adoption**

Location: USD 497, Lawrence, Kansas

Date: March 28, 2014

Start:

Name	Organization	County	Phone and Email
Scott Ruk	DGCO Emergency Comm.	Douglas	785-638-2470 sruf@douglas-county.com
Bill Wagner	Baldwin City	Douglas	785 594 6907 bwagner@baldwincity.org
Tammy Bennett	Lawrence PW	Douglas	785 832 3133 tbennett@lawrenceks.org
Teri Smith	DGCO Emerg. Mgmt	Douglas	785-838-2460 tsmith@douglas-county.com
H. Wayne Pilex	Lecompton FIRE/EMS	Douglas	785-256-5192 HWTP62@AOL.com
Ken Keiter	Eudora Fire	Douglas	785-542-3653 kkeiter@cityofeudora.ks.gov
Emily Zahner	" "	"	913-558-6496 eezabner ee218130@ucmo.edu
JIM SHERMAN	DOUGLAS COUNTY ZONING CODES	DOUGLAS	785 331 1343 jsherman@douglas-county.com
Tom Danewood	Lawrence Memorial Hospital	Douglas	785 505 3051 tom.danewood@lmtt.org
Paul Fellars	Lawrence Police Dept	Douglas	785-423-1732 fellars@lmtt.org
Keith Browning	DGCO Public Works	Douglas	785-832-5293 kbrowning@douglas-county.com
Ron May	Lawrence Public Schools 497	Douglas	785-370-2584 clmayer@usl497.org
Charlie Bryan	Lawrence-Douglas County Health Dept	Douglas	785-856-7357 cbryan@ldchealth.org
Bryce Hirschman	Douglas County	Douglas	785-832-5110 bhirschman@douglas-county.com
Sharon Dwyer	Rural Water Dist No. 5	Douglas	785-748-0308 sdwyer5@aol.com

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 7:58 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); wsemdir@bluevalley.net; nmcoweeds@nvcs.com; msco911ep@bluevalley.net; randy.linck@brownso.org; wlanter@atcoks.org; Julie Meng (doncoemergencymgt@hotmail.com); emo@jasoks.org; mbaxter@jfcountryks.com; Luke Terry (luke.terry@ktik-nsn.gov); tsmith@douglas-county.com; Howell, Chris [GO] (Chris.Howell@ks.gov)
Subject: Region K, 2nd Mitigation Mtg
When: Wednesday, January 22, 2014 12:00 PM-2:00 PM (UTC-07:00) Mountain Time (US & Canada).
Where: Topeka, KS

Meeting will be held at the Eisenhower Center, 2800 SW Topeka Blvd, Topeka, KS, following the Regional Council Meeting.

Chris – please forward to the Indian Tribes. Luke Terry is already listed so you don't have to contact the Kickapoo.

Washington, Marshall, Nemaha, Brown, Iowa Reservation, Sac and Fox Reservation, Atchison, Doniphan, Jackson, Jefferson, Kickapoo Reservation, Prairie Band of Pottawatomie Nation, and Douglas County.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 8:10 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); Howell, Chris [GO] (Chris.Howell@ks.gov); wsemdir@bluevalley.net; nmcoweeds@nvcs.com; msco911ep@bluevalley.net; randy.linck@brownso.org
Subject: Region K Final Mitigation Mtg
When: Tuesday, March 25, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: Marysville, KS

EM's – this meeting is open for everyone – stakeholders, participants, public, etc. Please get the word out to all your people.

Helvering Center, 111 South 8th, Marysville, KS

Washington, Marshall, Nemaha, Brown, Iowa Reservation, Sac and Fox Reservation

Chris – please notify the Indian Tribes.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 8:10 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); Howell, Chris [GO] (Chris.Howell@ks.gov); wsemdir@bluevalley.net; nmcoweeds@nvcs.com; msco911ep@bluevalley.net; randy.linck@brownso.org
Subject: Region K Final Mitigation Mtg
When: Tuesday, March 25, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
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Helvering Center, 111 South 8th, Marysville, KS

Washington, Marshall, Nemaha, Brown, Iowa Reservation, Sac and Fox Reservation

Chris – please notify the Indian Tribes.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 8:14 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); wlanter@atcoks.org; Julie Meng (doncoemergencymgt@hotmail.com); emo@jasoks.org; mbaxter@jfcountryks.com; Luke Terry (luke.terry@ktik-nsn.gov)
Subject: Final Mitigation Mtg, Region K
When: Thursday, March 27, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: Holton, KS

EM's – this meeting is open for everyone – stakeholders, participants, public, etc. Please get the word out to all your people.

Location TBD.

Atchison, Doniphan, Jackson, Jefferson, Kickapoo Reservation, Prairie Band of Pottawatomie Nation.

Chris – please contact Prairie Band. Kickapoo is already addressed.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 8:14 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); wlanter@atcoks.org; Julie Meng (doncoemergencymgt@hotmail.com); emo@jasoks.org; mbaxter@jfcountryks.com; Luke Terry (luke.terry@ktik-nsn.gov)
Subject: Final Mitigation Mtg, Region K
When: Thursday, March 27, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: Holton, KS

EM's – this meeting is open for everyone – stakeholders, participants, public, etc. Please get the word out to all your people.

Location TBD.

Atchison, Doniphan, Jackson, Jefferson, Kickapoo Reservation, Prairie Band of Pottawatomie Nation.

Chris – please contact Prairie Band. Kickapoo is already addressed.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 8:15 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); tsmith@douglas-county.com
Subject: Final Regional Mitigation Mtg, Region K
When: Friday, March 28, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: Lawrence, KS

EM's – this meeting is open for everyone – stakeholders, participants, public, etc. Please get the word out to all your people.

USD 497, 110 McDonald Drive, Lawrence, KS

Douglas County.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Friday, October 11, 2013 8:15 AM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); tsmith@douglas-county.com
Subject: Final Regional Mitigation Mtg, Region K
When: Friday, March 28, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: Lawrence, KS

EM's – this meeting is open for everyone – stakeholders, participants, public, etc. Please get the word out to all your people.

USD 497, 110 McDonald Drive, Lawrence, KS

Douglas County.

From: Bunting, Jeanne L NFG (US) [mailto:jeanne.l.bunting.nfg@mail.mil]
Sent: Monday, February 17, 2014 1:11 PM
To: Lamb, Nancy J NFG (US); Eyer, Matthew J CTR (US); wlanter@atcoks.org; Julie Meng (doncoemergencymgt@hotmail.com); emo@jasoks.org; mbaxter@jfcountryks.com; Luke Terry (luke.terry@ktik-nsn.gov)
Subject: Final Mitigation Mtg, Region K
When: Thursday, March 27, 2014 8:00 AM-11:00 AM (UTC-07:00) Mountain Time (US & Canada).
Where: Holton, KS

EM's – this meeting is open for everyone – stakeholders, participants, public, etc. Please get the word out to all your people.

Atchison, Doniphan, Jackson, Jefferson, Kickapoo Reservation, Prairie Band of Pottawatomie Nation.

Location: 400 New York Ave., courthouse – Room 101, Holton, KS 66436. Pat's office is in the SE corner of the first floor.

Matt,

Due to budgetary and time constraints not all of my participating jurisdictions were able to attend the scheduled meetings. I reached out via phone and email to those jurisdictions to discuss the mitigation project and to solicit any required input and information. As such, I consider them to be fully participating.

Thanks,
Wesley Lanter
Atchison County
Director
Emergency Management
Information Technology
wlanter@atcoks.org
Office: 913-833-4025
Fax: 913-833-2960
Mobile: 913-370-1971



Matt,

Due to budgetary and time constraints not all of my participating jurisdictions were able to attend the scheduled meetings. I reached out via phone and email to those jurisdictions to discuss the mitigation project and to solicit any required input and information. As such, I consider them to be fully participating.

Best,

Rich lehmkuhl

Brown County Kansas

Matt,

Due to budgetary and time constraints, not all of my participating jurisdictions were able to attend the scheduled meetings. I have reached out via phone, email, and personal visits to discuss the mitigation project and obtain any required input and information. As such, I consider them to be fully participating.

If you have further questions regarding this matter, please contact me.

Julie Meng, Coordinator
Doniphan County Emergency Management
120 East Chestnut Street
Troy, Kansas 66087
Phone: 785-985-2229
Fax: 785-985-3784

Matt

Sorry for the late response.

We did have a mitigation meeting attended by representatives from the cities of Bern, Centralia, Corning, Goff, Oneida, Sabetha, Seneca, and Wetmore. The meeting was held in October 2013 and items discussed were the steps being used by the State to update/create the new Nemaha County Hazard Mitigation Plan. The jurisdictions were given a copy of the Data Collection Guide, completed with data extracted from the previous Nemaha County Hazard Mitigation Plan, and it was requested that they review the guides for any corrections or additions. The jurisdictions were contacted within the next few weeks for additions or corrections to the Data Collection Guides.

Steve Duryea
Circleville, KS 66416

steve@duryeaco.net

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	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter Storm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Windstorm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utility/Infrastructure Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hailstorm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazardous Material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Disease Outbreak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Temperatures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*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

- ☐ 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

Kansas Region Hazard K Mitigation Plan

You are posting, commenting, and liking as Kansas Region Hazard K Mitigation Plan — [Change to Matthew Lucht](#)

Kansas Region Hazard K ... Timeline Recent Admin Panel

Kansas Region Hazard K Mitigation Plan

Be the first person to like this.

Government Organization
This planning effort is being coordinated by the Kansas Division of Emergency Management.
http://kansastag.gov/kdem_default.asp

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What have you been up to?

Kansas Region Hazard K Mitigation Plan
2 minutes ago

Kansas Region K Hazard Mitigation Plan
Kansas Region K 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 governmen...
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	John Quin	Invite x
	Gina Price Thompson	Invite x
	Jacy Voglewede	Invite x

Activity Recent

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

APPENDIX D

CRITICAL FACILITIES

RESTRICTED

RESTRICTED APPENDIX D: 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.

CRITICAL.1 ATCHISON COUNTY

Atchison County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
Communications (radio, TV, similar)	2	\$190,000	15
County Emergency Operations Center (EOC/Sheriff)	1	\$1,330,000	100
Fire / EMS stations	8	\$929,000	125
Hospital	1	\$6,650,000	200
Emergency shelters	9	\$4,275,000	5,000
Major government buildings	1	\$4,083,100	200
Major roads (131 Miles)	0	\$585,502,000	0
Bridges (191 ea.)	0	\$68,521,000	0
Port Facilities	2	\$4,273,000	16
Sewage treatment plants	6	\$379,620,000	12
*Transportation systems	5	\$108,700,000	100
USD 377 - Atchison County			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Central Office	306 Main Street, Effingham	27,936,127 all facilities	-
Elementary School	607 8th Street, Effingham	-	-
Junior Senior High School	909 Tiger Road, Effingham	-	-
USD 409 - Atchison			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Atchison High School	1500 Riley, Atchison, KS 66002	\$20,000,000	561
Atchison Middle School	307 North 5th Street, Atchison, KS 66002	\$30,000,000	432
Atchison Elementary School	825 North 17th Street, Atchison, KS 66002	\$25,000,000	850
Bus Garage	2600 Industrial Road, Atchison, KS 66002	\$1,200,000	-
Construction Trades	2603 Industrial Road, Atchison, KS 66002	\$2,100,000	-
Administrative Office	626 Commercial Street, Atchison, KS 66002	\$4,000,000	-

CRITICAL.2 BROWN COUNTY

Brown County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
Communications (radio, TV, similar)	1	\$95,000	5
County Emergency Operations Center (EOC -see Law Enforcement below))	0	\$0	0
***Fire / EMS stations	2	\$1,140,000	100
Hospital(s)	2	\$6,650,000	70
Law Enforcement (Sheriff/Police Bldgs)	5	\$6,650,000	60
Emergency shelters (Schools, other)	8	\$3,800,000	150
Major government buildings	1	\$1,399,750	40
Major roads (Mi)	132	\$637,684,000	0
Bridges (No.)	304	\$94,816,000	0
**Fuel storage areas	0	\$0	0
Electric / Gas utilities	1	\$104,500,000	20
Pumping stations	0	\$0	0
Response staging areas	0	\$0	0
Sewage treatment plants	10	\$632,700,000	2
*Transportation systems	5	\$215,800,000	6
Water treatment plants	0	\$0	0
Wells and Storage Tanks	0	\$0	0
USD #415 - Hiawatha			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
District BOE Building	706 S. 1 st Street, Hiawatha, KS	\$739,900	-
High School	600 Miami Hiawatha, KS	\$15,909,300	-
High School Industrial Arts Building	112 Longfellow Hiawatha, KS	\$971,000	-
Middle School	307 S. Morrill Hiawatha, KS	\$10,664,300	-
Elementary	600 Miami Hiawatha, KS	\$8,741,000	-
Special Education Building	301 S. 1 st Hiawatha, KS	\$1,429,300	-
Vocational Building	114 Longfellow Hiawatha, KS	\$1,778,200	-
Greenhouse	113 Longfellow Hiawatha, KS	\$22,500	-
Bus Complex	203 N. Morrill Hiawatha, KS	\$545,300	-

CRITICAL.3 DONIPHAN COUNTY

Doniphan County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
County Emergency Operations Center (EOC)	1	\$623,322	38
Fire / EMS stations	5	\$466,840	102
Law Enforcement (Sheriff/Police Bldgs)	1	\$2,103,470	63
Emergency shelters	1	\$35,160	10
Major government buildings	7	\$214,938	35
Major roads (200 miles)	0	\$16,000,000	0
Bridges (32)	0	\$4,000,000	0
Response staging areas	7	\$530,690	9
USD #429 - Troy			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
High School Building	319 South Park, Troy	\$8,300,000	150
GS Building	230 West Poplar, Troy	\$6,000,000	164
Annex Building	230 West Poplar, Troy	\$950,000	92
MS Building	319 South Park, Troy	\$2,500,000	66
Bus Garage	319 South Park, Troy	\$300,000	10
Crows Nest / Garage	319 South Park, Troy	\$163,000	20

CRITICAL.4 DOUGLAS COUNTY

Douglas County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
RWD #5 Water Towers	-	\$800,000	400,000 gallons
RWD #5 Telemetry System	-	\$100,000	
RWD #5 Pumping Stations (4)	-	\$450,000	
RWD #5 Other Assets	-	\$211,000	
RWD #2 Water Tower	-		250,000 gallons
RWD #2 Pump Stations (2)	-		-
Clinton Township Fire Equipment	-	\$350,000	-
Lecompton Fire Station #1 & 4 trucks	-	\$950,000	-
Lecompton Fire Station #2 & 2 trucks	-	\$370,000	-
Lecompton Fire Station #3 & 2 trucks	-	\$370,000	-
Tornado Warning Sirens	-		-
Communications Towers	-		-
Mobile Command Vehicle	-		-
RWD #6 Pump Station	-	\$75,000	-
RWD #6 Water Tower	-	\$500,000	-
Baldwin City			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Baker University Campus – 23 campus buildings	-	\$25,597,770	-
USD 348 – Baldwin Schools – 7 buildings	-	\$25,122,500	2,650
Police Station / Fire Station	-	\$ 500,000	-
Power Plants + Substation	-	\$11,500,000	-
City Hall	-	\$3,000,000	-
Long Term Care Facilities	-	\$3,000,000	-
Water Towers, Pipelines & Pumping	-	\$ 5,000,000	-
Stations	-	-	-

City of Eudora			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
City Hall	-	\$473,000	-
Eudora Aquatic Center	-	\$2,970,000	-
Public Works Buildings	-	\$563,976	-
Eudora Fire Station	-	\$1,300,000	-
Water Plant	-	\$2,266,000	-
Law Enforcement Center	-	\$535,128	-
Lift Stations x 9	-	\$1,089,000	-
Water Towers x3 and Boost Station	-	\$1,533,519	-
Eudora High School	-	\$16,885,752	-
Eudora Middle School	-	\$10,354,468	-
Main Street Annex	-	\$6,552,725	-
Nottingham Elementary School	-	\$5,441,674	-
West Elementary School	-	\$5,174,085	-
Wastewater Treatment Plant	-	\$4,723,177	-
City of Lawrence			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
University of Kansas – 145 Lawrence Campus Buildings	-	\$1,472,661,053	-
USD 497	-		
Douglas County Jail	-	\$25,071,068	
Law Enforcement Center	-	\$8,770,000	
Other Sheriff Vehicles / Equipment	-	\$4,734,000	
USD 497 – 55 buildings in 32 locations	-	\$291,520,786	10,680 students
City Hall	-	-	-
Municipal Airport	-	-	-
Carnegie Building	-	-	-
Community Health Facility	-	-	-
Fire/Medical Stations x 9	-	-	-
Community Centers x 3	-	-	-
Public Works Buildings	-	-	-
Kaw Water System	-	-	-
Clinton Water System	-	-	-
Water Tanks x6	-	-	-
Waste Water Treatment Plant	-	-	-
Lift Stations x 41	-	-	-

City of Lecompton			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Fire Station	-	-	-
Outreach Sheriff's Department	-	-	-
Lecompton Elementary School	-	-	-
Keystone Learning Center	-	-	-
City Hall	-	-	-
Water Treatment Plant & Lagoons	-	-	-
Community Building	-	-	-
Constitution Hall	-	-	-
Lane Museum	-	-	-
First KS Democratic Headquarters	-	-	-
USD #491 - Eudora			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Nottingham Community Learning Center	1428 Elm, Eudora	\$5,300,000	-
Eudora Early Childhood Family Center	1310 Winchester, Eudora	\$5,500,000	-
Eudora Middle School	2635 Church, Eudora	\$15,000,000	-
Eudora High School and Tech Center	2203 Church, Eudora	\$34,000,000	-
Eudora Elementary School	810 East 10th, Eudora	\$21,000,000	-

CRITICAL.5 JACKSON COUNTY

Jackson County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
Communications (radio, TV, similar)	0	\$0	0
County Emergency Operations Center (EOC)	1	\$513,090	10
Fire / EMS stations	0	\$0	0
Hospital(s)	0	\$0	0
Law Enforcement (Sheriff/Police Bldgs)	1	\$513,090	10
Emergency shelters	0	\$0	0
Major government buildings	1	\$8,318,120	25
Major roads (Mi)	117	\$429,444,000	0
Bridges (No.)	257	\$79,802,237	0
Fuel storage areas	0	\$0	0
Electric / Gas utilities	0	\$0	0
Pumping stations	0	\$0	0
Response staging areas	0	\$0	0
Sewage treatment plants	0	\$0	0
*Transportation systems	0	\$0	0
Water treatment plants	0	\$0	0
Wells and storage tanks	0	\$0	0
USD #335 - North Jackson			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
District Office	12692 266th Road	\$5,500,000	3
High / Middle School	12719 266th Road	\$11,000,000	225
Elementary School	12763 266th Road	\$500,000	300
USD #336 - Holton			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
District Office	515 Pennsylvania, Holton	\$600,000	9
Colorado Elementary	510 Colorado, Holton	\$5,300,000	250
Central Elementary	401 New Jersey, Holton	\$6,500,000	300
Middle School	901 Iowa, Holton	\$8,500,000	275
High School	901 New York, Holton	\$27,500,000	400
Bus Barn	10th and College, Holton	\$200,000	10
2 Mobile Classrooms	5th and Colorado, Holton	\$175,000	50

USD #337 - Royal Valley			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Valley Middle School	204 South 4th Street, Mayetta 66509	\$11,000,000	300
Administatrimon Office	101 West Main Street, Mayetta 66509	\$175,000	6
Valley Transportation	112 East Main Street, Mayetta 66509	\$75,000	1
Valley High School	101 East 1st Street, Hoyt 66440	\$13,000,000	315
Valley Elementary School	12 East 4th 4th Street, Hoyt 66440	\$6,500,000	345

CRITICAL.6 JEFFERSON COUNTY

Jefferson County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
Communications	3	\$218,958	0
County Emergency Operations Center (EOC)	1	\$153,922	1
Fire / EMS Stations	14	\$2,702,882	232
Law Enforcement Center (Police/Sheriff/EOC)	3	\$4,536,252	120
Emergency Shelters (schools, other)	1	\$23,347	200
Major government buildings	25	\$6,543,288	221
Major Hwy / roads (Mi193)	0	\$679,212,000	0
Bridges (181 ea)	0	\$92,813,000	0
Improvement District	4	\$370,080	4
Electric / Gas utilities	3	\$6,384,578	45
Sewage treatment plants	1	\$530,000	0
*Transportation systems	6	\$193,985,000	0
Water Districts	19	\$233,250	18
USD 339			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Jefferson County North District Office / Technology Center	310 5th Street, Winchester, 66097	\$3,000,000	150
Jefferson County North High School	310 5th Street, Winchester, 66097	\$9,400,000	250
Jefferson County North Elementary / Middle School	100 Charger Lane, Nortonville, 66060	\$12,000,000	400
Pump House	610 Spruce Street, Winchester	-	-
USD #338 - Valley Falls			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
High School	601 Elm Street, Valley Falls	\$15,000,000	2650
Elementary/ Middle School	700 Oak Street, Valley Falls	-	6500
West Gym Addition	500 Francis Street, Valley Falls	-	3000
Bus Barn	510 Catherine Street, Valley Falls	-	400

USD #340 - Jefferson West			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Jefferson West High School	619 Condray Meriden	\$13,598,982	-
JWHS Athletic Bldg	619 Condray Meriden	\$825,214	-
Jefferson West Middle School	210 N Miller Meriden	\$6,917,345	-
JWHS Vo-Ag Shop	615 McClucas Meriden	\$639,660	-
Jefferson West Elementary School	301 E Main Meriden	\$8,184,952	-
Jefferson West District Office	601 E Wyandotte Meriden	\$233,466	-
Jefferson West Maint/Transportation Bldg	508 S Palmberg Meriden	\$700,000	-
USD #341 - Oskaloosa			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Oskaloosa Schools (PreK-12th Grade) and out buildings.	404 Park Street, Oskaloosa, 66066	\$18,020,940	-
USD #342 - McLouth			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
McLouth USD #342 K-12 Facility	217 Summit Street, McLouth, KS 66054	\$20,484,553	-
McLouth Baseball Fields	100 South Bulldog Lane, McLouth, 66054	\$100,111	-
McLouth Football Stadium	100 South Bulldog Lane, McLouth, 66054	\$643,388	-
Maintenance Shop	217 Summit Street, McLouth, 66054	\$112,000	-
McLouth Bus Barn	406 Cynthia Street, McLouth, 66054	\$135,834	-
USD #343 - Perry / Lecompton			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Perry - Lecompton High School and Middle School	404 Lecompton Road, Perry 66073	\$30,000,000	-
Lecompton Grade School	626 Winfield Street, Lecompton 66050	\$7,000,000	-
Grade School	405 Cedar Street, Perry 66073	\$4,600,000	-
Bus Barn	405 Cedar Street, Perry 66073	\$111,400	-

CRITICAL.7 KICKAPOO NATION

Kickapoo Nation			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Tribal Office	-	\$315,100	-
Police Office	-	\$500,000	-
Fire Department	-	\$210,000	-
Health Center	-	\$507,500	-
Mekoskaatikani Community Hall	-	\$587,365	-
Boys & Girls Club	-	\$105,000	-
Headstart Building	-	\$107,400	-
Kickapoo Nation School	-	\$20,000,000	-
Senior Citizens Bldg	-	\$520,000	-
Pump Station	-	\$51,200	-
Water Plant	-	\$840,000	-
Water Tower	-	\$150,000	-
Water Tower North Site 2	-	\$300,000	-
Pump at Dam	-	\$16,000	-
Construction/Road Maint	-	\$454,500	-
Weir Dam	-	\$2,700,000	-
Golden Eagle Casino	-	\$5,500,00	-
Pow-Wow Grounds	-	\$50,000	-

CRITICAL.8 MARSHALL COUNTY

Marshall County			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Communications (radio, TV, similar)	2	\$190,000	0
County Emergency Operations Center (EOC)	0	\$0	0
Fire / EMS Stations	7	\$3,990,000	10
Hospital(s)	1	\$6,650,000	50
Law Enforcement (Police/Sheriff Bldgs)	5	\$6,650,000	25
Emergency shelters (Schools)	13	\$6,175,000	10
Major government buildings	0	\$0	0
Major roads (Mi)	0	\$0	0
Bridges (No.)	0	\$0	0
Fuel storage areas	0	\$0	0
Electric / Gas utilities	0	\$0	0
Pumping stations	0	\$0	0
Response staging areas	0	\$0	0
Sewage treatment plants	9	\$569,430,000	4
*Transportation systems	3	\$45,060,000	20
Water treatment plants	0	\$0	0
Wells and storage tanks	0	\$0	0
City of Blue Rapids			
Facility and/or Asset Name	Number Facilities	Replacement or Estimated Value	Occupancy
Communications	1	\$25,238	-
Fire/EMS Stations	1	\$355,044	0
Law Enforcement	1	\$65,175	1
Major Government Buildings	1	\$485,334	1
Sewage Treatment Plants	1	\$48,273	0
Well and Storage Tanks	3	\$126,413	0
City of Oketo			
Facility and/or Asset Name	Number Facilities	Replacement or Estimated Value	Occupancy
Fire/EMS Stations	1	\$60,000	-
Emergency Shelters (Schools/Other)	1	\$19,670	-
Well and Storage Tanks	4	\$200,000	1

City of Summerfield			
Facility and/or Asset Name	Number Facilities	Replacement or Estimated Value	Occupancy
Fire/EMS Stations	1	-	28
Pumping Stations	1	-	0
Well and Storage Tanks	3	\$200,000	-
St Gregory School			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
School	207 North 14th Street	-	-
USD 498			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Blue Rapids Grade School	508 Chestnut, Blue Rapids, KS 66411	-	-
Blue Rapids Gymnasium	211 East 6th Street, Blue Rapids, KS 66411	-	-
Waterville Grade School	307 East Lincoln, Waterville, KS 66548	-	-
Valley Heights Jr/Sr High School	2274 6th Road, Blue Rapids, KS 66411	-	-
USD 498 District Office	121 East Commercial, Waterville, KS 66548	-	-
VH Pre-School	308 East Lincoln, Waterville, KS 66548	-	-

CRITICAL.9 NEMAHA COUNTY

Nemaha County			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Nemaha Marshal Electric Distribution	Axtell	-	-
Nemaha RWD 2	Baileyville	-	-
Baileyville Wastewater	Baileyville	-	-
B&B USD 451	Baileyville	\$4,454,850	-
Brown-Atchison Electric Distribution	Hiawatha	-	-
Brown RWD 2	Hiawatha	-	-
Pottawatomie RWD 3	Onaga	-	-
City of Bern			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Bern RFD 4 Fire Station	Bern	\$50,690	-
Bern City Hall	Bern	\$124,000	-
Nemaha RWD 1	Bern	-	-
Bern City Water	Bern	-	-
Bern Wastewater	Bern	-	-
Bern USD 488	Bern	\$5,342,530	-
City of Centralia			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Centralia EMS	Centralia	\$60,210	-
Centralia RFD 6	Centralia	\$222,890	-
Centralia City Hall	Centralia	\$460,940	-
Centralia City Water	Centralia	-	-
Centralia Wastewater	Centralia	-	-
Centralia USD 380	Centralia	\$6,293,290	-
Eastridge Home	Centralia	\$2,057,030	-
City of Corning			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Corning RFD 2	Corning	\$161,650	-
Corning City Hall	Corning	\$745,480	-
Corning City Water	Corning	-	-
Corning Wastewater	Corning	-	-

City of Goff			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Goff RFD 1	Goff	\$30,470	-
Goff City Hall	Goff	\$367,730	-
Goff City Water	Goff	-	-
Goff Wastewater	Goff	-	-
City of Oneida			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Oneida City Hall	Oneida	\$247,730	-
Oneida City Water	Oneida	-	-
Oneida Wastewater	Oneida	-	-
City of Sabetha			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Sabetha Police	Sabetha	-	-
Sabetha City Hall	Sabetha	\$1,046,590	-
Sabetha City Shop Road & Bridge	Sabetha	-	-
Sabetha Electric Distribution	Sabetha	-	-
Sabetha City Water	Sabetha	-	-
Sabetha Wastewater	Sabetha	-	-
Sabetha USD 441	Sabetha	\$16,272,080	-
Apostolic Christian	Sabetha	\$13,787,600	-
Sabetha Manor	Sabetha	\$1,687,700	-
Sabetha Community Hospital	Sabetha	\$13,858,750	-

City of Seneca			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Nemaha County Sheriff's Office	Seneca	\$846,110	-
Seneca EMS	Seneca	\$693,600	-
Seneca Fire Department	Seneca	-	-
Seneca Police	Seneca	-	-
NM Co Courthouse	Seneca	\$1,490,040	-
Seneca City Hall	Seneca	\$1,409,940	-
Nemaha County Shop Road & Bridge Staging Area	Seneca	\$345,350	-
Seneca City Shop Road & Bridge	Seneca	\$247,870	-
Seneca Electric Distribution	Seneca	-	-
Nemaha RWD 3	Seneca	-	-
Seneca City Water	Seneca	-	-
Seneca Wastewater	Seneca	-	-
NEK-CAP	Seneca	\$1,174,050	-
St Peter & Paul	Seneca	\$10,597,020	-
Nemaha Valley USD 442	Seneca	\$6,137,370	-
Crestview Manor	Seneca	\$1,898,950	-
Country Place	Seneca	\$1,405,600	-
Life Care Center	Seneca	\$2,753,660	-
Community Hospital	Seneca	\$4,115,010	-
City of Wetmore			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Wetmore RFD 3	Wetmore	\$35,940	-
Wetmore City Hall	Wetmore	-	-
Wetmore City Water	Wetmore	-	-
Wetmore Wastewater	Wetmore	-	-
Wetmore USD 441	Wetmore	\$3,625,350	-
Nemaha RWD 4	Wetmore	-	-

USD #113 - Prairie Hills			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Sabetha Elementary	101 Oregon Street, Sabetha	\$9,000,000	-
Wetmore Academic Center	321 6th Street, Wetmore	\$21,000,000	-
Sabetha High School	401 Bluejay Boulevard, Sabetha	\$19,400,000	-
Summerfield Elementary	106 Main Street, Summerfield	\$4,000,000	-
Bus Barn / Maintenance Building	107 Oregon Street, Sabetha	\$360,000	-
Sabetha Middle School	751 Bluejay Boulevard, Sabetha	\$13,000,000	-
Board Office	1619 South US Old Highway 25, Sabetha	\$860,000	-
Axtell High School	500 Pine Street, Axtell	\$14,000,000	-
USD #115 - Nemaha Central			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
B&B Junior High and High School	313 Nemaha Street, Bern	\$7,000,000	78
Nemaha Valley High School	214 North 11th Street, Seneca	\$8,500,000	200
Nemaha Valley Elementary and Middle School	110 North 11th Street, Seneca	\$10,700,000	316
USD #451 - Bailey / St. Benedict			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
USD 451	St Benedict	-	-

CRITICAL.10 WASHINGTON COUNTY

Washington County			
Facility and/or Asset Name	Number of Facilities	Replacement or Estimated Value	Occupancy
Communications (radio, TV, similar)	0	\$0	0
County Emergency Operations Center (EOC)	0	\$0	0
Fire / EMS stations	1	\$570,000	1
Hospital(s)	3	\$19,950,000	120
Law Enforcement (Sheriff/Police Bldgs)	3	\$3,990,000	20
Emergency shelters (schools, other)	12	\$57,000,000	1,163
Major government buildings	12	\$9,816,514	65
Major roads (Mi)	28	\$637,880,882	0
Bridges (No.)	339	\$95,783,970	0
Fuel storage areas	0	\$0	0
Electric / Gas utilities	5	\$212,106,500	10
Pumping stations	0	\$0	0
Response staging areas	0	\$0	0
Sewage treatment plants	4	\$253,080,000	8
*Transportation systems	2	\$106,222,610	2
Water treatment plants	0	\$0	0
Wells and storage tanks	0	\$0	0
USD #223 - Barnes / Hanover / Linn			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
Administration Building and Maintenance Shop	209 North Tripp Street, Barnes 66933	\$700,000	-
Grade and High School	300 Parkview Street, Linn 66953	\$10,000,000	-
Grade and High School	209 East North Street, Hanover 66945	\$10,000,000	-
Pre-School	412 Park Street, Greenleaf 66943	-	-

USD #108 - Washington County			
Facility and/or Asset Name	Address	Replacement or Estimated Value	Occupancy
HS/West Elem/Playground/FB Storage	115 N. D St, Washington, Ks	\$186,423,560	-
East Elem & District Office/Heating Bldg	101 W. College St, Washington	\$3,343,695	-
FB Stadium/Concession Stand/Track	114 D St, Washington, KS	\$718,881	-
Depot/Track & Gater Storage	18 D St, Washington, KS	\$53,198	-
Preschool	117 W. College St, Washington, KS	\$484,747	-
Bus Barn #1 (old ag)/Greenhouse	15 N. D St, Washington, KS	\$515,320	-
Bus Barn #2	205 W. College St, Washington, Ks	\$266,436	-
Baseball Stadium	207 W. College St, Washington, Ks	\$17,199	-
Bus Barn – Haddam	802 Elmer St, Haddam, Ks	\$73,020	-
East Elem Playground	111 W. College St, Washington, Ks	\$60,585	-
Vocational Bldg	17 D. St, Washington, KS	\$1,734,942	-
Greenleaf School	412 Park St, Greenleaf, KS	\$805,000	-

APPENDIX E

FEMA APPROVAL DOCUMENTATION