

SECTION FOUR

Mitigation

Definition of Mitigation

Mitigation is defined by FEMA as "...sustained action that reduces or eliminates long-term risk to people and property from natural hazards and their effects." It describes the ongoing effort at the Federal, State, local, and individual levels to lessen the impact of disasters upon families, homes, communities, and economy.

Mitigation includes not only avoiding the development of vulnerable sections of the community, but also making existing development in hazard-prone areas safer. For example, a flood buyout is a step that can be taken to reduce vulnerability in identified hazard prone areas.

Growth can also be steered to less risky areas, through nonstructural measures such as avoiding construction in the most flood-prone areas. Keeping buildings and people out of harm's way is the essence of mitigation. Incorporating mitigation into decisions related to the community's growth can result in a safer, more resilient community, and one that is more attractive to new families and businesses.

Missouri is subject to many types of natural hazards: floods, tornadoes, winter storms, landslides, earthquakes, droughts, land subsidence, and occasionally wildfires. Technological hazards such as chemical explosions, manmade explosions, hazardous material or HAZMAT spills, and terrorism, all of which can have significant economic and social impacts, are also possible. Some, such as floods and HAZMAT spills, can occur at any of the year--and almost anywhere in the state. Their occurrence in some places in Missouri is inevitable. However, due to time and funding limitations, this planning initiative focuses on natural hazards only.

Categories of Mitigation

Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency happening, or lessen the damaging effects of unavoidable emergencies. Efforts by Federal, State, and local governments can restrict development in vulnerable areas, direct new development to less vulnerable areas, and promote ways to safeguard existing development in hazard-prone areas. Individuals can also participate through practicing sound personal safety and property prevention measures.

There are six categories of mitigation which can produce safer environments, they include: Prevention, Property Protection, Natural Resource Protection, Emergency Services, Structural Projects, and Public Information.

- *Prevention* tools can include regulatory methods such as planning and zoning, building regulations, open space planning, land development regulations, and stormwater management.

- *Property protection* measures reduce the risk of building damage through acquisition of land, relocation of building, modifying at-risk structures, and flood proofing at-risk structures.
- *Natural Resource protection* can reduce hazard impacts through measures such as erosion & sediment controls and/or wetlands protection.
- *Emergency service* measures include warning, response capacity, critical facilities protection, and health and safety maintenance.
- *Structural mitigation* attempts to counteract natural hazards through projects such as reservoirs, levees, diversions, channel modifications, and storm sewers or basins.
- *Public information* includes providing hazard maps and information, outreach programs, real estate disclosure, technical assistance, and education.

Mitigation versus Preparedness, Response, and Recovery

Emergency management is divided into four phases, with each phase involving different types of organization, preparation, and activities. These four phases include: preparedness, response, recovery, and mitigation.

Preparedness focuses on building emergency response and management capabilities before a disaster occurs in order to respond to and recover when a disaster event occurs. Preparedness activities include programs for training emergency response personnel, exercising plans, and conducting public outreach programs. Preparedness also includes activities such as developing and maintaining warning systems, maintaining communications networks, and establishing procedures for mobilizing response personnel.

Response refers to the actions taken immediately before, during, or after a disaster event to save lives, minimize property damage, and to aid in the recovery process. Response activities typically involve public warning, evacuation and sheltering, search and rescue, emergency medical care, and securing property. Other types of response activities depend on the type of disaster and may include activities such as supplying emergency water and power, removing debris from roads, attending to the needs of people with disabilities or special health concerns, closing roads, or fire fighting.

Recovery involves short term post-disaster activities to restore vital services and longer term activities to return the community to normal or pre-disaster status. The first step of recovery is assessment of damages to determine needs and priorities. Typical recovery activities include debris removal, coordinating volunteers and donations of goods, delivering disaster aid to individuals and families, restoring vital community services, and repairing or reconstructing buildings and public infrastructure. Recovery can last a few days, or a few years, depending on the magnitude to the disaster and resources available to address the community's needs.

Mitigation is the cornerstone of emergency management. Mitigation differs from preparedness, response, and recovery in that it is an ongoing effort focused on activities and policies that will reduce or eliminate the community's vulnerability to damage from future hazard events. Mitigation measures generally are those that can be put in place before a disaster occurs and building resilience.

Mitigation Plan Benefits

Planning provides many benefits to a community. The planning process enables communities to identify strengths, weaknesses, opportunities, and threats which may affect quality of life and the desired direction of the community. Planning further enables communities to establish goals and a framework for actions that can be undertaken to preserve, protect, and enhance the resources that contribute to quality of life and long-term economic prosperity. The hazard mitigation planning process likewise offers opportunities and benefits to communities to safeguard its natural and built environment, protect public and private sector investments in the community, and reinforce economic viability and community livability. Hazard mitigation planning can:

- Reduce death, injury, and property loss
- Identify specific problems and appropriate solutions
- Achieve multiple objectives in a sustainable and efficient manner
- Reduce future risks
- Prioritize post-disaster projects
- Enhance funding opportunities through Federal, State, and Local programs
- Promote public participation and ownership of solutions

Douglas County Hazard Mitigation Goals, Objectives, Strategy, and Coordination

In the past, Douglas County's mitigation goals were derived from existing goals contained within the Douglas County Emergency Operations Plan, input from the public and elected officials during hazard mitigation planning workshops, and the overall goals of the SCOCOG Comprehensive Economic Development Strategy. The four overall goals were:

- Protect the lives and property of all citizens
- Minimize injury and damage to people and property during natural disasters
- Preserve function of civil government during natural disasters
- Maintain economic activity essential to survival and recovery from natural disasters

The following goals and objectives have been revised to further define future mitigation activities; since Douglas County and other participating jurisdictions have not been successful in fulfilling some of the goals and objectives since their initial creation, and since the 2004 Douglas County All Hazard Mitigation Plan, SCOCOG will monitor and note yearly the progress toward these goals, and the progress toward and completion of goals and objectives will be incorporated in the next pentannual update. *Some progress has been noted, however, and will be marked with an asterisk.* Appendix J, Douglas County's Annual Natural Hazard Mitigation Analysis and Report, should be completed yearly and filed in this document.

Multijurisdictional Goals and Objectives, Including Schools

Goal #1: Protect the lives and Property of all citizens

Objective 1.1: Identify and provide sufficient emergency shelters

ACTIONS:

- Identify existing planning area shelter locations and assess shelter needs.
- Form partnerships with schools, churches, nursing homes and other organizations which have shelter facilities with generated power and heat to use in emergencies.
- Construct tornado safe rooms/community shelters in strategic locations.
- Establish partnerships with food banks which can supply needed food, water and other essentials.
- Use public service announcements and other available media to educate the public on shelter locations.
- Establish and maintain a volunteer committee to monitor and man storm shelter when shelter is activated.
- Partner with The Red Cross to provide shelter management training*

**Shelter Management Training is currently being conducted by the Red Cross*

Objective 1.2: Minimize spread of disease in the event of a pandemic outbreak

ACTIONS:

- Form partnerships with local medical centers for disease control.
- Ensure partnerships with local social service organizations such as DHS and volunteer organizations such as the Red Cross are established and maintained.

Objective 1.3: Review and maintain current warning systems for sufficient coverage

ACTIONS:

- Obtain more sirens in order to cover a larger area, especially rural areas.
- Plan to apply for grants to purchase new sirens.
- Ensure current tests are conducted for correct application and coverage of existing systems.

- Begin monthly testing.
- Budget for maintenance and replacement as needed for continued service.

Goal #2: Minimize injury and damage to people and property during natural disasters

Objective 2.1: Decrease the injuries and damage to people and property during natural disasters by at least 50%

ACTIONS:

- Encourage the use of shelters and ongoing shelter awareness before severe weather strikes by posting notices periodically in local newspapers and local radio spots.
- Encourage the awareness and support of programs to mitigate injuries and damage.
- Promote the usage of NOAA weather radios as warning devices.
- Discuss possibility of future funding for more shelters.

Goal #3: Preserve the functioning of civil government during natural disasters

Objective 3.1: Strengthen critical structures and infrastructures

ACTIONS:

- Implement upgrades (as needed) or refurbishment of critical buildings or infrastructures, such as the LEOP, the wastewater treatment plant, the Justice Center, storm shelters, power lines and wastewater conduits. There are currently no plans in place for such refurbishment or upgrades.
- Keep emergency access routes clear of any obstacles, such as downed power lines or trees.
- Partner with local and neighboring utilities to implement a utility line clearance program.
- Bury secondary power lines in new developments.
- Upgrade to break-resistant power poles.
- Continuously identify funding sources to update buildings and infrastructure.

Goal #4: Maintain economic activities essential to their survival and recovery from natural disasters

Objective 4.1: Ensure adequate communication systems and chain of command during emergencies, using the EOP and other documents as necessary

ACTIONS:

- Review chain of command of government organizations for emergency situations and keep up-to-date.
- Review communications systems and keep in good working order.

Evaluation of Goals and Objectives

The above goals and objectives guide the local mitigation programs and the selection of actions to mitigate potential losses from hazard events. The goals and objectives represent a long-term vision for hazard reduction. Enhancement of mitigation capabilities has evolved over years of mitigation planning and experiences in Douglas County. In developing the 2004 *Douglas County All Hazard Mitigation Plan* and updating the 2011 *Douglas County All Hazard Mitigation Plan*, Douglas County officials and SCOCOG staff evaluated and prioritized the goals, objectives, and mitigation actions using STAPLEE, which is a set of evaluative criteria based on Social, Technical, Administrative, Political, Legal, Economic, and Environmental considerations. A quantitative method for prioritizing mitigation actions from *How-To Guide (FEMA 386-5): Using Benefit-Cost Review in Mitigation Planning* using the STAPLEE criteria and simple scores was agreed upon by the plan review and advisory committee will in advance of planning meetings. The definition of each letter in the STAPLEE acronym, derived from *How-To Guide (FEMA 386-3): Developing the Mitigation Plan*, was distributed to meeting attendees and discussed prior to the scoring process.

Definition of STAPLEE

Mitigation alternatives or actions need to be prioritized based on certain considerations. FEMA recommends using the STAPLEE evaluation, as this process addresses all the major factors when weighing the costs to the benefits of implementing one action over another. Below is an explanation of the STAPLEE criteria taken from FEMA's *Multi-Hazard Mitigation Planning Guidance (March 2004)*. This table includes a Cost Benefit Review.

S - Social: Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the community's social and cultural values.

T - Technical: Mitigation actions are technically most effective if they provide long-term reduction of losses and have minimal secondary adverse impacts.

A - Administrative: Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.

P - Political: Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support of the action.

L - Legal: It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.

E - Economical: Budget constraints can significantly deter the implementation of mitigation actions. Hence, it is important to evaluate whether an action is cost-effective, as determined by a cost-benefit review, and possible to fund.

E - Environmental: Sustainable mitigation actions that do not have an adverse effect on the environment, that comply with Federal, State, and local environmental regulations, and that are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound.

STAPLEE Cost-Benefit Review Prioritization

Analysis and Prioritization of Mitigation Actions

Douglas County's mitigation actions promote and/or support the development of local hazard mitigation plans, projects, and activities. Examples include targeting early warning systems and emergency shelters to reduce the loss of life and damage to property.

The well being of the citizens and property are the highest priority and simple cost effective plans to first address this need is logical by identifying shelters, providing early warnings of hazards, and then concentrate on strengthening and protecting critical buildings and infrastructures.

In economically depressed rural areas such as the South Central Ozarks area of Missouri, the identification of funding sources to implement needed processes is paramount to success. This plan will serve as a catalyst to adopt and implement the necessary measures in the future to accomplish the goals and objectives of mitigation.

Douglas County's mitigation actions promote and/or support the development of local hazard mitigation plans, projects, and activities. Criteria for prioritization are:

- Historically, Douglas County has been most affected by flooding hazards followed in severity by tornado/thunderstorms, severe winter storms, drought, and heat wave. The threat of earthquake, dam failure, sinkhole and wildfire

must be addressed even though the county has not experienced these hazards to any significant degree.

- Some actions may be high priorities, but will require a lengthy process of preparatory steps. Therefore, these types of actions will show up as a “high” priority, with a somewhat distant future target date for completion.
- Some actions impact a significant portion of or specific group within the local population. The number of persons impacted by such mitigation actions determines the prioritization.

Upon identification of the Douglas County mitigation actions, each individual action was qualitatively analyzed to consider if each action represented an overall cost or benefit in terms of each of the STAPLEE criteria. A rating scale was applied ranging from 2 to -2 depending on the perceived degree of the cost of the action or its benefit. The total scores for each action were compiled and standardized relative to the maximum and minimum values assigned. This method would produce a ranking of all actions relative to one another and convert all scores to a common scale. The standardized values were then summed and divided, creating an average priority score for all actions relative to every other action. The average priority scores for all actions were then collapsed into three classes of high, medium, and low.

This method for prioritizing and reviewing mitigation actions sought to place a strong emphasis on evaluating their costs and benefits in relation to one another. Consideration was given to using one of the review tools described in *How-To Guide (FEMA 386-5): Using Benefit-Cost Review in Mitigation Planning* in conjunction with the prioritization method. However, it was determined that conducting a review would require information and time that were not available. The STAPLEE and simple scores method was selected because of its clear emphasis on a cost-benefit review and strength in establishing a baseline for a more qualitative review. Table 4-1 on the following page illustrates action prioritization using STAPLEE and qualitative simple scores.

TABLE 4-1

Prioritization Using STAPLEE and Qualitative Scores For Douglas County and all Jurisdictions

Proposed Action Criteria (Abbreviated for Readability)	S	T	A	P	L	E	E	Cost	Benefit	Priority
Objective 1.1: Identify and Provide Emergency Shelters										
Identify existing planning area shelter locations and assess shelter needs	X	X	X	X	X	X	X	H	H	H
Form partnerships with community organizations that have shelter facilities with generated power and heat	X	X	X	X	X	X		-	H	H
Establish partnerships with food banks which can supply water food and other essentials	X	X	X	X	X	X		L	H	H
Use public service announcements and other available media to educate the public about shelter locations	X	X	X	X	X	X		L	M	M
Establish and maintain a volunteer committee to monitor and maintain storm shelters when activated	X	X	X	X	X	X	X	-	M	M
Partner with the Red Cross to provide shelter management training	X	X	X	X	X	X	X	-	M	L
Objective 1.2: Minimize the Spread of Disease in the Event of a Pandemic Outbreak										
Form partnerships with local medical centers and other providers for disease control measures	X	X	X	X	X	X		-	H	H
Ensure partnerships with local service organizations, such as DHS and volunteer organizations such as the Red Cross are developed and maintained	X	X	X	X	X	X		-	M	M
Objective 1.3: Review and maintain current warning systems for sufficient coverage										
Obtain more sirens in order to cover a larger area, especially rural areas		X	X	X	X	X	X	H	H	H
Apply for grants to purchase new items		X		X	X	X	X	L	L	L
Ensure current tests are conducted for correct application and coverage of existing systems	X	X	X	X	X	X		-	M	M
Begin monthly testing of siren systems	X	X	X	X	X	X		-	M	M
Budget for maintenance and replacement as needed for continued service	X	X	X	X	X	X		M	M	M
Objective 2.1: Decrease Injuries and Property Damage During Natural Disasters by at least 50%										
Encourage the use of shelters and ongoing shelter awareness before severe weather strikes by posting notices periodically by way of local media	X	X	X	X	X	X		L	M	L
Encourage the awareness and support of programs to mitigate injuries and property damage	X	X	X	X	X	X		L	L	L

Promote the use of NOAA weather radios as warning devices	X	X	X	X	X	X		-	H	H
Discuss the possibility of future funding for more shelters	X	X	X	X	X	X		-	L	L
Objective 3.1: Strengthen critical structures and infrastructures										
Implement upgrades or refurbishment of critical buildings and infrastructure	X	X	X	X				H	M	L
Keep emergency access routes clear of obstacles	X	X	X	X	X	X	X	L	H	M
Partner with neighboring utilities to implement a line clearance program	X	X	X	X	X	X		M	M	M
Bury secondary power lines in new developments	X	X	X			X	X	H	M	L
Continuously identify funding sources to update	X	X	X	X	X	X		-	L	H

X=satisfies requirements for category

*Definition of rating scale: H=High, M=Medium, L=Low, -=None/Not Applicable

Strategic Implementation

The goals, objectives and actions steer the plan toward group involvement and working within the community. The actions are generally cost effective, environmentally sound and technically feasible. The following set of underlying principles will improve fiscal and operational efficiency, help maintain a focus on the greater goals of overall community well being, and help ensure implementation of the plan. The actions will depend on the following strategies:

- Incorporation of mitigation objectives into existing and future plans, regulations, programs, and projects
- Promote and encourage collaboration between government and community organizations to create a synergism which results in benefits which would not be possible through a single agency (i.e. police and fire *working with* churches and schools)
- Employ sustainable principles and techniques in the implementation of each objective and obtain maximum benefits
- Create and implement a prioritization process which includes monetary, environmental, and sociological considerations

Incorporation of Mitigation Objectives into Existing and Future Plans, Regulations, Programs, and Projects

The *Douglas County Emergency Operations Plan* contains a limited All Hazard Mitigation planning section, which includes suggested mitigation measures in an attempt to lessen the economic and emotional impact of future natural hazards.

By including input obtained from the *Douglas County All Hazard Mitigation Plan*, along with the Regional Economic Development Strategy, the *Emergency Operations Plan* can integrate and formalize county mitigation strategies to be utilized prior to an

adverse event (for mitigation funding). Integration also allows the Emergency Operations Plan to be utilized to its fullest extent during a disaster for various emergency measures, and after a declared disaster, in order to expedite economic recovery.

The Emergency Operations Plan, along with the region's Comprehensive Economic Development Strategy, and other future planning programs and projects, will be updated with necessary inclusions from the *Douglas County All Hazard Mitigation Plan* at each yearly planning meeting, and after a disaster has occurred, as previously described in Requirement §201.6(c)(4)(i).

Ensure Implementation through Inclusion in Adoption Resolution

The Douglas County Commission, along with local schools, will be responsible for adoption the updated *Douglas County All Hazard Mitigation Plan*. Each governing body has the authority to promote sound public policy regarding natural hazards. Once the updated plan has been adopted, SCOCOG will be responsible for submitting it to the State Hazard Mitigation Office at the Missouri State Emergency Management Agency (SEMA). SEMA will then submit the plan to the Federal Emergency Management Agency (FEMA) for review. Upon acceptance by FEMA, and upon adoption of the All Hazard Mitigation Plan, Douglas County and the participating jurisdictions will maintain eligibility for Hazard Mitigation Grant funds.

Plan Maintenance Process

The plan maintenance details the formal process that will ensure the *Douglas County All Hazard Mitigation Plan* remains an active and relevant document. The plan maintenance process includes a schedule for monitoring and evaluating the plan annually and producing a plan revision every five years. This section describes how the county will integrate public participation throughout the plan maintenance process. Finally, this section includes an explanation of how the Douglas County government intends to incorporate the mitigation strategies outline in the plan into existing planning mechanisms such as the *Douglas County Emergency Operations Plan*. The results of this five-year review will be summarized in a report prepared for this mitigation plan under direction of the Douglas County Emergency Management Director and the county commission. The report will include an evaluation of the effectiveness and appropriateness of the plan, and will recommend, as appropriate, any required changes or amendments to the plan. Representatives from various governmental agencies, county officials, city employees, utility service employees, emergency responders and planners, regional planner, and any concerned county residents will be invited to review and comment on the plan. SCOCOG will meet with representatives when the five-year review period approaches to discuss mitigation updates. Upon meeting, the participants will also report on the status of their projects as assigned. SCOCOG will then update the plan and submit it to the committee members and the State Hazard Mitigation Officer for approval.

Future Monitoring, Evaluating, and Updating the Plan, with Public Involvement

Douglas County's All Hazard Mitigation Plan will be implemented, if needed, by the Douglas County Commission or its delegates, and Douglas County Emergency Management, as well as the participation city and school jurisdictions. Douglas County, along with South Central Ozark Council of Governments, has developed a method to ensure regular review and update of the 2012 All Hazard Mitigation Plan. The implementation process will include coordination among county departments and will be coordinated with other relevant agencies or districts through the county's jurisdiction.

Monitoring the Plan

Every five years, the county and each of its jurisdictions and schools will review the plan and include any needed updates. The updated plan will be submitted by SCOCOG to SEMA/FEMA for approval. In addition, the plan will be reviewed by SCOCOG, the Douglas County Commission, the Douglas County Emergency Management Agency, and each individual jurisdiction and school for any necessary updates year, and following any major disasters occurring within the county.

If there is a need for SCOCOG to work on the plan, the county commission will request such. Throughout the update process the public will be encouraged to participate in the planning process through the various media outlets. SCOCOG will receive public comments and consider integrating them in the All Hazard Mitigation Plan. SCOCOG will publicize the objectives by way of media coverage and published reminders. SCOCOG, the county commission and the EMD will be responsible for monitoring and evaluating the progress of the mitigation strategies in the plan, and maintaining its currency with active mitigation measures.

Evaluating the Plan

At each yearly meeting, (the place and time to be publicly announced), and after a disaster, the county commission, schools, and each individual jurisdiction, with the assistance of SCOCOG, will review each goal and objective to determine their relevance to changing situations in the county, as well as changes in state and federal policy, in order to ensure current and expected conditions are addressed. They will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various implementation actions will report on the status of their projects and will include which implementation process worked well, any difficulties encountered, how coordination efforts were proceeding, and which strategies should be revised. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination.

Updating the Plan

The following table identifies key elements in the yearly update process, to be followed each year by all involved parties, and also provides a timeline for ensuring overall commitment to the plan update during the five-year cycle. Each yearly evaluation will begin with a designated county commission meeting, and will end with the inclusion of agreed-upon changes to the All Hazard Mitigation Plan, along with any

public comments. This table will be used as a guide, to be distributed to the county commission, individual jurisdictions, and emergency management before the designated yearly meetings.

TABLE 4-2				
Timeline for Method and Schedule for Updating the AHMP Within the Five Year Cycle				
	County Commission	SCOCOG	Jurisdictions and Schools	Emergency Management
Agrees upon Date of Yearly Meeting	X	X	X	X
Publicizes Yearly Meetings and objectives, and Solicits Public Comments		X		
Attends Yearly Meeting	X	X	X	X
Receives Public Comments		X		
Requests Updates to SCOCOG	X		X	X
Review and Update AHMP		X		
Places Changes in all AHMP Documents, and includes public comments		X		

Continued Public Involvement

All meetings of the county commission, city/village councils, and boards of aldermen are public and posted per Missouri Sunshine Law requirements. South Central Ozark Council of Governments will continue to host any hazard mitigation announcements or information, as well as provide copies of the latest plan available, as described below:

Douglas County is dedicated to involving the public directly in review and updates of the hazard mitigation plan. The public will have the opportunity to provide feedback about the plan through a variety of venues. In compliance with Missouri Sunshine Law, copies of the plan will be available through the following offices and location to ensure public accessibility:

- Douglas County Commissioners’ Office
- Douglas County Emergency Management Agency
- City Clerks (City of Ava)
- South Central Ozark Council of Governments

Public commentary on the plan itself, proposed revisions to, and annual assessment of the plan will be requested and encouraged through local media. During the five-year review, public involvement will additionally be solicited through press released, public announcements, and by general invitations sponsored by South Central Ozark Council of Governments. All public meetings will provide the public with a forum where they can express concerns, opinions, or ideas about the plan and proposed updates.

Action Statement

All actions were evaluated and carried forward, with none deleted, from the 2004 *Douglas County All Hazard Mitigation Plan*. Some actions, however, were updated for relevance. Ongoing and completed projects are noted where appropriate. NFIP compliance actions are listed in the NFIP section of this document.

TABLE 4-3	
Effects of Objective Actions on New or Existing Structures in Douglas County Incorporated Jurisdictions	
Actions	
Proposed and Existing Action	Will Action Affect New or Existing Structures, or Both?
Objective 1.1: Identify and Provide Emergency Shelters	
Identify existing planning area shelter locations and assess shelter needs	Both
Establish partnerships with food banks which can supply water, food and other essentials	N/A
Use public service announcements and other available media to educate the public about shelter locations	Both
Establish and maintain a volunteer committee to monitor and maintain storm shelters when activated	Both
Partner with the Red Cross to provide shelter management training	NA
Objective 1.2: Minimize the Spread of Disease in the Event of a Pandemic Outbreak	
Form partnerships with local medical centers and other providers for disease control measures	N/A
Ensure partnerships with local service organizations, such as DHS and volunteer organizations such as the Red Cross are developed and maintained	N/A
Objective 1.3: Review and maintain current warning systems for sufficient coverage	
Obtain more sirens in order to cover a larger area, especially rural areas	N/A
Apply for grants to purchase new items	N/A
Ensure current tests are conducted for correct application and coverage of existing systems	N/A
Begin monthly testing of siren systems	N/A
Budget for maintenance and replacement as needed for continued service	N/A
Objective 2.1: Decrease Injuries and Property Damage During Natural Disasters by at least 50%	
Encourage the use of shelters and ongoing shelter awareness before severe weather strikes by posting notices periodically by way of local media	Both
Encourage the awareness and support of programs to mitigate injuries and property damage	N/A
Promote the use of NOAA weather radios as warning devices	N/A
Discuss the possibility of future funding for more shelters	New
Objective 3.1: Strengthen critical structures and infrastructures	
Implement upgrades or refurbishment of critical buildings and infrastructure	Existing

Keep emergency access routes clear of obstacles	N/A
Continuously identify funding sources to update buildings and infrastructure	Existing
Objective 4.1: Ensure Adequate Communications Systems and Chain of Command During Emergencies	
Review chain of commands of government organizations for emergency situations, and keep up-to-date	N/A
Review communications systems and keep in good working order	N/A

Note: As per multi-jurisdictional agreement, each jurisdiction in Ozark County prescribes to the same goals and actions. Ozark County School Districts are listed individually below. The information for each school will be updated yearly. At the time of the next pentannual update, the county will move away from County-wide strategies in favor of more localized strategies.

Ensure Partnerships with Local Social Service Organizations and Volunteer Organizations (Such as the Red Cross) Are Established and Maintained													
Partnerships	Ongoing	High Continuing	EMA	Government Program Funding	N/A								
Objective 1.3: Review and Maintain Current Warning Systems for Sufficient Coverage													
Obtain More Sirens to Cover a Larger Area													
Emergency Services	Ongoing	High Continuing	EMA	N/A	N/A	X							
Apply for Grants to Purchase New Sirens													
Emergency Services	Ongoing	High Continuing	EMA	Government Program Funding	N/A	X							
Ensure Tests are Conducted for Correct Application and Coverage of Existing Systems													
Emergency Services	Ongoing	High Continuing	EMA	Government Program Funding	N/A	X							
Begin Monthly Testing													
Emergency Services	Ongoing	High Continuing	EMA	N/A	N/A	X							
Goal #2: Minimize Injury and Damage to Students, Personnel and Visitors During Natural Disasters													
Objective 2.1: Decrease the Injuries and Damage to People and Property During Natural Disasters by at Least 50%													
Encourage the Use of Shelters and Ongoing Shelter Awareness Before Disaster Strikes by Posting Periodic Notices in Local Media Outlets													
Public Information	New and Ongoing	Medium Ongoing	Local Government	Government Program/Private Funding	Programs Funded and Implemented	X	X	X	X	X	X	X	X
Encourage the Awareness and Support of Programs to Mitigate Injuries and Damage													
Public Information	New and Ongoing	Medium Continuing	Local Government	Government Program/Private Funding	Programs Funded and Implemented	X	X	X	X	X	X	X	X
Promote The Use of NOAA Weather Radios As Warning Devices													
Public Information	New	High Continuing	EMA	Private and Other Funding	Reduction in Injuries and Damage	X	X	X					
Goal #3: Preserve the Functioning of the Chain of Command During Natural Disasters													
Objective 3.1: Strengthen Critical Structures and Infrastructures													
Implement Needed Upgrades or Refurbishment of Emergency Shelters													
Property Protection	New and Ongoing	Medium Continuing	City/County Government	Gov. Program Funding	Status Improved	X	X	X				X	X
Keep Emergency Routes Clear of Any Obstacles, such as Civilian Vehicles													
Property Protection	New and Ongoing	Medium Continuing	County/City Planning	Gov. Program/Private Funding	Programs Funded and Implemented	X	X	X	X			X	X

Continually Identify Funding Sources to Update Buildings and Infrastructure													
Property Protection	New and Ongoing	High Continuing	County/City Planning EMA	Gov. Program Funding/Private Funding	Reduction in Injuries and Damages	X	X	X				X	X
Goal #4: Maintain Economic Activities Essential to Survival and Recovery from Natural Disasters													
Objective 4.1: Ensure Adequate Communication Systems and Chain of Command During Emergencies													
Review Chain of Command for Emergency Situations and Keep Up-To-Date													
Emergency Services	New and Ongoing	Medium Continuing	Local Government	Gov. Program/Private Funding	Programs Funded and Implemented	X	X	X	X	X	X	X	X
Review Communications Systems and Keep in Good Working Order													
Emergency Services	New and Ongoing	Medium Continuing	Local Government	Gov. Program/Private Funding	Programs Funded and Implemented	X	X	X	X	X	X	X	X

TABLE 4-6														
Ava Schools Proposed Five-Year Action Matrix Identified Natural Hazards														
Type of Strategy	New, Revision Ongoing	Priority Rank; Estimated Target Date	Probable Lead Organizer	Potential Funding Sources	Evaluation	Tornado	Flood	Winter Weather	Sinkhole	Drought	Heat Wave	Earthquake	Dam Failure	Wildfire
Goal #1: Protect the Lives and Property of Students, Personnel and Visitors														
Objective 1.1: Identify and Provide Sufficient Emergency Shelter														
Emergency Services	Ongoing	Continuing	EMA	N/A	No Additional Emergency Shelter Planned	X	X	X				X		
Construct Tornado Safe Rooms/Community Shelters in Strategic Locations														
Partnership	New	High 2010	EMA	N/A	No Emergency Shelter Planned	X	X	X				X		
Use Public Service Announcements to Educate the Public About School Shelter Locations														
Public Information	Ongoing	High Continuing	EMA	Government Program Funding	Information Distributed Seasonally	X	X	X			X	X	X	
Establish and Maintain an In-House Committee to Monitor and Manage Storm Shelters														
Emergency Services	Ongoing	High Continuing	School Personnel	N/A	N/A	X	X	X			X	X	X	
Partner With the Red Cross for Shelter Training for Students and Staff														
Training	Ongoing	High Continuing	School Personnel	N/A	N/A	X	X	X		X	X		X	

Apply for Grants to Upgrade Shelter Facilities, When Available

Emergency Services	Ongoing	High Continuing	EMA	Government Program Funding	N/A	X	X							X	X
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Ensure Regular Drills are Conducted for Correct Application and Coverage of Existing Emergency Plans

Emergency Services	Ongoing	High Continuing	School Personnel	N/A	N/A	X	X							X	X
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Goal #2: Minimize Injury and Damage to Students, Personnel and Visitors During Natural Disasters

Objective 2.1: Decrease the Injuries and Damage to People and Property During Natural Disasters by at Least 50%

Encourage the Use of Shelters and Ongoing Shelter Awareness Before Disaster Strikes by Posting Periodic Notices in Local Media Outlets

Encourage the Awareness and Support of Programs to Mitigate Injuries to Students, Personnel and Visitors

Public Information	New and Ongoing	Medium Ongoing	Local Government	Government Program/Private Funding	Programs Funded and Implemented	X	X	X	X			X	X	X	
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Use NOAA Weather Radios and Other Warning Devices to Provide the Earliest Possible Window of Time to React to Threats

Public Information	New	High Continuing	School Personnel	Private and Other Funding	Reduction in Injuries and Damage	X	X	X							
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Discuss the Possibility of Future Funding for More Shelters

Emergency Services	New	High Continuing	Local Government	Gov. Program	Programs Funded and Implemented	X	X	X	X			X	X	X	X
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Goal #3: Preserve the Functioning of the Chain of Command During Natural Disasters

Objective 3.1: Strengthen Critical Structures and Infrastructures

Implement Needed Upgrades or Refurbishment of Emergency Shelters

Property Protection	New	High As Needed	City/County Government	Gov. Program Funding	Status Improved	X	X	X							
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Keep Emergency Routes Clear of Any Obstacles, such as Civilian Vehicles

Property Protection	Ongoing	Medium 2009 and Continuing	County/City Planning	Gov. Program Funding	Funding Sources Identified and in Use	X	X	X	X					X	X	X
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Continually Identify Funding Sources to Update Buildings and Infrastructure

Property Protection	Ongoing	Medium 2009 and Continuing	County/City Planning	Gov. Program Funding	Funding Sources Identified and in Use	X	X	X	X			X	X	X
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Goal #4: Maintain Economic Activities Essential to Survival and Recovery from Natural Disasters

Objective 4.1: Ensure Adequate Communication Systems and Chain of Command During Emergencies

Review Chain of Command for Emergency Situations and Keep Up-To-Date

Emergency Services	Annually	High 2009 and Continuing	School Personnel	Gov. Program Funding	Currently Being Implemented	X	X	X	X			X	X	X	X
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Review Communications Systems and Keep in Good Working Order

Emergency Services	Ongoing	Medium Continuing	School Personnel	Gov. Program Funding	Currently Being Implemented	X	X	X	X			X	X	X	X
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